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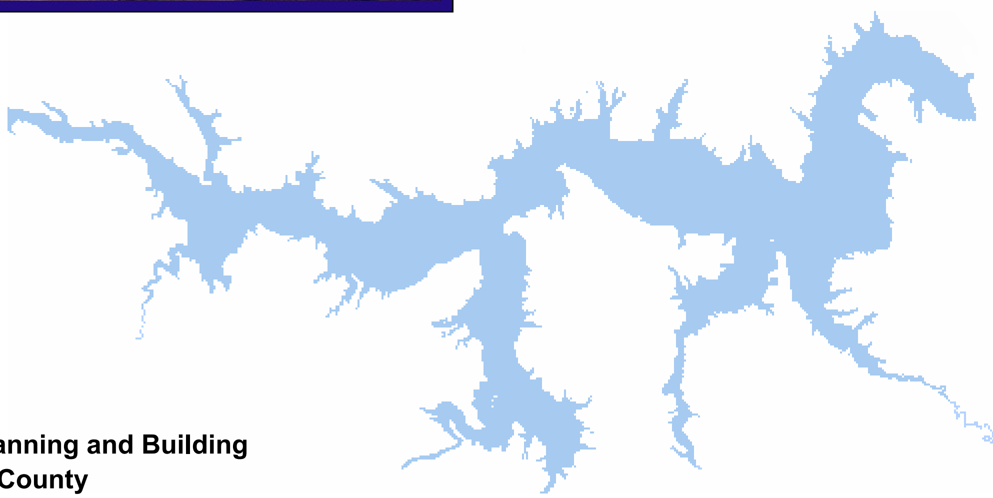
Nacimiento Water Project

Environmental Impact Report

Final

SCH #2001061022



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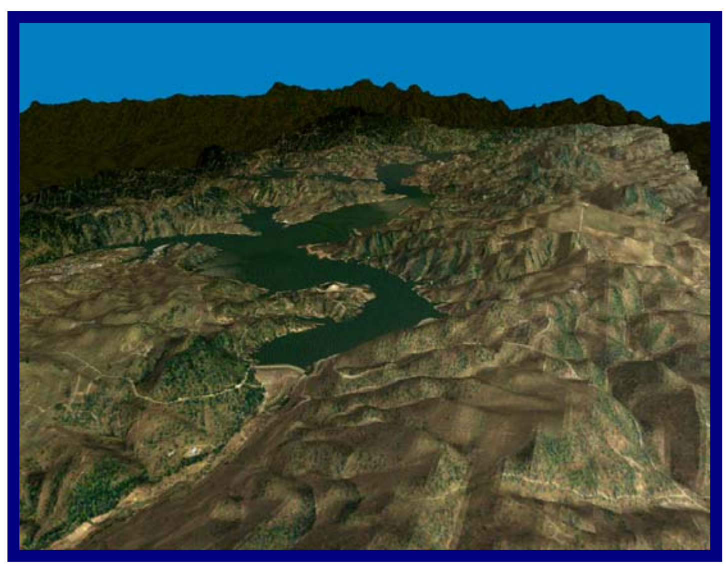

December 2003

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Executive Summary

This Environmental Impact Report (EIR) assesses the environmental impacts associated with the Nacimiento Water Project (NWP). San Luis Obispo County Flood Control and Water Conservation District (SLOFCWCD) is the Applicant.

The location of the proposed project Treated and Raw Water Options are shown in Figures ES-1 and ES-2.

This EIR is an informational document that is being used by the general public and governmental agencies to review and evaluate the two proposed project options. The reader should not rely exclusively on the Executive Summary as the sole basis for judgment of the proposed project and alternatives. This EIR should be consulted for information about the environmental effects and associated mitigation measures. The remainder of the Executive Summary consists of the following sections:

- An introduction, which discuss the various governmental agencies that participated in preparation of this EIR;
- A brief description of the proposed project;
- A brief description of the alternatives evaluated throughout this EIR;
- A discussion of how the environmental setting (i.e., baseline) was established for the proposed project;
- A summary of key impacts for the project and the alternatives; and
- A discussion of the environmentally superior alternative.

A set of Impact Summary Tables is provided at the end of the Executive Summary. These tables summarize the impacts and mitigation measures for the project, alternatives, and cumulative projects. The impacts and mitigation measures are discussed in detail in Section 5.0 of the EIR.

A. Introduction

The purpose of the Executive Summary and Impact Summary Tables is to provide the reader with a brief overview of the proposed project, the anticipated environmental effects, and the potential mitigation measures that could reduce the severity of the impacts associated with the project.

This EIR was prepared in accordance with State and San Luis Obispo County (SLO County) administrative guidelines established to comply with the California Environmental Quality Act (CEQA). In compliance with the CEQA Guidelines, SLO County (Department of Planning and Building), as the Lead Agency, prepared a Scoping Document for the proposed project and solicited comments through distribution of a Notice of Preparation (NOP).

Figure ES-1 Location of Proposed Project – Treated Water Option

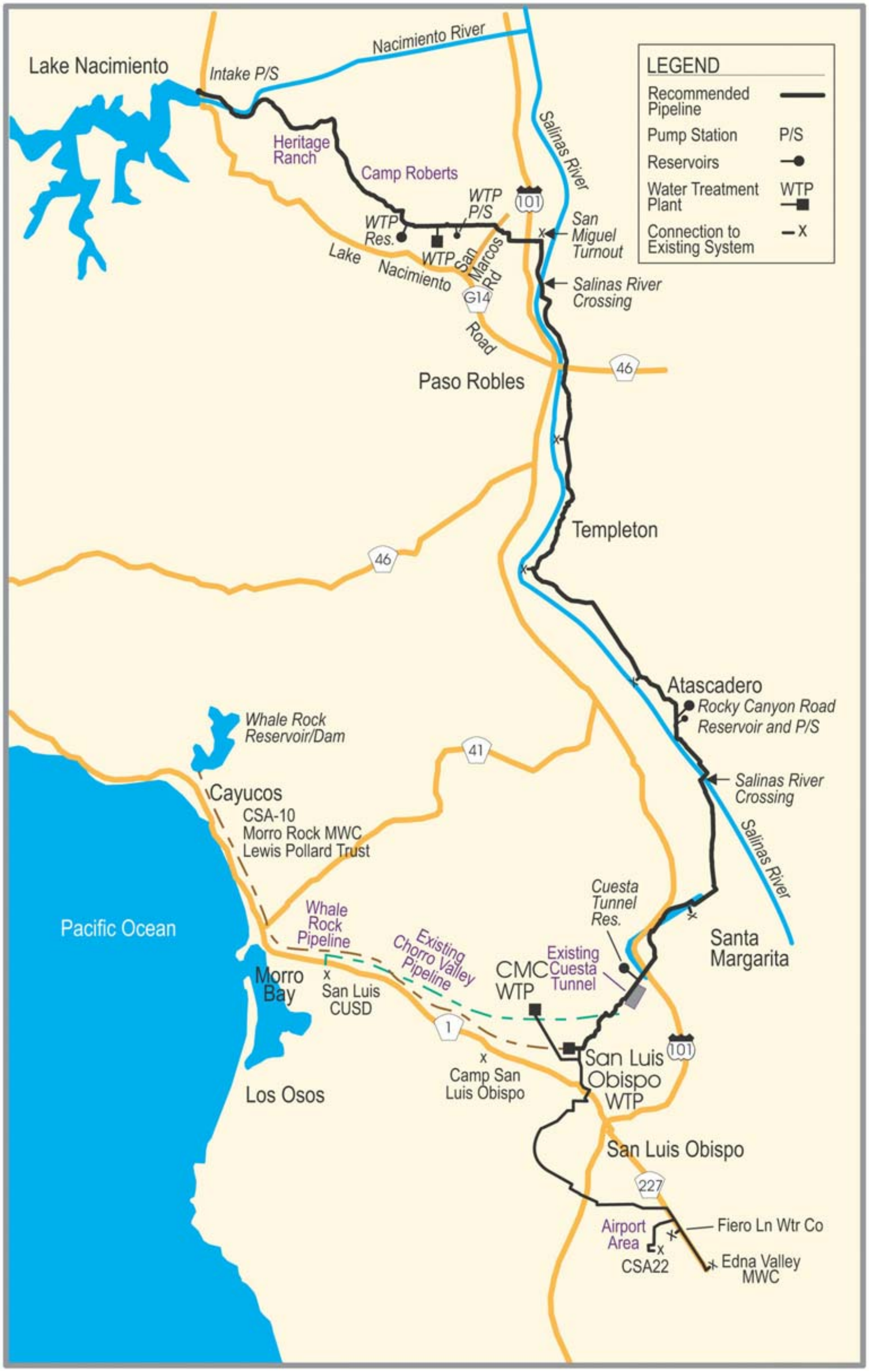
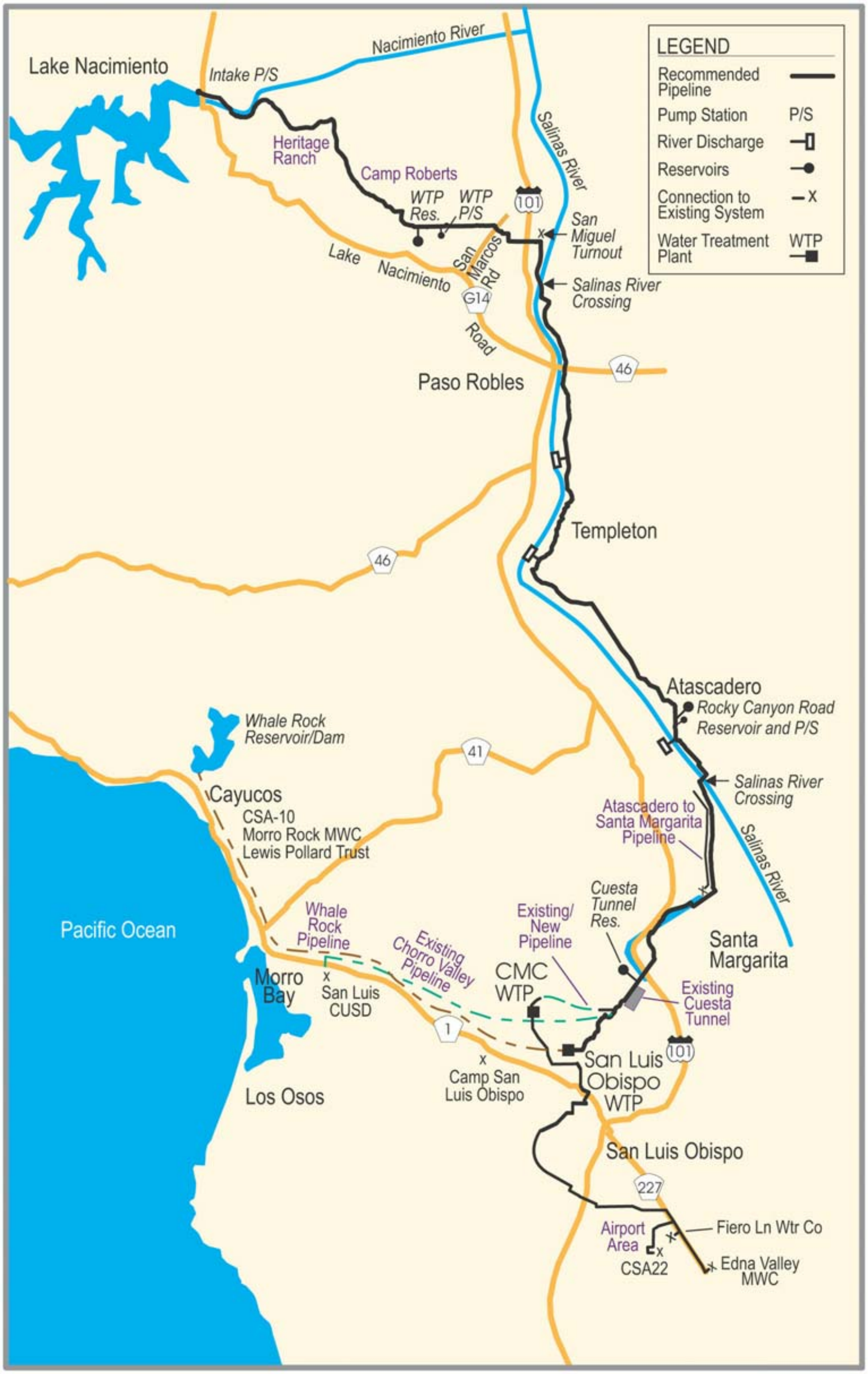


Figure ES-2 Location of Proposed Project – Raw Water Option



The Scoping Document and comments received in response to the NOP were used to help direct the scope of the analysis and the technical studies in this EIR. A copy of the Scoping Document and the comments received can be found in Appendix F.

A number of Federal, State and local governmental agencies require an environmental analysis of the proposed project consistent with the requirements of CEQA in order to act on the project. These agencies include SLO County, the California Department of Fish and Game (CDFG), and the SLO County Air Pollution Control District (SLOAPCD). The document has also been prepared to meet the requirements of the National Environmental Policy Act (NEPA), which should assist the Army Corps of Engineers (ACOE) in the decision making for the Camp Roberts lands and with issuing Section 404 permits (Clean Water Act).

B. Proposed Project

The proposed NWP includes two co-equal water delivery options that were evaluated and compared equally throughout the EIR: a Treated Water Option and a Raw Water Option. The proposed project is in response to SLO County's need for future water supplies and to supplement existing groundwater sources. The proposed project would potentially supply up to 16,200[1] acre feet per year (afy) of water to augment the existing water supplies in various communities within SLO County.

The main objective of the proposed project is to provide a reliable supplemental water source for a variety of uses within SLO County by supplementing the local ground and surface water supplies with a new surface water source. The objective is also to increase reliability of water deliveries, to improve water quality and to lessen the extent of future ground water pumping to existing residents and provide sufficient supplies to support planning objectives in various communities of SLO County. The objective of the proposed project is, therefore, to ensure better management of water resources throughout the County.

The SLO County Flood Control and Water Conservation District has a 17,500 afy entitlement from Lake Nacimiento per agreement executed in 1959 with Monterey County. Of this 17,500 afy, 16,200 afy is slated for this project and the remaining 1,300 afy is being reserved for local lakeside use.

Fifteen (15) purveyors submitted their requests for Lake Nacimiento water. Of the 16,200 afy available for the project, 13,575 afy is being requested; the remaining 2,625 afy is considered a County-owned contingency capacity. Table ES.1 shows each purveyor allocation request and requested peaking factor (percent of extra project capacity requested by the purveyor).

The proposed project includes two co-equal water delivery options that were evaluated and compared throughout this EIR: Treated Water Option and Raw Water Option. Both options include construction of the water intake at Lake Nacimiento, water storage tanks, pump stations and a 64-mile water transmission pipeline. The differences between the options are that the Raw Water Option includes construction and operation of three water discharge facilities.

[1] One acre foot equals 325,853 gallons.

Table ES.1 Tentative Nacimiento Water Project Allocations

Water Purveyor	Allocation	Peaking Factor	Flow Rate	
	afy	% *	mgd	cfs
San Miguel CSD	610	10	0.60	0.93
Paso Robles City	4,000	30	4.64	7.18
Templeton CSD	250	30	0.29	0.45
Atascadero MWC	3,000	30	3.48	5.38
Santa Margarita Ranch	200	10	0.20	0.30
CSA 23–Santa Margarita	100	30	0.12	0.19
San Luis Obispo City	3,380	10	3.32	5.14
Camp San Luis Obispo	200	10	0.20	0.30
San Luis CUSD–Morro Bay	55	10	0.05	0.08
CSA 10A Cayucos	80	10	0.08	0.12
Lewis Pollard Trust–Cayucos	50	10	0.05	0.08
Morro Rock MWC–Cayucos	30	10	0.03	0.05
CSA 22–Airport Area	890	10	0.87	1.35
Fiero Lane WC–Airport Area	30	10	0.03	0.05
Edna Valley MWC–Airport Area	700	10	0.69	1.06
Subtotal	13,575		15.25	23.59
SLO County (Contingency)	2,625	10	2.57	3.98
Pipeline Total	***16,200***		***17.82***	***27.57***
Reserved for Lakeside use	***1,300***	NA	NA	NA
Total Allocation	**17,500**			

Note: * Peaking factor is the percent of extra capacity requested by the purveyors to allow short term flows higher than the average of their yearly allocation. For the purveyors that requested no peaking, 10% has been added to allow for system downtime.

afy =acre feet per year; mgd=million gallons per day; cfs=cubic feet per second; MWC=Mutual Water Company; CSD=Community Services District; CSA=County Service Area; SLO=San Luis Obispo; WC=Water Company; NA=Not Applicable

Source: Carollo Engineers, EIR Preparation Phase Engineering Report, April 2002.

Construction and operation of these water discharge facilities would be the responsibility of the purveyors benefiting from the water (Paso Robles, Templeton, and Atascadero). The Treated Water Option also includes construction and operation of a central Water Treatment Plant near Lake Nacimiento on Camp Roberts' property.

The various parts of the two proposed options are summarized in Table ES.2. The detailed descriptions of the two proposed options are given in Section 2.0 of the EIR.

C. Description of Project Alternatives

Alternatives to the proposed project have been developed as per CEQA Guidelines Section 15126.6. This document has used an alternative screening analysis to limit the number of alternatives evaluated in detail throughout this EIR. The use of an alternative screening analysis provides the detailed explanation of why some of the alternatives were rejected for further analysis, and assures that only potentially environmentally preferred alternatives are evaluated and compared in the EIR. The following are alternatives selected as part of the screening analysis.

Table ES.2 Project Components as Related to the Two Proposed Options

Component	Option	Responsibility	Comments
Lake Nacimiento Intake Structure	Both	SLO County	Reservoir Intake is part of both project options
Intake Pump Station	Both	SLO County	Intake PS is part of both project options
WTP Storage Tanks Facility	Both	SLO County	
Nacimiento WTP	Treated Water	SLO County	
WTP Pump Station	Both	SLO County	In Treated Water Option this PS is part of Nacimiento WTP
Pipeline	Both	SLO County	Pipeline route differs slightly depending on the proposed option
Rocky Canyon Storage Tank	Both	SLO County	
Happy Valley PS	Both	SLO County	
Three Water Discharge Areas	Raw Water	local Water Purveyors	
Cuesta Tunnel Storage Tank	Both	SLO County	
local WTPs	Raw Water	local Water Purveyors	Not part of the proposed project

Note: PS=pump station; WTP=Water Treatment Plant.

No Project Alternative

CEQA requires that the specific alternative of the "No Project" be evaluated along with its impacts as part of the EIR (CEQA Guidelines Section 15126.6(e)). NEPA Section §1502.14 also requires a No Action Alternative.

The No Project Alternative describes a water supply situation that acknowledges the Board of Supervisors' decisions related to obtaining supplemental water from the State Water Project (SWP). However, it does not include assumptions that supplemental water supply projects will be developed when projects are either unfunded, unscheduled, or have not undergone environmental review.

Under the No Project Alternative, each project participant would need to evaluate their specific water supply needs and available alternatives, which in many cases are quite divergent amongst the participants. Beyond the continuing over reliance on groundwater resources, it would be speculative to undertake an evaluation of what alternative each participant would pursue in the absence of the NWP. Each of the projects discussed in Section 3.0 of the EIR (Alternatives) could serve, at least partially, as an alternative to the proposed project, especially for some project participants, and have been evaluated on their own merit instead of as part of the No Project Alternative.

With no action, groundwater overdraft in some portions of San Luis Obispo County is expected to continue to increase, resulting in lowered groundwater levels, deteriorating water quality, potential aquifer subsidence and damage, and increased pumping costs, and increased competition between agricultural interests and domestic users. Supply shortages during drought periods could occur in some communities.

NWP 1997 EIR Alternative

This alternative was the subject of a previous NWP EIR in 1997 and has been thoroughly evaluated under CEQA. The alternative is designed to take place in two timeframes. The first phase of the NWP 1997 EIR Alternative would include the construction and operation of an intake and pump station at Lake Nacimiento; a construction corridor of approximately 66 miles for water pipelines, two storage tanks and three pump stations; development of water discharge facilities north of the Cuesta Grade; upgrading an existing WTP at the CMC south of the Cuesta Grade; and a limited number of water exchange agreements. The second phase of the project would take place 5–10 years after Phase I. It would include construction of a WTP for Paso Robles, Templeton, and Atascadero; in addition, one or two WTPs would be constructed at the same site to serve both Santa Margarita purveyors.

Phased Treated and Raw Water Alternative

Similar to the NWP 1997 EIR Alternative, this alternative would be constructed in a phased approach, starting out as a raw water project, and upon completion, would be a treated water project. This alternative would not avoid or substantially lessen many of the impacts associated with the proposed project, but would spread many of the impacts out over a longer period of time. In addition, seasonally sensitive impacts could be avoided by scheduling construction activities during periods when impacts could be avoided or minimized, such as sensitive species breeding periods, or during rainy periods when erosion and sedimentation impacts would be greatest.

D. Environmental Setting (i.e., Baseline) Determination

The baseline should normally be the physical environmental conditions in the vicinity of the project, as they exist at the time the NOP is published (CEQA Guideline Section 15125). As such, current regional water supply and usage figures from the project area were utilized. While water use remains fairly constant, regional water supplies vary widely from year to year. To address the variability in local water supplies, sustainable yields were also evaluated for each groundwater basin.

E. Impacts of the Proposed Projects and Alternatives

In the Impact Summary Tables and throughout this EIR, impacts of the proposed project, alternatives, and the cumulative effects have been classified using the categories Class I, II, III, and IV as described below.

- Class I – Significant adverse impacts that are unavoidable,
- Class II – Not significant with mitigation impacts,
- Class III – Adverse but not significant impacts, and
- Class IV – Beneficial impacts

The term "significance" is used in these tables and throughout this EIR to characterize the magnitude of the projected impact. For the purposes of this EIR, a significant impact is a substantial or potentially substantial change to resources in the local project area or the area adjacent to the project in comparison to the thresholds of significance established for the resource or issue area. These thresholds of significance are discussed by issue area in Section 5.0.

To the extent feasible, distinctions are also made between local and regional significance and short- versus long-term duration. These levels of characterization are shown, along with mitigation measures for each impact, in the Impact Summary Tables, which is located directly after this Executive Summary.

- Short-term impacts – Impacts that would only be present during construction of the proposed project and would cease after or shortly after (within 6 months) construction of all phases is completed.
- Long-term impacts – Impacts that may or may not start with the start of construction, however will continue after construction is completed for longer than 6 months.

The remainder of this section provides a brief discussion of the Class I impacts identified for the proposed project as well as the alternatives. A detailed listing of the impacts can be found in the Impact Summary Tables.

E.1 Significant Impacts Associated with the Proposed Project

Numerous potentially significant impacts were identified for the proposed project, most of which could be mitigated to a level considered less than significant (Class II). Two significant (Class I) impacts were identified for the proposed project, both the Treated and Raw Water Options, and are summarized below. Significant (Class I) impacts are associated, in general, with two aspects of the proposed project: the significant air pollutant emissions in the region that would occur during construction and growth induced by availability of additional water in the region, which are summarized as follows:

- Air Quality

  AQ.1 Construction activities would generate air emissions that would impact air quality in the area. Air pollutant emissions during pipeline and facility construction would exceed the San Luis Obispo County Air Pollution Control District's significance thresholds, even after implementation of all feasible mitigations. This impact would only last during the construction of the project, with air quality impacts during project operations being less than significant.

- Growth

  G.1 Countywide, the growth inducing impacts of accepting supplemental water supplies from the NWP could be considered significant, adverse and unavoidable. However, locally impacts could vary depending on how project supplies are used by each project participant.

Several less-than-significant impacts were also identified for the Raw and Treated Water Options of the Proposed Project. Again, most of these impacts were identical for both options. While these impacts are considered less than significant, they represent the only differences between the two options that can be used to evaluate advantages or disadvantages of each option.

E.2 Significant Impacts Associated with Alternatives

This section provides a summary of the significant and unavoidable (Class I) impacts associated with the alternatives to the proposed project and compares them to those that were identified for the proposed project.

No Project Alternative

Under the No Project Alternative, all of the proposed project significant (Class I) impacts would be eliminated since there would be no construction of the project facilities and water use and distribution would not differ substantially from current conditions. The water purveyors that applied for the Lake Nacimiento water would need to search for other sources of water or rely on the existing sources currently available to them.

NWP 1997 EIR Alternative

The significant (Class I) impacts associated with the proposed project would occur under this alternative as well. In addition, several other significant impacts were identified:

- Hydrology and Water Quality
  - WQ.10 – For the 1997 EIR Project south side intake location and design, there would be an increased potential for turbidity in discharges from the MCWRA power plant during NWP intake construction. Under the 1997 EIR preferred alternative, the intake was proposed to be tunneled from the south side of the dam, as opposed to the Proposed Project north side tunneling plan. In addition, the lowest level inlet was positioned at 660 feet elevation (10 feet below the current plan) and included a dredged channel leading into the inlet. This would result in an increased potential for turbidity in discharges from the MCWRA power plant during NWP intake construction.
- Noise
  - N.1 – Construction noise would temporarily increase ambient daytime noise levels along the pipeline route and near the pump station and WTP sites. Short term sound levels would exceed acceptable levels at nearby sensitive receptors during construction of project facilities.
- Transportation/Circulation
  - T.2 – Pipeline construction would require partial road closures and reduce the number of travel lanes during peak traffic periods for roadways with an LOS of D or worse, resulting in a disruption of traffic flow and/or traffic congestion. This impact would be more severe than in the proposed project due to the proposed route, and especially along Nacimiento Lake Drive.
  - T.3 – Partial street closures would temporarily restrict access to and from private property and adjacent land uses. Limited route alternatives along Nacimiento Lake Drive would result in substantial delays and impede access to private property.
  - T.8 – A pipeline failure could disrupt traffic during repairs. A failure along Nacimiento Lake Drive would result in substantial traffic delays, with no suitable alternative route available.

- Aesthetics/Visual Resources
  - VR.2 – Visual impacts due to long-term presence of the pump station and water intake structures at Nacimiento Dam adjacent to Nacimiento Lake Drive and Lake Nacimiento Resort.

Phased Treated and Raw Water Alternative

Since this alternative is a combination of the co-equal project options of a Raw or Treated Water Project, the same significant (Class I) impacts associated with the proposed project would occur under this alternative. These impacts include:

- Air Quality

  AQ.1 – Construction activities would generate air emissions that would impact air quality in the area. Air pollutant emissions during pipeline and facility construction would exceed the San Luis Obispo County Air Pollution Control District's significance threshold, even after implementation of all feasible mitigation. This impact would only last during the construction of the project, with air quality impacts during project operations being less than significant.

- Growth

  G.1 Countywide, the growth inducing impacts of accepting supplemental water supplies from the NWP could be considered significant, adverse and unavoidable. However, locally impacts could vary depending on how project supplies are used by each project participant.

F. Mitigation Measures

An extensive number of mitigation measures have been developed for a number of the impacts identified for the proposed project and alternatives. A comprehensive listing of the mitigation measures are listed in the Impact Summary Tables at the end of this section. In many cases, successful implementation of these measures is required to avoid potentially significant impacts to the environment. In some cases, mitigation measures have been proposed for Class III impacts to further reduce severity of these impacts. While these impacts did not exceed the significance criteria, it has been determined that additional mitigation was available and warranted to minimize potential impacts to the maximum extent feasible. Should the Lead Agency decline implementation of several key mitigation measures, many of the Class II impacts identified in the EIR would be considered Significant Class I impacts under CEQA, thus requiring a Statement of Overriding Considerations from the Lead Agency.

G. Environmentally Superior Alternative

Based on an evaluation of feasible alternatives, the environmentally superior alternative is identified as required by CEQA. Alternatives evaluated included:

- Proposed Project – Treated Water Option
- Proposed Project – Raw Water Option

- No Project Alternative
- NWP 1997 EIR Alternative
- Phased Treated and Raw Water Alternative

Based on the evaluation of alternatives in Section 6.0, the No Project Alternative was clearly found to be the environmentally superior alternative. This alternative would eliminate all of the Class I impacts associated with the proposed project. However, with no action, groundwater overdraft in some portions of San Luis Obispo County is expected to continue to increase, resulting in lowered groundwater levels, deteriorating water quality, potential aquifer subsidence and damage, and increased pumping costs, and increased competition between agricultural interests and domestic users. Supply shortages during drought periods could occur in some communities.

The No Project Alternative would also not meet the Applicant's objectives of the project, which is to provide a reliable supplemental water source for a variety of uses within SLO County by supplementing the local ground and surface water supplies with a new surface water source. CEQA Guidelines Section 15126.6(e)(2) states "If the environmentally superior alternative is the no project alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." The proposed project with mitigation would be the next environmentally superior alternative. The EIR includes an analysis of the No Project Alternative, as required by CEQA and NEPA guidelines. However, pursuant to the requirements of NEPA Section §1502.14, the No Project Alternative may not be legally feasible to be identified as the federal agency's preferred alternative.

The Environmentally Superior Alternative was selected based on the CEQA requirement to identify an environmentally superior alternative from the remaining alternatives. This selection was based, in part, on avoidance of Significant Class I Impacts, and to a lesser extent on avoidance of potentially significant impacts that can be mitigated to a level of insignificance.

The Proposed Project Treated and Raw Water Options are clearly superior to the NWP 1997 EIR Preferred Alternative due to the avoidance of several Significant Class I Impacts. Distinguishing the differences between the Proposed Project Treated and Raw Water Options was much more subtle. Both options would result in the same impacts that have been identified as significant and for which adequate mitigation has not been identified. Therefore, the identification of a superior alternative needs to be based on an evaluation of the unique less-than-significant impacts identified for each option. In the area of biological resources, the Treated Water Option would avoid impacts to riparian habitat associated with the Raw Water Option discharge facilities, although this impact was completely mitigated under the Raw Water Option. The Raw Water Option would substantially lessen impacts associated with the spill of chlorinated water in the event of a pipeline failure. The main differentiating factors between the two options are in the areas of biological resources, air quality and hazardous materials, where the Raw Water Option is superior to the Treated Water Option, while still enhancing the project goals of improving water quality in the area. Therefore, the Raw Water Option is considered environmentally superior to the Treated Water Option.

Finally, the Phased Raw/Treated Water Alternative would result in all of the impacts that are unique to the Treated or Raw Water Options, thus combining the less desirable aspects of each option. Therefore, the Raw Water Option would also be environmentally superior to a Phased Raw/Treated Water Alternative.

Based on the CEQA requirement to identify an environmentally superior alternative from the remaining alternatives, the Proposed Project Raw Water Option was identified as the Environmentally Superior Alternative. The Proposed Project Raw Water Option was also identified as the NEPA Preferred Alternative, as well as the Least Environmentally Damaging Practicable Alternative (LEDPA) under the Department of the Army, Section 404 of the Clean Water Act, permit requirements.

H. Growth Inducement

CEQA Guidelines Section 15126 (g) states that an EIR must discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment, using a reasonable worst case analysis. It specifically states that projects which would remove obstacles to population growth (such as bringing supplemental water supplies to an area), may "further tax" other existing community service facilities, and this impact must be addressed. Removing what was previously a constraint to development, by supplying supplemental water, could also affect the expected rate of growth in a community, unless adopted growth management policies exist to regulate the amount of development.

The analysis in the EIR makes the following assumptions:

1 The NWP, by supplying supplemental water, would remove an obstacle to growth, and lead to increased growth in SLO County communities and cities;

2 Growth in any area cannot be assumed to be beneficial, detrimental, or of little significance to the environment [CEQA Guidelines Sec. 15126(g)].

3 Growth inducement is an indirect project impact, which has secondary effects that could be significant;

4 It is recognized that roads, schools, air quality, water, sewer systems, and other resources in SLO County have become overtaxed. These resources could be impacted by growth resulting from the proposed project and would be considered secondary impacts.

CEQA Guidelines indicate that it is reasonable to conclude that if, as a result of a project, water is removed as a constraint to growth in a community, the project can be considered growth-inducing. Based on the EIR analysis of growth restraints in the County, growth inducement impacts associated with the proposed project would be considered significant and unavoidable.

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CLASS I Impacts of the Proposed Project – Treated Water Option

Impacts That May Not Be Fully Mitigated To Less Than Significant Levels

(Impacts that must be addressed in a "statement of overriding consideration" if the project is approved in accordance with Sections 15091 and 15093 of the State CEQA Guidelines)

Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
AIR QUALITY (Section 5.4)				
AQ.1	Construction activities would generate air emissions that would impact air quality in the area.	Short-term/ Regional	AQ-1 In coordination with the SLOAPCD, the Applicant shall implement the following APCD standard dust reduction measures during construction. All PM_{10} mitigation measures required shall be shown on the contractor's grading and building plans and specifications. a. Reduce the amount of the disturbed area where possible. b. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible. c. All dirt stockpile areas shall be sprayed daily as needed. d. Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible following completion of any soil disturbing activities. e. Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast-germinating native grass seed and watered until vegetation is established. f. All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the SLOAPCD. g. All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used. h. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site. i. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code Section 23114. This measure has the potential to reduce PM_{10} emissions by 7–14%.	Significant

CLASS I Impacts of the Proposed Project – Treated Water Option

Impacts That May Not Be Fully Mitigated To Less Than Significant Levels

(Impacts that must be addressed in a "statement of overriding consideration" if the project is approved in accordance with Sections 15091 and 15093 of the State CEQA Guidelines)

Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
			j. Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site. This measure has the potential to reduce PM_{10} emissions by 40–70%. k. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible. This measure has the potential to reduce PM_{10} emissions by 25–60%. l. The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD prior to any site disturbance. AQ-2 The Applicant shall implement activity management techniques as feasible taking into account other mitigation measures that affect scheduling (e.g., Biology, Transportation/Circulation and Noise mitigation measures) during construction, as presented below: a. Development of a comprehensive construction activity management plan designed to minimize the amount of large construction equipment operating during any given time period; b. Scheduling of construction truck trips during non-peak hours to reduce peak hour emissions; c. Limiting the length of the construction work-day period, if necessary, during periods with high air pollutant levels; d. Phasing of construction activities, if appropriate. AQ-3 The Applicant shall implement the following standard NOx and ROC reduction measures to the maximum extent feasible: a. Use of Caterpillar pre-chamber diesel engines (or equivalent) together with proper maintenance and operation to reduce emissions of NOx.	

CLASS I Impacts of the Proposed Project – Treated Water Option

Impacts That May Not Be Fully Mitigated To Less Than Significant Levels

(Impacts that must be addressed in a "statement of overriding consideration" if the project is approved in accordance with Sections 15091 and 15093 of the State CEQA Guidelines)

Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
			b. Electrify equipment where feasible. c. Maintain all fossil-fuelled equipment in tune per manufacturer's specifications, except as otherwise required above. d. Encourage use of catalytic converters on gasoline-powered equipment. e. Substitute gasoline-powered for diesel-powered equipment, where feasible. f. Implement activity management techniques as described in AQ-2. g. Use compressed natural gas (CNG) or propane powered portable equipment (e.g., compressors, generators, etc.) onsite instead of diesel-powered equipment, where feasible. h. All off-road and portable diesel powered equipment, including but not limited to bulldozers, graders, cranes, loaders, scrapers, backhoes, generator sets, compressors, auxiliary power units, shall be fuelled exclusively with CARB certified motor vehicle diesel fuel. Off-road equipment may use tax exempt motor vehicle fuel if not operated on public roads. i. Maximize to the extent feasible, the use of diesel construction equipment meeting the CARB's 1996 or newer certification standard for off-road heavy-duty diesel engines. AQ-4 Because NOx emissions are above the threshold, Best Available Control Technology for Construction Equipment (CBACT) shall be used to mitigate combustion emissions from heavy-duty construction equipment such as but not limited to the following: - Install diesel oxidation catalysts (DOC), catalyzed diesel particulate filters (CDPF) or other District-approved emission reduction retrofit devices. In particular, the Applicant shall ensure installation of CDPFs on 6 (six) pieces of construction equipment involved in the primary earthmoving and construction activities and projected to generate the greatest emissions (if DOCs are used, installing of five (5) DOCs would be an equivalent of installing of one CDPF). The SLO APCD staff shall be included in the selection of candidate equipment along with a representative of the contractor (or subcontractor). (This measure shall be included and clearly identified in the project bid specifications so that contractors bidding in the project can include the purchase, proper installation, and maintenance costs in	

CLASS I Impacts of the Proposed Project – Treated Water Option

Impacts That May Not Be Fully Mitigated To Less Than Significant Levels

(Impacts that must be addressed in a "statement of overriding consideration" if the project is approved in accordance with Sections 15091 and 15093 of the State CEQA Guidelines)

Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
			their bids.), and - Emission control device installation, use, and maintenance records shall be maintained by the contractor that operates the controlled construction equipment suing forms provided by the APCD. The APCD or lead agency representatives shall be allowed to review this documentation and the controlled equipment as needed to ensure that mitigation requirements are being met.	
GROWTH INDUCEMENT (7.0)				
G.1	Countywide, the growth inducing impacts of accepting supplemental water supplies from the NWP could be considered significant, adverse and unavoidable. However, locally impacts could vary depending on how project supplies are used by each project participant.	Long-term/ Regional	G-1 The governing body of each water purveyor accepting NWP water shall include in their water management plans and programs, the goal of reducing groundwater basin overdraft in the long-term, with measurable objectives to accomplish this goal.	Significant
OTHER ISSUE AREAS				
There are no Class I Impacts in all other Issue Areas.				

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Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
HYDROLOGY AND WATER QUALITY (Section 5.1)				
WQ.1	Potentially significant impact of degradation of surface water quality and groundwater quality due to contamination by fuel or other materials related to construction activities.	Short-term/ Local	WQ-1 "No fueling" zones shall be designated wherein fueling of vehicles or equipment is prohibited within 25-feet of all drainages. All equipment used in or near drainages shall be clean and free of leaks and/or grease. Emergency provisions should be in place at all drainage crossings prior to onset of construction to deal with unintentional spills.	Insignificant
WQ.3	Potentially significant impact from reduction of water deliveries during drought and resulting water shortages to the participants	Long-term/ Regional	WQ-2 SLO County or the designated NWP engineer shall: 1) monitor reservoir storage and precipitation patterns, 2) notify MCWRA when conditions are such that releases down to a minimum pool on September 30th could result in a shortage for the NWP if drought persisted along historical patterns, and 3) recommend an alternative minimum level of September 30th storage for maintaining NWP deliveries through drought and ensuring SLO County's first right to water	Insignificant
WQ.4	Potential impact of prolonged (over one week) shutdown of releases from Lake Nacimiento during minimum pool conditions, resulting in water shortages at Water World Resorts and Heritage Ranch.	Short-term/ Local	WQ-3 SLO County shall notify both Heritage Ranch and Water World Resorts as to whether or not releases from the dam are expected to continue when water levels reach the minimum pool under NWP operations	Insignificant
GEOLOGY AND SOILS (Section 5.2)				
GS.1	Ground rupture along the Rinconada fault could damage project facilities.	Long-term/ Local	GS-1 The Applicant shall conduct investigations to further clarify the ground-rupture potential and location of fault trace(s) of the Rinconada fault in the project area. Implement recommendations of the reports of these investigations in the design of the project.	Insignificant
GS.2	Locating the Rocky Canyon Water Storage Tank and Happy Valley Pump Station near the Rinconada fault zone may result in poor foundation conditions.	Long-term/ Local	GS-2 Prior to final design, conduct investigations as listed in GS-1. In addition, to provide a method of secondary containment for the stored water Rocky Canyon Storage Tank shall be constructed as a buried, concrete tank.	Insignificant
GS.3	Excavation in rock or soils containing asbestos may cause risk to human health.	Long-term/ Local	GS-3 Prior to construction, an evaluation of areas of serpentinite outcrops or serpentine-rich soils shall be made by a qualified professional such as a Certified Industrial Hygienist (CIH) as to whether such conditions represent a threat to human health. If so, a safety program shall be initiated and shall include providing personal protective equipment to workers and a worker education program. In addition to the dust reduction measures described in Air Quality, Section 5.4.4, (Mitigation Measure AQ-1), all applicable dust reduction measures outlined in the	Insignificant

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			following document shall be implemented: 17 CCR Section 93105. Asbestos Airborne Toxic Control Measure for Construction (ATCM), Grading, Quarrying, and Surface Mining Operations. The Naturally Occurring Asbestos (NOA) ATCM requirements may include but are not limited to 1) an Asbestos Dust Mitigation Plan which must be approved by the APCD before construction begins, and 2) an Asbestos Health and Safety Program will also be required for some projects (http://www.slocleanair.org/business/asbestos.asp)	
DRAINAGE, EROSION, AND SEDIMENTATION (Section 5.3)				
DE.1	Potentially significant impact of changes to surface water flow patterns during construction.	Short-term/ Local	DE-1 An Erosion Control Plan shall be prepared in conjunction with the required Storm Water Pollution Prevention Plan (SWPPP) to devise specific soil erosion control measures. The plan would include but not be limited to the following measures: - Construction activities through areas of concern (i.e., rivers, streams, large drainages) shall be scheduled during the dry season (April 15 to October 15) to reduce erosion, or shall implement measure DE-2 to minimize potential impacts. - Revegetation of areas disturbed or cleared during construction shall occur after construction is completed and before the rainy season. DE-2 Direct any diverted flows to in-channel sedimentation basins that will trap fine soil materials before diverted flows are released downstream. If the cross-section of the channel is narrowed by the diversion, provide erosion protection measures at the downstream outlet point. Plan diversion structures to be in service for the shortest possible time, and remove them as soon as construction is completed. Have all diversion facilities designed by a qualified civil engineer and base the design on the best available streamflow information. Before designing in-channel sedimentation basins, consult with a qualified biologist to identify, and avoid to the degree feasible, sensitive biological resources such as wetlands and sensitive wildlife habitat (i.e., steelhead trout, California red-legged frog, southwestern pond turtle, and breeding riparian bird habitat). If wetland areas are impacted by these erosion control measures, mitigation will be required by the regulatory agencies.	Insignificant

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Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
			DE-3 Inspect diversion facilities daily and repair all damage immediately.	
DE.2	Potentially significant impact of damage to construction sites if flood flows occur while a pipeline is being installed in a streambed.	Short-term/ Local	DE-4 Prepare in advance and have construction crews ready to implement an emergency construction site securing procedure, which shall include personnel and equipment evacuation, trench closure, and materials removal procedures. DE-5 Heavy equipment and construction activities shall be restricted to the defined construction ROW. Equipment access and construction through drainages should be conducted from the banks rather than within the drainage. DE-6 Do not store construction materials or spoils within the channel or overbanks. DE-7 Obtain weather updates on a daily basis, or more frequently if inclement conditions are threatening.	Insignificant
DE.3	Potentially significant impacts to surface waters of increased turbidity and sedimentation, and to groundwater recharge in streams crossed and paralleled due to clearing, grading, trenching, and backfilling activities..	Short-term/ Local	DE-8 Erosion and sedimentation impacts shall be mitigated by employing standard erosion control procedures such as use of silt fencing, sandbagging, straw bales, waddles, water bars, diversion ditches, and stream bank stabilization procedures. In addition, drainages shall be spanned to the maximum degree feasible, subject to engineering or other concerns, in an attempt to avoid direct and indirect impacts. DE-9 Provide in-channel sedimentation basins when constructing in a stream bed as previously directed. Monitor water leaving the sedimentation basin to satisfy the requirements of the RWQCB. If standards are exceeded, cease all construction activities in the stream bed and do not resume activities until the problem is corrected to the satisfaction of the RWQCB representative. Following construction activities, the stream channel will be restored to near its original condition. DE-10 A vegetation restoration plan shall be prepared and implemented by a qualified restoration biologist and native plant horticulturist for the various vegetation communities and habitats that would be temporarily disturbed during project construction but could be restored onsite. DE-11 Store excavated soil and stockpiles of imported fill outside of the channel and setback at least 20 feet from the active channel banks. Protect stockpiles of loose material with secured tarps and provide silt fencing or straw bales down gradient of the	Insignificant

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			stockpiles.	
DE.4	Potentially significant impact of erosion and downstream sedimentation from a pipeline rupture.	Long-term/ Local	DE-12 The Lead or Responsible Agency shall develop and implement a plan providing the emergency response and repair procedures for an accidental rupture. The plan shall include remedial erosion control measures for areas downstream of the rupture. DE-13 The Lead or Responsible Agency shall implement a regular inspection and maintenance program to detect possible problems with pipeline integrity. DE-14 The Lead or Responsible Agency shall provide thorough inspection of the pipeline materials and construction techniques while the pipelines are being installed. The County shall specify the use of materials with proven reliability only. DE-15 The Lead or Responsible Agency shall design checkpoints and shut-off valves for incorporation into the pipelines such that critical reaches which may be subject to damage (e.g. a suspended crossing) can be isolated.	Insignificant
DE.5	Potentially significant impact of scouring occurring in stream channels that expose buried pipeline or undermine suspended pipe crossing abutments or cable caissons.	Long-term/ Local	DE-16 The final engineering design shall determine the pipeline depth below the maximum scour depth at underground stream crossings of major streams. The pipe shall be reinforced beneath the active stream channel. The pipeline depth, at underground crossings of seasonal creeks, shall be a minimum of 2 feet below the maximum scour depth.. DE-17 Suspended pipe crossing abutments and cable caissons shall be installed outside of stream channels.	Insignificant
DE.6	Potentially significant impact of increased or concentrated storm runoff flowing onto erodible soils from impervious surfaces..	Long-term/ Local	DE-18 Impervious surfaces should be either designed to dissipate runoff uniformly, or drainage measures should be designed to convey runoff from impervious surfaces so that concentrated flows do not discharge onto unprotected slopes. DE-19 Areas disturbed during construction should be revegetated, as soon as is practical, prior to the beginning of the rainy season.	Insignificant
AIR QUALITY (Section 5.4)				
AQ.2	Operation of the project facilities would generate air emissions that could impact air quality in the area..	Long-term/ Regional	AQ-5 The Applicant shall procure propane-powered, or low-NOx emergency generators to lower potential NOx emissions.	Insignificant

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			AQ-6 Should the Applicant utilize diesel powered generators, the Applicant shall install diesel oxidation catalysts (DOC), catalyzed diesel particulate filters (CDPF) or other District-approved emission reduction retrofit devices.	
NOISE (Section 5.5)				
N.1	Construction noise would temporarily increase ambient daytime noise levels along the pipeline route and near the pump station and WTP sites.	Short-term/ Local	N-1 Equipment enclosures/noise barriers shall be used in the vicinity of sensitive receptors (per station numbers in Table 5.5.7) to reduce the noise generated by stationary equipment (i.e., generators, pumps, and other stationary construction equipment) during daytime hours. N-2 Construction activities shall be limited to 7:00 a.m. and 7:00 p.m. on weekdays and between 8:00 a.m. and 5:00 p.m. on Saturdays except when local governments want pipeline construction through nonresidential commercial areas to occur at night to avoid disrupting daytime commerce and traffic. Construction equipment maintenance shall be limited to the same hours. Non-noise generating construction activities such as interior painting are not subject to these restrictions. Signs stating these restrictions shall be provided by the Applicant and posted onsite. Signs shall be in place prior to issuance of Land Use Permit and throughout grading and construction activities. Directional drilling shall be exempt from this mitigation measure only if a drilling event is predicted to take more than 12 hours and is begun promptly at the beginning of the work day. N-3 Provide two-week advance notice to sensitive receptors in Paso Robles, Templeton, Atascadero, Santa Margarita, and San Luis Obispo by mail and newspaper. The announcements shall state where and when construction will be scheduled. It shall also provide tips on reducing noise intrusion, e.g. closing windows facing the construction area. N-4 Maintain proper mufflers on all internal combustion and vehicle engines to reduce noise to the maximum extent feasible.	Insignificant
N.3	Periodic testing and emergency use of generators would increase short-term ambient noise levels near the pump stations.	Long-term/ Local	N-7 Periodic testing of generators shall be performed during daylight hours only.	Insignificant
HAZARDS AND HAZARDOUS MATERIALS (Section 5.6)				
HM.2	Earth-moving operations during construction	Short-	HM-1 During the design phase of the project corridor, SLO County or a qualified	Insignificant

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	could uncover contaminated soils and other hazardous materials, including naturally occurring asbestos, creating health risks to construction workers and public.	term/ Local	professional retained by the County shall perform a detailed characterization of the nature and extent of hazardous materials contamination in the project corridor for high risk sites identified previously in this report. This investigation, known as Phase I and Phase II hazardous materials site assessments, shall be performed after selection of the preferred alternative, i.e., the alternative to be implemented, and prior to property acquisition or construction activities. The site characterization would be conducted in accordance with CalEPA DTSC standards and guidance, such as the Scientific and Technical Standards for Hazardous Waste Sites (DTSC 1990). At any given site, investigation may either reveal that contamination exists and is of concern, that remediation has already occurred, that the extent of contamination is extremely limited, or that no contamination has occurred. If contamination were identified during the site investigation, SLO County would report the contamination to the appropriate regulatory agencies. The lead or design agency may decide to re-route the pipeline; however, landowners would be responsible to perform additional investigation and mitigation or cleanup under review of responsible regulatory agencies, as necessary. Mitigation and remediation activities shall generally be completed before construction could proceed at any given site. However, for some types of contamination, particularly where fuel has leaked into soil and groundwater, remediation and clean up activities may be ongoing throughout construction due to the lengthy recovery process and difficulty of fully extracting certain pollutants. Within Camp Roberts and Camp San Luis Obispo lands any hazardous materials handling/management shall be done consistent with the Camp's Standard Operating Procedures for Environmental Protection. HM-2 A Hazardous Materials (HazMat) Contingency Plan shall be prepared before any excavation or trenching work is commenced. The Plan may contain but may not be limited to the following actions that must be taken by the design or Lead Agency in the case that hazardous materials are encountered: - Notify owner, engineer, and other affected persons. - Notify such agencies as are required to be notified by laws and regulations within the time stipulated by such laws and regulations.	

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			- Designate a certified industrial hygienist to issue pertinent instructions and recommendations for protection of workers and other affected persons' health and safety. - Identify and contact subcontractors and licensed personnel qualified to undertake storage, removal, transportation, disposal, and other remedial work required by, and in accordance with, laws and regulations. - Forward to engineer, copies of reports, permits, receipts, and other documentation related to remedial work. - Assume responsibility for worker health and safety, including health and safety of subcontractors and their workers. - Instruct workers on recognition and reporting of materials that may be hazardous. - File requests for adjustments to contract time and contract price due to the finding of hazardous materials in the work site in accordance with conditions of contract. - Minimize delays by continuing performance of the work in areas not affected by hazardous materials operations. If contaminated soils or other hazardous materials are encountered during any soil moving operation during construction (e.g., trenching, excavation, grading), construction shall be halted and the HazMat Contingency Plan implemented. HM-3 In the event of an accidental release of a hazardous material (including fuel spills) during construction, the lead or design agency shall determine whether the release is reportable pursuant to any local, State, or Federal law, and if so would notify the regulatory agency to which the report should be submitted. The lead or design agency shall adhere to procedures listed below, which describe additional procedures to be followed in the event of an accidental release of a hazardous material. The purpose of the response procedures is to minimize exposure and risk to public health and safety. - The lead or design agency would implement and coordinate with local jurisdiction on procedures for immediate evacuation of persons from the vicinity of the spill;	

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			- promptly notify appropriate personnel and responsible agencies of the incident, such as the local fire department; - terminate NWP operations and shut-off power, if necessary; and - cooperate with responding agencies. Releases may not be of a "hazardous waste" and accordingly may not have to be managed as such. However, substances not classified as hazardous wastes may still be subject to restrictive handling requirements and would be managed in accordance with such requirements.	
HM.3	During construction, hazardous utilities could be damaged by construction equipment. This could expose construction workers and public to hazardous materials transported by the damaged pipelines	Long-term/ Local	HM-4 Prior to final design stage, the lead or design agency shall conduct a detailed utilities survey, including contacting the respective utility representatives, to accurately locate, to the extent possible, Southern California Gas lines, sewage lines and storm drains, as well as buried transmission lines within the corridor of the proposed pipeline route. The lead or design agency shall consult with Tosco and Chevron to confirm the locations of their oil and gas pipelines in the project area. Underground Service Alert shall be notified prior to breaking ground for construction of the pipeline so that any existing subsurface structures can be properly identified. The contractor shall be required to keep the notification current.	Insignificant
HM.6	During operation of the WTP, the employees and public could be exposed to the hazardous chemicals transported to, used, and stored at the plant.	Long-term/ Local	HM-8 A Process Hazards Analysis (PHA) shall be conducted during the early stage of the final design process for the WTP. This technique focuses on the hazardous materials and the major components and is used to prioritize the systems that require more detailed analysis. The study shall examine the orientation of the facilities with regard to potential residential development nearby, storage, chemical handling and chemical feeding systems, overall system design, safety systems including sensing devices, chemical scrubbing, and air pollution control devices. Transportation of chemicals to the site on a local level shall be addressed. Representative scenarios of accidental chemical releases shall be modeled to determine the extent of offsite impacts. A qualitative estimate of the likelihood of the occurrence of accidents and other events and the potential consequences of these events should be developed to produce a risk estimate. Those events with the highest risks would be analyzed in order to find possible design modifications for risk reduction. The PHA would determine areas where a Hazard and Operability Studies (HAZOP) should be performed. The structures should be	Insignificant

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			consistent with information requirements for the California Accidental Release Program (CalARP) and the EPA Risk Management Program (RMP). If deemed necessary as a conclusion in the PHA, a HAZOP would be conducted that identifies the consequences of the engineering design failing to meet performance criteria, such as variations in flows, pressures, and temperatures. For example, if cryogenic oxygen production for ozonation is used, this system would be analyzed. HM-9 If ozonation is used as a disinfection method at the WTP, it is recommended that ozone be generated from air which would eliminate the need for liquid oxygen transport, handling and storage. If this disinfection method is used, ambient and in-line ozone monitoring should be incorporated into water treatment system design to determine ozone destruct system performance. Line length between generator and contractor should be minimized in order to reduce ozone inventory in the plant. Power shutoff should be incorporated on high ambient ozone, high exhaust ozone, low water flow, or low exhaust backpressure. HM-10 A HazMat Delivery and Transportation Plan shall be developed that requires the drivers of the delivery companies to avoid rush traffic hours and congested routes as much as feasible.	
			BIOLOGY (Section 5.7)	
BR.1	Potentially significant impacts to terrestrial biological resources from heavy construction machinery and various construction activities.	Long-term/ Area-wide	BR-1 The Lead or Responsible Agency shall retain a qualified biologist(s) (project biologist) to conduct and oversee construction monitoring that pertain to biological resource protection, act as the liaison between the Lead or Responsible Agency and the construction contractor(s), and to ensure compliance with the mitigation program, such as monitoring all construction activities in biologically sensitive areas and scheduling and/or implementing preconstruction surveys, if determined to be necessary by the County Environmental Coordinator. The project biologist shall be selected based on demonstrated knowledge and experience with the species potentially occurring in the project area. The project biologist shall inform the County monitoring representative as soon as possible, and the County representative shall have the authority to stop construction activities if there is eminent threat to the listed species, or to delay construction activities until appropriate mitigation measures can be implemented. In addition, all project personnel who conduct work at Camp Roberts and/or Camp San Luis Obispo must attend an environmental awareness briefing conducted by California	Insignificant

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			Army Reserve National Guard (CARNG) Environmental staff prior to beginning work. BR-2 A Biology Education Program for Contractors shall be implemented to ensure that all construction personnel are fully informed of the biological sensitivities associated with this project. The program shall be conducted by a qualified biologist and shall be a requirement for all construction personnel. This program shall focus on: a) the purpose for resource protection; b) identification of sensitive resources areas in the field (e.g., areas delineated on plans and by flags or fencing); c) sensitive construction practices; d) protocol to resolve conflicts that may arise during the construction process; e) ramifications of noncompliance. BR-3 The project biologist and the project engineer shall clearly designate “sensitive resource zones” on the project maps and construction plans. Sensitive resource zones are defined as areas where construction would be limited to a 15- to 30-foot corridor, depending on the particular construction requirements, to avoid impacts to special status biological resources. The project biologist shall demark the limits of sensitive populations on the project plans, including as feasible, an adequate buffer area to avoid direct and indirect impacts. If determined necessary by the County Environmental Coordinator, survey work to demark sensitive resource zones shall be conducted during the appropriate survey window to confirm sensitive species (the exact survey timing would be determined appropriately for each specific species, and depending on the rain conditions). During construction, temporary fencing shall be erected under supervision of the project biologist to provide protection within the sensitive resource zones. BR-4 Within sensitive resource zones, construction equipment work shall be conducted observing the following procedures: - Heavy equipment and construction activities shall be restricted to the defined	

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			construction ROW. - Vehicles and personnel shall use existing access roads to the maximum degree feasible. Any off road travel within Camp Roberts or Camp San Luis Obispo shall be subject for approval by Range Control and the Environmental Directorate. Where additional access is required, all vehicles shall use the same route, even if this requires heavy equipment to back out of such areas (safety permitting). All access routes outside of existing roads or the construction easement shall be clearly marked (i.e., flagged and/or staked) prior to the onset of construction, delineated on the construction plans, and reviewed by the project biologist. Addition access roads shall avoid, to the degree possible, sensitive habitat areas or special status plant populations. - Topsoil shall be segregated by windrow or stockpiled in disturbed areas without native vegetation, special status plant populations, or special status plant communities. These stockpile areas shall be located in previously disturbed areas, delineated on the construction plans, and reviewed by the project biologist. - Any expanded work areas requested, such as construction and vehicle access, width of construction corridor exceeding 100-foot width, or storage and staging areas, shall require the following review procedures: the limits of expanded work areas proposed will be depicted on construction drawings and reviewed by the project biologist; if necessary, and as determined by the County Environmental Coordinator, all expanded work areas shall be surveyed by biologists for sensitive resources during the appropriate survey time window (e.g., the month of May for most status special status plant species); the expanded work areas that impact sensitive resources may be altered to the degree feasible to avoid any additional impacts; and sensitive resource zones will be established, as described above. BR-5 Final design of the project shall incorporate the following: - Staging areas shall be located in disturbed habitat, to the maximum degree feasible. Staging areas are prohibited within sensitive habitat areas. All staging areas shall be delineated on the construction plans and reviewed by the project biologist. - As feasible and consistent with preliminary project design, plan placement of the proposed pipeline beneath existing roads and ROWs and away from undeveloped and	

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			previously undisturbed areas. BR-6 The Applicant shall prepare a Vegetation Replacement/Restoration Plan (VRRP) for vegetative communities that are significantly impacted and that are to be permanently removed from project sites. The Plan shall be prepared by the project sponsors for the various vegetative communities and habitats that would be temporarily disturbed during project construction but could be restored onsite. A qualified restoration biologist and native plant horticulturist shall be retained to supervise or participate in the design, site preparation, installation, maintenance, and monitoring of all revegetation or site restoration programs. VRRP shall include revegetation success criteria and measures to ensure after revegetation monitoring and replanting in case the revegetation is not successful. The part of the VRRP developed for lands within Camp Roberts or Camp San Luis Obispo shall be reviewed and approved by the CARNG Environmental Directorate. BR-7 Construction through sensitive areas shall be scheduled to minimize potential impacts to biological resources. A specific schedule shall be developed by the project biologist and changed if necessary. The guidelines for this schedule shall be as follows: - to protect breeding **sensitive bird species** in wetland areas or drainages schedule construction only from mid-September through October, provided that no significant rainfall occurs within this time-frame. However, if breeding bird surveys are conducted from March 15 through June 15, and no breeding birds are detected, then this window could be widened to include July and August. - to protect **Tiger salamander** habitat (i.e., grasslands) avoid construction in March and April. - to protect **Steelhead trout** habitat avoid construction in the habitat from November through May. - to protect **California red-legged frog** habitat (wetlands) avoid construction in wetlands from December to August. Mitigation measures to prevent impacts to specific biological resources are given below.	

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			BR-8 For all the sensitive species listed in Table 5.7.1, preconstruction surveys shall be conducted to verify their presence at known sites and at potential sites where the project could impact these species. If present, impacts are to be avoided or minimized by narrowing the alignment adjacent to potential dens, nests or aquatic areas. If avoidance is not feasible, specific mitigation measures for these species will be determined through consultation with USFWS and CDFG through CESA and FESA. Formal consultation and obtaining of Incidental Take Permits would be required if the federally listed species could be encountered and affected. BR-9 To protect the **San Joaquin Kit Fox** the following measures shall be implemented: a) Within 30 days prior to initiation of grading or other construction, the Applicant shall hire a qualified biologist acceptable to the USFWS, CDFG, and the County Environmental Coordinator, to conduct a pre-construction survey for known and potential kit fox dens. A letter shall be submitted to the Dept. of Planning and Building prior to issuance of construction permits confirming the completion of this survey. b) Before any grading or construction activities commence, all personnel associated with the project shall attend a worker education program regarding the sensitive biological resources potentially occurring in the project area (i.e., San Joaquin kit fox). Specifics of this program shall include kit fox life histories and careful review of the mitigation measures implemented to reduce impacts. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the project. The Dept. of Planning and Building shall be notified of the time that the applicant intends to hold this meeting. c) To prevent entrapment of the kit fox during the construction phase of the project, all excavation, steep-walled holes, or trenches in excess of 2 feet in depth shall be covered at the close of each working day by plywood or similar materials, or filled. Trenches shall also be inspected for entrapped kit fox each morning prior to onset of field activities and immediately prior to covering with plywood at the end of each working day. Before such holes or trenches are filled, they shall be thoroughly inspected for entrapped kit fox. Any kit fox so discovered shall be allowed to escape before field activities resume, or removed from the trench or hole by a qualified biologist and	

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			allowed to escape unimpeded. d) During the construction phase, any pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at the project site for one or more overnight periods shall be thoroughly inspected for trapped San Joaquin kit fox before the subject pipe is subsequently buried, capped, or otherwise used or moved in any way. If during the construction phase a kit fox is discovered inside a pipe, that section of pipe will not be moved, or if necessary will be moved only once to remove it from the path of activity, until the kit fox has escaped. e) In order not to attract kit fox predators such as red fox, coyotes, or domestic dogs to the area, and in order to not attract kit foxes to the site where they can exposed to increased risk of injury or mortality, all food-related trash items such as food scraps, wrappers, cans, bottles, etc., generated during the construction phase shall be disposed of in closed containers only and regularly removed from the site. No deliberate feeding of wildlife shall be allowed. f) Any contractor or employee that inadvertently kills or injures a kit fox or who finds any such animal either dead, injured, or entrapped shall be required to report the incident immediately to a supervisor overseeing the project. In the event that such observations are made of an injured or dead kit fox, the Applicant shall immediately notify USFWS and CDFG by telephone, contact information for these agencies shall be included with the project contact list prior to the project commencement. In addition, formal notification shall be provided in writing within three working days of the finding of any such animal(s). Notification shall include the date, time, location, and circumstances of the incident. Any threatened or endangered species found dead or injured shall be turned over immediately to the CDFG for care, analysis, or disposition. If any potential or known San Joaquin kit fox dens are subsequently observed during the required pre-activity survey, the following mitigation measures shall apply: g) Fenced sensitive resource zones shall be established by the project biologist around all known or potential kit fox dens that can be avoided but may be inadvertently impacted by project activities. Sensitive resource zone fencing shall consist of either large flagged stakes connected by rope or cord or survey laths or wooden stakes prominently flagged with survey ribbon. Each sensitive resource zone shall be roughly	

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			circular in configuration with a radius of the following distance measured outward from the den or burrow entrances: • Potential kit fox den: 50 feet • Known kit fox den: 100 feet • Kit fox pupping den: 150 feet h) If the sensitive resource zone intersects a road, only essential vehicle operation shall be allowed on the road within the sensitive resource zone, and simple foot traffic shall be permitted within these sensitive resource zones. Otherwise, all project activities such as vehicle operation, materials storage, etc., shall be prohibited. Sensitive resource zones shall be maintained until all project-related disturbances have been terminated and then shall be removed. If specified sensitive resource zones cannot be observed for any reason, USFWS and CDFG shall be contacted for guidance prior to ground disturbing activities on or near the subject den or burrow. If any known San Joaquin kit fox dens are discovered within the project area which shall be unavoidably destroyed by the proposed project, excavation of these kit fox dens shall not proceed without authorization from USFWS and CDFG. Prior to project construction the Applicant shall consult with USFWS and CDFG to evaluate the appropriate participation in a kit fox conservation program. The Applicant will prepare a Habitat Evaluation Form using a qualified biologist to determine the appropriate level of offsite habitat mitigation necessary to offset any permanent loss of kit fox habitat, especially associated with the WTP. Permanent habitat loss will be offset at the appropriate ratio through either land acquisition, a conservation easement or in-lieu fees. BR-10 Construction techniques to be implemented to protect **oak trees** and **oak woodlands** (i.e., **blue oak woodland, valley oak woodland, coast live oak woodland, and digger pine-oak woodland**): In accordance with the County's guidance on oaks and Assembly Bill No. 242 to add Article 3.5 to Chapter 4 of Division 2 of the CDFG Code relating to oak woodland conservation, and with all local related policies and ordinances (e.g., City of Paso de	

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			Robles Oak Tree Preservation Ordinance, Camp Roberts Integrated Natural Resources Management Plan) the final project design shall target maximum avoidance of oak trees. If avoidance is not feasible the Applicant shall prepare an Oak Tree and Woodland Mitigation Plan, which shall be prepared by a certified arborist and shall contain but not be limited to the following measures: a) The construction ROW easement shall be narrowed to a maximum of 30 feet in width through oak woodland habitat (i.e., areas suitable for the establishment of oak woodlands). During final design, the project biologist and project engineer shall identify the most appropriate location for the narrowed corridor, taking into account the preservation of as many individual oak trees as possible with the engineering requirements of the proposed project. All areas requiring this sensitive resource zone shall be clearly shown on all construction plans, and prior to the onset of construction, flagged by the project biologist/construction monitor. If determined necessary by the County Environmental Coordinator, a preconstruction survey shall be conducted by the project biologist to accurately map oak woodlands that would be unavoidably impacted. b) Construction machinery ingress, egress, and staging areas shall be placed away from woodlands and individual oak trees, and shall not be driven under the canopies of oak trees. c) Disposal or storage of fill or excavated soil is prohibited within the dripline of all oak trees. d) During construction near oak trees, no fasteners may be used on the trees. e) All reasonable measures shall be taken to avoid moving dead and downed oak logs. f) All oak trees immediately adjacent to construction areas shall be protected by erecting temporary fencing at the drip line of the woodland canopy or around individual trees. g) Any necessary oak tree pruning shall conform to the standards of the International Society of Arboriculture and done under supervision of a certified arborist. Pruning shall be carried out in such a manner as to maintain a natural-looking tree form upon completion of pruning; practices such as stub cuts, topping, flush cuts, and random branch removal shall be avoided. All pruning cuts shall correspond with the branch	

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			collar using natural target pruning, and no tree seal shall be used. Pruning or cutting of roots etc. of individual trees shall be quantified during construction and up to one year after construction. h) Oak monitoring shall be done for one year after construction completion. If any oak trees die either during construction or within one year after construction completion, the trees shall be replaced at a 3:1 ratio. i) Individual oak trees that cannot be avoided and must be removed within habitat types other than oak woodlands shall be replaced at a 4:1 replacement ratio in accordance with the County's mitigation policy for loss of individual oak trees. j) For every area of oak woodland habitat that is removed, oak woodland habitat shall be restored onsite or replaced offsite at an agreed upon offsite location with an equal area (3:1 replacement ratio). k) Offsite replacement for oak woodlands shall be at locations that currently support disturbed or nonnative habitats. Each of the four oak woodland habitat types that would be disturbed shall be replaced or restored with a similar density of oak trees by species as found in the impacted habitats. The Flood Control and Water Conservation District (FCWCD) shall prepare a detailed oak woodland restoration plan for this project. The VRRP shall contain detailed information on oak woodland replacement and address any issues of concern. Areas suitable for creation of oak conservation areas for replacement offsite shall be evaluated. Feasibility of purchasing land for oak conservation areas shall be evaluated. l) Specifically on Camp Roberts and Camp San Luis Obispo, compliance with the Camp Roberts Integrated Natural Resources Management Plan (INRMP) is required as follows: -- hand digging, mechanical digging, and blade work are prohibited under the drip lines of standing live or dead oak trees; if digging under the drip lines of oaks is unavoidable, any damage that ensues will be subject to mitigation (replacement); -- 3:1 replacement for damaged or removed oaks; -- collection of acorns from the area of impacted oaks, planting at densities approved	

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			by CA ARNG, planting during January-February, watering if necessary; -- minimum of five (5) years of monitoring, 3:1 survivorship ratio, preparation of annual monitoring reports, and compliance with all other INRMP oak management stipulations. m) These oak tree avoidance and monitoring procedures shall also be followed for construction in all areas in the vicinity of oak trees along the construction route. BR-11 The VRRP shall include details on **needlegrass grassland** habitats. The restoration of needlegrass grasslands shall include salvaging of topsoil, recontouring the impact area to its original contours, and revegetating this area with **purple needlegrass**, **nodding needlegrass**, and **foothill needlegrass** plugs at the appropriate time of year (November-January). This will require onsite seed collection and contract-growing of plugs by a nursery with demonstrated experience in propagating native plants. The needlegrass grassland areas in the project corridor also include several highly sensitive sites with serpentine rock outcrops (i.e., serpentine bunchgrass community). Seed and bulbs from native forb and corm species indigenous to the serpentine grassland sites also shall be collected and reseeded or planted into the restoration areas. Forb species found in the impact areas appropriate for reseeding including **California poppy**, **morning glory**, **fascicled tarweed**, **dot-seed plantain**, **Canterbury bells**, and **yerba santa**. Corm-forming species found in the impact areas (e.g., **wild onion**, **golden bloomeria, soap plant)** shall be salvaged en masse with the topsoil and replanted in the impact areas after construction. These measures will ensure that the genetic integrity of the needlegrass, native forb, and corm-forming species that are locally adapted to serpentine soils are preserved. Several special status plant species to be impacted in serpentine bunchgrass habitat shall be salvaged and replanted as described below under special status plants. The selected mitigation area shall be monitored by a qualified biologist for needlegrass plug survival at 1 month, 3 months, and 6 months following planting; all plug losses below 80% shall be replaced at the appropriate time of year. The percent cover of native forbs, corm-forming plants, and needlegrass shall be monitored using transects or quadrants and compared with adjacent undisturbed native grassland habitat.	

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			BR-12 As part of the VRRP, **chaparral, central coastal scrub, and nonnative grassland** shall be revegetated and restored using topsoil salvage, recontouring disturbed areas to their original contours, and hydroseeding impacted areas with species characteristic of the impacted vegetative community. Appropriate species for erosion control purposes and eventual native shrub and herb cover shall be used. Because native grassland species are likely to be out-competed by nonnative species, and native bunchgrasses require hand-planting, it is recommended that grassland impact areas be hydroseeded with a ground cover mix. Hydroseeded areas shall be monitored by a qualified biologist for seed viability and overall success. Areas shall be re-hydroseeded after 30 days if germination success is low. Topsoil salvage specifications, hydroseed mixes, and seed proportions for individual sites shall be specified in the detailed mitigation plan for this project. BR-13 To protect **San Luis Mariposa lily, Brewer's spineflower, Cambria morning glory, Chorro Creek bog thist**le, Obispo Indian Paintbrush, Jones Layia, Dwarf Soaproot, Most Beautiful Jewel-flower and Blochman's dudleya, the following shall be implemented in the Chorro Creek area. The location of all plant populations in or adjacent to the alignment shall be clearly shown on construction maps and labeled as sensitive areas that shall be avoided. These populations shall be flagged by a qualified biologist and protected with temporary fencing prior to construction. During the final project design phase, slight shifts and narrowing of the proposed construction ROW will be required to avoid all the sensitive plant habitats listed in Table 5.7.1. FCWCD shall prepare a detailed mitigation plan for salvage and restoration of these special status plant populations, if complete avoidance is not possible. Those individual plants to be impacted shall be salvaged and transplanted into appropriate habitat within or adjacent to the alignment after project construction is completed. Seed saving and nursery propagation before reintroduction may be necessary for restoration of **Brewer's spineflower** and possibly **Blochman's dudleya** populations. Any salvaging effort shall be conducted when the plants are dormant (i.e., late July through September), and transplantation or reintroduction shall occur in fall or early winter (September through January). A transplantation plan shall be prepared by the project biologist and submitted for approval to the Lead Agency prior to the onset of construction activities. This plan shall include guidelines for salvage of corms and seed, and salvage and replacement of topsoil and serpentine boulders. The plan shall also address guidelines for storage of	

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			plant material in the event that there is a delay between the salvage and transplantation efforts. Plant material storage guidelines shall include, at a minimum, the method(s) of storage and the storage facility (name and address of the institution, etc.). The plan shall also include specific information documenting the suitability of the receiver site (i.e., soils, existing vegetation, etc.), transplantation techniques, and a monitoring program. Transplanted corms and plants shall be marked and subsequently monitored during the blooming period for a minimum of three years. A status report documenting all aspects of the plan shall be submitted to the Lead Agency within one month of the final transplantation effort. Thereafter, yearly monitoring reports shall be submitted in September to the Lead Agency. BR-14 To protect **San Luis Obispo Sedge** and **Cuesta Pass Checkerbloom,** construction ROW shall be narrowed as feasible where these plants occur (see Table 5.7.1). The location of all plants in or adjacent to the alignment shall be clearly shown on construction maps and labeled as sensitive areas that shall be avoided. The limits of the population in or adjacent to the alignment shall be flagged by a qualified biologist prior to construction. A mitigation plan would be required for propagation and reintroduction of the species into appropriate habitat. BR-15 To protect Shinning Navarretia and Straight-Awned Spineflower, Dwarf Calycadenia, Prostrate Navarretia, San Benito spineflower, and Lemmon's Jewelflower, direct impacts shall be avoided by narrowing the construction ROW in those segments of the proposed alignment where they occur. The location of all plants in or adjacent to the alignment shall be clearly shown on construction maps and labeled as sensitive areas that shall be avoided. The limits of the population in or adjacent to the alignment shall be flagged by a qualified biologist prior to construction. If avoidance is not possible, impacts to these sensitive plant species would be adverse because of the relatively high sensitivity of the species (CNPS List 1B). A mitigation plan would be required for propagation and reintroduction of the species into appropriate habitat. BR-16 Potential impacts to **special status bird species** (in particular the **Bald eagle**, **California condor**, **Yellow Warbler**, **Least Bell's Vireo**, and **Southwestern Willow Flycatcher)** may be mitigated by implementing the general mitigation measures - BR-1 through BR-6. Impacts to avian species shall be avoided by not allowing construction during the breeding season in habitats special status birds are known to be breeding. Preconstruction surveys shall be conducted to assess the presence or absence of special	

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			status bird species in their breeding habitats, and areas that are in use will be flagged and avoided until the end of the breeding season. To protect **Bald eagle** during November through March avoid construction at locations in Camp Roberts where bald eagles have been spotted.. Prior to beginning any construction activities, a survey for nesting bald eagles shall be performed by a qualified biologist. If a nest is discovered, construction activity shall not occur within 800 meters (2,400 feet) of the nest from 1 January to 31 August, or as stipulated by the U.S. Fish and Wildlife Service. To protect **California condor**, work shall be halted by the environmental monitor if the bird(s) is observed in the vicinity. Work can be resumed only after the project biologist has determined that the bird has moved far enough away that resuming work will not result in disturbance of the bird.	
BR.2	Impacts to riparian, water, and wetlands habitats and their biological resources from construction activities.	Long-term/ Area-wide	Mitigation Measures BR-1 though BR-6 and BR-8. BR-17 Construction activities within and/or immediately adjacent to all creek crossings, wetlands, special status plant species populations, or suitable habitats of special status wildlife of the pipeline shall be limited to a 15- to 30-foot corridor. Specific sites for this limitation would include pipeline crossings at Salinas and Nacimiento Rivers and San Marcos, Santa Margarita, Tassajara, Trout, Yerba Buena, and Chorro Creeks. Other creek crossings may be included as determined by the project biologist. BR-18 The following construction techniques shall be utilized when constructing through drainages or within riparian areas: - Equipment access and construction shall be conducted from the banks rather than from within the drainage to the extent feasible. Prohibited activities within drainages or other wetland areas include staging areas and disposal or temporary placement of excess fill. - Trenching shall be scheduled during periods of minimum flow (i.e., summer through the first significant rain of fall, usually July through October) to avoid erosion and downstream sediment deposition and to avoid impacts to drainage-dependent species such as California red-legged frog or southwestern pond turtle. Construction through	Insignificant

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			riparian or other wetland areas shall also be scheduled to avoid the breeding season (March-September) and potential impacts to sensitive, riparian-obligate bird species such as yellow warbler, southwestern willow flycatcher, and least Bell's vireo. - To the degree practicable, avoid any activity that places fill in or otherwise affects wetlands and streams. BR-19 The following shall be observed during the final design of the project: - Should it be infeasible to avoid any of the sensitive species listed in Table 5.7.2 during creek crossings, the Applicant shall utilize directional drilling or other non-invasive technique to avoid disturbance of sensitive species and/or habitat . - In planning construction adjacent to streambeds, place pipeline route away from streambed edges. - If suspended pipe crossings are used, design footings with as small a footprint in streambeds and riparian vegetation as possible. - Minimize disturbance to riparian woodlands. BR-20 If preconstruction surveys indicate that habitat conditions on any drainage within the project area are suitable for a specific sensitive species, then dewatering of that drainage shall be avoided during potential reproduction or movement periods. Dewatering activities at known sensitive amphibian and reptile habitat, such as Chorro Creek, shall be avoided. If avoidance at potential habitat areas is not possible, preconstruction surveys shall be conducted, as outlined above, and all individual sensitive animals relocated to refugia elsewhere along the same drainage. BR-21 All equipment used in or near drainages shall be clean and free of leaks and/or grease. Emergency provisions shall be in place at all drainage crossings prior to the onset of construction to deal with accidental spills. BR-22 The VRRP shall also address wetland replacement. The replacement or	

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			restoration plan shall detail all impacts to wetland habitats as a result of the project and will specify in-kind replacement of habitat quality. For riparian woodland and scrub communities, habitat replacement shall be required at 3:1 and 2:1 ratios, respectively, or greater. Mitigation for disturbed wetlands shall be at a 3:1 ratio. Mitigation for all riparian vegetation within Camp Roberts and Camp Luis Obispo shall be at a 3:1 ratio. As much as feasibly possible, salvaging and replanting of vegetation shall be done. The original contours of stream beds and ponds shall carefully be restored to their original configuration, including the salvaging and replacement of boulders and cobbles. Container planted shrubs and trees and species to be seeded in the riparian mitigation areas shall be based on the species composition of the impacted wetlands and specified in the riparian mitigation plan. The precise proportions and special arrangement of the plantings also shall be specified in the VRRP. In many cases, it may be necessary to hydroseed native herbaceous species on banks and planting plugs of wetland species in the channel. Mitigation for impacts to disturbed wetlands and unvegetated waters can likely take place within the alignment. Likewise, onsite mitigation for woodland and scrub communities may occur within the alignment, although additional offsite mitigation (i.e., outside the alignment) will likely be required to accommodate required mitigation ratios. BR-23 At all wetlands, vernal pools, bulldozer scrapes, low-lying areas that may pond water and roadside ditches where **vernal pool fairy shrimp** could be directly impacted, assume presence of the species if preconstruction surveys for 2 years during wet season can not be conducted to determine presence or absence. If present (or presence is assumed), the alignment shall be shifted to avoid the species, if possible. If impacts to the species are unavoidable the Applicant shall obtain authorization for Incidental Take Permit from the US Fish and Wildlife Service prior to construction (refer to Measure BR-8). Relocate staging area that is proposed to be near Nacimiento River (near Sta. 145+00) to be located away from documented vernal pool in the vicinity, and at least 100 feet from the river. BR-24 All drainages affected by the project and with known occurrences of **steelhead trout**, **arroyo chub**, and **tidewater goby,** or with the potential to support these species shall be surveyed for presence of these species at the crossing and 500 feet up and down	

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			the stream prior to commencement of construction. Preconstruction surveys shall include the Salinas River and major tributaries the proposed pipeline would cross San Marcos, Santa Margarita, Chorro, San Luis Obispo, Trout, and Yerba Buena Creeks. The presence or absence of special status fish species shall be determined and the potential for habitat to support these species shall be reassessed. If a special status fish species is detected, the fish shall be captured and relocated downstream. Relocation of listed species requires a formal consultation for obtaining an ITP (see section 5.7.2), therefore time shall be allowed in the project schedule for the consultation and obtaining of the ITP. If relocation is not feasible, construction will avoid the spawning season for those species. If the tidewater goby, arroyo chub, or steelhead trout are found at Chorro Creek, the creek crossing shall be done via directional boring under the creek, relocate pipeline away from the Creek bed as far as feasible, if not feasible and impacts are expected, the Applicant shall consult with the National Marine Fisheries Service and CDFG to obtain an ITP and/or obtain a Streambed Alternation Agreement. BR-25 At all drainages affected by the project and with known occurrences of **California red-legged frogs**, **western spadefoot toad**, **southwestern pond turtles**, **California tiger salamander**, and **arroyo southwestern toads** or with the potential to support these species shall be surveyed for presence of these species at the crossing and 500 feet up and down the stream prior to commencement of construction. If present, the alignment shall be shifted to avoid the species, if possible. If this is not feasible, the frogs or turtles shall be captured and relocated to refugia outside the impact area. Appropriate refugia shall be located on the same drainage and shall support high-quality species habitat. In addition, the impact area shall be recontoured subsequent to construction to approximate high-quality habitat. Relocation of the California red-legged frog and arroyo southwestern toad would require approval from USFWS and CDFG. If these agencies do not allow for such a relocation program, then Chorro Creek crossing shall be done via directional boring under the creek.	
BR.3	Impacts to wildlife from noise due to the project construction and operation phases.	Long and short-term/ Local	Mitigation measures N-1 through N-4. BR-26 Preconstruction surveys shall be conducted in riparian areas for presence of sensitive bird species no earlier than March 15 and at least three visits shall occur between this date and June 15. If no sensitive breeding birds are detected by June 15, it	Insignificant

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			can be assumed that they will not nest in that location for that year and construction can proceed. If sensitive breeding birds are detected, construction activities shall be limited to those which will not produce significant noise impacts during the breeding season of the particular bird species (e.g., March 15 to September 15). Exact breeding time interval shall be determined by the qualified biologist.	
BR.4	Impacts to wildlife in drainages due to erosion, sedimentation and dewatering.	Short- & Long-term/ Area-wide	Mitigation measures BR-17 through BR-20.	Insignificant
BR.5	Impacts to plants from dust emission due to the project construction phase.	Short-term/ Local	Mitigation measure AQ-1.	Insignificant
CULTURAL AND PALEONTOLOGY RESOURCES (Section 5.8)				
CR.1	Soil moving construction activities (e.g., trenching, excavating) could impact significant and important paleontology resources.	Short-term/ Local	CR-1 Prior to authorization to proceed or issuance of permits, the applicant shall submit a paleontological resources monitoring plan to the appropriate jurisdiction for review and approval. Monitoring shall be required for all surface alteration and subsurface excavation work including trenching, boring, grading, use of staging areas and access roads, and driving vehicles and equipment within the boundaries of all exposed sensitive geological formations. A qualified professional paleontologist that is approved by the Lead Agency in consultation with all affected jurisdictions shall prepare the plan. The plan shall address (but not be limited to) the following issues: 1. Training program/workshops for all construction and field workers; 2. Person(s) responsible for conducting monitoring activities; 3. How the monitoring shall be conducted and required format and content of monitoring reports; 4. Person(s) responsible for overseeing and directing the monitors; 5. Schedule for submittal of monitoring reports and person(s) responsible for review and	Insignificant

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			approval of monitoring reports; 6. Clear delineation and fencing off if necessary of sensitive geological formations/paleontology resources requiring monitoring within each pipeline reach (onsite, only the construction foreman, environmental monitor, and project engineer shall have access to this information); 7. Physical monitoring boundaries (e.g. 100 feet each side of formation); 8. Protocol for notifications in case of encountering of cultural resources , as well as methods of dealing with the encountered resources (e.g., collection, identification, curation); 9. Methods to ensure site security; 10. Protocol for notifying local authorities (i.e. Sheriff, Police) should site looting and other illegal activities occur during construction. CR-2 Prior to authorization to proceed or issuance of permits, the applicant shall retain a qualified professional paleontologist to monitor construction activities pursuant to the approved paleontological resources monitoring plan. The monitoring shall include inspection of exposed rock units and microscopic examination of matrix to determine if fossils are present, preparation of monthly progress reports and filed with the applicant, the Lead Agency, and the appropriate jurisdiction pursuant to the approved paleontological resources monitoring plan. The monitor (professional paleontologist or their representative) shall have authority to temporarily divert grading and construction equipment away from exposed fossils to recover the fossil specimens if fossils or other resources are encountered. CR-3 Prior to authorization to proceed or issuance of permits, the applicant shall present an agreement to pay associated curation fees to the chosen accredited repositories. In the event that fossils are discovered, the following mitigation measures shall be implemented to reduce the significance of the impacts to paleontology resources: CR-4 In the event fossils are discovered by the retained monitor during construction,	

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			the professional paleontologist or their representative shall ensure the implementation of the following measures as necessary: - Fossils shall be collected, prepared, tested or identified by qualified experts, and listed in a database to allow analysis; - At each fossil locality, field data forms shall record the locality, stratigraphic columns shall be measured when possible, and appropriate scientific samples submitted for analysis; and - The qualified professional paleontologist shall recommend one or more accredited repositories for collected fossils depending on the abundance and origin of those fossils. CR-5 Prior to final inspection of the completed project, the applicant shall submit a final mitigation report prepared by the retained professional paleontologist to the Lead Agency, the appropriate jurisdiction, and the chosen accredited repository pursuant to the approved paleontological resources monitoring plan.	
CR.3	Soil moving construction activities (e.g., trenching, excavating) could impact significant and important geomorphology resources.	Short-term/ Local	CR-1 through CR-5	Insignificant
CR.4	Soil moving construction activities (e.g., trenching, excavating) could impact significant and important prehistoric cultural resources.	Short-term/ Local	CR-6 Prior to authorization to proceed, or issuance of permits, the applicant shall prepare and submit a cultural resources monitoring plan to the appropriate jurisdiction for review and approval. Monitoring shall be required for all surface alteration and subsurface excavation work including trenching, boring, grading, use of staging areas and access roads, and driving vehicles and equipment within the boundaries of all exposed sensitive cultural resources. A qualified professional archaeologist (cultural resources monitor) that is approved by the Lead Agency in consultation with all affected jurisdictions shall prepare the plan. The plan shall address (but not be limited to) the following issues: 1. Training program for all construction involved in site disturbance and field workers; 2. Person(s) responsible for conducting monitoring activities; 3. How the monitoring shall be conducted and required format and content of monitoring reports, including any necessary archaeological re-survey of the final pipeline alignment,	Insignificant

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			assessment, designation and mapping of the sensitive cultural resource areas on final project maps, assessment and survey of any previously un-surveyed areas; 4. Person(s) responsible for overseeing and directing the monitors; 5. Schedule for submittal of monitoring reports and person(s) responsible for review and approval of monitoring reports; 6. Procedures and construction methods to avoid sensitive cultural resource areas (i.e. boring conduit underneath recorded or discovered cultural resource site); 7. Clear delineation and fencing off if necessary of sensitive cultural resource areas requiring monitoring within each sub-segment; 8. Physical monitoring boundaries (e.g., 100 feet each side of a site); 9. Protocol for notifications in case of encountering of cultural resources, as well as methods of dealing with the encountered resources (e.g., collection, identification, curation); 10. Methods to ensure security of cultural resources sites; 11. Protocol for notifying local authorities (i.e. Sheriff, Police) should site looting and other illegal activities occur during construction. CR-7 Prior to authorization to proceed or issuance of permits, the applicant shall submit plans to the appropriate jurisdiction for review and approval showing the boundaries of all known archaeological and historical sites and a buffer line drawn 100 feet from the boundaries of the known sites along the project route. For any pipeline segments where soil disturbance is expected and that have not been surveyed for presence of cultural resources, the Applicant shall ensure that such surveys are conducted prior to finalizing of the project plans, and results are included into the project plans and maps prior to submission for authorization. Limited activity may occur within the 100-foot buffer area (outside of the boundaries of known sites) as permitted by the appropriate jurisdiction in consultation with the cultural resources monitor. Due to high confidential nature of these documents, on site, only the construction foreman,	

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			environmental monitor, and project engineer shall have access to these plans. CR-8 Prior to authorization to proceed or issuance of permits, the construction foreman, project manager(s), and all construction workers associated with the proposed project that would be involved in site disturbance shall participate in a cultural resources training/workshop to be conducted by the approved cultural resources monitor. The training shall highlight on the significance of cultural resources and the legal consequences of looting, disturbing, destroying these resources or violating approved mitigation measures. A declaration confirming the training's occurrence shall be prepared by the monitor and signed by all persons in attendance. This signed declaration shall be submitted to the appropriate jurisdiction. CR-9 During any soil disturbance activities (e.g., trenching, boring, excavation) in the locations with the known or potential cultural resources, cultural resource monitoring shall be conducted by a qualified professional archaeologist (or their representative) and Native American monitor familiar with the resource types potentially present in these locations. The qualified archaeologist and Native American shall conduct monitoring activities based on the cultural resources monitoring plan. CR-10 The following activities shall be excluded from known designated and discovered cultural resource sites: 1) excavation; 2) staging equipment, machinery, or vehicles on undisturbed or exposed portions of the cultural resource; 3) collection, removal or unnecessary displacement of any artifacts, "eco-facts" or other cultural remains; 4) stockpiling of imported soils within the designated sensitive area; 5) removal of native soils outside a sensitive area. Every effort shall be made to contain and collect any chemical/fuel spills immediately. In the event of encountering of cultural resources, the following mitigation measures shall be implemented. CR-11 In the event unknown archaeological resources are discovered, the following standards shall apply: 1. Construction activities shall cease, and the project archaeological monitor (professional archaeologist or their representative) shall be notified so that the extent and location of discovered materials may be recorded by a qualified archaeologist and	

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Impacts That Can Be Mitigated To Less Than Significant Levels
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Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
			disposition of artifacts may be accomplished in accordance with state and federal law. The project archaeologist shall be responsible to notify the local jurisdiction. 2. In the event archaeological resources are found to include human remains, or in any other case when human remains are discovered during construction, the County or City Coroner shall be notified in addition to the appropriate jurisdictions so proper disposition may be accomplished. CR-12 **Phase II Subsurface Testing.** Shall be implemented for the areas where there is a potential for intact cultural deposits to occur in the pipeline ROW. Two methods of testing may be used depending on the density of surface artifacts, surface conditions, and type of cultural site. Which specific testing would be used for which cultural resource would be determined by a qualified professional archaeologist depending on the available information at the time of the project. **Backhoe Testing.** This is a preliminary testing method designed to determine presence or absence of cultural materials particularly in a buried context. Backhoe testing is only done until the presence of cultural materials and their integrity is confirmed. For the proposed project, this testing is recommended for the Santa Ysabel Ranch area between pipeline Sta. 1185+00 and 1200+00. No definite prehistoric sites were identified on the surface in this 50-foot wide ROW area but exist on both sides of the proposed ROW. Backhoe trenches should be excavated at approximately 100-foot intervals along the proposed ROW to a depth slightly greater that the maximum depth expected for the bottom of the trench for the pipeline. If any intact cultural deposits are encountered, then a controlled excavation method should be utilized to define the nature and extend of the cultural materials. **Controlled Excavation.** In cases where surface artifacts are present within or adjacent to the pipeline ROW and could be adversely impacted by actual construction excavation or staging areas, a series of controlled test units should be excavated. The tests shall be planned and executed under a supervision of a qualified professional archaeologist. Typical size should be 1 x 1 meter, excavated in 10 or 20 cm levels, screened with 1/8" mesh or smaller screen and excavated to sterile soil. In some cases these can be placed adjacent to pavement where the pipeline is scheduled to go beneath pavement. This will expose a profile of the cultural strata and allow a determination to be made about the possibility of intact cultural materials beneath the pavement that would be impacted by	

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			the pipeline construction. Test units should be placed at approximately 50-foot increments depending on the density of cultural materials encountered. **Sample Analysis.** Standard analyses including C-14 dating, could be recommended by a qualified archaeologist to provide information on the boundaries, content, integrity and significance of cultural resources in the pipeline ROW. This controlled sample would be used to minimize adverse impacts by providing information to help define minor re-alignments of the pipe ROW to completely avoid impacts or greatly minimize them by locating the pipeline in the lowest density areas of the cultural deposits. **Phase III Data Recovery Program.** Finally, after all avoidance and minimizing of adverse impacts is done, this subsurface testing can be used to develop a Phase III data recovery program for all unavoidable adverse impacts to significant cultural resources. CR-13 Prehistoric Cultural Resource (PCR) #2. Prior to construction in this area, a small scale subsurface testing program should be conducted along the edge of the road to determine if any significant cultural materials are present and if they would be affected by the pipeline construction. If present, the testing could define the boundaries of the cultural materials and the pipeline could be moved north of the dirt road, perhaps no more than 30–50 feet to avoid adverse impacts to all cultural materials from this site. CR-14 PCR #4. It is recommended that the pipeline be located along the south side of the dirt road in areas of deepest cut. SLO-1169 could be completely avoided by moving the pipeline ROW upslope of the dirt road to the west by approximately 60-feet. If avoidance is not possible, additional subsurface testing would be needed to supplement existing information and define the boundaries, content and significance of the cultural resources of this site. Based on the Phase II testing, appropriate recommendations can be made regarding treatment of any significant cultural resources that would be affected by the proposed pipeline. A large staging area, 200-feet by 600-feet that would cover most of PCR #4 site shall be moved from this location entirely. Another location along the actual pipeline ROW shall be selected. One possible location for this staging area could be near Sta. 130+00. CR-15 PCR #5. It is recommended that subsurface testing be conducted along the south edge of the Boy Scout Road to determine if any cultural materials exist in the	

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			pipeline ROW. If the cultural deposit is shallow, the approximately 1-foot deep grading of the road may have removed the cultural deposit. If materials extend deeper, then the pipeline could encounter additional materials beneath the road. If avoidance is not possible, additional subsurface testing would be needed to define the boundaries, content and significance of the cultural resources of this site. Based on the Phase II testing, appropriate recommendations can be made regarding treatment of any significant cultural resources that would be affected by the proposed pipeline. CR-16 PCR #7. Due to the fact that the site has been deemed eligible for NRHP status and it is costly and time consuming to meet both state and federal requirements, it is strongly recommended that the pipeline ROW be re-aligned and moved south of Boy Scout Road before entering the west end of SLO-1180. If the pipeline remains south of it and crosses Dry Creek to meet West Perimeter Road, adverse impacts to the west locus could probably be avoided. Subsurface testing would be needed to find the best route south of SLO-1180 that would avoid impacting significant cultural materials. If re-routing were not possible, then an extensive testing and mitigation program would be required for this location. CR-17 PCR #9. Subsurface testing is recommended where the access road meets San Marcos Road to determine if any cultural materials from this prehistoric site are present and would be impacted. If the entrance road begins 150-feet to 300-feet east of the existing General's Road gate, it may avoid this prehistoric site. If preliminary testing cannot avoid cultural materials then additional testing would be needed to determine the boundaries, context and significance of this site and to develop appropriate recommendations. CR-18 PCR #14. It is recommended that the proposed pipeline be moved east approximately 100–20 feet to the toe of the slope and east of the barbed wire fence. Subsurface testing is recommended to find an area east of the proposed pipeline ROW that would avoid impacting cultural materials from this newly recorded prehistoric site. If preliminary testing cannot avoid cultural materials then, additional testing would be needed to determine significance and appropriate actions. CR-19 To avoid impacts to PCR #16 through #23 place the pipeline ROW adjacent to the pavement of El Camino Real and west of the rail road tracks starting just north of Sta. 2015+00 and follow that alignment through the town of Santa Margarita to	

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			Sta.2105+00. CR-20 PCR #24. To avoid this prehistoric site it is recommended to move the pipeline ROW to the north side of the pavement of El Camino Real.	
CR.6	Construction of the proposed project adjacent to or in the vicinity of archaeological or historical sites may result in the looting, vandalism or destruction of cultural resources by construction employees or persons visiting the construction site.	Short-term/ Local	CR-22 In the event of discovered looting or disturbance of resources, all responsible parties shall be reported to the appropriate jurisdiction and local authorities for legal action pursuant to the approved cultural resources monitoring plan.	Insignificant
UTILITIES AND PUBLIC SERVICES (Section 5.10)				
UP.4	Impacts to Fire Protection and Emergency Response Services.	Short-term/ Regional	UP-2 A Wildland Fire Prevention Plan (WFPP) shall be required for the proposed installation of the pipeline and other facilities. This plan will help to reduce the threat of wildland fires and provide a fire safe environment to communities in the area of the proposed pipeline construction. UP-3 Final design plans for each facility shall adhere to all fire safety requirements as contained in the SLO County Fire Department and the California Department of Forestry and Fire Protection Developer's Guide.	Insignificant
TRANSPORTATION/CIRCULATION (Section 5.11)				
T.1	Construction associated with the project would temporarily add to local road traffic.	Short-term/ Local	T-1 All project-related traffic shall be restricted from travel on roads with a LOS of D or worse between the peak commuting hours of 7:00 a.m. to 9:00 a.m. and from 4:00 p.m. to 7:00 p.m. These include Union Rd./Highway 4; Madonna Road; Highway 227 in San Luis Obispo; Highway 101 at the junction with Highway 166, South Pismo Beach, Avila Road, Santa Fe Road, Los Osos Valley Road, Marsh Street, California Boulevard; and Highway 46 at Paso Robles, Spring Street, 13th Street, Creston Road, Niblick Road, Airport Road and El Camino Real. T-2 A Traffic Control Plan shall be prepared to detail specific roadway construction information, road surface maintenance, pedestrian/bicycle circulation and traffic safety, parking limitations, road use restrictions, emergency response procedures, signing for closures, and public notification identifying location, scheduling, and duration of construction spread. This management plan shall be finalized and approved by the appropriate agencies as designated by the lead agencies.	Insignificant
T.2	Pipeline construction would require partial road	Short-	Measures T-2	Insignificant

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Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
	closures and reduce the number of travel lanes during peak traffic periods for roadways with an LOS of D or worse, resulting in a disruption of traffic flow and/or traffic congestion.	term/ Local	T-3 Pipeline construction across Nacimiento Lake Drive shall be scheduled to avoid late afternoons, weekends, and holidays during the summer months. T-4 Detours shall be planned around temporary street closures through coordination with local traffic agencies, and signs shall be provided to direct motorists to alternate routes. T-5 The Applicant shall ensure at least one lane remain open during construction along roadways subject to partial closure when feasible. T-6 The Applicant shall provide off-street parking and staging areas for storage of construction equipment, materials, and workers' vehicles.	
T.3	Partial street closures would temporarily restrict access to and from private property and adjacent land uses.	Short-term/ Local	Measures T-2 and T-5 T-7 The Applicant shall ensure all driveways blocked by construction are provided with suitable means of vehicular access and egress. T-8 All affected parties in the vicinity of construction activities shall be notified a minimum of 30 days in advance of potential obstructions and alternative access provisions prior to the commencement of project activities.	Insignificant
T.4	Construction activities could interfere with emergency response by ambulance, fire, paramedic, and police vehicles.	Short-term/ Local	T-9 The Applicant shall coordinate in advance with emergency service providers to avoid restricting movements of emergency vehicles. The County Sheriff Department, fire departments, ambulance services, and paramedic services shall be notified in advance by the Applicant of the proposed locations, nature, timing, and duration of any construction activities and consulted regarding potential access restrictions that could impact their effectiveness. T-10 At locations where access to nearby property is blocked, provision shall be ready at all times to accommodate emergency vehicles, such as plating over trenches, short detours, and alternate routes.	Insignificant
T.6	Construction activities could result in physical damage to road surfaces.	Short-term/ Local	T-13 The Applicant shall properly restore all roads disturbed by construction activities to ensure the long term protection of road surfaces and safety of roadway users.	Insignificant
T.8	A pipeline failure could disrupt traffic during repairs.	Long-term/ Local	T-14 The pipeline emergency response plan shall include traffic agency and personnel contact protocols and agencies to contact for road closures, alternative traffic routes, CalTrans, SLO County. Construction for pipeline repairs that requires road or	Insignificant

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Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
			lane closures or endanger public safety must comply with the Manual of Traffic Controls for Construction and Maintenance Work Zones is published by CalTrans. The manual provides the basic standards for uniform types of warning signs, lights, and devices to be placed upon any public highway or street by any person engaged in performing work that interferes with or endangers the safe movement of traffic upon such highway or street, in accordance with Section 21400 of the California Vehicle Code.	
VISUAL AND AESTHETIC RESOURCES (Section 5.12)				
VR.1	Visual impacts due to long-term presence of water intake structures at Nacimiento Dam.	Long-term/ Local	VR-1 The Water Intake structures shall be visually compatible in materials of construction and color with the surrounding area of the Lake Nacimiento dam incorporating natural rock facing. During construction, the Applicant's contractor shall preserve as much of the existing vegetation (trees and shrubbery) as feasible. VR-2 The structures shall be screened from public views with vegetation to the maximum extent feasible. Landscaping shall be provided in accordance with Section 22.04.186 of the San Luis Obispo County Land Use Ordinance and shall provide vegetation that will adequately screen the facilities. VR-3 The surge tank and power line shall be placed underground.	Insignificant
VR.4	Visual impacts due to long-term presence of surge tank in the vicinity of Templeton treated water pipeline turnout site.	Long-term/ Local	VR-6 The surge tank shall be constructed underground in a vault to minimize aboveground equipment.	Insignificant
VR.5	Visual impacts due to long-term presence of Rocky Canyon Road storage tank and Happy Valley pump station.	Long-term/ Local	VR-7 The pump station structures shall be constructed partially underground to limit the structure height to the equivalent of a one story home or barn typical of the area. The architecture of the pump station shall resemble a home or barn typical of the area. VR-8 No oak trees adjacent to Rocky Canyon Road shall be removed to accommodate the construction of the pump station or storage tank at this location. VR-9 Access roads to and around the facility shall not exceed 20 feet in width. VR-10 All structures at this site shall be screened from public views with vegetation to the maximum extent feasible. Landscaping shall be provided in accordance with Section 22.04.186 of the San Luis Obispo County Land Use Ordinance and shall provide vegetation that will adequately screen the facilities.	Insignificant

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			For the tank area where fencing surrounding the tank site would be located, landscape screening shall be provided. Landscape material must be consistent with the surrounding area, shown to do well in existing soils and conditions, be fast-growing, evergreen and drought tolerant. Shape and size of landscape material shall be in scale with proposed tank fencing or other aboveground features and surrounding native vegetation. Plans shall show how plants will be watered and what watering schedule will be applied to ensure successful and vigorous growth. VR-11 The border of cut slopes and fills accomplished to underground the water storage tank shall be rounded off to a minimum radius of five feet. For any visible slope cuts from Rocky Canyon Road, sufficient topsoil shall be stockpiled and reapplied or re-keyed over these visible cut areas to provide at least 8" of topsoil for the reestablishment of vegetation. As soon as the grading work has been completed, the cut and fill slopes shall be reestablished with non-invasive, fast-growing vegetation.	
AGRICULTURAL RESOURCES (Section 5.13)				
AG.1	Water pipeline construction within the roads ROW has the potential to adversely impact access to and maintenance of agricultural operations.	Short-term/ Local	AG-1 Prior to and during construction, the Applicant shall coordinate construction activity time schedules with all owners of agricultural operations adjacent to the construction site. All property owners shall be notified 30-days in advance of the construction activities occurring in the vicinity of their operations.	Insignificant
AG.2	Water pipeline construction (including fence removal and trenching) along property boundaries has the potential to impact ranching and livestock operations.	Short-term/ Local	AG-2 Prior to construction, the Applicant shall coordinate with landowners to discuss the timing of pipeline construction through agricultural areas containing livestock. Subject to negotiations with livestock owners, the Applicant shall either provide ample time for the livestock to be relocated during the pipeline construction, or construct a temporary fence around the pipeline corridor to keep livestock from entering the areas during construction. AG-3 During construction, where construction activities require removal of existing fencing adjacent to grazing lands, a temporary fence shall be installed and maintained by the Applicant to keep grazing animals away from construction activities and trenching. Trenches shall be filled, covered, or enclosed by fencing at the end of each workday to reduce chances of animal injuries. Following construction, fences and posts shall be replaced.	Insignificant
AG.3	Water pipeline construction and placement of staging areas on agricultural lands have the	Short-term/	Measures DE-8, DE-12, DE-18 and DE-19	Insignificant

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Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
	potential to permanently impact soils on grazing and croplands due to improper soil replacement and/or reseeding efforts.	Local	AG-4 During construction, trenches shall be backfilled by the Applicant in such a manner as to retain the topsoil characteristics. Where soil is disturbed on lands used for agricultural purposes, topsoil shall be stockpiled and replaced on top of trenches and excavations after the backfill operations to allow rapid revegetation of these lands following construction. AG-5 Upon completion of construction, areas disturbed by the project (including trenching or placement of staging areas) within agricultural grazing areas shall be re-seeded by the Applicant with a seed mixture acceptable to affected landowners. AG-6 All offsite staging areas shall be restricted to areas already disturbed, when feasible, and where staging would be compatible with existing land uses.	
AG.4	Water pipeline construction activities have the potential to adversely impact agricultural lands through the spread of noxious weeds or wind-borne dust.	Short-term/ Local	Measures AQ-1 and AQ-2 AG-7 Prior to construction, the Applicant shall coordinate with the Agricultural Commissioner's Office to conduct a pre-construction site evaluation for purple thistle, yellow thistle and skeletonweed. - Based on the pre-construction survey, the Applicant shall prepare a map showing areas of noxious weed infestation on lands both within and adjacent to the proposed project corridor, corridor access routes, and staging areas. - The Applicant shall implement equipment wash stations and other pertinent noxious weed control recommendations based on the above required map. - The Applicant shall perform post-construction surveys during the spring growing season immediately following each phase of project construction to verify whether the spread of noxious weeds has occurred. - If the post-construction survey identifies spread of noxious weeds, the Applicant shall coordinate with the affected landowner and the County Department of Agriculture to implement an appropriate eradication program. AG-8 During construction, topsoil shall be segregated and replaced relative to its original distribution. To the maximum extent feasible, excavated materials shall be replaced in the same location they were removed from, and shall not be transported	Insignificant

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Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
			offsite. AG-9 Prior to construction, the Applicant will enter into a Quarantine Compliance Agreement with the San Luis Obispo County Agricultural Commissioner's Office for the prevention of movement of skeleton weed.	
RESREATIONAL RESOURCES (Section 5.14)				
REC.3	Open trench construction along the following reaches would result in short-term impacts to bicyclists: Rocky Canyon Road to Santa Margarita, Santa Margarita to the Cuesta Tunnel, Cuesta Tunnel to San Luis Obispo WTP, San Luis Obispo WTP to Highway 227/Santa Fe Road, and Highway 227.	Short-term/ Local	REC-1 Prior to initiating construction, the Applicant shall coordinate with the San Luis Obispo County Department of Public Works and provide signage along the length of all affected roads advising bicyclists of the temporary construction and the estimated period of construction along these routes. The signage should also alert bicyclists and vehicular traffic of the need to exercise caution. REC-2 During construction of segments at the edge of or off pavement, the construction crews shall keep all pot hole and bore equipment and trenching equipment off of the paved roadway to the maximum extent feasible to allow bicyclists to continue to use the road. (Note: Exceptions to this measure shall include situations where sensitive habitat is located adjacent to roadways and where safety issues exist.) REC-3 During construction when equipment is located in the roadway, the Applicant shall provide one flag person to separately guide bicyclists and motor vehicles past the construction zone. REC-4 Upon completion of construction within this subsection, the Applicant shall replace all bicycle lanes that have been damaged by the construction process to County standards (or other jurisdictional standards such as the various Cities if applicable) for Class I and Class II bicycle lanes, as appropriate. In addition, if any paint is scuffed, the Applicant shall repaint the affected bicycle lane markings.	Insignificant
REC.4	Partial loss of access to recreational opportunities at Laguna Lake Park due to water pipeline installation activities along Reach No. 10 (Sta. 2520+00-2935+00) near Dalidio Drive in San Luis Obispo.	Short-term/ Local	REC-5 Prior to authorization to proceed or issuance of permits, the Applicant shall coordinate with the City of San Luis Obispo Parks and Recreation Department (SLOPRD) for the project schedule so that the SLOPRD can minimize conflicts with any special events that are scheduled during the construction period. REC-6 Prior to authorization to proceed or issuance of permits, the Applicant shall coordinate with the SLOPRD and City of San Luis Obispo Public Works Department to provide signage directing traffic around construction activity.	Insignificant

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Impacts That Are Adverse But Not Significant

Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
HYDROLOGY AND WATER QUALITY (Section 5.1)				
WQ.2	Increased turbidity impacts from construction work within the water bodies.	Short-term/ Local	No mitigation measures have been identified.	Insignificant
WQ-5	Impacts to groundwater from sea water intrusion in Salinas Basin.	Long-term/ Regional	No mitigation measures have been identified.	Insignificant
AIR QUALITY (Section 5.4)				
AQ.3	Increased emissions of toxic compounds due to the project could result in increased health risks.	Long-term/ Regional	AQ-1 through AQ-5 No additional mitigation measures have been identified.	Insignificant
AQ.4	Project Conformity with the Clean Air Act.	Long-term/ Regional	No mitigation measures have been identified.	Insignificant
AQ.5	Project Consistency with the County Clean Air Plan.	Long-term/ Regional	No mitigation measures have been identified.	Insignificant
NOISE (Section 5.5)				
N.2	Operations noise from pumps would increase long-term ambient noise levels.	Long-term/ Local	N-5 Noise-generating equipment associated with operation of pump stations shall be enclosed to reduce noise levels to near ambient conditions. At the 60% design phase for each pump station, plans shall be reviewed by a qualified acoustical engineer to assure that noise levels meet the standards of the County Noise Element. N-6 If necessary to achieve the noise attenuation levels specified in N-5, pumps shall be set below grade, i.e. in a basement in the noise-attenuating building, to further reduce noise impacts.	Insignificant
HAZARDS AND HAZARDOUS MATERIALS (Section 5.6)				
HM.1	During construction of the proposed pipeline on the Camp Roberts property, unexploded military ordnance could be encountered, which could expose construction workers to explosion hazards	Long-term/ Local	No mitigation measures have been identified.	Insignificant
HM.4	Releases of hazardous or flammable materials during construction could pose risks of fire or contamination.	Long-term/ Local	HM-5 The HazMat Contingency Plan shall outline response actions including (at a minimum) clean-up and reporting procedures, clean-up equipment and supplies, and personnel responsibilities. As part of the plan, the Contractor shall be required to store fuels, oils, and other hazardous materials in sealed containers (tanks, cans or drums) located in storage basins within designated staging areas. The storage basins shall be located at a minimum distance of 25 feet from all natural/man-made drainages or surface water bodies and should be lined and surrounded by protective dikes or other types of secondary containment to provide sufficient volume to	Insignificant

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Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
			contain any spills. HM-6 The HazMat Contingency Plan shall state that the Contractor shall provide for the implementation of traffic control and site control (i.e., access, fencing, drainage) to reduce the potential for accidents to occur. Fire extinguishers should be stationed in all vehicles and at strategic locations onsite. HM-7 The HazMat Contingency Plan shall state that the Contractor shall be required to conduct routine inspection and maintenance of construction vehicles and equipment.	
HM.5	Contaminated materials in the soil could enter into the pipeline expose water users to contamination and pose health risks..	Long-term/ Area-wide	No mitigation measures have been identified.	Insignificant
HM.7	Accidental release of large quantities of treated water into a fresh water body could be harmful to the organisms in the water body.	Long-term/ Local	HM-11 The Applicant shall make provisions to test the proposed pipeline with water that has not been disinfected (no chemicals that have a potential to harm aquatic organisms have been added) and to determine a way of safely disposing of the test water.	Insignificant
BIOLOGY (Section 5.7)				
BR.6 (HM.7)	Impacts to aquatic life from treated water spills in case the treated water pipeline ruptures during operational phase of the project.	Long-term/ Local	Mitigation measure HM-11.	Insignificant
BR.7	Impacts to fish in Lake Nacimiento due to pumping through the water intake during operational phase of the project.	Long-term/ Local	No mitigation measures have been identified.	Insignificant
BR.8	Impacts to fisheries during operational phase of the project.	Long-term/ Area-wide	No mitigation measures have been identified.	Insignificant
CULTURAL AND PALEONTOLOGY RESOURCES (Section 5.8)				
CR.2	Soil moving construction activities (e.g., trenching, excavating) could impact significant and important geology resources.	Long-term/ Local	No mitigation measures are necessary.	Insignificant
CR.5	Soil moving construction activities (e.g., trenching, excavating) could impact significant and important historical cultural resources.	Long-term/ Local	No mitigation measures have been identified.	Insignificant
PUBLIC SERVICES (Section 5.10)				
UP.1	Impacts to Water Services during construction.	Short- and Long-term/	UP-1 To mitigate potential adverse impacts to potable water supplies due to short-term use during construction, all contractors should use	Insignificant

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Impacts That Are Adverse But Not Significant

Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
		Regional	(maximally as feasible) non-potable water sources for dust mitigation and other non-drinking purposes.	
UP.3	Impacts to Energy Resources.	Short- and Long-term/ Regional	No mitigation measures have been identified.	Insignificant
UP.5	Impacts to Law Enforcement.	Short- and Long-term/ Regional	No mitigation measures have been identified.	Insignificant
UP.6	Impacts to Waste Disposal Services.	Short- and Long-term/ Regional	No mitigation measures have been identified.	Insignificant
UP.7	Impacts to School facilities.	Long-term/ Regional	No mitigation measures have been identified.	Insignificant
UP.8	Impacts to roads and road maintenance.	Short-term/ Local	No mitigation measures have been identified.	Insignificant
TRANSPORTATION/CIRCULATION (Section 5.11)				
T.5	Pedestrian circulation would be affected by project activities if pedestrians are unable to pass through a construction zone.	Short-term/ Local	T-11 The Applicant shall designate alternative routes, accessible to disabled persons, when construction activities obstruct pedestrian routes. T-12 At locations where trenching activities cross sidewalks or other established pedestrian routes, plating shall be provided to maintain access to these routes.	Insignificant
T.7	Operation of WTPs, pump stations and pipeline would add truck traffic on local roads.	Long-term/ Local	No mitigation measures have been identified.	Insignificant
VISUAL AND AESTHETIC RESOURCES (Section 5.12)				
VR.2	Visual impacts due to long-term presence of WTP, WTP storage tanks and the pump station	Long-term/ Local	VR-4 The tanks shall be a neutral or dark, non-contrasting color, and landscape screening shall be provided. Landscaping shall be provided in accordance with Section 22.04.186 of the San Luis Obispo County Land Use Ordinance and shall provide vegetation that will adequately screen the facilities. Landscape material must be consistent with the surrounding area, shown to do well in existing soils and conditions, be fast-growing, evergreen and drought tolerant. Shape and size of landscape material shall be in scale with proposed tanks and surrounding native vegetation. Plans shall show how plants will be watered and what watering schedule will be applied to ensure successful and vigorous growth.	Insignificant

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Impacts That Are Adverse But Not Significant

Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
VR.3	Visual impacts due to long-term presence of Salinas River suspended pipe crossing.	Long-term/ Local	VR-5 The perimeter of the suspended pipe crossing structural support shall be concealed using vegetation that is compatible with the surrounding area..	Insignificant
VR.6	Visual impacts due to long-term presence of Cuesta Tunnel Storage Tank.	Long-term/ Local	VR-12 The tank shall be a neutral or dark, non-contrasting color, and landscape screening shall be provided. Landscaping shall be provided in accordance with Section 22.04.186 of the San Luis Obispo County Land Use Ordinance and shall provide vegetation that will adequately screen the facilities. Landscape material must be consistent with the surrounding area, shown to do well in existing soils and conditions, be fast-growing, evergreen and drought tolerant. Shape and size of landscape material shall be in scale with proposed tank and surrounding native vegetation. Plans shall show how plants will be watered and what watering schedule will be applied to ensure successful and vigorous growth. During construction, the Applicant's contractor shall preserve as much of the existing vegetation (trees and shrubbery) as feasible.	Insignificant
VR.7	Visual impacts due to long-term presence of turnouts and air release valves.	Long-term/ Local	No mitigation is necessary.	Insignificant
VR.8	Visual impacts due to change in the Lake Nacimiento water levels resulting from the release of additional water.	Long-term/ Local	No mitigation is necessary.	Insignificant
RECREATIONAL RESOURCES (Section 5.14)				
REC.1	The partial relocation of a log boom 500 feet from the intake location would prohibit all recreational activity on approximately 2 additional acres of lake surface area.	Long-term/ Local	No mitigation measure has been identified.	Insignificant
REC.2	Implementation of the proposed project could result in adverse impacts to recreational resources at Lake Nacimiento, as compared to historic conditions, due to the additional lowering of water levels to elevations below 748 feet during periods of drought.	Long-term/ Local	No mitigation measure has been identified.	Insignificant
SOCIOECONOMIC RESOURCES (Section 5.15)				
SE.1	Water pipeline construction activities located within the road ROWs near business centers (Paso Robles, Santa Margarita, and San Luis Obispo) have the potential to cause adverse impacts to industries located within and adjacent to project areas by impeding standard business practices. The majority of businesses that would be affected for the short-term are those located within or adjacent to construction areas on North River Road, El	Short term/ Local	Mitigation measures T-1, T-2, T-3, T-7, T-8, T-11 and T-12	Insignificant

CLASS III Impacts of the Proposed Project – Treated Water Option

Impacts That Are Adverse But Not Significant

Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
	Camino Real in Santa Margarita, at the intersection of Dalidio Drive and Madonna Road, along Dalidio Drive, Prado Road extension, and Highway 227. These businesses may experience short-term impedance to business caused by road closures in front of businesses, some difficulties accessing store fronts, and nuisance to patrons from construction activities. This impedance to business would average one to two days during construction (based on construction of 50 to 100 feet of pipeline per day).			
SE.2	Implementation of the proposed project would result in insignificant adverse impacts to businesses that rely on tourism/recreational activities at Lake Nacimiento, as compared to historic conditions, due to the additional lowering of water levels to elevations below 748 feet.	Long-term/ Local	No mitigation measure has been identified.	Insignificant
SE.3	Implementation of the proposed project would result in insignificant adverse impacts to property values surrounding Lake Nacimiento resulting from changes in lake levels.	Long-term/ Local	No mitigation measure has been identified.	Insignificant

CLASS IV Impacts of the Proposed Project – Treated Water Option

Beneficial Impacts

Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
ALL ISSUE AREAS				
UP.2	Impacts to Water Services during operation.	Long-term/ Local	No mitigation measures are necessary.	
There are no Class IV Impacts in any other issue areas for the Treated Water Option				

CLASS I Impacts of the Proposed Project – Raw Water Option

Impacts That May Not Be Fully Mitigated To Less Than Significant Levels

(Impacts that must be addressed in a "statement of overriding consideration" if the project is approved in accordance with Sections 15091 and 15093 of the State CEQA Guidelines)

Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
AIR QUALITY (Section 5.4)				
Impact AQ.1 would be the same as for the Treated Water Option – Significant. There will be no other Class I Impacts in this issue area for the Raw Water Option.				
OTHER ISSUE AREAS				
There are no Class I Impacts in any other issue areas for the Raw Water Option				

CLASS II Impacts of the Proposed Project – Raw Water Option

Impacts That Can Be Mitigated To Less Than Significant Levels

(Impacts that must be addressed in Findings that the mitigation measures would reduce the level of impact to insignificant in accordance with Section 15091 State CEQA Guidelines)

Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
HYDROLOGY AND WATER QUALITY (Section 5.1)				
Impacts WQ.1, WQ.3 and WQ.4 would be the same as for Treated Water Option – Class II, Insignificant. Mitigation Measures WQ-1, WQ-2 and WQ-3 would apply.				
WQ.6	Potential degradation of groundwater quality resulting from aquifer discharge using Lake Nacimiento water containing elevated metals concentrations.	Long-term/ Area-wide	WQ-4 Operation of the intake structure shall be managed to minimize the concentration of total metals in NWP water deliveries. WQ-5 NWP raw water discharge areas shall be designed to allow raw water to percolate and flow through the subsurface a minimum of 150 feet before reaching a recovery well.	Insignificant
WQ.7	Potential nuisances caused by the presence of vegetation in the ponds and/or eutrophication.	Long-term/ Local	WQ-6 Clear vegetation in pond areas during construction and design ponds to allow for periodic drying and cleaning	Insignificant
WQ.8	Impacts from lack of sufficient capacity of the Paso Robles Discharge Area to take full NWP deliveries.	Long-term/ Local	WQ-7 Operate as a Discharge Area, with facility design that incorporates direct mixing and off-site transport of NWP water with Salinas River flows and surfacing underflow. WQ-8 Develop new source capacity for underflow recovery. Assess environmental impacts in supplemental study. This mitigation is not required until such time as the City of Paso Robles desires to do so.	Insignificant
WQ.9	Impacts from lack of sufficient capacity of the City of Paso Robles' Thunderbird well field to extract the total combined water right to Salinas River underflow after adding the NWP water right.	Long-term/ Local	WQ-7 and WQ-8	Insignificant
GEOLOGY (Section 5.2)				
Impacts GS.1 through GS.3 would be the same as for the Treated Water Option - Class II, Insignificant. Mitigation Measures GS-1 through GS-3 would apply.				
DRAINAGE, EROSION, and SEDIMENTAION (Section 5. 3)				
Impacts DE.1 through DE.6 would be the same as for Treated Water Option – Class II, Insignificant. Mitigation MeasuresDE-1 through DE-19 would apply.				
DE.7	Potentially significant impact of high river flow or bank erosion resulting in damage to branch pipelines or discharge piping in the three discharge areas.	Long-term/ Local	DE-20 The Lead or Responsible Agency shall implement a regular inspection and maintenance program to detect and repair damaged discharge piping, and to monitor bank erosion. Annual repairs or repairs following high stream flows should be anticipated as long as the system is in place. DE-21 Design discharge piping in river channel to be flexible or to have flexible couplings between pipe joints.	Insignificant

CLASS II Impacts of the Proposed Project – Raw Water Option

Impacts That Can Be Mitigated To Less Than Significant Levels

(Impacts that must be addressed in Findings that the mitigation measures would reduce the level of impact to insignificant in accordance with Section 15091 State CEQA Guidelines)

Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
			DE-22 Discharge system shall be designed so that concentrated flows do not discharge onto an unprotected river bank.	
AIR QUALITY (Section 5.4)				
Impact AQ.2 would be the same as for Treated Waster Option – Class II, Insignificant. Mitigation Measures AQ-5 and AQ-6 would apply.				
NOISE (Section 5.5)				
Impacts N.1 and N.3 would be the same as for Treated Waster Option – Class II, Insignificant. Mitigation Measures N-1 through N-4 and N.7 would apply.				
HAZARDS AND HAZARDOUS MATERIALS (Section 5.6)				
Impacts HM.2, HM.3 and HM.6 would be the same as for Treated Waster Option – Class II, Insignificant. Mitigation Measures HM-1 through HM-4 and HM-8 through HM-10 would apply.				
BIOLOGY (Section 5.7)				
BR.9	Impacts to riparian habitat due to construction of the water discharge areas in the vicinity of Salinas River.	Long term/ Local	Mitigation measures BR-22, BR-23 and BR-25.	Insignificant
CULTURAL AND PALEONTOLOGY RESOURCES (Section 5.8)				
Impacts CR.1, CR.3, CR.4 and CR.6 would be the same as for Treated Waster Option – Class II, Insignificant. Mitigation Measures CR-1 through CR-21 would apply.				
UTILITIES AND PUBLIC SERVICES (Section 5.10)				
Impact UP.4 would be the same as for Treated Waster Option – Class II, Insignificant. Mitigation Measures UP-2 and UP-3 would apply.				
TRANSPORTATION/CIRCULATION (Section 5.11)				
Impacts T.1 though T.4, T.6 and T.8 would be the same as for Treated Waster Option – Class II, Insignificant. Mitigation Measures T-1 through T-10, T-13 and T-14 would apply.				
VISUAL AND AESTHETIC RESOURCES (Section 5.12)				
Impacts VR.1, VR.4 and VR.5 would be the same as for Treated Waster Option – Class II, Insignificant. Mitigation Measures VR-1 through VR-3, VR-5 and VR-7 through VR-11 would apply.				
AGRICULTURAL RESOURCES (Section 5.13)				
Impacts AG.1 though AG.4 would be the same as for Treated Waster Option – Class II, Insignificant. Mitigation Measures AG-1 through AG-9 would apply.				
RECREATIONAL RESOURCES (Section 5.14)				
Impacts REC.3 and REC.4 would be the same as for Treated Waster Option – Class II, Insignificant. Mitigation Measures REC-1 through REC-6 would apply.				
REC.5	Portions of the adopted Salinas River Trail System may need to be re-routed due to the construction of water discharge facilities.	Long-term/ Local	REC-7 Prior to construction, the water purveyor responsible for the individual discharge facility construction shall provide for a 25-foot wide trail corridor easement, subject to County review, to connect those impacted portions of the Salinas River Trail System.	Insignificant

CLASS II Impacts of the Proposed Project – Raw Water Option

Impacts That Can Be Mitigated To Less Than Significant Levels

(Impacts that must be addressed in Findings that the mitigation measures would reduce the level of impact to insignificant in accordance with Section 15091 State CEQA Guidelines)

Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
SOCIOECONOMIC RESOURCES (Section 5.15)				
There are no Class II impacts in this issue area.				

CLASS III Impacts of the Proposed Project – Raw Water Option

Impacts That Are Adverse But Not Significant

Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
HYDROLOGY AND WATER QUALITY (Section 5.1)				
Impacts WQ.2 and WQ.5 would be the same as for Treated Water Option – Class III, Insignificant.				
AIR QUALITY (Section 5.4)				
Impacts AQ.3 through AQ.5 would be the same as for Treated Water Option – Class III, Insignificant. Mitigation Measures AQ-1 through AQ-6 would apply.				
NOISE (Section 5.5)				
Impact N.2 would be the same as for Treated Water Option – Class III, Insignificant. Mitigation Measures N-5 and N.6 would apply.				
HAZARDS AND HAZARDOUS MATERIALS (Section 5.6)				
Impacts HM.1, HM.4, HM.5 and HM.7 would be the same as for Treated Water Option – Class III, Insignificant. Mitigation Measures HM-5 through HM-7 and HM-11 would apply.				
BIOLOGY (Section 5.7)				
Impacts BR.6 through BR.8 would be the same as for Treated Water Option – Class III, Insignificant.				
CULTURAL AND PALEONTOLOGY RESOURCES (Section 5.8)				
Impacts CR.2 and CR.5 would be the same as for Treated Water Option – Class III, Insignificant.				
LAND USE (Section 5.9)				
There are no additional Class III Land Use Impacts that are not described in other issue areas.				
UTILITIES AND PUBLIC SERVICES (Section 5.10)				
Impacts UP.1, UP.3, and UP.5 through UP.8 would be the same as for Treated Waster Option – Class III, Insignificant. Mitigation Measure UP-1 would apply.				
TRANSPORTATION/CIRCULATION (Section 5.11)				
Impacts T.5 and T.7 would be the same as for Treated Waster Option – Class III, Insignificant. Mitigation Measures T-11 and T-12 would apply.				
VISUAL AND AESTHETIC RESOURCES (Section 5.12)				
Impacts VR.2, VR.3, and VR.6 though VR.8 would be the same as for Treated Waster Option – Class III, Insignificant. Mitigation Measures VR-4, VR-5 and VR-12 would apply.				
VR.9	Visual impacts due to long-term presence of river discharge facilities.	Long-term/ Local	Measure VR-9.	Insignificant
RECREATIONAL RESOURCES (Section 5.14)				
Impacts REC.1 and REC.2 would be the same as for Treated Waster Option – Class III, Insignificant.				
SOCIOECONOMIC RESOURCES (Section 5.15)				
Impacts SE.1, SE.2 and SE.3 would be the same as for Treated Waster Option – Class III, Insignificant.				

CLASS IV Impacts of the Proposed Project – Raw Water Option

Beneficial Impacts

Impact	Description of Impact	Scope/ Region	Mitigation Measures	Residual Impact
ALL ISSUE AREAS				
Impact UP.2 would be the same as for Treated Waster Option – Class IV, Beneficial.				
There are no Class IV Impacts in any other issue areas for the Raw Water Option				

Alternatives Impact Summary Tables

This portion of the impact summary tables provides a list of the new impacts, similar impacts that require additional mitigation measures or impacts for which the level of significance has changed compared to the proposed project for the alternatives evaluated throughout the EIR. Many of the impacts identified for the proposed project would also apply to the alternatives. The table below provides a list of all of the proposed project's impacts and identifies which ones apply to the various alternatives. Impacts that are common to the proposed projects and an alternative are not listed in the alternative impact tables unless the impact class has changed. The reader is referred to the impact summary tables for the Proposed Project for these common impacts.

There is no listing of any impacts for the No Project Alternatives since there are no new impacts that are not already identified for the proposed project. The table below provides a list of the impacts from the proposed project that apply to the No Project Alternative.

The table below provides a list of all impacts from the proposed project that apply to Phased Treated and Raw Water alternative.

There is no listing of Class IV impacts for any of the alternatives because there are no Class IV impacts that are identified for the proposed project or for the alternatives.

Impact	Impact Description	Class [a] T/R	1	2	3
WQ.1	Potentially significant impact of degradation of surface water quality and groundwater quality due to contamination by fuel or other materials related to construction activities.	II/II	–	√	√
WQ.2	Increased turbidity impacts from construction work within the water bodies.	III/III	–	√	√
WQ.3	Potentially significant impact from interruption or reduction of water deliveries during drought and resulting water shortages to the participants.	II/II	√	√	√
WQ.4	Potential impact of prolonged (over one week) shutdown of releases from Nacimiento Lake during minimum pool conditions, resulting in water shortages at Water World Resorts and Heritage Ranch.	II/II	–	√	√
WQ.5	Significant impacts to groundwater from sea water intrusion in Salinas Basin.	III/III	–	√	√
WQ.6	Potential degradation of groundwater quality resulting from aquifer discharge using Nacimiento Lake water containing elevated metals concentrations.	–/II	–	√	√
WQ.7	Potential nuisances caused by the presence of vegetation in the ponds and/or eutrophication.	–/II	–	√↑	√
WQ.8	Impacts from lack of sufficient capacity of the Paso Robles Discharge Area to take full NWP deliveries.	–/II	–	√	√
WQ.9	Impacts from lack of sufficient capacity of the City of Paso Robles' Thunderbird well field to extract the total combined water right to Salinas River underflow after adding the NWP water right.	–/II	–	√	√
WQ.10	For the 1997 south side intake location and design, there would be an increased potential for turbidity in discharges from the MCWRA power plant during NWP intake construction.	–/–	–	I	–
GS.1	Ground rupture along the Rinconada fault could damage project facilities.	II/II	–	√↓	√

Impact	Impact Description	Class [a] T/R	1	2	3
GS.2	Locating the Rocky Canyon Water Storage Tank and Happy Valley Pump Station on/within the Rinconada fault zone may result in poor foundation conditions as well as possible fault rupture.	II/II	–	√ ↓	√
GS.3	Excavation in rock or soils containing asbestos may cause risk to human health.	II/II	–	√	√
DE.1	Potentially significant impact of changes to surface water flow patterns during construction.	II/II	–	√	√
DE.2	Potentially significant impact of damage to construction sites if flood flows occur while a pipeline is being installed in a streambed.	II/II	–	√	√
DE.3	Potentially significant impacts to surface waters of increased turbidity and sedimentation, and to groundwater recharge in streams crossed and paralleled due to clearing, grading, trenching, and backfilling activities.	II/II	–	√ ↑	√
DE.4	Potentially significant impact of erosion and downstream sedimentation from a pipeline rupture.	II/II	–	√ ↑	√
DE.5	Potentially significant impact of scouring occurring in stream channels that expose buried pipeline or undermine suspended pipe crossing abutments or cable caissons.	II/II	–	√	√
DE.6	Potentially significant impact of increased or concentrated storm runoff flowing onto erodible soils from impervious surfaces.	II/II	–	√	√
DE.7	Potentially significant impact of high river flow or bank erosion resulting in damage to branch pipelines or discharge piping in the three discharge areas.	II/II	–	√	√↓
AQ.1	Construction activities would generate air emissions that would impact air quality in the area.	I/I	–	√	√
AQ.2	Operations of the project facilities would generate air emissions that could impact air quality in the area.	II/II ↓	–	√	√
AQ.3	Increased emissions of toxic compounds due to the project could result in increased health risks.	III/III ↓	–	√	√
AQ.4	Project Conformity with the Clean Air Act.	III/III	–	√	√
AQ.5	Project Consistency with the County Clean Air Plan.	III/III	–	√	√
N.1	Construction noise would temporarily increase ambient daytime noise levels along the pipeline route and near the pump station and WTP sites.	II/II	–	√	√
N.2	Operations noise from pumps would increase long-term ambient noise levels.	III/III	–	II	√
N.3	Periodic testing and emergency use of generators would increase short-term ambient noise levels near the pump stations.	II/II	–	√	√
HM.1	During construction of the proposed pipeline on the Camp Roberts property, unexploded military ordnance could be encountered, which could expose construction workers to explosion hazards.	III/III	–	–	√
HM.2	Earth-moving operations during construction could uncover contaminated soils and other hazardous materials, including naturally occurring asbestos, creating health risks to construction workers and public.	II/II	–	√	√
HM.3	During construction, hazardous utilities could be damaged by construction equipment. This could expose construction workers and public to hazardous materials transported by the damaged pipelines.	II/II	–	√	√
HM.4	Releases of hazardous or flammable materials during construction could pose risks of fire or contamination.	III/III	–	√	√

Impact	Impact Description	Class [a] T/R	1	2	3
HM.5	Contaminated materials in the soil could enter into the pipeline expose water users to contamination and pose health risks.	III/III ↓	–	√	√
HM.6	During operation of the WTP, the employees and public could be exposed to the hazardous chemicals transported to, used, and stored at the plant.	II/–	–	√ ↑	√
HM.7	Accidental release of large quantities of treated water into a fresh water body could be harmful to the organisms in the water body.	III/–	–	√	√
BR.1	Potentially significant impacts to terrestrial biological resources from heavy construction machinery and various construction activities.	II/II	–	√ ↓	√
BR.2	Impacts to riparian, water and wet lands habitats and their biological resources from construction activities.	II/II	–	√ ↓	√
BR.3	Impacts to wildlife from noise due to the project construction and operation phases.	II/II	–	√	√
BR.4	Impacts to wildlife in drainages due to erosion, sedimentation and dewatering.	II/II	–	√ ↓	√
BR.5	Impacts to plants from dust emission due to the project construction phase.	II/II	–	√	√
BR.6	Impacts to aquatic life from treated water spills in case of the treated water pipeline rupture during operational phase of the project.	III/–	–	√	√
BR.7	Impacts to fish in the Nacimiento Lake due to pumping through the water intake during operational phase of the project.	III/III	–	√	√
BR.8	Impacts to fisheries during operational phase of the project.	III/III	–	√	√
BR.9	Impacts to riparian habitat due to construction of the water discharge areas in the vicinity of Salinas River.	–/II	–	√	√
CR.1	Soil moving construction activities (e.g., trenching, excavating) could impact significant and important paleontology resources.	II/II	–	√	√
CR.2	Soil moving construction activities (e.g., trenching, excavating) could impact significant and important geology resources.	III/III	–	√	√
CR.3	Soil moving construction activities (e.g., trenching, excavating) could impact significant and important geomorphology resources.	II/II	–	√	√
CR.4	Soil moving construction activities (e.g., trenching, excavating) could impact significant and important prehistoric cultural resources.	II/II	–	√	√
CR.5	Soil moving construction activities (e.g., trenching, excavating) could impact significant and important historical cultural resources.	III/III	–	√	√
CR.6	Construction of the proposed project adjacent to or in the vicinity of archaeological or historical sites may result in the looting, vandalism or destruction of cultural resources by construction employees or persons visiting the construction site.	II/II	–	√	√
UP.1	Impacts to Water Services during construction.	III/III ↓	–	√	√
UP.2	Impacts to Water Services during operation.	IV/IV	–	√	√
UP.3	Impacts to Energy Resources.	III/III ↓	–	√ ↑	√
UP.4	Impacts to Fire Protection and Emergency Response Services.	II/II ↓	–	√	√

Impact	Impact Description	Class [a] T/R	1	2	3
UP.5	Impacts to Law Enforcement.	III/III ↓	–	√	√
UP.6	Impacts to Waste Disposal Services.	III/III ↓	–	√ ↑	√
UP.7	Impacts to school facilities.	III/III ↓	–	√ ↑	√
UP.8	Impacts to roads and road maintenance.	III/III ↓	–	√	√
T.1	Construction associated with the project would temporarily add to local road traffic.	II/II	–	√	√
T.2	Pipeline construction would require partial road closures and reduce the number of travel lanes during peak traffic periods for roadways with an LOS of D or worse, resulting in a disruption of traffic flow and/or traffic congestion.	II/II	–	I	√
T.3	Partial street closures would temporarily restrict access to and from private property and adjacent land uses.	II/II	–	I	√
T.4	Construction activities could interfere with emergency response by ambulance, fire, paramedic, and police vehicles.	II/II	–	√	√
T.5	Pedestrian circulation would be affected by project activities if pedestrians are unable to pass through a construction zone.	III/III	–	√	√
T.6	Construction activities could result in physical damage to road surfaces.	II/II	–	√	√
T.7	Operation of WTP, pump stations and pipeline would add truck traffic on local roads.	III/III ↓	–	√	√
T.8	A pipeline failure could disrupt traffic during repairs.	II/II	–	I	√
VR.1	Visual impacts due to long-term presence of water intake structures at Nacimiento Dam.	II/II	–	I	√
VR.2	Visual impacts due to long-term presence of WTP, WTP storage tanks and the pump station.	III/III ↓	–	II	√
VR.3	Visual impacts due to long-term presence of Salinas River crossing pipe bridge.	III/III	–	–	√
VR.4	Visual impacts due to long-term presence of Air Chamber in the vicinity of Templeton treated water pipeline turnout site.	II/II	–	√	√
VR.5	Visual impacts due to long-term presence of Rocky Canyon Road storage tank and Happy Valley pump station.	II/II	–	–	√
VR.6	Visual impacts due to long-term presence of Cuesta Tunnel Storage Tank.	III/III	–	II	√
VR.7	Visual impacts due to long-term presence of turnouts and air release valves.	III/III	–	√	√
VR.8	Visual impacts due to change in the Nacimiento Lake level resulting from the release of additional water.	III/III	–	√	√
VR.9	Visual impacts due to long-term presence of river discharge facilities.	–/III	–	√	√
VR.10	Visual impacts due to long-term presence of storage tank 1A and pump station No.2.	–/–	–	II	–
VR.11	Visual impacts due to long-term presence of California Mens Colony (CMC) WTP.	–/–	–	III	–
VR.12	Visual impacts due to long-term presence of Templeton WTP.	–/–	–	II	–
VR.13	Visual impacts due to long-term presence of Santa Margarita WTP.	–/–	–	II	–
AG.1	Water pipeline construction within the roads ROW has the potential to adversely impact access to and maintenance of agricultural operations.	II/II	–	√	√
AG.2	Water pipeline construction (including fence removal and trenching) along property boundaries has the potential to impact ranching and livestock operations.	II/II	–	√	√

Impact	Impact Description	Class [a] T/R	1	2	3
AG.3	Water pipeline construction and placement of staging areas on agricultural lands have the potential to permanently impact soils on grazing and croplands due to improper soil replacement and/or reseeding efforts.	II/II	–	√	√
AG.4	Water pipeline construction activities have the potential to adversely impact agricultural lands through the spread of noxious weeds or wind-borne dust.	II/II	–	√	√
AG.5	The pipeline alignment would displace some vineyards and orchards during construction.	–/–	–	III	–
REC.1	The installation of a log boom 500 feet from the intake location would prohibit all recreational activity on approximately 6 acres of lake surface area.	III/III	–	–	√
REC.2	Implementation of the proposed project would result in insignificant adverse impacts to recreational resources at Nacimiento Lake, as compared to historic conditions, due to the additional lowering of water levels to elevations below 748 feet.	III/III	–	√	√
REC.3	Open trench construction along the following reaches would result in short-term impacts to bicyclists: Rocky Canyon Road to Santa Margarita, Santa Margarita to the Cuesta Tunnel, Cuesta Tunnel to San Luis Obispo WTP, San Luis Obispo WTP to Highway 227/Santa Fe Road, and Highway 227.	II/II	–	√	√
REC.4	Partial loss of access to recreational opportunities at Laguna Lake Park due to water pipeline installation activities along Reach No. 10 (Sta. 2520+00-2935+00) near Dalidio Drive in San Luis Obispo.	II/II	–	√	√
REC.5	Portions of the adopted Salinas River Trail System may need to be re-routed due to the construction of water recharge facilities associated with the raw water alternative.	–/II	–	–	√
SE.1	Water pipeline construction activities located within the road ROWs near urban business centers (Paso Robles, Templeton, Atascadero, Santa Margarita, and San Luis Obispo) have the potential to cause adverse impacts to industries located within and adjacent to project areas by impeding standard business practices.	III/III	–	√ ↑	√
SE.2	Implementation of the proposed project would result in insignificant adverse impacts to businesses that rely on tourism/recreational activities at Nacimiento Lake, as compared to historic conditions, due to the additional lowering of water levels to elevations below 748 feet.	III/III	–	√	√
SE.3	Implementation of the proposed project would result in insignificant adverse impacts to property values surrounding Nacimiento Lake resulting from changes in lake levels.	III/III	–	√	√
G.1	Approval of the NWP could result in additional growth or rate of growth in areas now subject to water resource constraints.	I/I	–	√	√

Notes: a. Class T/R = Class of the residual impact for Treated Water Option/Class of residual impact for Raw Water Option.
Column 1 = No Project Alternative;
Column 2 = NWP 1997 EIR Alternative;
Column 3 = Phased Raw and Treated Water Alternative.
√ = same impact class and severity as the proposed project.
↓ = severity of the impact is slightly decreased without change in impact Class.
↑ = severity of the impact is slightly increased without change in impact Class.
– = no impact.

CLASS I Impacts of the NWP 1997 EIR Alternative

Impacts That May Not Be Fully Mitigated To Less Than Significant Levels

(Impacts that must be addressed in a "statement of overriding consideration" if the project is approved in accordance with Sections 15091 and 15093 of the State CEQA Guidelines)

Impact	Description of Impact	Scope/ Region	Mitigation Measure	Residual Impact
HYDROLOGY AND WATER QUALITY (Section 5.1)				
WQ.10	For the 1997 south side intake location and design, there would be an increased potential for turbidity in discharges from the MCWRA power plant during NWP intake construction.	Short-term/ Local	No mitigation measures have been identified.	Significant
TRANSPORTATION/CIRCULATION (Section 5.11)				
T.2	Pipeline construction would require partial road closures and reduce the number of travel lanes during peak traffic periods for roadways with an LOS of D or worse, resulting in a disruption of traffic flow and/or traffic congestion.	Short-term/ Local	T-15 The full width of the traveled way shall be available to traffic before 9 a.m. and after 4 p.m., Monday through Friday, and at all times on weekends, and holidays. - A maximum delay of 20 minutes shall be permitted, requiring that a minimum of one lane of traffic is available. - If the contractor is unable to restore or place temporary surface, then the trench shall be covered with steel plates capable of carrying the weight of traffic; and adequate signage, reflectors or other warning devices shall be used to warn motorists of the plated roadway. T-16 To minimize construction on roads with LOS of D or worse, the design engineer shall coordinate construction of the pipeline with any roadway or utility work efforts. T-17 For construction on Nacimiento Lake Drive, to the maximum extent possible, construction shall be minimized during the summer period between June 15 and September 15. During the summer period, the full width of traveled way shall be available to traffic before 9 a.m. and after 4 p.m., Monday through Thursday, at all times from 12:00 noon Friday through Sunday and at all times on holidays.	Significant
T.3	Partial street closures would temporarily restrict access to and from private property and adjacent land uses.	Short-term/ Local	Measures T-7 and T-8.	Significant
T.8	A pipeline failure could disrupt traffic during repairs.	Short-term/ Local	Measure T-14.	Significant
VISUAL RESOURCES (Section 5.12)				
VR.1	Visual impacts due to long-term presence of water intake structures at Nacimiento Dam.		VR-13 Redesign the site plan and structures to include the following: Reduce the pump station's frontage along Nacimiento Lake Drive, reduce views of the	Significant

CLASS I Impacts of the NWP 1997 EIR Alternative

Impacts That May Not Be Fully Mitigated To Less Than Significant Levels

(Impacts that must be addressed in a "statement of overriding consideration" if the project is approved in accordance with Sections 15091 and 15093 of the State CEQA Guidelines)

Impact	Description of Impact	Scope/ Region	Mitigation Measure	Residual Impact
			paved parking area, and provide an area for landscaping and some screening of proposed structures and fenced areas. Clad structures in the same stone materials as is used on the small structure on the Nacimiento dam. Utilize non-glare roofing materials Provide architectural breaks in the façade of the combined electrical/generator building to reduce the effect of large blank walls. Coat all chain-link fencing with brown or any other compatible color vinyl to reduce glare. Provide motion-sensitive lighting that would be turned on only when motion is present on site. Direct all lights downwards so that the light visibility from public viewsheds is minimized. VR-14 Provide a detailed grading and landscaping plan which would include but not be limited to the following: - contouring of the new cut and fill slopes to demonstrate a blending with the existing grades; - rounding of all tops of banks in a natural manner; - landscape screening to break-up the visual mass of the structures; vegetation shall be native to the area. replacement of all trees removed at a ratio of four to one.	
RECREATIONAL RESOURCES (Section 5.14)				
REC.6	The NWP 1997 EIR Project Alternative would lower Nacimiento Lake to minimum levels at a faster rate during periods of drought.	Long-term/ Regional	No appropriate mitigation measures have been identified.	Significant

CLASS II Impacts of the NWP 1997 EIR Alternative
Impacts That Can Be Mitigated To Less Than Significant Levels

(Impacts that must be addressed in Findings that the mitigation measures would reduce the level of impact to insignificant in accordance with Section 15091 State CEQA Guidelines)

Impact	Description of Impact	Scope/ Region	Mitigation Measure	Residual Impact
NOISE (Section 5.5)				
N.2	Operations noise from pumps would increase long-term ambient noise levels.	Long-term/ Local	N-5 Noise-generating equipment associated with operation of pump stations shall be enclosed to reduce noise levels to near ambient conditions. At the 60% design phase for each pump station, plans shall be reviewed by a qualified acoustical engineer to assure that noise levels meet the standards of the County Noise Element. N-6 If necessary to achieve the noise attenuation levels specified in N-5, pumps shall be set below grade, i.e. in a basement in the noise-attenuating building, to further reduce noise impacts.	Insignificant
VISUAL AND AESTHETIC RESOURCES (Section 5.12)				
VR.6	Visual impacts due to long-term presence of Storage Tank No. 2 at Cuesta Pass.	Long-term/ Local	VR-15 Re-grade the site to approximate the original contours in order to preserve the general character of the ridgeline as viewed from Highway 101. VR-16 The Applicant shall implement a landscaping plan to screen the tank form viewers on Highway 101. The plan shall include re-vegetation of the disturbed area with a combination of native fast and slow growing trees which visually replace those removed during construction; and replacement of the ground cover to maintain visual continuity with the adjacent hillsides.	Insignificant
VR.10	Visual impacts due to long-term presence of WTP, WTP storage tanks, and the pump station.	Long-term/ Local	Measures VR-13 and VR-14	Insignificant
VR.12	Visual impacts due to long-term presence of Templeton WTP.	Long-term/ Local	VR-17 Articulate the architectural mass to appear consistent with agricultural structures or single family homes in the surrounding area. Limit the height of structural elements to 24 feet; use appropriate colors, landscape with tall trees to soften building edges, minimize night lighting with the use of motion sensors, and ensure light fixtures are hooded and directional. Final site design plans should be prepared by a licensed architect and reviewed by a qualified visual resource specialist prior to approval of a General Plan Conformity Report.	Insignificant
VR.13	Visual impacts due to long-term presence of Santa Margarita WTP.	Long-term/ Local	VR-18 Minimize removal of the existing trees that can screen the WTP. One method would be not to construct the earth berm in front of the facility (the action that would require removal of trees). Prepare a comprehensive landscaping plan that includes: - identification of the existing trees that would be preserved, and reestablishment and maintenance of potentially affected by the construction oaks, pines and other trees;	Insignificant

CLASS II Impacts of the NWP 1997 EIR Alternative

Impacts That Can Be Mitigated To Less Than Significant Levels

(Impacts that must be addressed in Findings that the mitigation measures would reduce the level of impact to insignificant in accordance with Section 15091 State CEQA Guidelines)

Impact	Description of Impact	Scope/ Region	Mitigation Measure	Residual Impact
			- listing and location plan of the trees that would be planted to further screen the WTP facilities; - revegetation plan that requires placement of native forbs and shrubs over the cut and fill banks as soon as possible after grading is completed. VR-19 The WTP structures plan shall be revised to articulate the architectural mass of the buildings to appear more similar to a house or commercial structure; avoid large blank walls and single horizontal parapets. Move the large building to the rear of the WPT site, rather than facing El Camino Real and Highway 101. Use color scheme that reduces the visual mass of the structure (e.g., avoid pure white).	

CLASS III Impacts of the NWP 1997 EIR Alternative
Impacts That Are Adverse But Not Significant

Impact	Description of Impact	Scope/ Region	Mitigation Measure	Residual Impact
VISUAL AND AESTHETIC RESOURCES (Section 5.12)				
VR.11	Visual impacts due to long-term presence of California Mens Colony (CMC) WTP	Long-term/ Local	No mitigation is necessary.	Insignificant
AGRICULTURAL RESOURCES (Section 5.13)				
AG.5	The pipeline alignment would displace some vineyards and orchards during construction.	Long-term/ Local	No mitigation is necessary.	Insignificant

CLASS II Impacts of the Phased Treated and Raw Water Alternative
Impacts That Can Be Mitigated To Less Than Significant Levels

Impact	Description of Impact	Scope/ Region	Mitigation Measure	Residual Impact
VISUAL AND AESTHETIC RESOURCES (Section 5.12)				
BR.9	Impacts to riparian habitat due to construction of the water discharge areas in the vicinity of Salinas River. **Note:** *this impact is the same as for the proposed project, however the additional mitigation measure is proposed.*	Long-term/ Local	BR-27 After the Treated water phase would start and the raw water discharge facilities at Salinas River would no longer be needed, the Applicant shall remove and restore (e.g., revegetate) riparian habitats as feasible and all the disturbed riparian areas associated with the discharge facilities.	Insignificant

Summary of Cumulative Impacts

CLASS I – SIGNIFICANT UNAVOIDABLE IMPACTS	
AIR QUALITY (Section 5.4)	
Construction impacts from both NWP and Salinas Valley Water Project (SVWP) are significant and would therefore be potentially significant cumulatively if construction occurs within the same time frame.	
TRANSPORTATION/CIRCULATION (Section 5.11)	
If the spillway construction activities of the SVWP coincide with the intake and pump station construction of the proposed project, cumulative traffic impacts due to lane/road closures and delays for emergency vehicle traffic would be significant.	
VISUAL AND AESTHETIC RESOURCES (Section 5.12)	
Impact VR.14 The cumulative water withdrawals from Lake Nacimiento would result in more frequent instances of lake level below 748 feet, and would result in significant unavoidable adverse impacts to visual resources.	In addition to short-term construction impacts, SVWP would have long-term visual impacts in the vicinity of Nacimiento Dam due to lowered water level of the reservoir; this impact has been characterized as significant and unavoidable in the project EIR, because of this the two projects would have cumulatively significant impact on the visual appearance of the lake level, although the proposed project alone would have insignificant impacts to the level of the reservoir.
RECREATIONAL RESOURES (5.14)	
REC.6 The cumulative development scenario would result in increased lake drawdowns below recreational threshold levels of 748 feet, and would result in significant unavoidable adverse impacts to recreational resources on and around Lake Nacimiento.	
GROWTH INDUCEMENT (7.0)	
Approval of the NWP could result in additional growth or rate of growth in areas now subject to water resource constraints. Recently approved/updated General Plans have acknowledged that future growth will have significant, cumulative impacts. In areas where forecasted water supplies exceed future demand, NWP water could be used to foster growth outside existing service area boundaries. Private water companies in areas located outside of Urban Service Lines (USL) or in agriculturally-designated areas would be able to prove a source of water in applying for general plan amendments to change the land use designations to accommodate projects with residential or other uses. Other impacts requiring mitigation (i.e. schools, roads, air quality), which would result as a consequence of receiving supplemental water supplies are considered secondary or indirect impacts, and depend on how local jurisdictions manage growth.	

CLASS II – SIGNIFICANT BUT MITIGABLE IMPACTS
HYDROLOGY AND WATER QUALITY (Section 5.1)
The cumulative impacts on water quality from the SVWP and NWP projects would potentially increase the level of total metals in NWP water due to a lower average lake storage under SVWP. The SVWP could result in a greater duration of NWP pumping from the lowest reservoir inlet compared to NWP pumping without the SVWP. This cumulative impact would be mitigated by the proposed mitigation measures, however.
NOISE (Section 5.5)
Significant cumulative noise impacts could occur at the Nacimiento Dam if construction phases at this location were to overlap. These noise impacts however would be mitigated to insignificant levels by implementation of the proposed mitigation measures. Noise from maintenance and other noise producing activities (road repair) could also be mitigated to insignificant levels if were to occur at the same time.

Summary of Cumulative Impacts

CLASS II – SIGNIFICANT BUT MITIGABLE IMPACTS	
TRANSPORTATION/CIRCULATION (Section 5.11)	
Impact T.9 Cumulative impacts associated with the proposed pipeline construction activities occurring after roadway improvements have been completed on the same roads. Numerous roadway improvement projects could occur simultaneously with the proposed project. In many cases roadway improvements would precede installation of the water pipeline, which would result in potential damage to the newly resurfaced roadway and/or other improvement. To mitigate significant cumulative impacts associated with pipeline construction following roadway improvements, work coordination and communication between various County departments is recommended.	Mitigation T -18 Coordinate pipeline construction activities with other public works and roadway improvements. Where possible, install pipeline segments in coordination with roadway improvements to avoid damaging the newly improved roadway. A detailed plan showing how Public Works Department will coordinate construction with planned roadway improvements shall be submitted to the County Department of Planning and Building prior to final project approval.

CLASS III – INSIGNIFICANT IMPACTS
HYDROLOGY AND WATER QUALITY (5.1)
The SVWP mitigates hydrology impacts that could be created by the NWP, thus cumulatively the two projects would not have significant impacts in this issue area.
AIR QUALITY (Section 5.4)
Emissions from the operation of NWP and SVWP are low, thus impacts would be cumulatively insignificant.
HAZARDS AND HAZARDOUS MATERIALS (Section 5.6)
The SVWP does not have any risks from operations. Construction risks would be similar to the proposed project, however, they will occur during a different time frame and would not be cumulatively significant.
BIOLOGY (Section 5.7)
SVWP could impact biological resources in the vicinity of Lake Nacimiento; however those direct impacts to biological resources would not be significant. Cumulative impacts to fisheries from the two projects could occur, however, these impacts would be insignificant because there is only a small influence to hydrology from these two projects combined.
UTILITIES AND PUBLIC SERVICES (Section 5.10)
Because the several public works projects in the area would be conducted during the same timeframe, but at different locations within SLO County, and the impacts of each project are not significant or would be mitigated, and impacts would not be cumulatively significant. Concurrent operation of the SVWP would not have any impacts to utilities or public services, except for water services.
TRANSPORTATION/CIRCULATION (Section 5.11)
The cumulative impacts of additional traffic and pavement degradation would be considered adverse but not significant.
AGRICULTURAL RESOURCES (Section 5.13)
The projects outlined in the cumulative development scenario include the Monterey County Salinas Valley Water Project, and several small roadway or development projects that would not adversely impact agricultural resources. There is the potential for one or more of the projects to be constructed in conjunction with each other – thereby cumulatively increasing potential agricultural compatibility concerns along the proposed project route. No farmland would be lost during construction of the NWP pipeline system. Therefore, the proposed project would not contribute cumulatively to a loss of farmland in California.

Summary of Cumulative Impacts

SOCIOECONOMICS (Section 5.15)
SE.4 The cumulative development scenario would result in increased lake drawdowns but this would not impact overall social and economic characteristics within the Lake Nacimiento area.

CLASS IV – BENEFICIAL IMPACTS
UTILITIES AND PUBLIC SERVICES (Section 5.10)
Impacts would be beneficial, as it is the goal of both SVWP and NWP projects to improve water quality and water supply reliability.

NO IMPACTS
GEOLOGY (Section 5.2)
Geology impacts are site-specific, therefore no cumulative impacts are expected.
DRAINAGE, EROSION, AND SEDIMENTATION (Section 5.3)
Because of the distance separating the two anticipated project activities (NWP and SVWP), cumulative impacts are not anticipated.
CULTURAL AND PALEONTOLOGY RESOURCES (Section 5.8)
Impacts to cultural or paleontology resources are site-specific. The two projects, NWP and SVWP, would affect different resources, therefore no cumulative impacts would occur.
LAND USE (Section 5.9)
No changes to the existing land use designations are proposed in conjunction with the development of the NWP, therefore, no cumulative impacts with regards to land use are anticipated.

1.0 Introduction and Background

1.1 Introduction

This Final Environmental Impact Report (EIR) covers the construction and operation of the Nacimiento Water Project (NWP). The purpose of this EIR is to identify the proposed project's significant effects on the environment, to indicate the manner in which such significant effects can be mitigated or avoided, and to identify alternatives to the proposed project which avoid or reduce these impacts. The EIR is an informational document for use by San Luis Obispo (SLO) County, other responsible agencies, and the general public in their consideration and evaluation of the environmental consequences associated with implementation of the proposed project.

The EIR has been prepared in compliance with the criteria, standards, and procedures of the California Environmental Quality Act (CEQA) of 1970 and CEQA Guidelines, as amended. This document has also been prepared in compliance with the National Environmental Policy Act (NEPA) and will serve as NEPA documentation should any Federal permits be required. However, it should be noted that no Federal agencies are participating as a Lead Agency.

1.2 Project Background

The proposed project is in response to SLO County's need for future water supplies to supplement existing groundwater and surface water sources. The proposed project would potentially supply as much as 16,200 acre-feet per year (afy) of water to augment existing water supplies in various communities within SLO County. SLO County currently obtains all its water from local reservoirs and groundwater. In 1992, the SLO County Board of Supervisors approved the use of 4,830 afy of supplemental water supplies from the State Water Project (SWP) for eleven communities. In the EIR prepared to assess the impacts of the SWP, the California Department of Water Resources (DWR) estimated that without a supplemental water supply, extraction of groundwater in SLO County will exceed dependable water supplies by approximately 81,000 afy by the year 2035 (DWR 1991). With the exception of the City of SLO (which operates Whale Rock Reservoir and Santa Margarita Lake [also known as Salinas Reservoir]) and the Cayucos purveyors who use an entitlement to Whale Rock Reservoir, groundwater is the primary source of water for those communities applying for the construction and operation of the NWP. The recently completed Paso Robles Groundwater Basin Study also indicated areas of declining groundwater levels, mainly east of Paso Robles, but also indicated that many areas of the basin did not show an upward or downward trend in groundwater levels.

The use of water from Lake Nacimiento has long been recognized as a significant viable element in SLO County's regional water supply program. Water supply needs were anticipated in 1959 when the San Luis Obispo Flood Control and Water Conservation District (SLOFCWCD) entered into agreements with the Monterey County Water Resources Agency to appropriate 17,500 afy of water from the Nacimiento Dam and Lake. The NWP was highly ranked in the SLO County Master Water Plan Update as a water supply alternative, second only to the SWP. A series of studies on the NWP prepared under the direction of the SLO County Public Works

Department and reviewed by the SLO County Board of Supervisors indicated that the NWP was a viable water supply project. On May 5, 1995, the County Environmental Coordinator issued a Notice of Preparation (NOP) for an EIR (ED 92-271) on the NWP. On April 3, 1996 a revised NOP was issued based on changes in the project description for the NWP. The County Environmental Coordinator determined that a Program EIR should be prepared for the NWP, as defined in CEQA guidelines section 15168. A Program EIR is an EIR that is prepared for a series of actions that can be characterized as one large project and are related geographically or as part of a chain of contemplated actions. The purpose of a Program EIR is to ensure that the environmental impacts of the related actions are adequately considered early in the project approval process.

A draft EIR was circulated for public review in 1997 ("NWP 1997 EIR") (SCH# 95051022). This EIR was never certified by the San Luis Obispo County Board of Supervisors.

On May 31, 2002, the County Environmental Coordinator issued a new NOP for an EIR for the NWP that would cover a different project configuration than the NWP 1997 EIR (see Appendix F for the NOP).

1.3 Relationship to Other Documents

The development of supplemental water resources for SLO County, including the use of Lake Nacimiento was assessed in the EIR prepared by the DWR ("DWR EIR") for the "State Water Project Coastal Branch, Phase II and Mission Hills Extension", released for public review in June 1990 and finalized in May 1991 (DWR 1991). The DWR EIR was a Program EIR which described potential impacts and mitigation measures associated with the construction and operation of the Coastal Branch, Phase II project. As a Program EIR, it evaluated other potential water supply alternatives for SLO County which are summarized in Section 3 of this EIR. Copies of this document may be reviewed at the San Luis Obispo County Office of the Environmental Coordinator, or obtained from the State of California, Department of Water Resources, P.O. Box 942835, Sacramento, California, 94236-0001.

SLO County initiated a tiered EIR from the DWR EIR in 1990, which focused on the site-specific environmental impacts associated with the construction and operation of local SWP facilities for 18 water purveyors in SLO County. Tiering refers to the coverage of environmental impacts of a general program followed by narrower or site-specific environmental documents which incorporate by reference discussion of impacts in the prior, general document (Public Resources Code sections 21068.5 and 21094). In July 1991, the Draft State Water Project Coastal Branch (Phase II) Local Distribution Lines and Facilities EIR (ED 90-649) was released for public review, with the final EIR certified in March 1992. The State Water Project Coastal Branch (Phase II) Local Distribution Lines and Facilities EIR ("SLO EIR") evaluated: 1) nine local water pipelines which would allow for the distribution of SWP water to communities and cities within SLO County; 2) a water treatment plant located at Tank Site 1 near Polonio Pass; and 3) two hydroelectric plants: one located near the Chorro Reservoir, another located near the City of SLO. Information contained in the SLO EIR is relevant to the proposed NWP because of the similarities in proposed construction methods, pipeline corridor, and potential impacts of growth. Therefore, the NWP EIR summarizes information, when applicable, from the SLO EIR. Copies of the SLO EIR may be reviewed at the San Luis Obispo County Office of the

Environmental Coordinator, Room 310, County Government Center, San Luis Obispo, California 93408-2040, and at most public libraries in SLO County.

In 1992, following decisions by the County Board of Supervisors not to take the full 25,000 afy allotment of SWP supplies, SLOFCWCD began planning and environmental studies for the NWP. The "Preliminary Evaluation for the Nacimiento Water Supply Project, Phase I, Reliability Evaluation" contained research of SLOFCWCD's entitlement to water from Lake Nacimiento, and evaluated whether Lake Nacimiento was capable of supplying 17,500 afy, using an operational model of Lake Nacimiento and San Antonio Reservoir. Based on this report, SLOFCWCD initiated preliminary engineering and environmental assessment studies to define the Lake Nacimiento water supply delivery components, including pipeline corridor selection. In October 1993, a draft report entitled "Phase III Preliminary Engineering Evaluation and Environmental Assessment," was released with the Final Report published in May 1994. Copies of this report may be reviewed at the County Public Works Department, Room 207, County Government Center, San Luis Obispo, California 93408.

In June 1995, the SLO County Board of Supervisors established the Nacimiento Participants Advisory Committee (NPAC) to advise SLOFCWCD on the selection of qualified consultants to prepare preliminary engineering plans to be used in preparation of the EIR on the NWP. The NWP EIR is based on a detailed project description prepared by Carollo Engineers under the direction of NPAC. A series of draft documents entitled, "EIR Preparation Phase Engineering Report" may be reviewed at the County Public Works Department, Room 207, County Government Center, San Luis Obispo, California 93408.

The NWP EIR was prepared based on the project description contained in the EIR Preparation Phase Engineering Report, July 1996 draft, by Carollo Engineers and approved by the NPAC for environmental review. The 1997 EIR was circulated for public review in August 1997, but was never certified.

Based on issues raised and comments received during the public review period for the NWP 1997 EIR, SLO County revised the NWP project to avoid or minimize potential environmental and social impacts. The basis of the new NWP project design comes from a report prepared by Carollo Engineers entitled Nacimiento Project, EIR Preparation Phase Engineering Report, prepared in 2002.

1.4 Use of this Document

Approval and the eventual implementation of the NWP are dependent on local decisions of public agencies where NWP supplies would be utilized. The 15 water purveyors who comprise NPAC have tentatively subscribed to the NWP and agreed that SLO County should act as the Lead Agency in the preparation of this EIR on the NWP. This procedure is allowed under CEQA guidelines section 15051 (d). Under CEQA guidelines section 15381, all public agencies other than the Lead Agency that have discretionary approval power over the project are Responsible Agencies. As Responsible Agencies, these local purveyors will follow the requirements set forth in CEQA in order to complete the environmental process. This includes the certification that the decision-making body of the Responsible Agency has reviewed and considered the information in this EIR before approving the project, and that the filing of their Notices of Determination for their approval is in accordance with CEQA guidelines section 15096. As presently anticipated, and unless other arrangements are made, SLOFCWCD will be responsible for securing any necessary permits and for constructing the intake at the lake, three pump stations, two storage tanks, water treatment plant, and pipelines. If additional environmental analysis becomes necessary at final design, such analysis will be prepared by the appropriate jurisdiction. Any new impacts identified as a result of final design will be studied and additional environmental documents prepared consistent with the CEQA tiering process.

The Nacimiento pipeline alignment generally coincides with the approximate 1-mile wide Juan Bautista de Anza trail corridor identified by National Park Service documents. Although the trail project is not part of the project description for the Nacimiento Water Project, it is intended that this EIR could be used in the future as the basis for an initial environmental assessment of a multi-use transportation trail for pedestrians, equestrians, and bicycles. CEQA Guidelines Section 15153 allows a lead agency to use an EIR from an earlier project under certain circumstances. In addition, depending on the ultimate alignment of a trail project, which is as yet undetermined, CEQA Guidelines Sections 15162 and 15162 would allow the preparation of either a subsequent or Supplemental EIR for a trail project, should one of the other documents be deemed necessary after a complete environmental assessment. However, at this time, the design and environmental analysis of a trail project will have to be processed as a separate project, and this EIR can be used initially as a constraints analysis for design of a future trail.

It should be noted that the context of the preceding discussion regarding the trail was a request in 2000 that the NWP pipeline also accommodate a trail within the alignment. The Board of Supervisors held a hearing in which they determined that a trail project would not be analyzed in the NWP EIR; it was merely recognized that information contained in the EIR could be used for future trails planning if an alignment was later authorized and developed which coincided with the study corridor for issues such as biology, archaeology, geology, etc. Much of the proposed NWP pipeline route would be located in existing roadways that would not be suitable for use as a multi-use transportation trail for pedestrians, equestrians, and bicycles. However, the NWP EIR provides a starting point for evaluating resource constraints associated with development of the Juan Batista de Anza trail.

1.5 EIR Contents

This EIR has been prepared in accordance with the State and County administrative guidelines established to comply with CEQA, as amended, as well as in accordance with the federal guidelines to comply with NEPA. Section 15151 of CEQA Guidelines provides the following standards for EIR adequacy:

> *"An Environmental Impact Report should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection; but for adequacy, completeness, and a good faith effort at full disclosure."*

In compliance with CEQA guidelines, SLO County, as the Lead Agency, solicited public agency comments through distribution of an NOP. The scope of work developed for the preparation of the EIR and comments received in response to the NOP were the basis of the technical focus of this EIR.

Section 1502.1 of the Council on Environmental Quality Guidelines has provided the following standards for the preparation of an adequate EIS:

> *"The primary purpose of an environmental impact statement is to serve as an action-forcing device to insure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government. It shall provide full and fair discussion of significant environmental impacts and shall inform decision makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment."*

The Final EIR is divided into the following major sections:

Executive Summary. Provides an overview of the project, and a summary of the major impacts identified in the analysis. A summary of the alternatives and cumulative analyses is also provided.

Impact Summary Tables. Provides a summary of the identified impacts by significance class, and where applicable provides a summary of proposed and/or recommended mitigation measures.

1.0 **Introduction**. Provides the Statement of Purpose and Need for the project.

2.0 **Project Description**. Identifies the project applicant, presents and discusses project objectives, project location, and specific project characteristics.

3.0 **Alternatives**. Describes the alternatives for the proposed project. A screening analysis is provided for the alternatives.

4.0 **Cumulative Projects Descriptions**. Discusses the cumulative impacts of reasonably foreseeable projects located in the vicinity of the proposed project that have either been proposed or are in their permitting stages. These reasonably foreseeable projects are described in this Section. The actual cumulative impact analysis associated with the NWP is presented in Section 5.0.

5.0 **Analysis of Environmental Issues**. Describes the existing conditions found on the project site and vicinity and assesses the potential environmental impacts that may be generated by implementation of the proposed project. These potential project impacts are compared to various "Thresholds of Significance" in order to determine the severity of the direct and indirect impacts. Mitigation measures, intended to reduce significant, adverse impacts to insignificant levels are proposed where feasible (Class II impacts). Those impacts which cannot be eliminated or mitigated to insignificant levels are also identified (Class I impacts). This Section also assesses the potential environmental impacts associated with the alternatives that passed the screening analysis presented in Section 3.0. In addition, cumulative impacts are assessed for the reasonably foreseeable projects located in the vicinity of the proposed project.

6.0 **CEQA Environmentally Superior Alternative/NEPA Preferred Alternative/LEDPA**. Summarizes the environmental advantages and disadvantages associated with the proposed project and the alternatives. Based on this discussion, the environmentally superior alternative is identified as required by CEQA. The CEQA Guidelines, Section 15126 (d)(2) state that if the environmentally superior alternative is the No Project Alternative, then the next most environmentally preferred alternative must also be identified. NEPA requires that all reasonable alternatives, including the alternative of no action, should be analyzed, and the NEPA Lead Agency's preferred alternative, or alternatives, should be identified unless another law prohibits the expression of such a preference.

7.0 **Growth Inducing Impacts**. Identifies the spatial, economic, and/or population growth impacts that may result from development of the proposed project and provides a policy consistency analysis.

8.0 **Other CEQA/NEPA Issues**. Contains two elements required under CEQA/NEPA including:

Significant Irreversible Environmental Changes. Describes any changes to the existing environment which are irreversible in nature, such as use of nonrenewable resources or commitment of future generations to similar land uses.

Short-Term Use of the Environment vs. Maintenance of Long-Term Productivity. Describes the long-term effects of the project which narrow beneficial uses or eliminate future options of the area.

9.0 **Summary of Mitigation Measures**. Contains a listing of all mitigation measures proposed as part of the EIR.

10.0 **List of References.** Contains a list of references used throughout this EIR.

11.0 **Response to Comments.** Contains all comment letters received on the Draft EIR and responses to each comment.

Please note that a list of acronyms has been provided and is located in Appendix J, the final appendix of the EIR (this has been formatted as a pull-out list to aid the reader) and Mitigation Monitoring Plan is available in its entirety in Appendix G.

2.0 Project Description

The project description provides detailed information on project components, construction and operations for the Nacimiento Water Project. It is divided into multiple sections that include the project objective, general background on the proposed project, a description of the two proposed project options, project schedule, and equipment and personnel requirements.

The basis of the project design comes from a report prepared by Carollo Engineers entitled Nacimiento Project, EIR Preparation Phase Engineering Report prepared in 2002. This report contains an extensive amount of information that is not reproduced in the EIR, including pictures of the pipeline route and all proposed facility locations. This report is available from the County of San Luis Obispo Departments of Planning and Building, and Public Works, and is also available via the internet at http://www.slocountywater.org/nacimiento/index.html. Individuals wanting more information on the NWP project design should consult this report.

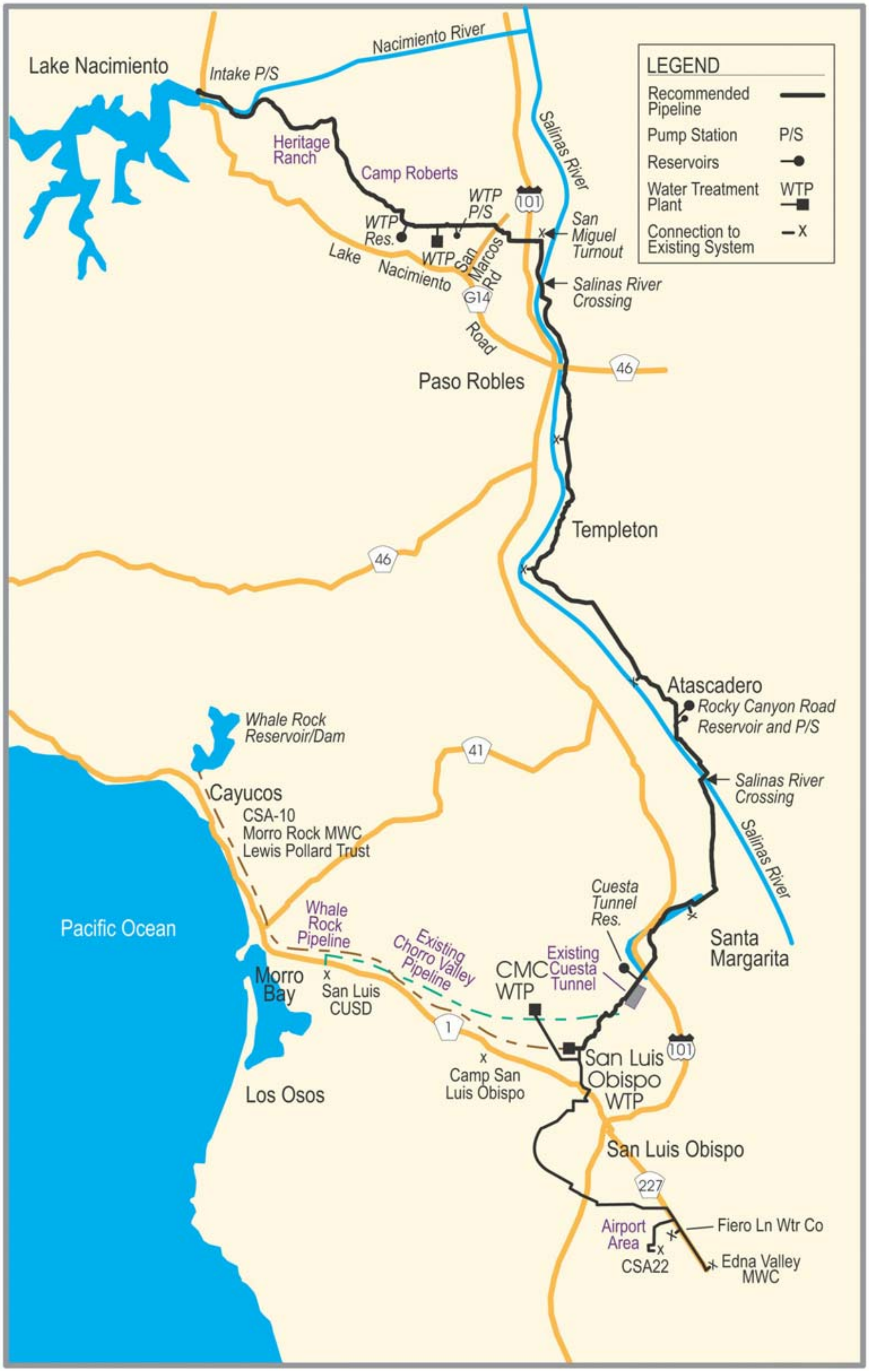
2.1 Project Location

The proposed project includes two equal water delivery options that will be evaluated and compared equally throughout the EIR: a Treated Water Option and a Raw Water Option. The proposed project location is shown in Figures 2-1 and 2-2 for the two co-equal alternatives being considered in this EIR. The proposed local water distribution pipelines and facilities would be located throughout a wide area of San Luis Obispo County between Lake Nacimiento and the City of San Luis Obispo. SLO County is bordered by Monterey County to the north, Kern and King Counties to the east, and Santa Barbara County to the south. Lake Nacimiento, the proposed water source, is located 16 miles west of the City of El Paso de Robles (Paso Robles), near the northern border of SLO County. Elevations in the project area range from sea level, near Cayucos along the coastal plain, to 1,577 feet above mean sea level (msl), north of the Cuesta Grade.

The project area transects three broad physiographic regions: coastal mountains and valleys, interior mountains and valleys, and a coastal plain. Lake Nacimiento is located in the Santa Lucia coastal mountain range. The Santa Lucia, Temblor, Caliente, and La Panza ranges form a part of the Coast Range Mountains which extend across the County in a northwest to southeast orientation. The highest peaks, many over 3,000 feet msl, are located in the Santa Lucia and Caliente ranges. Although none of the mountain ranges in the proposed project area are particularly high, the terrain is quite rugged.

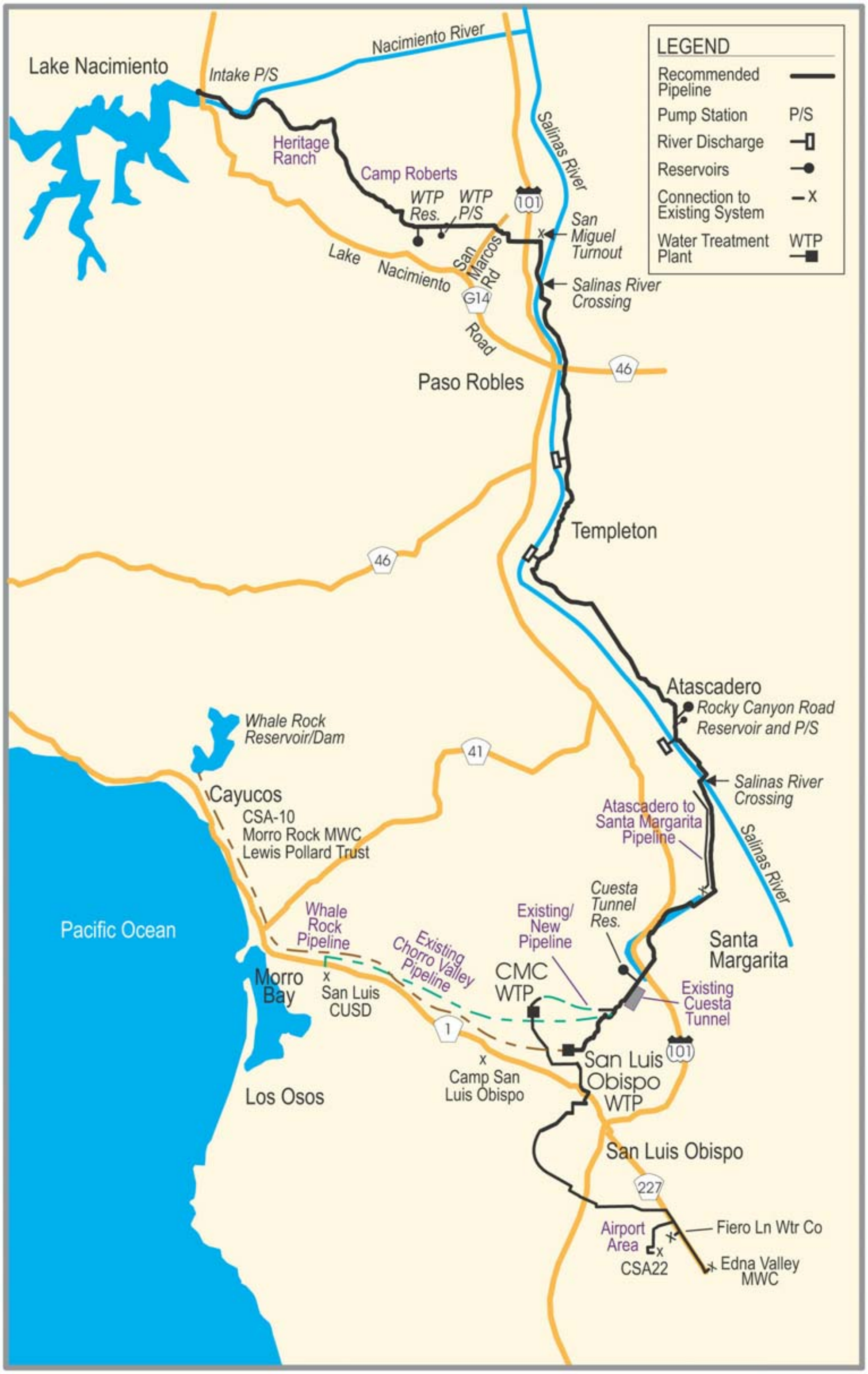
The cities of Paso Robles and Atascadero, and the communities of Templeton and Santa Margarita, are located in the interior valley within the La Panza Range. Major water courses in the interior valley north of the Cuesta Grade are the Nacimiento and Salinas rivers and Santa Margarita Creek. Major streams include Paso Robles, Santa Rita, Graves, Atascadero, San Marcos Creek and Yerba Buena creeks. South of the Cuesta Grade, major water courses in the project area include Stenner and San Luis Obispo creeks, Laguna Lake, and the Morro Bay Estuary. Major drainage basins include the Lake Nacimiento Watershed and the Salinas River.

Figure 2-1 Schematic of Treated Water Option



Source: Carollo Engineers, 2002

Figure 2-2 Schematic of Raw Water Option



Source: Carollo Engineers, 2002

Several westwardly trending lesser drainages in the Morro Bay and Cayucos areas occur along the coast. The Salinas River system drains a large basin in the northern interior of SLO County. This river is the largest single watershed in the Central Coast area and flows northward into Monterey County and eventually discharges into Monterey Bay.

2.2 Project Objectives and Need

The objective of the NWP is to provide a reliable supplemental water source for a variety of uses within SLO County by supplementing the local ground and surface water supplies with a new surface water source. The objective is also to increase reliability of water deliveries, to improve water quality and to lessen the extent of future ground water pumping to existing residents and provide sufficient supplies to support planning objectives in various communities of SLO County. The objective of the proposed project is, therefore, to ensure better management of available water resources throughout the county.

In developing the project objectives, it is necessary to have an understanding of the water needs of the various participants. The following sections provide a summary of the water needs of the various project participants.

2.2.1 San Miguel Community Services District (610 afy)

San Miguel Community Services District (CSD) asks to be included in project planning for a delivery of 610 afy. Their primary need for supplemental water is to improve water quality. Over the years, nitrate levels have increased in community wells. Radioactivity is measurable, too. The CSD would benefit from blending local well water with treated Nacimiento water.

Regarding quantity, Wallace & Associates prepared a draft master plan for the water system in late 2002. Water demand is estimated to increase as vacant lots are developed. Based on hydrogeologic studies conducted in this area, it appears that there is sufficient quantity of ground water to meet anticipated demand. It is the quality of that supply that is deficient.

The requested turnout location is at Wellsona Road and Old Highway 101. It is understood that the pending environmental impact report and engineering analysis will include a turnout on the mainline only, not the spur line needed to convey water to the community water system. The CSD will make an independent environmental analysis associated with the construction of their spur line.

2.2.2 City of El Paso de Robles (4,000 afy)

The City currently relies on groundwater to meet the water demands of residents. This water is extracted from deep wells in the Paso Robles Ground Water Basin and from shallow wells along the river. It has two primary needs for supplemental water. One is to reliably meet the water needs of this growing urban area. The General Plan currently being updated forecasts population growth from approximately 28,000 to 47,000 residents. A second, reliable source of water is a component of the City’s sound public facilities planning. The other need for supplemental water pertains to the City’s ability to meet wastewater discharge requirements at its regional treatment plant. Increasing salt levels associated with widespread use of water softeners poses compliance problems at the wastewater discharge area. A second source of higher quality water will better position the City to meet its discharge requirements and may avoid costly treatment upgrades at the wastewater plant, at its wells, or both.

2.2.3 Templeton Community Services District (250 afy)

Templeton CSD currently relies on groundwater to meet the water needs of residents. The District seeks supplemental water to meet the foreseeable needs associated with development of parcels within the existing service area. The current request does not represent all of the potential additional users, rather it represents the estimated demand associated with parcels that expressed plans to develop within, say, the next decade, and a willingness to participate in the financing of supplemental water.

2.2.4 Atascadero Mutual Water Company (3,000 afy)

The Atascadero Mutual Water Company (AMWC) service area encompasses hundreds of undeveloped parcels, therefore the Water Company's plans include reliable water supply for an increased population. Existing water supply consists of deep wells that pump from the Atascadero subbasin of the Paso Robles Ground Water Basin and both riparian and appropriated Salinas River underflow. The Water Company seeks delivery of Nacimiento Water to reliably meet existing customer water needs, to meet the increasing needs of this growing community, and to improve water quality in terms of hardness and possibly Lead and Copper Rule compliance.

2.2.5 Santa Margarita Ranch (200 afy)

Development plans for the Ranch call for some residential and recreation facilities as well as expanded vineyard planting. Ranch owners seek Nacimiento Water deliveries to provide reliable, good quality water for potable needs throughout the Ranch.

2.2.6 Santa Margarita County Service Area 23 (100 afy)

Water demand for the community of Santa Margarita is projected to increase from the current rate of 215 afy to 300 afy at build-out. Two wells now supply water to the community. One is a shallow well along Santa Margarita Creek that requires treatment to reduce corrosivity. The other is a deep, fractured rock well that is relatively costly to operate, requires filtration for iron and manganese removal, and has taste and odor problems. The estimated safe yield of developed supplies is only 200 afy, falling 100 afy short of forecasted water needs. For these reasons, CSA 23 seeks Nacimiento Water deliveries to improve water quality, reliability, and to provide sufficient quantity to meet forecasted water needs.

2.2.7 City of San Luis Obispo (3,380 afy)

The City of San Luis Obispo has requested an allocation of 3,380 afy to meet future demand and provide more reliable in City water supplies. The requested entitlement would meet the projected water needs of the City of San Luis Obispo through build-out of the General Plan. The requested entitlement also includes 2,000 afy of water that would establish a Reliability Reserve. The Reliability Reserve is water that would help meet community water demand during a drought cycle, but would not be available to support growth or land development. On May 14, 2002, the City Council eliminated the policy that would require the establishment of a Reliability Reserve. However, in order to maintain the highest degree of flexibility and keep every option open, the City Council decided to maintain the current allocation request of 3,380 afy of water from the Nacimiento Water Project.

The City of San Luis Obispo's Water Conservation Program is considered to be very successful and has been in place since around 1985. The City's requested entitlement of water from the NWP takes unto account the City's ongoing water conservation efforts.

2.2.8 Camp San Luis Obispo (200 afy)

Camp SLO asks to be included in project planning for delivery of up to 200 afy. Their primary need for supplemental water is to reliably meet forecasted water demand during peak training periods. Increased activity in Federal, State, and County programs hosted at Camp SLO has resulted in an average daily population of more than 1300. This is more than doubled in the past seven years and is expected to increase in response to our nation's increased emphasis on military preparedness.

As stated in Col. John Menter's letter dated November 20, 2001, no new construction or development on the base would be triggered by additional water supply. Rehabilitation of dilapidated structures is planned to properly house planned military and quasi-military programs. At one time, Camp SLO operated wells, though these are not suitable for potable supply. They considered obtaining reclaimed water from the California Men's Colony wastewater treatment plant, though that supply is fully committed. Moreover, landscape irrigation makes up a small portion of overall water usage at the camp. Camp SLO also sought to purchase Shandon's 100 afy State Water entitlement. They were not successful in this attempt.

The current project planning includes delivery of Nacimiento water to the California Men's Colony water treatment plant. Camp SLO receives treated water from that existing treatment plant; therefore, their requested turnout location is already included in project planning. No additional spur line or distribution system improvements are planned as a result of receiving Nacimiento supplies.

2.2.9 San Luis Coastal Unified School District (55 afy)

The San Luis Coastal Unified School District requests an entitlement of 55 afy, which would reduce their water costs, thus freeing up resources for educational purposes. The District has an aggressive water conservation program which utilizes low flow plumbing fixtures, low water landscape practices and close monitoring of water usage. The District's water conservation program would continue even with the requested entitlement.

2.2.10 Cayucos County Service Area 10A (80 afy)

The community of Cayucos has an entitlement to 600 afy of Whale Rock Water plus access to limited coastal ground water supplies. CSA 10A's share of this entitlement is inadequate to meet forecasted water needs within the service area. CSA 10A seeks Nacimiento Water to reliably meet water needs of existing and future residents and to provide sufficient supply during the summer tourist season.

2.2.11 Lewis C. Pollard Family Trust (50 afy)

The Lewis C. Pollard Family Trust owns five parcels in Cayucos including an 84 unit travel trailer park. Shallow wells supply water under a permit issued by the County Health Department. Concerns have been raised concerning both water quality and reliability. The Pollard Trust requests delivery of 50 afy of Nacimiento water. A wheeling agreement with an adjacent water retailer would be needed to augment supplies at the trailer park.

2.2.12 Morro Rock Mutual Water Company (30 afy)

Morro Rock Mutual Water Company has requested 30 afy to meet projected build-out under current zoning and plans. These projections were estimated in the "Supplement to the 2000 Cayucos Area Water Organization (CAWO) Water Management Plan Update" dated January 2002. The requested entitlement includes the impact of the Company's retrofit and conservation programs.

2.2.13 Airport County Service Area 22 (890 afy)

The Airport Area Specific Plan outlines development of commercial/industrial and residential property throughout the Airport Area south of the City of San Luis Obispo city limits. The requested Nacimiento entitlement represents forecasted water needs for the contemplated development in this area.

2.2.14 Fiero Lane Water Company (30 afy)

The Fiero Lane Water Company requires an entitlement of 30 afy to meet future water needs for commercial and industrial users. Fiero Lane Water Company has a water conversation program which is reflected in the requested entitlement. The entitlement would only be used by commercial and industrial users, with no water going to residential use or future residential growth.

2.2.15 Edna Valley Mutual Water Company (700 afy)

The Edna Valley Mutual Water Company requires 700 afy to meet future growth in their service are to serve the proposed development known as Los Nomadas, located south of the City of San Luis Obispo.. This entitlement also includes water use reductions that result from the Company's conservation program.

2.3 Project Background

The proposed project is in response to SLO County's need for future water supplies and to supplement existing groundwater and surface water sources. The proposed project would potentially supply up to 16,200[1] afy of water to augment the existing water supplies in various communities within SLO County. SLO County currently obtains all its water from the local reservoirs and groundwater.

2.3.1 History of the Proposed Project

The use of water from Lake Nacimiento has long been recognized as a significant viable element in the county's regional water supply program. Water supply needs were anticipated in 1959 when the SLOFCWCD entered into agreements with the Monterey County Water Resources Agency to appropriate 17,500 afy of water from Lake Nacimiento. NWP was highly ranked in the SLO County Master Water Plan Update as a water supply alternative, second only to the SWP.

A series of studies on the NWP prepared under the direction of the SLO County Public Works Department and reviewed by the SLO County Board of Supervisors indicated that the NWP is a viable water supply project.

In 1992, the SLO County Board of Supervisors approved the use of 4,830 afy of supplemental water supplies from the SWP for eleven communities. In the EIR prepared to assess the impacts of the SWP, the California Department of Water Resources (DWR) estimated that without a supplemental water supply, development extraction of groundwater in SLO County will exceed dependable water supplies by about 81,000 afy by the year 2035 (DWR 1991). With the exception of the City of San Luis Obispo (which obtains regulated water supplies from Whale Rock as part of the Wale Rock commitment and Salinas Reservoirs) and the Cayucos purveyors who also have entitlements from Whale Rock reservoir, groundwater is the primary source of water for those communities applying to develop the NWP.

On May 5, 1995 the County Environmental Coordinator issued an NOP for an environmental impact report (ED 92-271) on the NWP. The proposed project consisted of two phases (Phases I and II). Phase I included construction and operation of a raw water pipeline system that would deliver untreated Lake Nacimiento water to the several water treatment plants that would be operated by the water purveyors (local treatment plants); this phase also included a stretch of treated water pipeline from the local treatment plants to several purveyors. Phase II included construction of several local water treatment plants, which could be deferred for up to ten years.

In November 1995, the County of San Luis Obispo retained Boyle Engineering Corporation, Carollo Engineers and Ogden Environmental and Energy Services as project manager, engineering consultant and environmental consultant, respectively, to prepare an engineering report and subsequent environmental evaluation for a water pipeline and associated appurtenances in the approved pipeline corridor. The engineering report and environmental document were to evaluate both treated and raw water options for delivering Nacimiento water to the county's purveyors.

[1] One acre foot equals 325,853 gallons.

On April 3, 1996 a revised NOP was issued based on changes in the project description for the NWP. A draft engineering report, Nacimiento Water Supply Project-Phase II, Draft EIR Preparation Phase Engineering Report by Carollo Engineers (1996 Carollo Draft Report) was prepared, followed by a Nacimiento Water Supply Project Draft EIR by Ogden Environmental and Energy Services (the NWP 1997 EIR).

During a public review of the NWP 1997 EIR several negative comments were brought up in regards to the placement of the pipeline route down Nacimiento Lake Drive, through Vine Street in Paso Robles, and down Main Street in Templeton. These comments largely focused on construction impacts along those roadways. Based on the comments, the County Board of Supervisors directed staff to investigate the feasibility of a new pipeline corridor through Camp Roberts as well as other alternatives and sub-alternatives which were submitted by the public during the EIR review process.

In September 1999, Boyle Engineering Corporation submitted the Nacimiento Water Supply Project, Pipeline Alignment and Profile (the 1999 Boyle Report), covering a revised pipeline alignment corridor. The revised corridor relocated the Lake Nacimiento intake on the north side of the reservoir, continued the pipeline easterly on the north side of the Nacimiento River before crossing the river on Camp Roberts property. The pipeline corridor then continued south-easterly through Camp Roberts, private land and public roads until it crossed to the east side of the Salinas River near Wellsona Road. It then continued south along the east side of the Salinas River on public roads and private land to the southern end of the City of Atascadero, where it re-crossed the Salinas River to the west side and joined the original route proposed in the 1996 Carollo Draft report.

The 1999 Boyle Engineering Corp. report also located a water treatment plant (WTP), storage facility and pump station on Camp Roberts' property, and a pump station and storage facility in the vicinity of the Salinas River crossing at the south end of the City of Atascadero, and made some suggested route and storage facility site changes in the vicinity of Santa Margarita.

In April 2002, Carollo Engineers submitted the Nacimiento Project, EIR Preparation Phase Engineering Report, Updated Draft (2002 Carollo Report). The Carollo Report incorporated the 1999 Boyle Report revised pipeline corridor and provided a detailed description and engineering analysis of elements within the treated and raw water options.

2.3.2 Proposed Water Distribution System

The SLO County Flood Control and Water Conservation District has a 17,500 afy entitlement from Lake Nacimiento per agreement executed in 1959 with Monterey County. Of this 17,500 afy, 16,200 afy is slated for this project and the remaining 1,300 afy is being reserved for local lakeside use.

Fifteen (15) purveyors submitted their requests for Lake Nacimiento water. Of the 16,200 afy available for the project, 13,575 afy is being requested; the remaining 2,625 afy is considered a County-owned contingency capacity.

Table 2.1 shows each purveyor allocation request and requested peaking factor, which is the extra project capacity requested to deliver the requested water considering system outages for maintenance and to deliver the requested water to better meet their system demands.

The allocations for each purveyor represent their initial requests and could change based on their individual needs at the time project participation agreements are negotiated. However, the total NWP allocation would not increase and project-wide growth-related impacts would not be appreciably different.

Table 2.1 Tentative Nacimiento Water Project Allocations

Water Purveyor	Allocation	Peaking Factor	Flow Rate	
	afy	%*	mgd	cfs
Pipeline				
San Miguel CSD	610	10	0.60	0.93
Paso Robles City	4,000	30	4.64	7.18
Templeton CSD	250	30	0.29	0.45
Atascadero MWC	3,000	30	3.48	5.38
Santa Margarita Ranch	200	10	0.20	0.30
CSA 23–Santa Margarita	100	30	0.12	0.19
San Luis Obispo City	3,380	10	3.32	5.14
Camp San Luis Obispo	200	10	0.20	0.30
San Luis CUSD–Morro Bay	55	10	0.05	0.08
CSA 10A Cayucos	80	10	0.08	0.12
Lewis Pollard Trust–Cayucos	50	10	0.05	0.08
Morro Rock MWC–Cayucos	30	10	0.03	0.05
CSA 22–Airport Area	890	10	0.87	1.35
Fiero Lane WC–Airport Area	30	10	0.03	0.05
Edna Valley MWC–Airport Area	700	10	0.69	1.06
Subtotal	13,575		15.25	23.59
SLO County (Contingency)	2,625	10	2.57	3.98
Pipeline Total	***16,200***		***17.82***	***27.57***
Lakeside Use				
Heritage Ranch CSD	475	NA	NA	NA
Heritage Ranch CSD	212	NA	NA	NA
Diamond Benefits Life Ins. Co.	413	NA	NA	NA
Sports clubs and other parties	94 1/3	NA	NA	NA
Available Lakeside	105 2/3	NA	NA	NA
Total Reserved for Lakeside use	***1,300***	NA	NA	NA
Total Allocation	**17,500**			

Notes: *Peaking factor is the percent of extra capacity requested by the purveyors to allow short term flows higher than the average of their yearly allocation. For the purveyors that requested no peaking, 10% has been added to allow for system downtime.

afy=acre feet per year; mgd=million gallons per day; cfs=cubic feet per second; MWC=Mutual Water Company; CSD=Community Services District; CSA=County Service Area; SLO=San Luis Obispo; WC=Water Company; NA = Not Applicable

Source: Carollo Engineers, EIR Preparation Phase Engineering Report, April 2002.

2.3.2.1 San Miguel Community Services District

The water system in San Miguel is operated by the San Miguel CSD. The current source of supply is groundwater wells where the concentrations of nitrates and radioactivity are increasing. Options for increased water supply in this north county community are limited. New well development and supplies from Lake Nacimiento are being considered. San Miguel requests an entitlement of 610 afy treated water from the NWP at planned peaking factor of 1.1.

2.3.2.2 Paso Robles

Paso Robles supplies water to approximately 26,900 residents and 800 transient (i.e., hotel, etc.) accommodations in this north county community. The City relies on groundwater and Salinas River underflow to meet the demands of City residents. Paso Robles requests 4,000 afy from the NWP to be delivered at three locations in the City system, at a minimum hydraulic grade line (HGL) of 960 feet. A peaking factor of 1.3 is planned for delivery to the City.

2.3.2.3 Templeton Community Services District

The Templeton CSD provides water, sewer, and other services to the unincorporated community of Templeton, located between Atascadero and Paso Robles along Highway 101. Current sources of water are groundwater and Salinas River underflow. Templeton requests 250 afy of treated water from the NWP at a peaking factor of 1.3 and a minimum HGL of 1,010 feet. The desired turnout location for planning purposes is on the west side of the Vineyard Drive Bridge.

2.3.2.4 Atascadero Mutual Water Company

The AMWC supplies water to approximately 24,250 people in and around the City of Atascadero. AMWC relies wholly on groundwater and Salinas River underflow to meet the needs of its customers. AMWC requests 3,000 afy of treated supply from the NWP to be delivered at a single turnout on the west end of the new Highway 41 Bridge. A peaking factor of 1.3 from the NWP has been requested at a minimum desired HGL of 1,162 feet.

2.3.2.5 Santa Margarita Ranch Mutual Water Company

The Salinas River Area Plan Update contains criteria recommended by the County to allow limited development on the ranch subject to preparation of a specific development plan. The Ranch seeks 200 afy treated Nacimiento supply at a peaking factor of 1.1 and a minimum HGL of 1,200 feet at a turnout parallel with Wilhelmina Avenue.

2.3.2.6 County Services Area 23 – Santa Margarita

The water system serving Santa Margarita is operated by the County of San Luis Obispo as County Services Area (CSA) 23. The current source of supply is two shallow wells plus one deep well. Santa Margarita requests 100 afy of treated supply from the NWP at a planned peaking factor of 1.3. The desired point of connection to the system is at the intersection of Wilhelmina Avenue and “G” Street at a minimum HGL of 1,164 feet.

2.3.2.7 City of San Luis Obispo

The City of San Luis Obispo provides water to an estimated population of 44,613 in and around the City limits. The City's current sources of supply are Whale Rock Reservoir, Santa Margarita Lake (Salinas Reservoir), and wells. The City requests 3,380 afy from the NWP at a near constant rate of supply to be delivered to the weir elevation of the WTP clarifier along Stenner Creek Road (460 feet HGL). If treated water were delivered, then water is to be delivered to the city treatment plant at an HGL of 560 feet minimum. A peaking factor of 1.1 was used for the City of San Luis Obispo.

2.3.2.8 Camp San Luis Obispo

Camp San Luis Obispo asks to be included in project planning for delivery of up to 200 afy of water. Their primary need for supplemental water is to reliably meet forecasted water demand during peak training periods. Increased activity in Federal, State, and County programs hosted at Camp San Luis Obispo has resulted in an average daily population of more than 1,300. This is more than double in the past seven years and is expected to increase in response to our nation's increased emphasis on military preparedness.

The current project planning includes delivery of Nacimiento Project water to the California Men's Colony WTP; therefore, their requested turnout location is already included in project planning. No additional spur line or distribution system improvements are planned as a result of receiving NWP supplies. A Peaking factor of 1.1 was used.

2.3.2.9 San Luis Coastal Unified School District – Morro Bay

The water requested by the San Luis Community Unified School District (SLCUSD) is for three schools located within the City of Morro Bay (55 afy); Del Mar Elementary, Morro Elementary, and Morro Bay High School. They are presently being served by the City of Morro Bay through the City's distribution system. Their intent is to purchase Nacimiento Project water to be delivered through the State Water Project Chorro Valley Pipeline along with City of Morro Bay State Water. They anticipate negotiating an agreement with the City to wheel this water through the City of Morro Bay's system in the same manner they now receive water. A Peaking factor of 1.1 was used.

2.3.2.10 County Services Area 10A – Cayucos (CSA-10A)

CSA 10A, operated by SLO County, is one of three domestic purveyors in the coastal community of Cayucos. The three purveyors receive water from Whale Rock Reservoir per the terms of the March 20, 1958 agreement with the Whale Rock Commission for a total supply of 600 afy (including supply to the Cayucos Cemetery District). CSA 10A has an allocation of 190 afy from the 600 afy. Water is treated at a water treatment plant near the Whale Rock Reservoir Dam. A separate, jointly operated well also supplies water to the three purveyors. Two of the purveyors hope to arrange for an exchange of Nacimiento Project water to avoid costly construction of an extension to the existing Chorro Valley pipeline. CSA-10A requests an allocation of 80 afy in the NWP for exchange with a Whale Rock Commission member. A peaking factor of 1.1 is planned.

2.3.2.11 Lewis Pollard Trust – Cayucos

The Lewis C. Pollard Family Trust owns five parcels in Cayucos including an 84-unit trailer park. Shallow wells supply water under a permit issued by the County Health Department. Concerns have been raised concerning both water quality and reliability. The Pollard Trust requests delivery of 50 afy of Nacimiento water. A wheeling agreement with an adjacent water retailer would be needed to augment supplies at the trailer park. This is the same manner in which NWP supplies are proposed to be delivered to County Service Area 10A in Cayucos. A peaking factor of 1.1 is planned for this delivery.

2.3.2.12 Morro Rock Mutual Water Company – Cayucos

Morro Rock Mutual Water Company (MRM) is one of three domestic purveyors in the coastal community of Cayucos. The three purveyors receive water from Whale Rock Reservoir per the terms of the March 20, 1958 agreement with the Whale Rock Commission for a total annual supply of 600 afy, including an 18 afy allocation to the Cayucos Cemetery District. MRM's allocation is 170 afy of the 600 afy total. Water from Whale Rock Reservoir is treated at a WTP nearby. A separate, jointly operated well also supplies the three purveyors. MRM requests an allocation of 30 afy in the NWP system for exchange with a Whale Rock Commission Member. A peaking factor of 1.1 is planned.

2.3.2.13 County Service Area 22 – Airport Area

CSA 22 is an area encompassing approximately 1,700 acres immediately southeast of the City of San Luis Obispo. The entire airport area and specifically CSA 22 is located within the City's sphere of influence and a concept plan for varying land uses from residential to commercial and industrial has been approved by the Board of Supervisors and City Council for a number of years. Existing development is served by groundwater wells and small community systems. Sustained supply from underlying groundwater is reportedly limited. The District is requesting Nacimiento Project water be delivered directly at a HGL of 300 feet at a 1.1 peaking factor from a turnout located at Prado Road, and Los Osos Valley Road, or in the vicinity of Buckley Road.

2.3.2.14 Fiero Lane Water Company – Airport Area

Fiero Lane Water Company is seeking an entitlement of 30 afy to be delivered at a near-constant flow rate. The Water Company's service area is along Broad Street north of the airport. Fiero Lane Water Company serves only commercial sites. It has an existing water system with wells and storage tanks. Fiero Lane Water Company is requesting Nacimiento Project water to increase its current capacity. Water delivery is desired at a HGL of 300 feet at a 1.1 peaking factor.

2.3.2.15 Edna Valley Mutual Water Company – Airport Area

Edna Valley Mutual Water Company (MWC) currently serves the La Lomita Ranch properties and has requested water supply from the NWP to serve the proposed development known as Los Nomadas, located south of the City of San Luis Obispo. Edna Valley MWC seeks an entitlement of 700 afy from the NWP at a peaking factor of 1.1. A turnout at Prado Road, Los Osos Valley Road, or in the vicinity of Buckley Road is desired, at a minimum HGL of 300 feet.

2.4 Proposed Water Treatment Options

The proposed project includes two equal water delivery options that will be evaluated and compared throughout this EIR: Treated Water Option and Raw Water Option. Both options include construction of the water intake at Lake Nacimiento, water storage tanks, pump stations and the water transmission pipeline. The differences between the options are that the Raw Water Option includes construction and operation of three water discharge facilities that would discharge water to the Salinas River underflow via percolation basins located outside of the Salinas River Channel. Construction and operation of these water discharge facilities would be the responsibility of the purveyors benefiting from the water (Paso Robles, Templeton, and Atascadero). The Treated Water Option also includes construction and operation of a central Water Treatment Plant and related facilities near Lake Nacimiento on Camp Roberts property.

The various parts of the two proposed options are summarized in Table 2.2. The detailed descriptions of the two proposed options are given in sections below.

Table 2.2 Project Components as Related to the Two Proposed Options

Component	Option	Responsibility	Comments
Nacimiento Reservoir Intake Structure	Both	SLO County	Reservoir Intake is part of both project options
Intake Pump Station	Both	SLO County	Intake PS is part of both project options
WTP Storage Tanks Facility	Both	SLO County	
Nacimiento WTP	Treated Water	SLO County	
WTP Pump Station	Both	SLO County	In Treated Water Option this PS is part of Nacimiento WTP
Pipeline	Both	SLO County	Pipeline route differs slightly depending on the proposed option
Rocky Canyon Storage Tank	Both	SLO County	
Happy Valley PS	Both	SLO County	
Three Water Discharge Areas	Raw Water	Local Water Purveyors	
Cuesta Tunnel Storage Tank	Both	SLO County	
Local WTPs	Raw Water	Local Water Purveyors	Not part of the proposed project

Notes: PS=pump station; WTP=Water Treatment Plant.

2.4.1 Treated Water Option

The main feature of this option is construction and operation of a WTP in the vicinity of Lake Nacimiento (Nacimiento WTP) on Camp Roberts and transmission of treated water to the identified purveyors. Figure 2-1 shows a general pipeline route and component locations for the Treated Water Option. Figures 2-3 through 2-24 contain more detailed maps of the pipeline corridor.

The Treated Water Option would consist of approximately 64 miles of the pipeline, a multiport water intake at Lake Nacimiento, a WTP, three pump stations, three storage facilities, and a connection to the Chorro Valley Pipeline. This option would deliver treated water to all water project participants except the three Cayucos purveyors. The Cayucos purveyors' water allotment will be delivered to the City of San Luis Obispo and an exchange for Whale Rock water will take place.

The Treated Water Option originates at the intake/pump station above the Nacimiento Dam north abutment, and continues east along the Nacimiento River. The pipeline then crosses the Nacimiento River and continues southeasterly on private land, through Camp Roberts, and back to private land and public roadways before crossing the Salinas River southeast of the Wellsona Road and Highway 101 intersection. Within this pipeline segment, there is a WTP, a water storage facility, and a pump station on Camp Roberts, and a turnout to San Miguel at the intersection of Monterey and Wellsona Roads. San Miguel CSD will be responsible for providing a pipeline connection to deliver water from the main pipeline turnout to the community.

The main pipeline then continues southerly crossing to the east side of the Salinas River on roadways and private land before re-crossing the Salinas River near the southern end of the City of Atascadero near Santa Clara Road. Within this pipeline segment there are direct connections (turnouts) to Paso Robles, Templeton, and Atascadero water systems, Salinas River crossing, a storage tank site (Rocky Canyon Road storage tank) and a pump station (Happy Valley Pump Station).

The next pipeline segment generally follows El Camino Real through Santa Margarita, crossing Highway 101 to the west, and then paralleling Highway 101 on the west side to connect to a previously constructed Nacimiento water line through the Cuesta Tunnel. Connections to Santa Margarita and the Santa Margarita Ranch, plus a storage tank near Cuesta Tunnel are in this pipeline segment.

South of the Cuesta Tunnel, the pipeline continues down Stenner Creek Road, crosses Highway 1, then continues through streets on the west and south ends of San Luis Obispo and along the base of Cerro San Luis Mountain to the airport area. There are direct connections (branch lines) to the City of San Luis Obispo and several purveyors in the airport area. There is also a branch line, which leads west from the area of the City of San Luis Obispo WTP to the CMC WTP to serve Camp San Luis Obispo and SLCUSD Camp San Luis Obispo water will be wheeled through the CMC distribution system while SLCUSD water will be transferred at the CMC WTP to the Chorro Valley Pipeline and delivered in the City of Morro Bay (see Figure 2-1). The three Cayucos purveyors will negotiate an exchange with the City of San Luis Obispo for Whale Rock water.

Project responsibility terminates and purveyor responsibility begins directly after the individual purveyor's turnout facility.

2.4.2 Raw Water Option

The Raw Water Option includes construction and operation of the pipeline system that would deliver raw (untreated) water from Lake Nacimiento to the purveyors for their distribution via discharge ponds and and/or future local WTPs or expansion of existing WTPs (WTPs under jurisdiction of the various water purveyors). Figure 2-2 shows a general pipeline route and components for the raw water option.

The Raw Water Option pipeline follows the same corridor as the Treated Water Option. The Raw Water Option system includes a reservoir intake/pump station (Intake pump station), the remaining two pump stations, three water storage tanks locations, the main pipeline route from Lake Nacimiento to the airport area south of the City of San Luis Obispo, and water discharge facilities for Paso Robles, Templeton, and Atascadero. San Miguel will be responsible for their pipeline and water treatment by either river discharge or a new WTP. Santa Margarita's water allotment will be discharged with the allotment of AMWC, wheeled through Atascadero's water system to the south part of Atascadero, and then via a new pipe to be constructed parallel to the main line to Santa Margarita. The Santa Margarita Ranch will construct its own WTP.

South of the Cuesta Tunnel, the City of San Luis Obispo will treat their water at their existing plant. The water for the area south of the airport will be diverted to the CMC WTP for treatment and returned to the transmission line contemplated in the treated water option to the airport at a point near the San Luis Obispo WTP. Water for the Cayucos purveyors will go to the existing San Luis Obispo WTP and an exchange will be made with the City for Whale Rock Reservoir water. Water for San Luis CUSD and Camp San Luis Obispo will be treated at the CMC WTP and will be distributed from the CMC WTP as described in the treated water options: Camp San Luis Obispo water will be wheeled through the CMC distribution system while SLCUSD water will be transferred at the CMC WTP to the Chorro Valley Pipeline and delivered in the City of Morro Bay (see Figure 2-2).

In the Raw Water Option, Atascadero, Templeton, and Paso Robles water allotments are to be percolated into the Salinas River to add to the underflow and the same quantity of water pumped from the river's underflow for delivery to each entity's water system. The AMWC pumping system would be located adjacent to the proposed percolation basins and would recover the NWP water before it reaches the Salinas River underflow. For Santa Margarita, the water will be discharged at the Atascadero discharge area and the pumped water sent to Santa Margarita through a wheeling arrangement with the AMWC and a new pipeline to connect the AMWC and CSA-23 system.

North of the Cuesta Grade, raw water would be discharged into unlined basins located in Salinas River alluvium where it would percolate and then be drawn up through existing well fields, disinfected, and purveyed. South of the Cuesta Grade, two pipeline segments are proposed. One would transmit raw water to the City of San Luis Obispo WTP. The second pipeline (U.S. Army "Corps of Engineers [ACOE] spur") would transmit raw water to an existing pipeline where it would be deposited into Chorro Reservoir and treated at the CMC WTP.

2.5 Characteristics of the Project Components

This subsection describes design, construction materials and techniques of the proposed project components.

2.5.1 Pipeline (Both Options)

The main part of both project options would be a pipeline transmission system that would deliver water from Lake Nacimiento to the water purveyors. This subsection describes the route, design, construction details and techniques, and operation of the proposed pipeline transmission system. The components of the pipeline system and their location along the pipeline are summarized in Table 2.3.

2.5.1.1 Pipeline Route Description

The following description identifies the pipe location by reaches. The pipeline reaches were defined as pipeline segments between two cost points in the treated water option as defined by Carollo Engineers Report (Carollo 2002). A cost point is where a major component is added to the line (e.g., a pump station) or where treated water is diverted to a purveyor. The written description should be used in conjunction with Aerial Photographs 1 through 22 of the Carollo Report, which have been included in the EIR at the end of this chapter as Figures 2-3 through 2-24. For the raw water option, the reaches will remain the same as the treated water option and components such as the river discharge points will be identified on the aerials and in the descriptions provided below.

Table 2.3 Project Pipeline System and its Components

Project and Pipeline Parts	Component Description	Pipeline ID, inch	Station No. on the Pipeline
Reach No. 1	Lake Nacimiento Intake and PS to WTP Storage Tanks Site and WTP	36	0+00 to 560+00
Reach No. 2	WTP Storage Tanks Site, Water Treatment Plant, PS No.2	30	Station 560+00
Reach No. 3	WTP to Monterey Rd. / Wellsona–San Miguel Turnout	30	560+00 to 775+00
Reach No. 3A	Monterey Rd. / Wellsona to Charolais Rd. / So. River Rd.-City of Paso Robles Turnout	30	775+00 to 1130+00
Reach No. 4	Charolais Rd. to Vineyard Dr.–Templeton CSD Turnout	30	1130+00 to 1415+00
Reach No. 5	Vineyard Dr. to New Hwy 41–AMWC Turnout	30	1415+00 to 1635+00
Reach No. 6	New Hwy 41 to Rocky Canyon Road	24	1635+00 to 1830+00
Reach No. 6A	Rocky Canyon Storage Tank	24	Station 1785+00
Reach No. 6B	Happy Valley Pump Station	24	Station 1785+00
Reach No. 7	Rocky Canyon Road to Santa Margarita/CSA 23 Turnout	24	1830+00 to 2150+00
Reach No. 7A	Santa Margarita / CSA 23 Turnout to Cuesta Tunnel Entrance Connection	24	2150+00 to 2320+00
Reach No. 7B	Cuesta Tunnel Storage Tank	24	Station 2310+00
Reach No. 8	Cuesta Tunnel	20	2320+00 to 2370+00
Reach No. 8A	Cuesta Tunnel to San Luis Obispo WTP	20	2370+00 to 2520+00
Reach No. 9	Facilities Beyond SLO City WTP to CMC	10	
Reach No. 10	Facilities Beyond SLO City WTP to Edna Valley	10 or 8	2520+00 to 3037+00

Notes: ID=internal diameter

Source: Carollo Engineers, EIR Preparation Phase Engineering Report, April 2002.

The pipeline construction constructors would also use several staging areas. Staging areas are cleared sites where construction machinery and materials would be temporarily stored during construction of the pipeline segment in the vicinity of the staging area. The proposed staging areas were selected based on their proximity to the pipeline route and because they have been previously disturbed with their use posing little or no environmental or social impact. Some of these staging areas may not be available when construction commences. If this occurs, a new staging area will be identified that meets the same environmental criteria, thus minimizing potential environmental or social impact. New staging areas will be required to avoid impacts to nearby residents and businesses in the areas of noise, traffic, air quality. In addition, impacts to water quality via runoff, biological resources and cultural resources will also be minimized as part of the site selection process. New staging areas will be required to be within ½ mile of the original site, located on a previously disturbed site with less than a 10 percent slope, and not near creeks or sensitive biological areas.

Intake Pump Station to WTP (Sta. 0+00–560+00)

The pipeline will start at the Intake Pump Station (see Figure 2-3) and continue across Nacimiento Lake Road past the northern abutment of the Nacimiento Dam, down a dirt farm road parallel to the north side of the Nacimiento River, crossing into Camp Roberts' property still following the dirt road and crossing the Nacimiento River at approximately Station 110+00. In this stretch of pipeline, the pipe normally will stay in the center of the dirt road, however, it is expected in design that the pipeline may be straightened out in some areas but should stay within the 100-foot environmental corridor. It is proposed that the river crossing be open cut and the pipe will likely be trenched into rock. The contractor is expected to divert the stream to one side of the river channel while constructing the pipe across the other side of the river and then re-diverting the river flow over the top of the constructed portion of pipeline to complete the pipe's crossing on the opposite side of the river. Alternative construction methods will be further evaluated during final design. Construction of the Nacimiento River Crossing would be coordinated with the Monterey County Water Resources Agency (MCWRA) so construction does not occur during times of high water flow or releases to the Nacimiento River by the MCWRA.

The pipe would then continue for a short distance parallel to the stream before entering a dirt road which intersects Boy Scout Road. It then continues on or near Boy Scout Road, past the abandoned Boy Scout Bridge to the south side of the bridge and its abatements and approaches in an existing dirt roadway area to the intersection of West Perimeter Road (see Figure 2-4). In the stretch of dirt road, the pipeline stays in the centerline of the road. A staging area is proposed to the northwest of the intersection of the pipeline with Boy Scout Road. On Boy Scout Road the pipeline is located to the south-west side of the road from the intersection to P-10[2] in order to be as far away from the river as possible and on the uphill side of the road. There is very little shoulder so the pipe will have to be placed in the pavement for this stretch. It also crosses under a gas pipeline, as the gas pipe is buried quite shallow, and over a 24-inch culvert which is very deep. When it rejoins Boy Scout Road, the pipe stays on the northern side as the road is further away from the river and the right side has very steep embankments. Just prior to the abandoned

[2] The pipeline aerial photos/maps are marked with P-points—locations where there is a special point of interest or construction method on the pipeline route.

Boy Scout bridge, the pipe crosses over to the south side and down into the creek bed to the south side of the bridge. This keeps the pipe on the upstream side of the bridge to minimize any washing out of the pipe. It then continues on the south road shoulder until it joins West Perimeter Road.

At the intersection of Boy Scout Road and West Perimeter Road (Figure 2-4) the pipeline follows a short dirt cutoff road crossing the corner between the two roads. It then stays on the west side but off the pavement on West Perimeter Road as there is a stream on the left side of the road. In this stretch, it crosses three box culverts where it passes down into the stream to the west of the three box culverts. On General's Road it continues to stay on the west side until it branches off to the proposed WTP (Figures 2-5 and 2-6). In the short dirt farm road to the WTP it generally stays in the centerline of the dirt trail. A surge tank to handle power outages at pump stations and excessive pressures in the pipeline would be located on the pipeline prior to the WTP reservoir. Just prior to the WTP, the pipeline deflects to the south and up the hill to the WTP Reservoir site and a second pipeline will retrace the same route back down to the main pipeline corridor. From there it extends east along the northern boundary of Camp Roberts to the WTP site where the Camp boundaries turn south. This pipeline segment is intended to be aligned in the way that there will be a minimum amount of impact to existing oak trees.

WTP to Charolais Road/South River Road (Sta. 560+00–1130+00)

The pipeline leaves WTP Pump Station at the WTP site and continues east across private fields, crossing a stream at approximate station 590+00 and intersects Mahoney Road (Figure 2-6). It then continues easterly on Mahoney Road, then Texas Road, and continues east on a private road (Figure 2-7).

On private property it crosses open fields along the property line and then turns slightly north to cross perpendicular to the stream. On Mahoney Road it goes along the southern edge of the pavement as there is very little shoulder. After it crosses a short stretch of Texas Road and enters onto the dirt private road, it stays on the southern side where there is a larger shoulder.

At the end of the private road the pipe continues across a vineyard past P-34 to P-35 and then turns southeasterly crossing a stream (San Marcos Creek) and San Marcos Road. It follows San Marcos Road for a short distance until it intersects Wellsona Road (Figure 2-7). It follows Wellsona Road easterly, crosses Highway 101, and then turns south on Old Highway 101/Monterey Road. At P-41 the pipeline turns south-east and crosses the Salinas River and intersects North River Road (Figure 2-8).

In this stretch the pipe follows vineyard perimeter roads on the north edge of the vineyard and takes the shortest distance from the vineyards across San Marcos Road to Wellsona Road (Figure 2-7). Wellsona is a gravel road and has power lines located along its north side. There is very little shoulder so the pipe will be in the edge of the gravel on the south side of the road. In the vicinity of the Highway 101 crossing, a staging area is proposed at the northwest corner of Wellsona Road the freeway. The pipeline crossing Highway 101 will be jacked under the road per State standards (Figure 2-7). The pipeline then stays on the west side of Wellsona until it reaches Monterey Road (Figure 2-8). At this intersection, a turnout for San Miguel in the northern direction will be constructed, approximate station 775+00. The pipe turns south and stays on the western side of Monterey Road as there is a large shoulder or right of way (ROW) so that the pipeline can stay off the pavement. When it reaches P-41 and turns easterly, it will be jacked underneath the railroad about 10 to 15 feet north of a railroad signal post. From the railroad, the pipe crosses an open field, through a row of pine trees before crossing the Salinas River.

The Salinas River crossing would be either a suspended pipe crossing, which would require abutments on both sides of the river plus cable anchors, or it would be installed via directional drilling beneath the river. There is a staging area adjacent to the east abutment of the pipe crossing.

When the pipe reaches North River Road at a point just north of the river crossing, it stays on the west side of the road just to the edge of the pavement until it passes by some farm homes (Figure 2-9). Just past the farm homes, it turns off to the further west into a farm field paralleling North River Road. It stays off the road until it reaches the Paso Robles wastewater lift station where it comes back on the roadway. From the Paso Robles wastewater lift station on North River Road the pipeline follows North River Road through the town of Paso Robles until it reaches Charolais Road (Figure 2-10).

Once the pipeline re-enters the road at the lift station, it generally stays within the pavement through most of North River Road as there are steep embankments on the left and the Salinas River on the right. There are several underground utilities in this area and the pipeline has been located to stay clear, as much as possible, of these utilities. There are certain areas such as near P-46 (Figure 2-9) where it crosses over a sewer line and therefore, must be in a casing or encased in concrete. The pipeline continues near the center of the road as it crosses under Highway 46 then turns to the eastern shoulder to again avoid a sewer line. At P-49 it turns back to the centerline of the road and at P-50 shifts to the western edge of the road. It stays in the western edge of the road until it reaches Creston Road. At Creston Road it is jacked under the road to the south side due to large traffic volume and passes through a City yard immediately after Creston Road. Within this City yard there will be another staging area on the western side of the South River Road.

Shortly after the City yard the pipeline follows west of a fence paralleling South River Road in an open area until it reaches a guardrail near P-54. From here the pipeline comes back onto the western edge of the pavement until it reaches P-56 (Figure 2-10). When the pipeline approaches P-56 it enters into a commercial area of the city. After a short distance, it crosses over to the eastern side just prior to Niblick Road to avoid utilities. On the eastern side there is a fairly wide shoulder where the pipeline is partially off the road. Due to heavy traffic, it will be jacked and bored under Niblick and Creston Roads crossings. Past Niblick Road it again is on the eastern side off the shoulder and to the west of a fiber optics cable until it reaches Charolais Road. In the treated water option a connection will be made to the City of Paso Robles water system at this point. Other connection points to Paso Robles system maybe made at Creston Road and near the Highway 46 crossing.

Charolais Road to Vineyard Drive (Sta. 1130+00–1415+00)
The pipeline follows South River Road for a short distance until it branches off onto Santa Ysabel Road (Figure 2-10). It then deflects to the right off Santa Ysabel Road on fields located on the Santa Ysabel Ranch property following a planned road/property line; and passes under the steep embankments adjacent to the river where three tunnels will be constructed. The pipeline emerges from the tunnel onto private property, follows a fence line across a third ranch property,

and then enters a dirt road just off Vaquero Drive (Figure 2-11). At Vaquero, it heads east and turns onto El Pomar Drive until it reaches the junction of Templeton Road and Vineyard Drive (Figure 2-12).

The pipeline crosses to the right shoulder at Charolais Road and continues on the west to Santa Ysabel Road (Figure 2-10). On Santa Ysabel Road, which is a gravel ranch road, it follows the right edge of the road. For the raw water option, a branch line for the Paso Robles river discharge facility turns toward the river (in the westerly direction) at P-65 just north of a private driveway and drainage channel and then continues past the residence into open land to the river. When the main pipe turns off Santa Ysabel Road at P-66, it goes across open fields approximately 40 feet to the east of the power lines. This particular route was approved by the owner’s engineer and it follows the property owner’s development of planned roads.

Once the pipe leaves the power lines west of the ranch house it cuts across to a fenced field and follows on the west side of a north/south fence just at the toe of the slope at the corner of the property. At this point there will be three tunnels, as the river is close to a very steep hillside and the pipe could not pass between them without impacting a large area of habitat or getting into the river channel (Figure 2-11). When it emerges from the three tunnels it will be on another private property and again with verbal approval of the owner, follows his westerly fence along the river. The pipeline then continues along the westerly fence of another ranch property until it reaches a stream where it turns east and follows a stream to Vaquero Road. On Vaquero Road and the subsequent El Pomar Drive it stays to the eastern shoulder.

In the raw water option, a branch line to the Templeton River discharge facility follows a dirt roadway at P-78 to a truck storage area parking lot on the river (Figure 2-11). This parking lot is proposed to also serve as a staging area. At the intersection of El Pomar Drive, Templeton Road and Vineyard Drive, the spur to the Templeton treated water system branches off in the westerly direction and goes across the river on the Vineyard Drive Bridge (Figure 2-12). A pressurized surge control tank would be located in this pipeline reach.

Vineyard Drive to New Highway 41 (Sta. 1415+00–1635+00)

The pipeline continues on Templeton Road until it reaches P-80 where it crosses through private property to minimize pipeline length (Figure 2-12) by avoiding following a winding section of Templeton Road, which would be a more circuitous route. On the south gate of Rolling A Ranch the pipe rejoins Templeton Road and follows roadway until it reaches the new Highway 41 road and bridge across the Salinas River (Figure 2-13). The pipeline on Templeton Road stays on the southern side of the road to the private property turnoff as there appears to be a very large shoulder for most of the distance. At this point there is a staging area on private property and the pipeline goes directly across open land to the Rolling A Ranch south gate. When it rejoins Templeton Road, it again stays on the western side; however, there does not appear to be a large shoulder so the pipe would have to be at least partially in the pavement.

In the treated water option, when the pipeline reaches the new Highway 41 road and bridge, a branch pipeline turns off onto the new highway in the westerly direction and then continuing south, crossing the new Highway 41 bridge into Atascadero and connects to the AMWC treated system near and existing pump house (Figure 2-13). In the raw water option a branch line for the Atascadero discharge area turns toward the river at P-79C and follows the property line until it reaches the river (Figure 2-12). The discharge area is on the west bank of the river and the branch line will be open cut across the Salinas River.

New Highway 41 to Rocky Canyon Road (Sta. 1635+00–1830+00)
The main pipeline continues on Templeton Road, and then Rocky Canyon Road where the Rocky Canyon Storage Tank and Happy Valley Pump Station will be located (Figure 2-14). The pipe is located in the eastern edge of the pavement along Templeton Road and Rocky Canyon Road. It appeared that the eastern side had a little more shoulder and fewer utilities than the western road side. At P-83 the pipeline is diverted off the road and around the upstream end of an 8-foot culvert. There is insufficient earth depth above the culvert to place the pipe over the top. At P-84 the line is diverted to the east through fields to Rocky Canyon Storage Tank, then a parallel line returns from the storage tank and pump station back to Rocky Canyon Road. At the junction of Halcon Road and Rocky Canyon Road there is a staging area across Rocky Canyon Road to the southeast.

From Rocky Canyon Road to Santa Margarita (Sta. 1830+00–2150+00)
From Rocky Canyon Road (Figure 2-14) the pipe enters Happy Valley Ranch on the ranch entrance road, follows the western edge of the fields that are part of Happy Valley and Taft Ranches, and the eastern boundary of Salinas River estuary (Figure 2-15). At the Taft Ranch buildings (P-86) it turns west across the Salinas River on Santa Clara Road. There is an existing bridge that the pipeline will parallel, it will be constructed under, or adjacent to, the bridge in an open cut while the river is dry. The pipeline then follows Santa Clara Road to just before the Union Pacific Railroad. Santa Clara Road is a gravel road and the pipe will follow the right (north-western) side of the gravel road until it reaches the Union Pacific Railroad where it turns south on a dirt road parallel to and on the east side of the Union Pacific, but not on Union Pacific property.

The pipe continues for a short distance on the dirt road, across an open field, and crosses the railroad again to the west at P-87A (Figure 2-15). Each crossing of the railroad will be done through a bored and jacking method. From this point, it parallels the railroad, on the west side, until it reaches El Camino Real where it re-crosses the railroad to the east side. At P-88 the pipe crosses Trout Creek that has relatively high steep banks. This may require a suspended pipe crossing or directional drilling.

The pipeline then follows El Camino Real through Santa Margarita (Figure 2-16). A second line for water from Atascadero to Santa Margarita (raw water option) will parallel the main line along El Camino Real to Santa Margarita. The pipeline stretch along El Camino is open field until it reaches the Union Oil pumping facility. At that point, both pipes re-cross the railroad but still on the east side of El Camino Real ROW as the pipes pass in front of the pumping facility (this is done because there are many pipes and oil sumps in the pump station yard that cross the Union Oil property). As soon as the pipelines get past the facilities, they come back across the railroad to the east in open spaces until they reach Santa Margarita. In Santa Margarita, the pipes re-enter El Camino Real through town. Staging areas are proposed on the southeast side of the railroad tracks along El Camino Real. The pipes will stay in the pavement. There are water lines and other utilities yet to be defined in the street but no sewer lines, as Santa Margarita is not sewered.

Prior to the main pipe reaching Wilhelmina Avenue in Santa Margarita, it will have a turnout at the existing community well location for both Santa Margarita water systems in the treated water option. In the raw water option, a turnout on the main pipe for the Santa Margarita Ranch WTP will be provided and the second pipe from Atascadero will connect to the well field pipe approximately at station 2150+00.

Santa Margarita to the Cuesta Tunnel (Sta. 2150+00–2320+00)
The pipeline continues on El Camino Real, on the left there is the existing Santa Margarita booster station entrance, the pipeline then goes past the Salinas Project booster station, crosses Highway 101 to the west, then parallels the west side of Highway 101 to where it joins the existing Nacimiento pipe prior to the north entrance of the Cuesta tunnel (Figure 2-17).

In this particular stretch, the pipeline stays on the left (eastern) side, within the shoulder of El Camino Real. When it turns into the booster station, it will stay on the right side and in the pavement of the booster station road. It then crosses the booster station yard to the west of the building into open fields where it will be bored and jacked under Highway 101 to the west. On the west side, it parallels the freeway southward approximately 10 feet to the west of the power poles for a short distance and then crosses to the east side of the power poles for the remaining distance to Tassajara Creek Road. This stretch is made up of open country and dirt driveways. Once the pipeline crosses Tassajara Creek Road, it again parallels the east side of some power poles before entering a telephone cable trail. The trail is notched out of the very steep hillside, is very narrow, and, in some places, has been washed out. The trail will be rebuilt to allow the construction of the pipeline on the bench. When the pipeline emerges from the south end of the telephone trail, it continues on dirt driveways until it reaches P-103 where it connects to a section of the Nacimiento pipeline that has already been constructed through the Cuesta Tunnel. At this point a staging area is proposed.

The pipeline connection is still several hundred feet from the entrance of the tunnel. At this location there is a need for a storage tank (Cuesta Tunnel Storage Tank) which is at an elevation high enough (at 1,380 feet msl) so that the water can flow by gravity from the reservoir through the tunnel. The pipeline to the reservoir will have to be connected to the existing Nacimiento pipeline nearer to the entrance of the tunnel. There will be a pipe going up to the reservoir and then another pipeline returning back on the same route. There is a road to a spoil pile forming a bench up near the reservoir site. The reservoir will be notched into the hillside at or near the bench level.

Cuesta Tunnel to San Luis Obispo WTP (Sta. 2370+00–2520+00)
The main pipe connects to the existing pipeline from the tunnel (Figure 2-18), continues in open land down the hill, crosses the railroad, parallels the east side of the railroad tracks, turns south through open pasture until it reaches the old San Luis Obispo WTP, and then enters Stenner Creek Road and continue to the new San Luis Obispo WTP (Figures 2-19 and 2-20). A staging area will be provided where the pipeline enters Stenner Creek Road at the old San Luis Obispo WTP.

There are two pipelines in the Cuesta tunnel: one is part of the State Water Project and the other is part of the NWP. In addition to the two pipelines, there is an open flow channel carrying Salinas Project water. From the location where the proposed Nacimiento pipeline connects to the downstream side of the existing Nacimiento pipeline from the tunnel, it continues downhill for a short distance, paralleling the State Water Project and the Salinas pipeline to a point where the Salinas pipeline and a branch of the State Water Project, called the Chorro Valley pipeline, turns west.

The NWP pipeline crosses over these two pipelines, continues down the hill in open land and is bored and jacked under the railroad track (Figure 2-18). It generally follows the east side of the railroad track except in crossing one deep gully where it moves away from the track for a short distance. It then continues to follow the east side of the tracks to P-108 where it turns south going over open pasture to the old San Luis Obispo WTP (Figure 2-19). When it joins Stenner Creek Road the intent is to remove an abandoned water line owned by the City of San Luis Obispo and replace it with the NWP pipeline down Stenner Creek Road. The pipe stays within the roadway except for one creek crossing where it goes to the west side of the road in front of the culvert and then back on to the road until it reaches the San Luis Obispo WTP. A turnout to the City's Storage Reservoir #2 will be provided for the treated water option while a turnout to the City's WTP will be provided for the raw water option. Also in the treated water option, at Camp San Luis Obispo and SLCUSD, a second turnout just south of the San Luis Obispo WTP will connect to a pipe going to the CMC WTP along the south side of the railroad tracks (Figure 2-20).

For the raw water option, within this same reach, a branch line at P-109 diverts water out of the main line, across open pasture up to where it connects to an existing abandoned line owned by the Corp of Engineers, but is maintained by SLO County (Figure 2-19). This line continues down towards Chorro Creek where it currently discharges into the creek. In the proposed project, the line would be extended across the creek and stay on the north side of Chorro Creek down to the CMC WTP intake reservoir. Here the water is to be treated. A treated water line then comes out of the CMC WTP and follows a road southerly until it intersects the railroad tracks. It then parallels the west and south sides of the railroad tracks until it reaches the City of San Luis Obispo's new WTP. At this point the pipeline will re-enter Stenner Creek Road.

San Luis Obispo WTP to Highway 227/Santa Fe Road (Sta. 2520+00–2935+00)
From the San Luis Obispo WTP the pipeline will be a treated water line for both the treated water and the raw water options. The main pipeline continues down Stenner Creek Road, turns easterly parallel to Highway 1 for a short distance, crossing Highway 1 onto Highland Drive, turns left (south) onto Patricia Drive, and then right (west) on Foothill Boulevard (Figure 2-21). At approximately station 2680+00, the line turns easterly across open fields following a major power line before crossing Madonna Road onto Dalido Drive (Figure 2-22). Here it crosses Highway 101, continuing on Prado Road extension, then enters an open area adjacent to Highway 227 (Figure 2-23). It turns south on Highway 227 for a short distance to the intersection of Highway 227 and Santa Fe Road.

When the pipeline leaves the San Luis Obispo WTP, it follows the right (western) shoulder of Stenner Creek Road. As it parallels Highway 1, it will be to the east side of the highway in open fields. When it crosses Highway 1 at P-114, it parallels the west side of Highway 1 for a short distance in an open area until it reaches Highland Drive and the streets of San Luis Obispo Figure 2-21). There is a staging area proposed on the northwest corner of Highway 1 and Highland Drive. This staging area may not be available at the time of construction due to the development of Cal Poly Faculty Housing. If this occurs, a new staging area will be required to be within ½ mile of the original site, located on a previously disturbed site with less than a 10 percent slope, and not near creeks or sensitive biological areas. Another staging area is proposed on the northern corner of the pipeline and Madonna Road (Figure 2-22). Within these streets the pipe location varies but is positioned to avoid existing utilities. The City has plans to continue the Prado Road extension to Highway 227 (Figure 2-23) along the same alignment at the pipeline. When the pipe reaches Highway 227 it will stay on the right hand (western) side of Highway 227 to the junction of Highway 227 and Santa Fe Road. A staging area is provided on the southwest corner of the pipeline and Highway 227 as the pipe enters Highway 227. The City of San Luis Obispo plans on beginning construction of a new Sports Field at this location. Therefore, it is possible that the pipeline will need to be rerouted around the perimeter of the sports park. Also, a new staging area will be required to be within ½ mile of the original site, located on a previously disturbed site with less than a 10 percent slope, and not near creeks or sensitive biological or archaeological areas.

Highway 227/Santa Fe Road to Davenport Road (Sta. 2935+00–2935+00)
A branch line from Highway 227 follows Santa Fe Road to Buckley Road and turns east on Buckley for a short distance to reach CSA 22 distribution system turnout on Davenport Road (Figure 2-23).

Highway 227 (Sta. 2935+00–3037+00)
The main line serving Fiero Lane Water Company and Edna Valley MWC follows Highway 227 down to the Edna Valley MWC turnout (Figure 2-24). The pipeline will be located on the right (western) shoulder of the highway.

Atascadero to Santa Margarita Water (Raw Water Option)
The AMWC has agreed to wheel water from an expanded discharge facility and well field in their area to CSA 23—Santa Margarita in the raw water option. Water would be discharged in an expanded discharge area to accommodate the Santa Margarita water and would be handled as if it were AMWC water for discharge and extraction through their well fields in the Salinas River. AMWC would wheel the water through their system using existing pipelines. It may be necessary to increase capacity in some existing facilities to deliver water to the southern end of their system. These improvements to existing facilities may be required and would include pipe size upgrades and pump station modifications. From that point on, a new pipeline would be constructed along El Camino Real to Santa Margarita with the line paralleling the NWP pipeline (see Figures 2-15 and 2-16). It would be constructed in the same ROW; however, the two pipelines would be offset by at least four feet. The sizing of the line is anticipated to be 8 inches over the entire length. It is presumed that it would be operated on a continuous basis using the storage in the Santa Margarita system for handling any variations of flow. This supply would be supplemental to the current supplies that Santa Margarita has from its existing system. Final sizing of the pipeline and related facilities will have to await final design. Surge protection would be provided by valves and pressure rating of the piping system.

2.5.1.2 General Pipeline Characteristics

Both project options include construction and operation of the water distribution pipeline, see Figures 2-1 (Treated Water Option) and 2-2 (Raw Water Option). The detailed route of the pipeline is given in Figures 2-3 through 2-24. The pipeline would consist of pipe ranging in diameter from 8 to 36 inches. The pipe material would be a combination of cement mortar lined ductile iron and cement mortar lined and coated steel pipe. Smaller diameters pipeline segments could be made of polyvinylchloride (PVC) depending upon pressure and operating elements.

The pipeline would start at the Intake pump station and continue across Nacimiento Lake Road and be approximately 55 to 65 miles long, depending on the selected project option or alternative. In addition to the main pipeline, approximately 4 miles of pipeline would be constructed to connect the main pipeline to the local systems, existing WTPs, pump stations, reservoir tanks, and discharge areas. The major portion of the pipeline from the water intake to Atascadero and from Happy Valley Pump Station to Cuesta Tunnel Reservoir would have a nominal operating pressure of 300 pounds per square inch (psi) or less. The portion of the pipeline in the south county could approach 400 psi. A surge tank and air release and air blow off valves would be installed on the pipeline to control and limit the pipeline pressure. Air release valves would be located at high points of the pipeline and blow off valves at selected low points on the pipeline. At this stage, the exact locations of the valves have not been determined. A preliminary pipeline pressure control system will include three air chambers, one one-way surge tank, and one other pressure control structure; these are summarized in Table 2.4 below.

Table 2.4 Pipeline Pressure Control Features

Pressure Control Feature	Location	Design
Surge Tank	Intake Pump Station	41 feet long by 8 feet diameter, volume 2,060 ft^3.
One-way Surge Tank	Between the Intake and the WTP Tanks	16 feet in diameter by 24 feet tall.
Air Chamber or Surge Tank	At Templeton turnout site	32 feet long by 8 feet in diameter, volume 1,610 ft^3.
Pressure Relief Structure	Between Rocky Canyon Road Tank and Happy Valley PS	10-inch valve.
Air Chamber	At the discharge of Happy Valley PS	24 feet long by 8 feet diameter, volume 1,210 ft^3.

Note: PS=Pump Station

The hydraulic analyses took into account the topography from the reservoir along each pipeline reach to the turnout locations. Gravity flow was maintained where possible and pipe diameter was selected to maintain a velocity of less than 6 feet per second. The main pipeline has been preliminarily sized to deliver each purveyor's requested peak flow to purveyor turnout, WTP, or reservoir location without the need for pumping at individual turnouts. The main pipeline would be sized so that either a treated or raw water option could be the final project. A 36-inch pipeline from the Intake Pump Station to the WTP site, a 30-inch pipeline from the WTP to the Atascadero turnout, and a 24-inch pipeline for the remaining distance to the Cuesta Tunnel Storage Tank are anticipated north of the tunnel. A 20-inch pipeline from the Cuesta Tunnel to the San Luis Obispo WTP and a 10-inch line from the San Luis Obispo WTP to Edna Valley MWC are envisioned for south of the tunnel. In the raw water option, a 12-inch pipeline for the "Corps of Engineers" spur and a 12-inch pipeline from the CMC WTP to the San Luis Obispo WTP will be required.

Whenever feasible, the pipeline would be constructed in, or parallel to, existing roads and public ROWs in order to minimize the need to purchase new ROWs, facilitate access and maintenance, minimize traffic congestion, and avoid disturbance of vegetation. Where possible, the pipe will be placed in the shoulder of the road to minimize pavement disruption, conflicting utilities, traffic control, and safety during construction and maintenance. However, on busy roadways (e.g., busy streets of Paso Robles and San Luis Obispo plus North and South River Roads near Paso Robles and El Camino Real near Santa Margarita.), if open land existed adjacent to the road, the pipe will be placed parallel to the road to minimize traffic interruptions. On dirt trails/roads, the pipeline will follow the center of the road. On Camp Roberts the pipeline will generally follow roads and fire breaks and will minimize impacts to existing pavement on West Perimeter Road.

All turnouts to purveyors will include meter stations, which may be located at grade or within a vault. Some turnouts/meter stations will be for a single purveyor and some may be for two or more purveyors with multiple meters. Turnouts for WTPs and river discharge areas will be a single line with a meter and will have the same effect on the hydraulic grade line as any diversion point.

Turnouts will include pressure and flow control valves and related telemetry to a central control system. The completed pipeline system will be controlled and monitored by a radio, telephone or satellite telemetry system. Water will be metered and pressure and flow controlled at each turnout to the purveyors and at the WTPs.

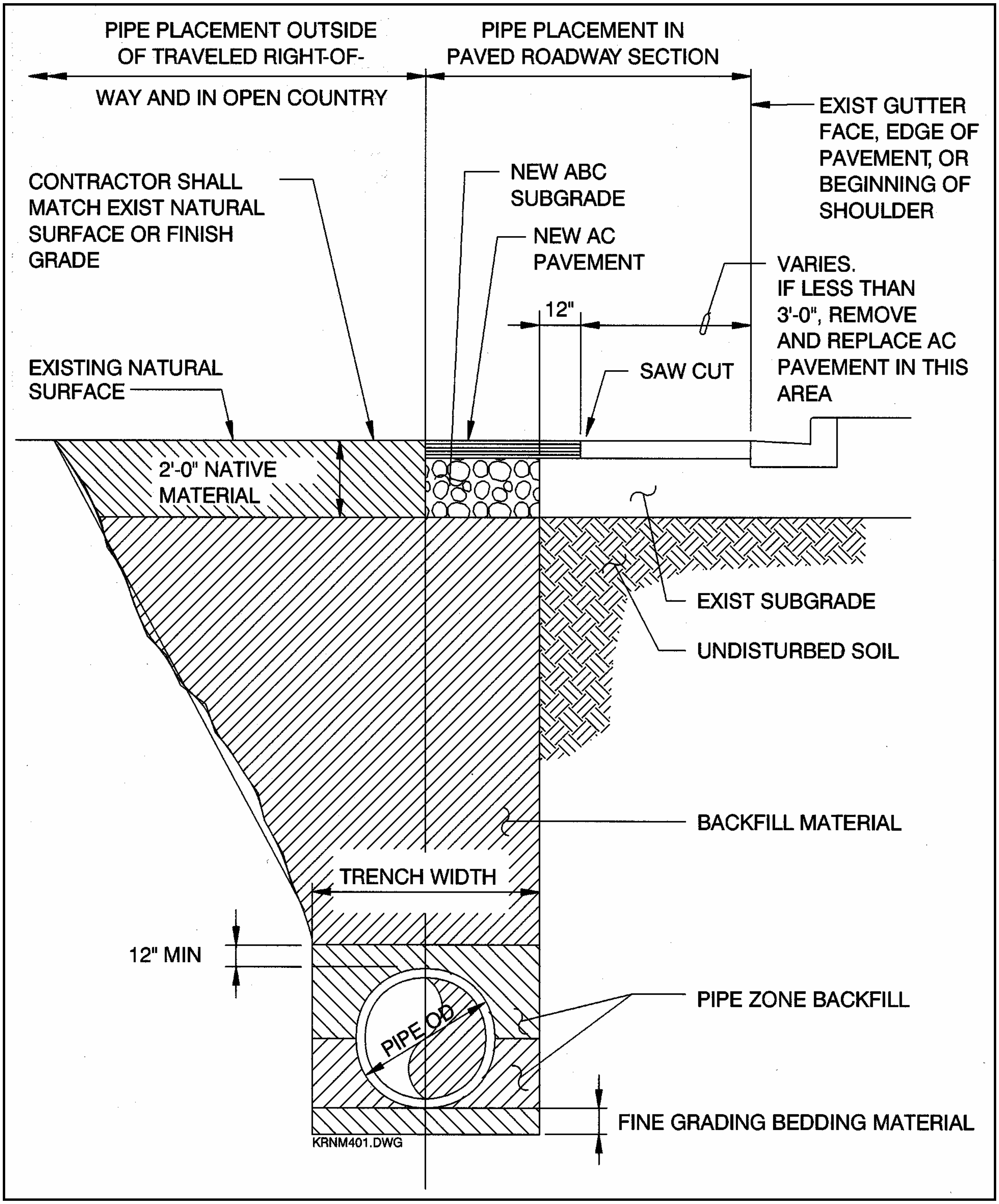
The proposed project will require a telemetry system to monitor and control turnouts, valves, pump stations, and storage tanks. It is anticipated that the WTPs will be controlled onsite but water entering and exiting the plant will be monitored and metered. The system transmitting the signals can be either hardwire within the pipe trench, telephone, radio, satellite, or some combination. A communications path analysis was not performed for this report but will be done during design. It is anticipated that if radio transmission is used, existing transmitter sites or possible satellite will be used. Therefore, only minimal new facilities are anticipated for the telemetry monitoring and control system.

2.5.1.3 Pipeline Installation Methods

The following section is a brief description of the pipeline installation methods.

A cross-section of a pipeline trench is presented in Figure 2-25. The final pipeline trench configuration will be determined during final design stage once geotechnical and geological design data are available. The pipeline would be laid in trenches at a minimum depth of cover of between 4 and 5 feet on overall average of 4 feet (except where spanning of streams is proposed) and the construction corridor would generally be assumed to be 100 feet wide, unless special circumstances (e.g., traffic control or existing vegetation) dictate a narrower construction corridor. The construction corridor could be reduced to 30-feet wide or less where specialized construction techniques are implemented. The width of a shored trench is assumed to vary from 5 to 10 feet. There must also be room for two vehicles to pass each other along the side of the trench. A permanent easement of 30 feet will be obtained for the pipeline and its operation.

Figure 2-25 Pipeline Trench Detail



Source: Carollo Engineers 2002

The pipeline would cross most of the streams and drainages by open-trench construction (see Figure 2-26) except for the Salinas River crossing near Wellsona. The pipe would cross the river either via a suspended pipe crossing (Figure 2-27) or under the river bed via a directional drilling technique (Figure 2-28). Eleven (11) shallow stream crossings are anticipated at locations P14, P17, P18, P19, P21, P30, P36, P76, P83, P107, and Station 2630+00 (see Figures 2-3 through 2-24). There is only one deep stream crossing expected at location P88. Railroads and State and Federal highways would be crossed by boring and jacking the pipe under the roadbed (see Figures 2-29 and 2-30).

Seven railroad crossings are anticipated. Busy street crossings will be required at Creston Road, Niblick Road, Highway 1 and Highway 101 (see locations P38, P52, P59, P97, P114, and P117). There are two or three tunnels proposed for the pipe route on the Santa Ysabel Ranch where micro tunneling techniques would be used (see Figure 2-31).

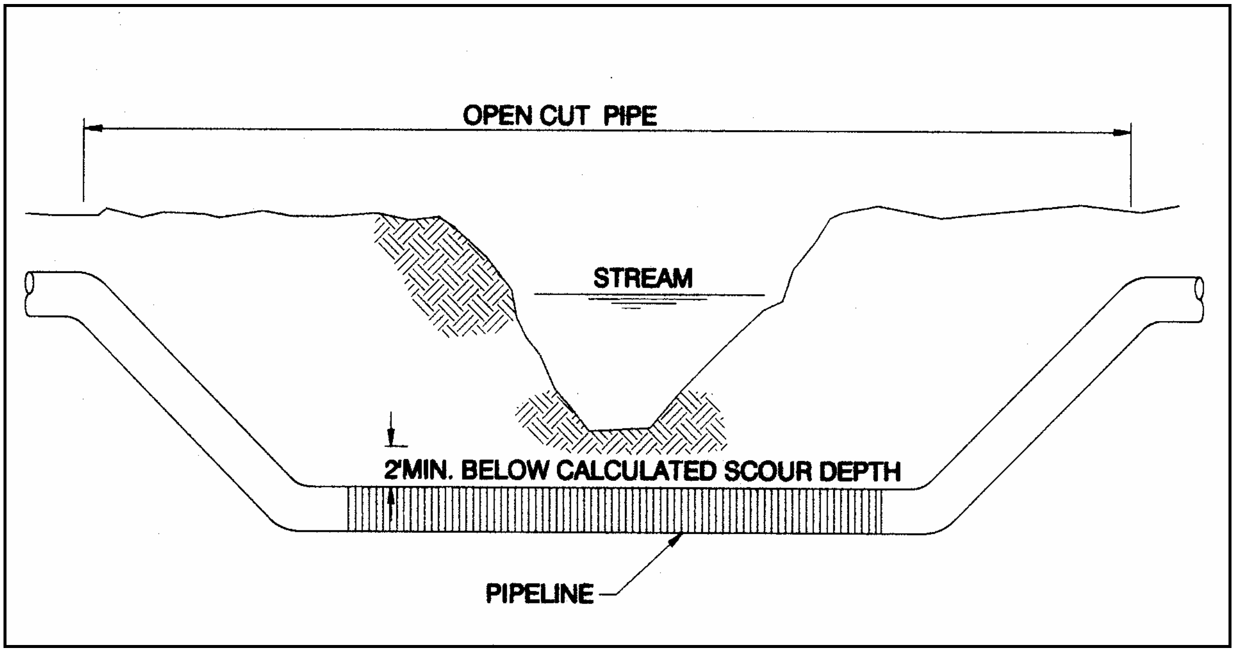
Several equipment staging areas will be required for storing equipment and materials during construction of the proposed project. These areas along the pipeline route would need to be cleared of any surface materials and fenced. Grassy areas will need to be cut, but other vegetation will not necessarily be removed. Construction staging areas are temporary locations for the storage, maintenance, and off-loading of construction-related equipment, employee vehicles, and supplies. Primary staging areas are locations that would be expected to exceed the 100-foot road ROW. SLOFCWCD has identified numerous potential staging areas within the 100-foot corridor. However, the exact locations and duration of construction staging areas cannot be determined precisely until after project approval and contractor selection. It would be the contractor's responsibility to determine where construction staging areas were needed, following general guidelines issued by the county to remain within public road ROW where possible, avoid removing existing vegetation or impacting creeks, locate in level areas that have been previously disturbed, and attempt to locate away from residences, schools, hospitals, and other noise sensitive areas. Final approval of construction staging areas would be contingent on a mitigation monitoring program which would include site inspection prior to use. The staging areas would be restored to existing conditions upon completion of construction.

Excavators, loaders, dozers, and blades will typically move along with the actual construction and be parked at or near the jobsite each night. Other vehicles, including dump trucks, fork lifts, back hoes, brooms, and water trucks will each make a number of trips each day, depending on the nature of construction, and will typically be stored at the contractor's yard or in secure areas along the alignment each night.

Employee vehicle trips are estimated at forty (40) per day per crew. Required construction equipment is presented in Section 2.6.

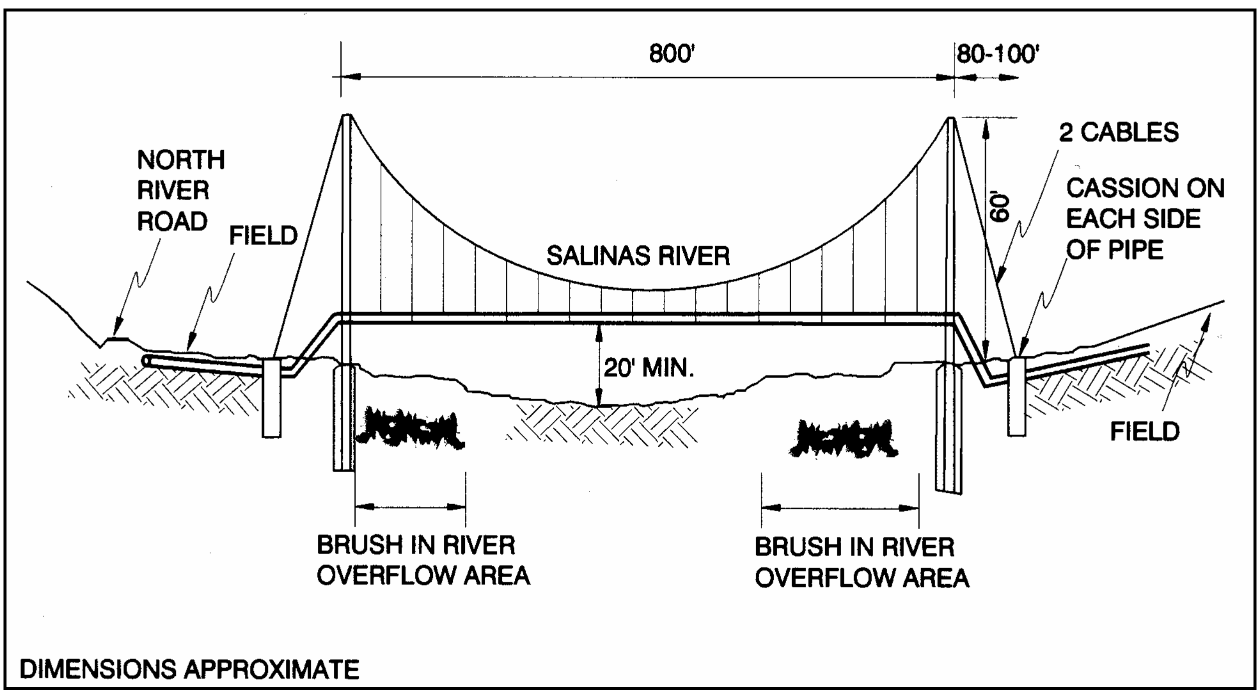
Dewatering operations for construction will be in compliance with State Water Resources Control Board discharge permit requirements and other construction permit requirements, such as Storm Water Pollution Prevention Plan (SWPPP) and encroachment permits.

Figure 2-26 Pipeline Creek Crossing



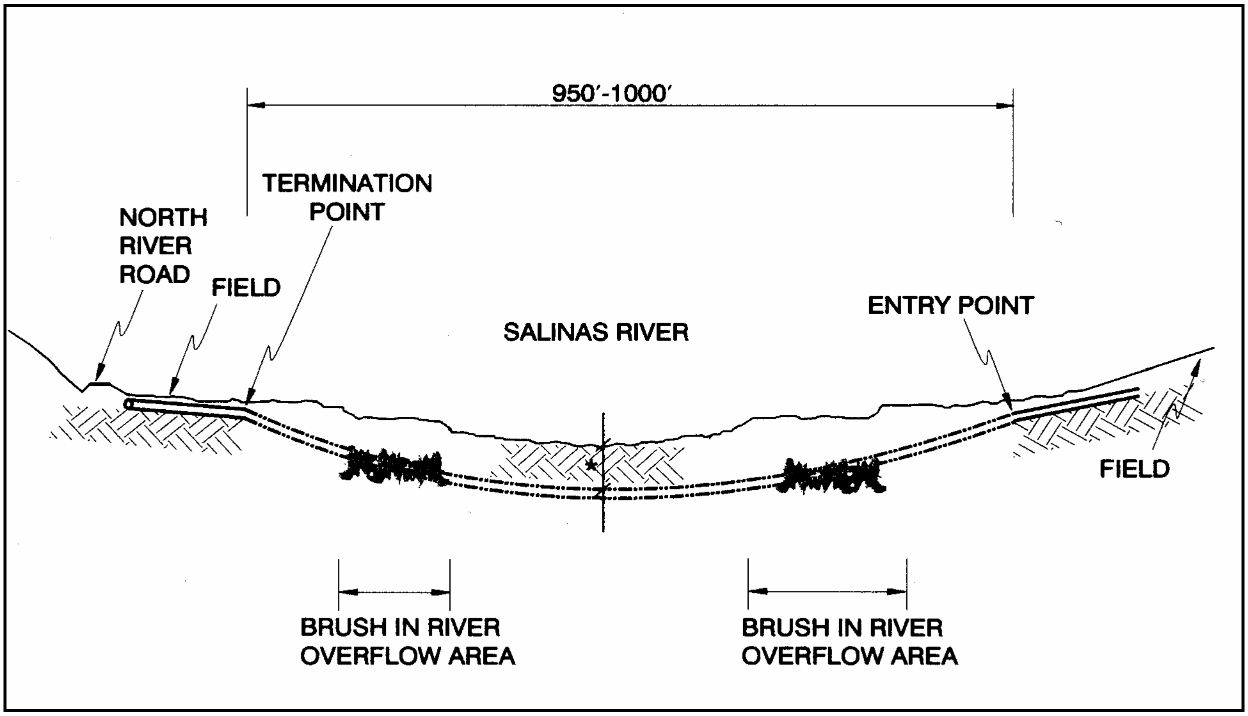
Source: Carollo Engineers 2002

Figure 2-27 Salinas River Suspended Pipe Crossing



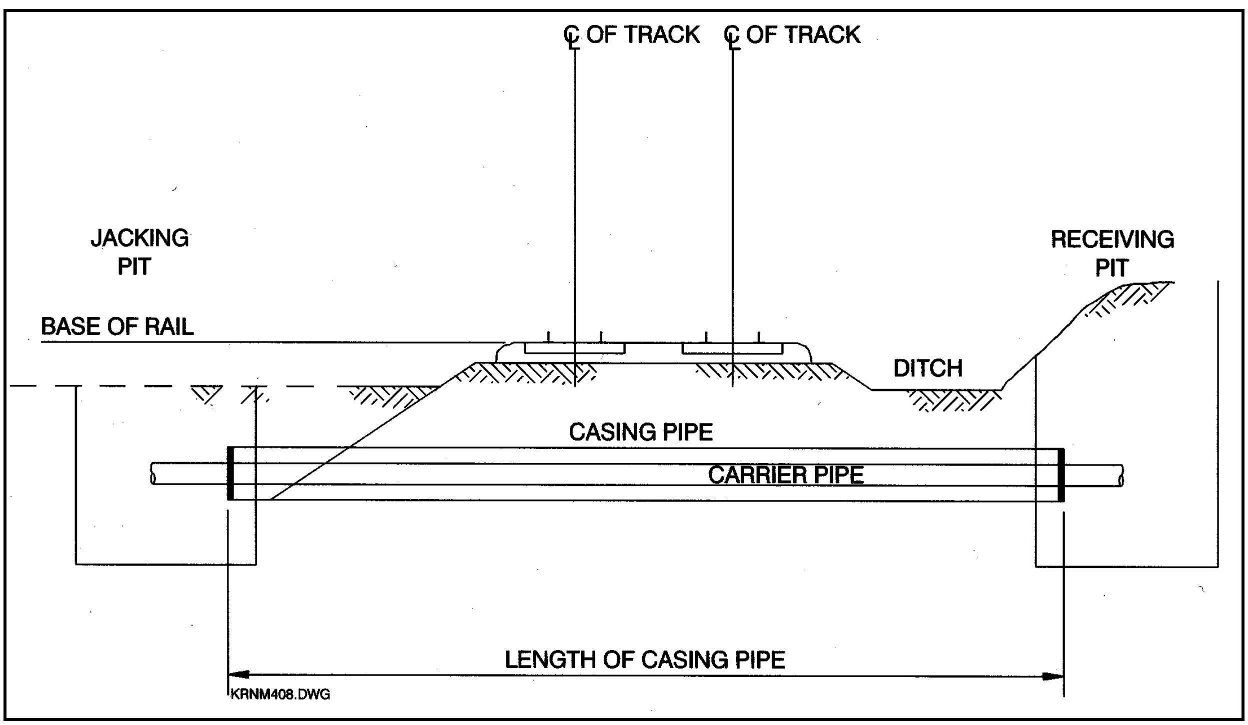
Source: Carollo Engineers 2002

Figure 2-28 Salinas River Directional Drilling Crossing



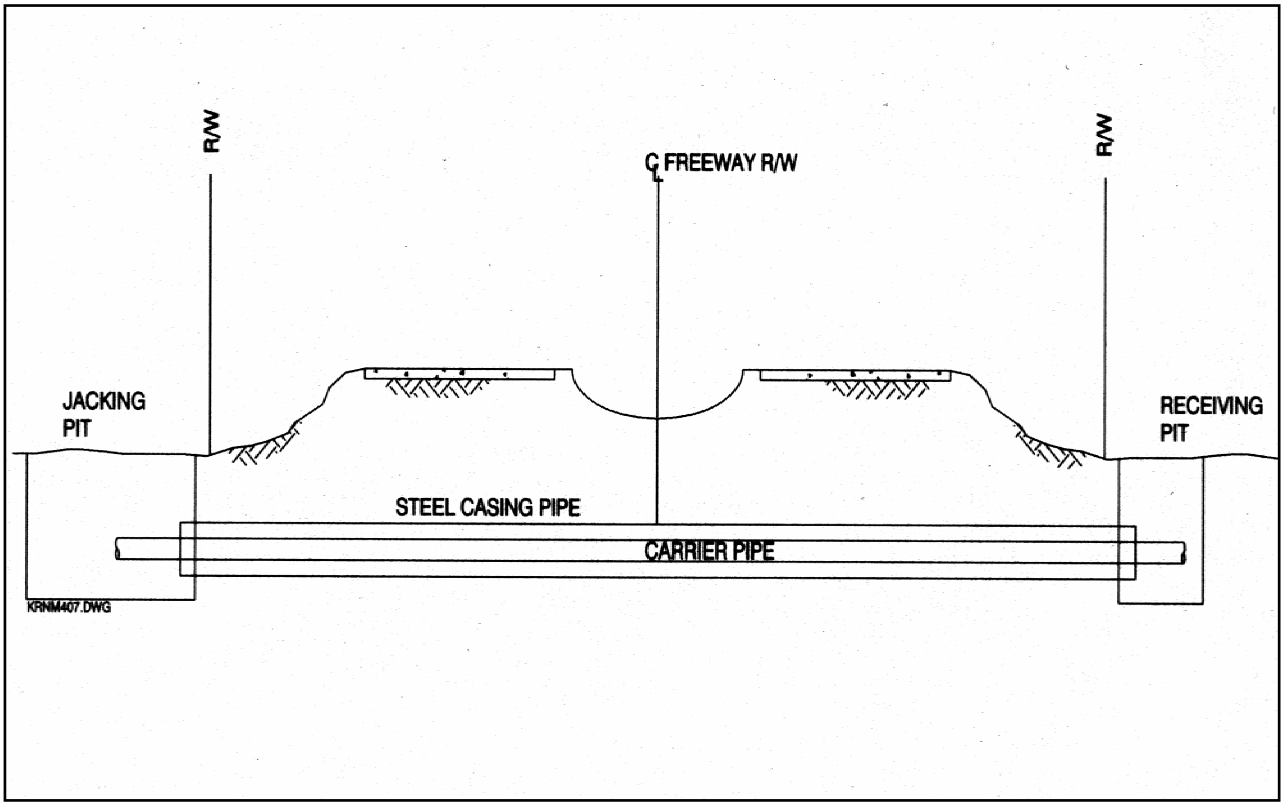
Source: Carollo Engineers 2002

Figure 2-29 Railroad Crossing



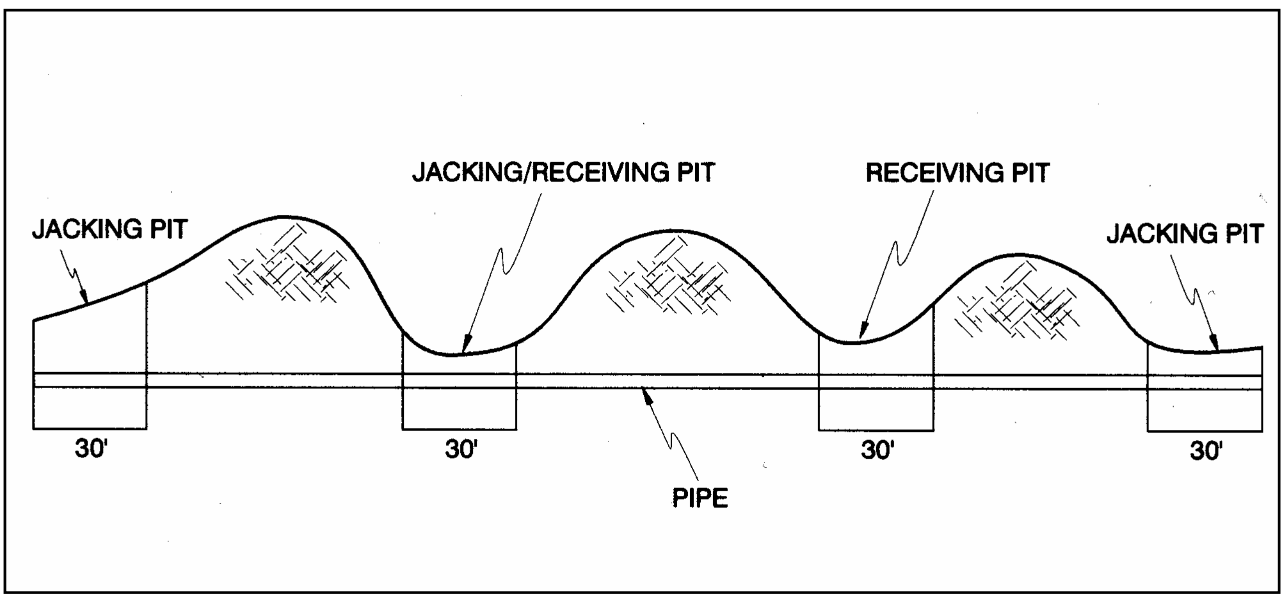
Source: Carollo Engineers 2002

Figure 2-30 Highway Crossing



Source: Carollo Engineers 2002

Figure 2-31 Elevation View of Micro Tunneling



Source: Carollo Engineers 2002

The types of specialized construction that have been identified are as follows:

- Three 600 to 700-foot long tunnels using micro tunneling boring techniques will be required on the Santa Ysabel Ranch to avoid Salinas River riparian corridor.
- Bore and jack will be required under Highway 101, State Road 1, and other major street crossings, railroad crossings, and possibly at other major utility crossings or other places where open trench construction is prohibited due to traffic impacts.
- One small stream will require suspended pipe crossing, which will involve the construction of abutments and piles to support a pipe span over the stream.
- The northern crossing of the Salinas River will be a suspended pipe crossing or by directional drilling.

Typical Construction in Open Country/Camp Roberts
In open country and in Camp Roberts, there is adequate width for construction purposes. The width of the construction footprint would be 60 to 100 feet. The pipeline trench can be constructed with sloped sides, requiring more width, and excavated trench materials can be placed adjacent to the trench. Little traffic control is required because the Camp has limited public access. Accessibility to the site is good.

Typical Construction in City Streets
In City streets there is typically less width available for construction. The trench sides usually require shoring to reduce trench width, unless soils are firm enough to safely eliminate shoring. Therefore, expected width of construction footprint in the city streets would be 40 to 60 feet (assumes shored trench). A staging area behind and/or in front of the laying area is used to store materials and equipment. Where traffic can be detoured, the typical construction procedure is to place excavated trench materials alongside the trench, to reduce handling time. A Traffic Control Plan is required because construction will result in a reduced number of lanes available for travel parallel to the pipe lay site. Also, provisions for limited site access would be required to protect the public from construction hazards.

Special Construction in City Streets
Where impacts on traffic must be minimized, special construction methods may be used to reduce the width of the work area (down to 30 feet). Excavated trench materials are placed in trucks and deposited behind the work area, rather than alongside the trench. During backfilling, the native materials must be reloaded onto trucks and carried back to the trench. This method of construction is slower and more expensive but will minimize impacts on traffic over a longer period of time. A Traffic Control Plan as well as provisions for limited site access will be required by the contractor as well. Backfill material in a particular area will be compatible with the standards of the municipality or agency having jurisdiction.

Pipeline Creek Crossings
Specialized construction procedures will be required at major creek crossings as shown in Figure 2-26. Normally, the pipeline would be placed deep underground, below the lowest expected scour depth of the creek, as deep as 10 to 20 feet. Trench width could be 20 to 40 feet, with the work area total footprint of 100 to 200 feet wide. Further study will be required at each specific

site to select the depth of cover. The pipeline would probably be encased in reinforced concrete under the creek bottom. Work areas would also be required on one or both banks of the creek.

It is anticipated that seasonal creeks and creeks with substantially reduced summer flows would be crossed by trenching. All creek crossings will be subject to California Department of Fish and Game (CDFG) permitting and review by others.

Ideally, construction of all creek crossings would take place in the dry summer months.

Surface and ground water flows if encountered will need to be diverted during trenching, pipe laying and backfilling. A temporary diversion channel or pipe could divert any creek flows around the construction area. In addition to diverting surface flows, underground flows and ground water will need to be collected and pumped to a point downstream of the construction. Dewatering operations will comply with State Water Resources Control Board (SWRCB) discharge permit requirements and other jurisdictional agencies.

Alternately, a temporary collection pond could be constructed upstream to collect surface and ground water, which would be pumped downstream in a temporary pipe. However, gravity flow is preferable to pumping, where possible.

Construction operations will increase turbidity in surface water when the temporary diversion structures are installed. A settling pond can be used to improve water quality downstream. After completion of construction across the creek, all diversion facilities will be removed and the stream bottom restored to near its original condition.

Salinas and Nacimiento River Crossings

The northern crossing of the Salinas River will be a suspended pipe crossing or a directional drilling operation under the river (see Figures 2-27 and 2-28). The suspended pipe crossing will disturb an area of approximately 100 feet wide and 200 feet long on each side of the river for construction of footings and cable caissons for the crossing. Directional drilling operations will require a 100-by-100-foot disturbed footprint area on both sides of the river for construction purposes.

For the Atascadero river discharge branch line, the southern Salinas River and the Nacimiento River, the crossings will be open cut. Each will be accomplished during times of lowest flows. The Southern Salinas River crossings are dry for several months during the summer. The open cut for the Southern Salinas River crossing and the Atascadero branch will be made in, or just upstream and parallel to, an existing washed out road across the river. The pipe depth should be determined during the final design but is expected to be at least 8-feet deep.

The Nacimiento River always has stream flow at the site of the proposed crossing. Visual inspection suggests a rock stream bed, however, its depth is not known. It is anticipated the contractor will divert the stream flow to one side of the river, using either an earth dike, sand bags, or a large pipe. Construction can take place on the dry side and then the diversion process will change sides. Alternative methods will be evaluated during final design.

If rock is encountered relatively near the stream bed surface, the pipe will be notched into the rock and then the space around the pipe and 2 feet over the pipe will be refilled with concrete. If there is loose material in the stream bed, the pipe will be trenched into the material. The depth in a loose material stream bed will be determined in design but is expected to be a minimum of 15 feet.

Micro tunneling

There are three tunnels (No. 1, 2, and 3), each approximately 600 to 700 feet long, proposed on the Santa Ysabel Ranch east of Paso Robles on the eastern bank of Salinas River. The construction procedure (see Figure 2-31) would be to start Tunnels No. 1 and 2 at the northern side of the gullied area to be crossed via the tunnels and Tunnel No. 3 at the southern side of this area. Beginning access for Tunnel No. 1 can be reached along the pipeline route. Beginning access for Tunnel No. 2 and terminating access for Tunnel No. 1 can be reached from the east on a dirt trail in a gully on ranch land. Tunnel No. 3 would begin on the land owner's property to the south of the ranch and drill northerly along the pipe alignment. There is a gully between Tunnels No. 2 and 3 from the east on the ranch but access will be difficult due to steep slopes. The contractor should, however, be able to access smaller equipment required at the terminus of Tunnels No. 2 and 3 and for connecting the two pipelines from each tunnel. The initial construction at the tunnel entrance would entail an open cut into the hill to form a flat working space and a vertical face to start the boring machine. On the flat working surface, a 15- by-30-foot jacking pit will be excavated. The process entails a boring head, which is inserted into a hole on the vertical face of the hill and jacked or drilled into the hill. Short lengths of pipe are inserted behind the boring head and the pipes are then jacked to push the head through into the hill. Figure 2-31 shows an elevation view of a Micro-Tunnel Operation.

It is estimated approximately 250 yards of material will be taken from each tunnel. This spoil material must be hauled away and disposed of in accordance with all appropriate requirements. Approximately 100 feet by 100 feet long area at each end of the tunnels will be disturbed.

2.5.2 Reservoir Water Intake (Both Options)

Both proposed project options include construction and operation of a water intake structure that would convey water from Lake Nacimiento into the proposed pipeline. The intake would be constructed in conjunction with the Intake Pump Station, located on the north side of the Lake Nacimiento Dam, near the spillway, as shown in Figure 2-32.

The multi-level three-port intake would comprise a single shaft drilled or excavated vertically into the ground from the shoreline pump station to the depth of approximately 160–170 feet. At that depth the shaft would be connected with three 6-foot diameter horizontal intake tunnels or 36-42 inch bored pipe intake pipes at different elevations. The shaft would be of sufficient diameter to accommodate the vertical turbine pumps, control gates, and maintenance access. Both the vertical shaft and the tunnels or pipes would be concrete lined. Hydraulic control of the facility would be achieved within the vertical shaft where the control gates would be housed. Trash rack assemblies, or debris screens, would be placed at the upstream end of the horizontal tunnel shafts or pipes. The project will also utilize fish screens. Water would flow through the horizontal tunnels and into the sump at the bottom of the vertical shaft where the pump bowl assemblies are located. Five electrical turbine pumps that are part of the Intake Pump Station with bowl assemblies would extend vertically to the bottom of the vertical shaft.

The intake and pump station would require up to 2 acres of disturbed area above the high-water level, and as much as 0.5 acre below the high-water level. It is anticipated that the vertical shaft and the horizontal tunnels or pipelines in the recommended intake option will generate no more than approximately 4,000 cubic yards of material.

2.5.3 Water Storage Tanks (Both Options)

There are three storage reservoir facilities proposed: one on Camp Roberts at the WTP site, one on Rocky Canyon Road, and one near the entrance to the Cuesta Tunnel. A clearwell (treated water storage) will be part of the WTP. This clearwell will be used to supply the WTP pump station which in turn pumps the water to the pipeline exiting the site. The locations of the proposed storage tanks facilities are shown in Figure 2-1 with schematic drawings shown in Figures 2-33 through 2-35, respectively.

All three storage facilities would serve as a backup system to allow water availability up to 5 hours during equipment down time for both the treated water and raw water options. All storage facilities will include storage tanks, control valves in underground vaults, lighting, parking area, and access roads. All water storage tanks will be painted steel, colors will be chosen to be compatible with vegetation of the vicinity of each reservoir. All storage tanks will be 130 feet in diameter by 22–24 feet tall. The water storage sites will be completely fenced with a chain-link fence and the site lighting will be provided with motion detectors that will keep the lights on only when motion is present at the site.

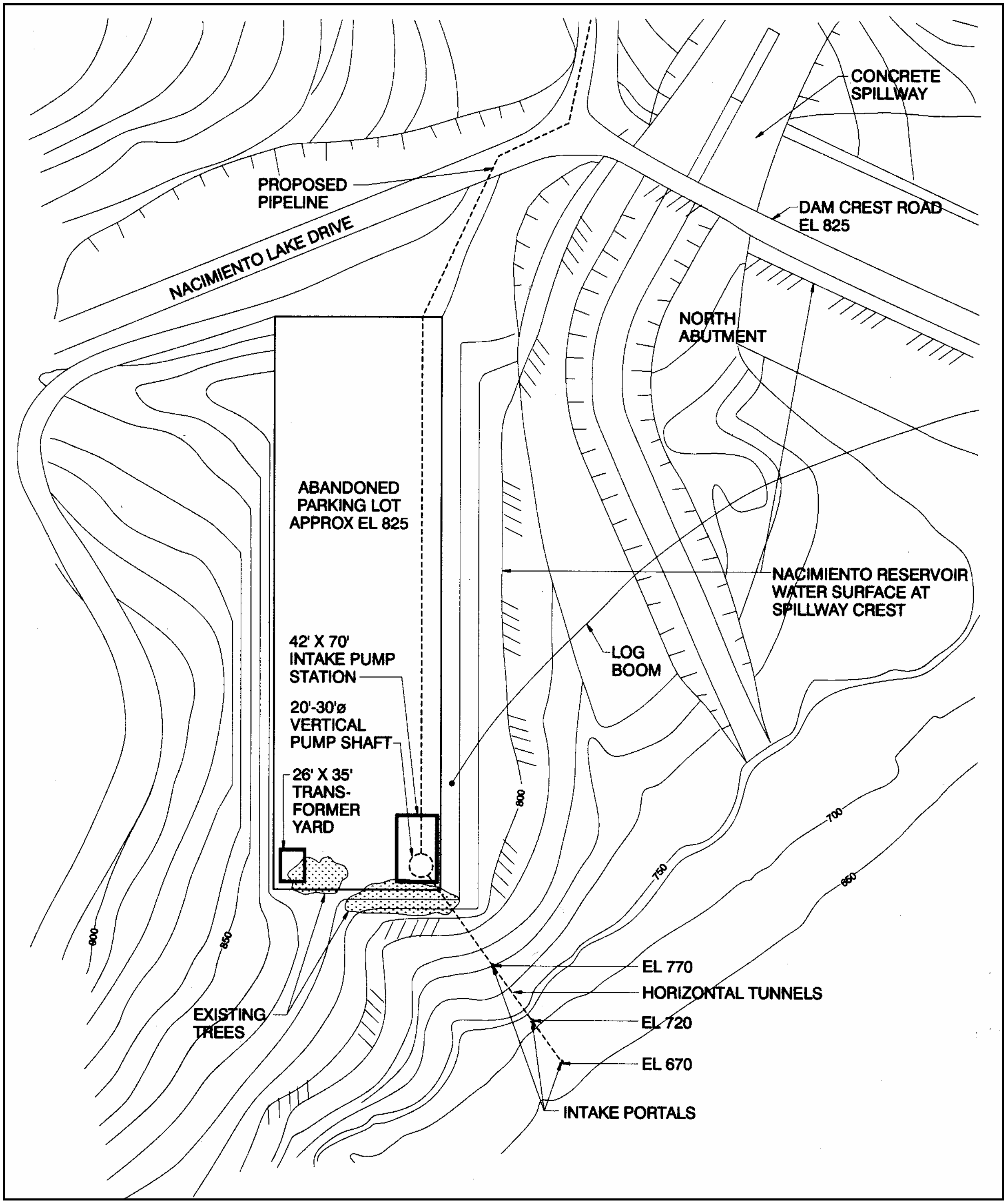
The Applicant has indicated that care will be taken to blend the water storage sites in the surrounding landscape as much as possible. Except where clearing is required for permanent works, road or excavation activities, trees, native shrubbery and other vegetation shall be preserved and protected. The edges of the vegetation shall be shaped irregularly to soften the undesirable visual impacts of straight lines. Landscape and restoration activities onsite will be designed and coordinated in accordance with a landscape plan conforming to local planning requirements. All vegetation selected for the landscaping plan would be chosen from the species native to the area or the climate and will be carefully selected to complement the facility as well reduce maintenance activities for their care and upkeep. Potential impacts associated with the construction and operations of these facilities are evaluated in Section 5 of this EIR.

Table 2.5 below summarizes the water storage facilities main features.

Table 2.5 Storage Tanks Description Summary

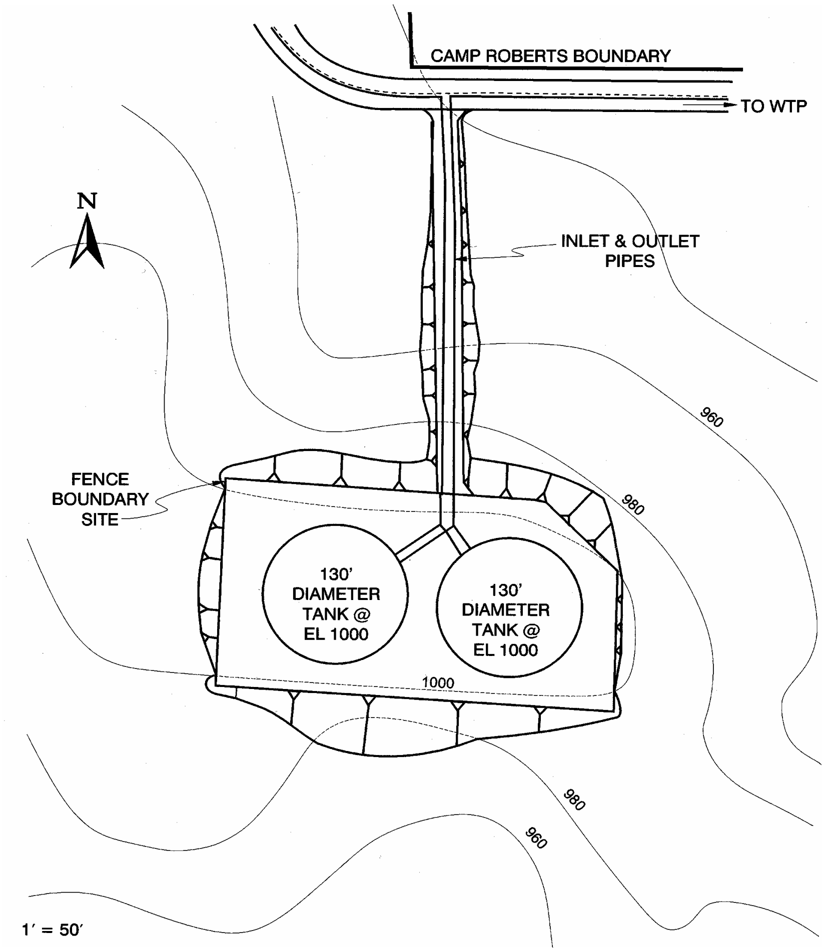
Tanks Location Name	Capacity	Cut and Fill Material Amount, yards[3]	Base Elevation, feet
1. WTP	two tanks, 2,000,000 gallons each tank	18,000 (9,000 each tank)	1,000
2. Rocky Canyon	one tank, 2,000,000 gallons	12,000	980
3. Cuesta Tunnel	one tank, 2,000,000 gallons	15,000	1,380

Figure 2-32 Lake Nacimiento Intake Structure



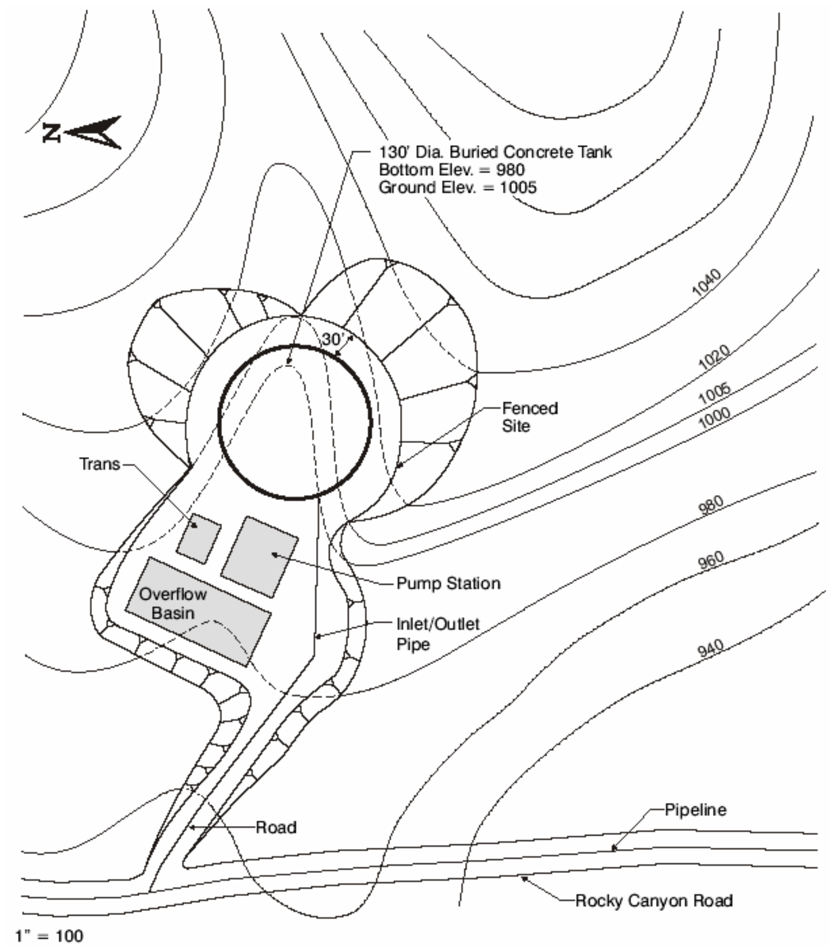
Source: Carollo Engineers 2002

Figure 2-33 WTP Water Storage Facility



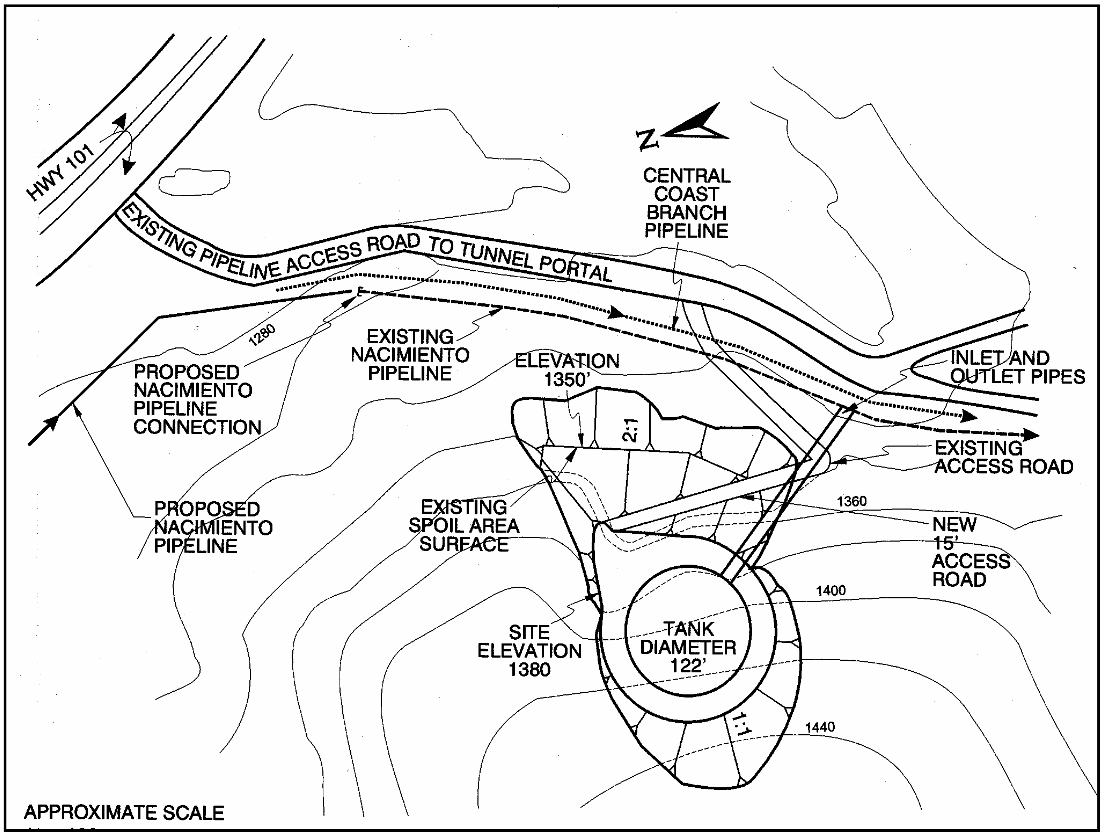
Source: Carollo Engineers 2002

Figure 2-34 Rocky Canyon Water Storage Facility



Source: Carollo Engineers 2002

Figure 2-35 Cuesta Tunnel Water Storage Facility



Source: Carollo Engineers 2002

The first storage facility of the proposed pipeline system would be located just prior to the WTP. This facility will serve as raw water storage for both proposed project options. This facility will be located on Camp Roberts property and is expected to have two aboveground tanks. The base elevation is set at 1,000 feet. The cut and fill material will be balanced at approximately 9,000 cubic yards for each storage tank.

The Rocky Canyon Storage Facility would consist of one storage tank with a capacity of 2,000,000 gallons. The tank would not be seen from Rocky Canyon Road, since it will be constructed underground. The base elevation of the storage tank is set at 980 feet. The cut material will be approximately 12,000 cubic yards and the fill material approximately 2,000 cubic yards.

The Cuesta Tunnel Reservoir (one storage tank at 2,000,000 gallons capacity) will be located just before Cuesta Tunnel at the top of Cuesta Grade. The base elevation is set at 1,380 feet. The cut and fill material will be balanced at approximately 15,000 cubic yards. It is expected that the existing tunnel spoil area at elevation 1,356 feet will be raised to elevation of 1,380 feet to accommodate the cut material and will serve as a parking area for the tank maintenance.

2.5.4 Pump Stations (Both Options)

Three pump stations are required for both project options as shown in Figure 2-1. These pump stations would transfer water between the three proposed water storage tanks.

The pump station facilities would be constructed primarily of masonry materials and landscaping would conform to local planning requirements. Design and colors will be chosen to be compatible with the structures and vegetation that surround each pump station. Exterior building design will be such that it blends in with other structures in the area. Section 5.1.2 contains visual illustrations of the propose building designs.

The buildings that accommodate the pumps would be provided with acoustical panels to attenuate noise from the pumps to acceptable levels. The sites will be completely fenced with a chain-link fence, the outdoor lighting will be provided with motion detectors that will keep the lights on only when motion is present at the site.

Except where clearing is required for permanent works, road, or excavation activities, all trees, native shrubbery, and other vegetation shall be preserved and protected. Landscape and restoration activities onsite will be designed and coordinated in accordance with a landscape plan conforming to local planning requirements. All vegetation selected for the landscaping plan would be chosen from the species native to the area and the climate (e.g., drought tolerant species) and will be carefully selected to complement the facility as well as reduce maintenance activities for their care and upkeep.

2.5.4.1 Intake Pump Station

The Intake pump station would be constructed in conjunction with the reservoir water intake site, near the upstream face of the Nacimiento Dam, which is the same for both project options. The Intake Pump Station would consist of five vertical turbine pumps (four active, one on stand-by), 500 horsepower each, located on the cover of the vertical shaft; a 20- to 30-foot diameter shaft in the intake. The pump station will be housed in a sound attenuated building. Other facilities would include a motor control center, possibly variable frequency drives, a small emergency generator with diesel engine for security lights and controls, an 8-foot diameter/41-foot long surge tank, an electrical transformer yard, and a parking area. The size of the central building would be approximately 42 by 70 feet and the electrical transformer yard would be approximately 26 by 35 feet.

The pump station would be designed to accommodate the surface water level of Lake Nacimiento, which varies from 670 feet to 800 feet in elevation from year to year. The water would be pumped to the WTP storage facility. A meter will be provided to record water flow rates and total pumped volumes. Both manual and automated controls will be provided, along with telemetry to a central control station. According to the power supplier, Pacific Gas & Electric (PG&E), they have enough power in the vicinity of Nacimiento Dam’s left abutment to provide power to the pump station. It would require 3,000 feet of power line re-stringing and 200 feet of new poles (approximately 2–3 poles) to the pump station site. It is estimated that approximately 4,000 cubic yards of material will be removed during construction of the station.

2.5.4.2 WTP Pump Station

The WTP Pump station is proposed to pump water from the WTP site to Rocky Canyon Reservoir from an elevation of 900 feet to 1,510 feet msl. For the Treated Water Option the pumps will be part of the WTP and the water will be pumped from the WTP clearwell (clean water reservoir). For the Raw Water Option, this pump station will be an inline booster station being fed from WTP Storage Facility.

A preliminary description of this pump station and all related facilities for the Treated Water Option are contained in Section 2.5.4 as a part of the NWP WTP facilities description. For the Raw Water Option, independent pump station facilities will be located on the same site. Pump station facilities would include a 2,500 square foot building to house five 400 horsepower vertical turbine electrical pumps (four active, one on stand-by). A fenced area approximately 150 by 200 feet would be required for the pump station and the electrical transformers. Construction of an access road and a parking lot would also be required.

2.5.4.3 Happy Valley Pump Station

Happy Valley Pump Station would be located on Rocky Canyon Road near the water storage tank and will pump water to Cuesta Tunnel reservoir. This pump station is the same for both project options and will contain three 550 horsepower pumps (two active, one on stand-by). The site will require an area of approximately 150 by 200 feet with a building of approximately 50 by 50 feet. The building will be similar in appearance to the existing horse barns in the area or other suitable architectural designs.

The sound attenuated building will house the pumps, motor control center, variable speed drives if required, and a small emergency generator for security lights and controls. Adjacent to the building will be an overflow basin with an approximate volume of 0.46 acre-foot (approximately 100 by 100 feet by 3 feet deep) where infrequent surge water would be directed. Water from the basin will percolate into the native soils. The pump station will also include a transformer mounted on a pad and connecting electrical lines to deliver power to the station.

2.5.5 Nacimiento WTP (Treated Water Option)

Treated Water Option includes construction and operation of a 17 million gallon per day (mgd) capacity WTP for treatment of Lake Nacimiento water. Water from Lake Nacimiento would be treated at the plant to meet the drinking water quality criteria and then distributed to the consumers through the proposed pipeline system. The plant would be located within the boundaries of the U.S. Army's Camp Roberts facility north of Paso Robles.

2.5.5.1 WTP Construction

The WTP site would be approximately 1,000 by 1,200 feet (or approximately 28 acres), and would require clearing and grading. The site would consist of treatment area and approximately 5 acres of sludge drying beds. Different processes have been proposed for water treatment by the WTP, but a final design has not been selected. Conventional filtration water treatment would require the largest treatment process area footprint of approximately 400 by 900 feet (worst case), which includes process area, chemicals storage area, spent water building, two treated water storage (clearwell) tanks, electrical substation and generator area, treated water pump station, and operations building. The process area would primarily consist of concrete basins and structures with mechanical equipment (e.g., mixers, pumps) located within the structures.

The operations building (approximately 6,000 square feet, one-storey) would include control room, general workshop, offices, parts and general storages, a laboratory, and several other service rooms.

At least 200,000 cubic yards of excavation would be required to prepare the 400 by 900 foot treatment site for the WTP and 5 acres of sludge drying beds.

Each of the two treated water storage tanks would be 24 feet tall and 135 feet in diameter and made of welded steel (already described in Section 2.5.3).

The WTP would require about 2,000 kilowatts (kW) to operate. Power to the WTP would be supplied through a new overhead power line that would originate at Highway 101 and would be constructed at the same time as the WTP. The proposed power line would be approximately 4 miles in length and would require approximately 50–55 new poles. The plant would also have a diesel or propane powered 100-kW emergency generator for operation of controls, lights and emergency equipment during power outages.

Construction of the WTP would require construction of a new access road, approximately 40 feet wide (24-foot wide asphalt pavement with 8-foot wide shoulders) and ¾ mile in length from San Marcos Road to the WTP site. The road would cross a drainage which would need to have a channel under the road. Grading for the access road would be 4,000 linear feet by 40 feet wide; the road would be paved with asphalt. The parking area of the WTP will also be paved with asphalt; the access roadway around the plant may be paved with asphalt or surfaced with good quality gravel to a depth of 12-15 inches.

2.5.5.2 WTP Operation

Operation of the WTP includes a combination of processes configured to remove suspended solids and microbes from surface water supply to convert it to drinking water that meets all applicable laws, rules, and regulations pertaining to drinking water quality. The conventional processes include rapid mixing, flocculation, and sedimentation for removal of most suspended particles including *Giardia*, viruses and *Cryptosporidium* as sludge. This treatment is followed by gravity filtration through filtration media, where smaller suspended particles and odorous and other organics are removed. Membrane treatment uses filtration through membranes for removal of both large and smaller suspended solids and microbes.

The water is then disinfected by a combination of ultraviolet (UV) light and chloramination and stored in the clearwell tanks. The WTP pump station would be a part of the WTP and would pump treated water from the WTP clearwell tanks further along the proposed pipeline to the Happy Valley Pump Station and Rocky Road Canyon Storage facility. Sodium hypochlorite will be used for chlorination. Sodium hypochlorite would be produced onsite from sodium chloride solution, which would be stored onsite.

Without regard to the specific WTP design, it would be operated in three shifts, 24 hours per day, and 7 days per week. The 8-hour day shift would be staffed with nine employees; the other two shifts would only have three employees per shift.

Most of the WTP's equipment would be electrical except for the 100 kW diesel or propane emergency generator. Outdoor lighting at the WTP would be equipped with motion detectors so that the outdoor lights are on only when motion is present at the site. Also, to comply with Camp Roberts requirements, there would be no white lights used at the facilities within the camp's boundaries, instead yellow or red lights will be used.

Operation of the WTP would require deliveries of various water treatment chemicals and materials. The delivery schedule would average up to 90 truck loads per year. Solids removed from raw water would be accumulated in the sludge drying beds. Generated sludge would be hauled to a landfill for disposal and would take 350 to 415 truck loads per year at 20 tons of sludge per truck. If membrane treatment is used the amount of sludge solids to be removed will be less then 10% of that listed above for conventional treatment.

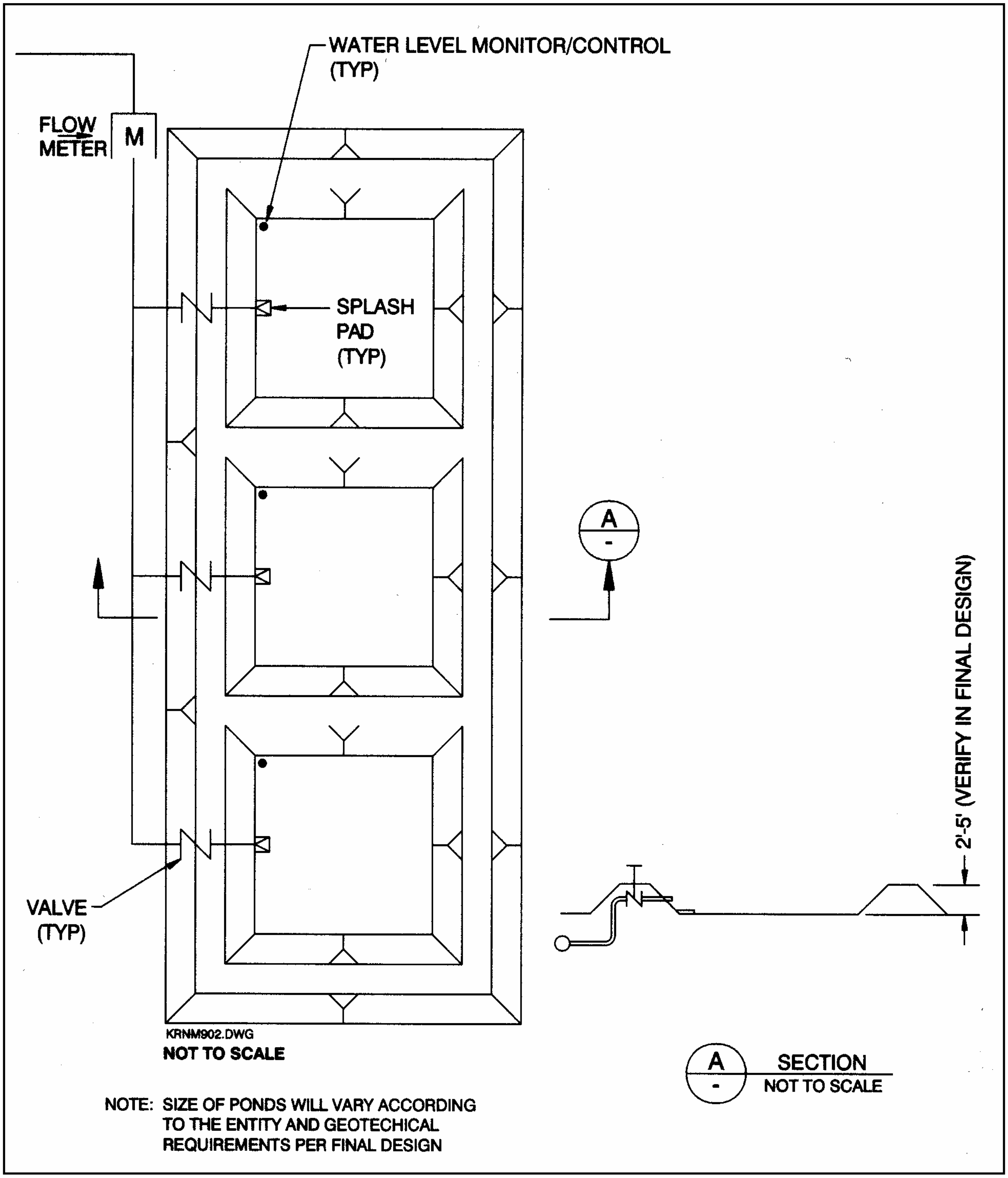
2.5.6 Water Discharge Facilities (Raw Water Option)

In the Raw Water Option, Santa Margarita, Atascadero, Templeton, and Paso Robles water allotments are to be discharged into the Salinas River underflow and the same quantity of water will be pumped from the river underflow for delivery to each entity's water system. Three raw water discharge facilities are proposed to be constructed (see Figure 2-2 for exact locations). The raw water from the distribution pipeline would be discharged into the Salinas River through these discharge facilities. For Santa Margarita, the water will be discharged at the Atascadero discharge area and the pumped water sent to Santa Margarita through wheeling within the Atascadero system and a new pipeline connection between AMWC's.

Design of these facilities can either be ponds or subsurface pipes (see Figures 2-36 and 2-37). The locations of the three discharge sites are shown on Figures 2-10, 2-11 and 2-12, respectively. The sites will be located along the stream in the overflow area but not in the main streambed. Project responsibility for operation and maintenance will end at the valve structure to the pond/basin and each entity must operate and maintain its own discharge facility.

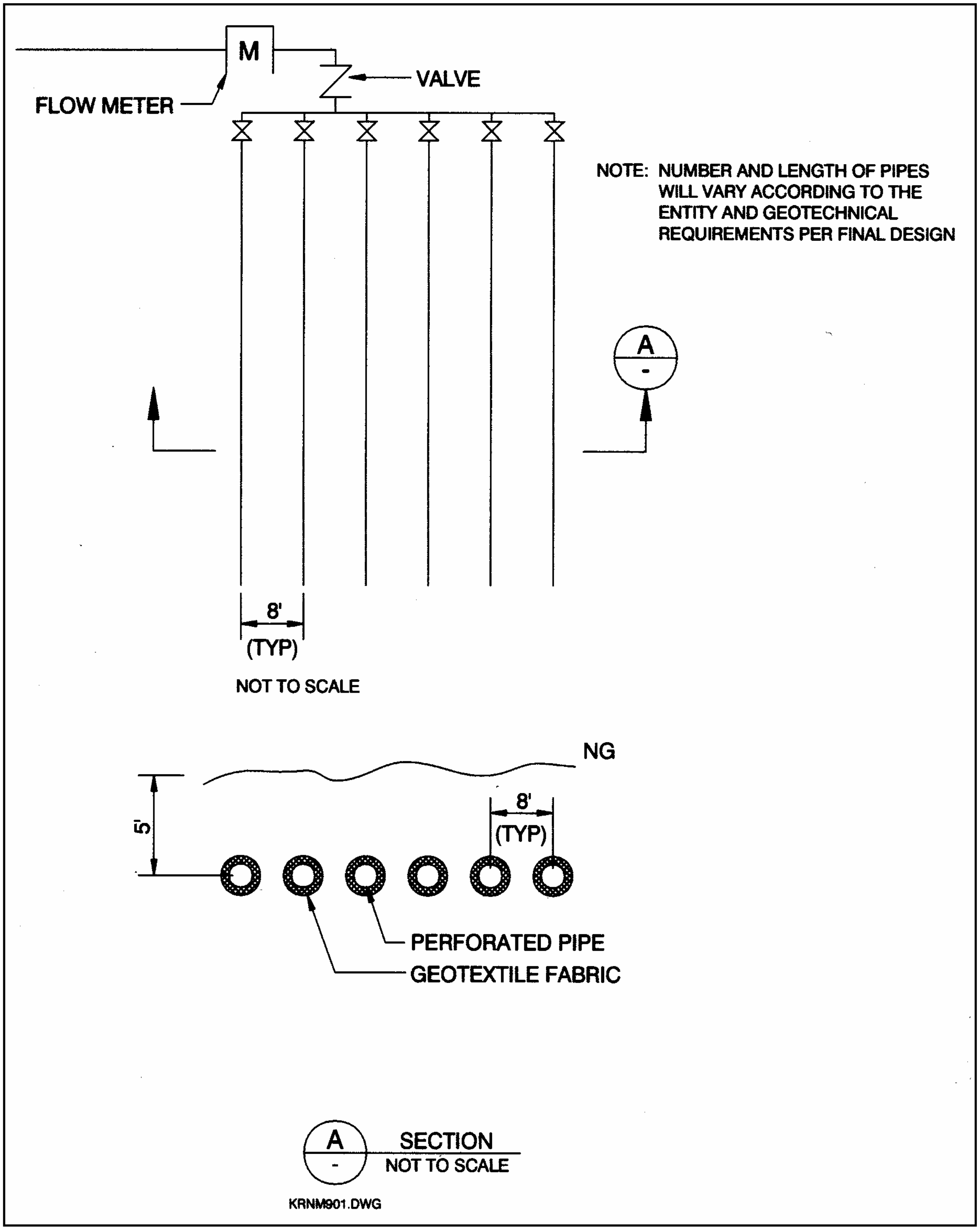
Both pond percolation and perforated subsurface pipes were considered in the preliminary design. Both methods assumed 10 feet per day of percolation. Twice the required area would be needed for the ponds is assumed to allow for rotation. The ponds, due to surface percolation, must be cleaned and maintained regularly to limit plant growth and prevent the possible habitation of various animal species. Subsurface pipes may minimize the surface maintenance but would initially cost as much as eight times that of the ponds.

Figure 2-36 Pond Discharge Facility



Source: Carollo Engineers 2002

Figure 2-37 Discharge Facility Piping System



Source: Carollo Engineers 2002

For both the subsurface pipes and ponds, the percolation criteria was 10 feet per day per square foot (ft/day/ft^2) of surface area. Twice as many ponds are part of the currently proposed project to allow for alternate wetting and drying times. The subsurface pipes have additional criteria for the trenches as follows:

- Width – 18 inches
- Depth – 5 feet
- Spacing – 8 feet

The concept will be the same for all three discharge areas but the size will vary to accommodate the differences in discharged water quantities. The preliminary concept is to bury 6-inch perforated pipe approximately 5 feet deep. The pipe will be surrounded by gravel covered by a filter fabric to keep sand from migrating into the pipes. Several rows of pipes will be laid 8 feet apart and will be fed from a manifold. The influent pipe will be valved and metered.

The length of the perforated pipe is 27,600 feet for Paso Robles, 2,000 feet for Templeton and 20,600 feet for Atascadero. The area required for these lengths of pipe is 8 acres for Paso Robles, one acre for Templeton, and 6 acres for Atascadero.

As with the subsurface pipe concept, the configuration of the ponds will be the same for all three discharge areas and will vary only in size. It is envisioned the ponds will only have 2-foot-high berms as they are intended to contain only the sheet flow from the pipe and not to hold large quantities of water.

The concept will be to have three ponds with the capacity of discharging the total flow to each pond. This will allow for drying and maintenance of the idle ponds to prevent vegetation growth. There will be a pipe manifold with a meter with flow control and pressure regulation valves and shut off valve on each pond influent pipe from the main influent line. The percolation areas required for ponds are 3.5 acres for Paso Robles, 0.2 acre for Templeton, and 2.7 acres for Atascadero/Santa Margarita.

Assuming a 30-foot access road around each site, the total acres required would be 4.0 acres for Paso Robles, 3.1 acres for Atascadero/Santa Margarita and 0.3 acre for Templeton.

2.6 Proposed Project Schedule, Equipment and Personnel Requirements

The proposed project's construction schedule is given in Figure 2-38. The schedule is preliminary; however, it is already known that construction of several parts of the proposed project could be conducted at the same time by as many as seven contractors or subcontractors. The presented schedule represents what is thought to be a worst case scenario. The worst case is required for the conservative estimates of environmental impacts (e.g., peak day air emissions).

Project equipment and personnel needs are given in Tables 2.6 and 2.7, respectively. Construction of each of the project parts is expected to be performed for 9 to10 hours per day.

Figure 2-38 Proposed Project Construction Schedule

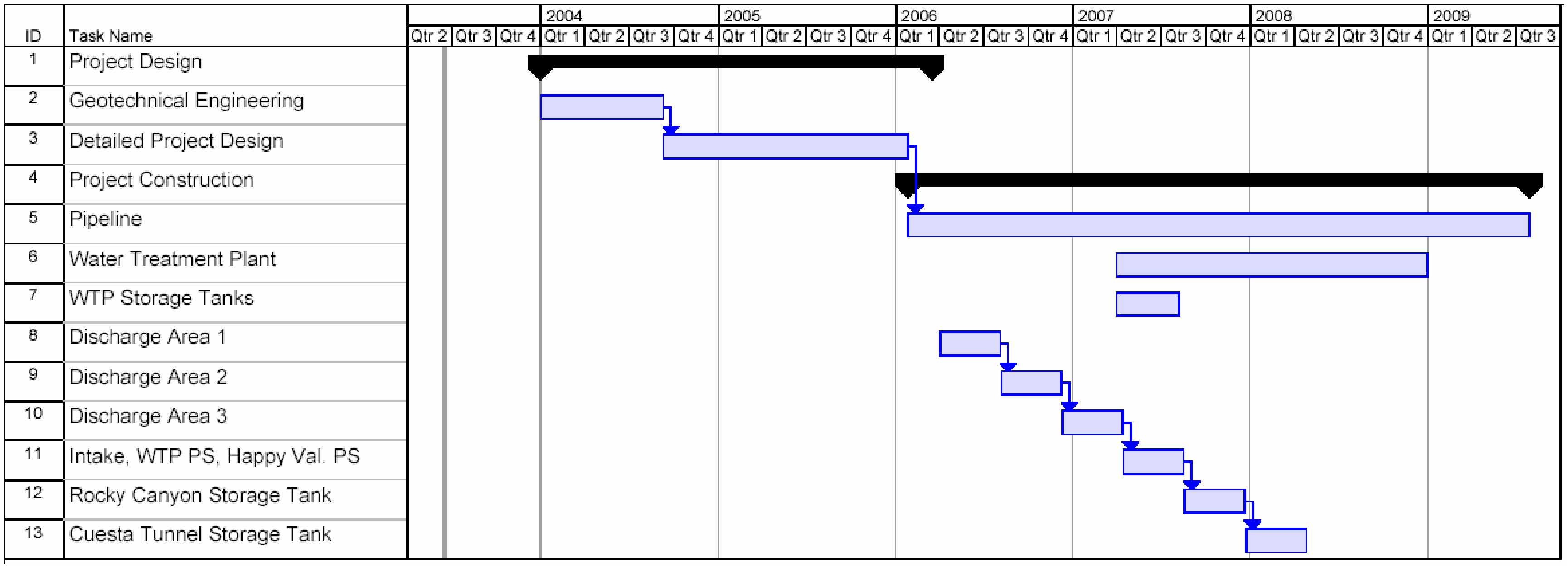


Table 2.6 Proposed Project Construction Equipment Estimates for Different Project Phases

Equipment	Water Intake[1]	Storage Tanks[1]	WTP[2]	Pump Stations[2]	Pipeline (each heading)[2]	Discharge Areas[2]
Air Compressor			1			
Backhoe		1	1	1	1	1
Barge	2					
Blade					1	
Broom					1	
Bulldozer	1	1	1	1	1	1
Cable Stringing Equipment					1	
Concrete or Asphalt Truck	1	1	1	1	3	
Compactor	1		1		1	
Crane	2	1	1	1		
Directional Drilling Rig					1	
Dredger	1		1			
Dump Truck	1	1	2	1	4	2
Excavator	1		1	1	2	
Fork Lift or Small Crane			1	1	1	
Grader	1	1	1			
Jacking and Boring Machine	1		1			
Loader	1	1	1	1	1	
Micro tunneling Equipment					1	
Motor/Generator	2		2			
Tractor				1		
Trailer with Dozer					2	
Tunneling Machine						
Water Truck	1		1		2	
Welding Truck	1	1	1			

Sources: County of San Luis Obispo, Technical Memorandum No. 2. Project Component Information, Final Draft May, 1996.

[1] Carollo Engineers, EIR Preparation Phase Engineering Report, April 2002.

[2] Based on 1997 NWP EIR.

Table 2.7 Proposed Project Personnel Estimates and Construction Times for Different Project Phases

	Water Intake	Storage Tanks	WTP	Pump Stations	Pipeline	Discharge Areas
Construction						
Personnel	25-30	20	60	15	16/crew x 4 crews (total of 64)	5
Work hours per day	9-10 hours	9-10 hours	9-10 hours	9-10 hours	10 hours	9-10 hours
Total phase duration	6 months	4 months (each)	2 years	4 months (each)	3-4 years	3 months each
Operation						
Personnel, day (night) shift	1 trip/day	1 trip/week	9 (3)	1 trip/day	generally not required	Operation is not part of the proposed project
Work hours	2 to 3 hours/trip	1-2 hours/trip	24 hrs, 3 shifts, 7 days/wk	1 to 3 hours/trip	-	

Sources: County of San Luis Obispo, Technical Memorandum No. 2. Project Component Information, Final Draft May, 1996.

Carollo Engineers, EIR Preparation Phase Engineering Report, April 2002.

Water Intake and Intake Pump Station–Preparation and close out time will take place one month prior and one month after construction, and will have a reduced crew working fewer hours per day. It is anticipated the construction work involved can be accomplished within 6 months. The 6 month construction period should take place when water surface elevations in the reservoir are at their lowest since this would translate into a reduction of construction costs. Lowering of the lake level to facilitate construction is not proposed.

Storage Tanks–Storage tanks could be built at the same time as portions of the proposed pipeline.

WTP–Construction of the WTP could be conducted after the pipeline system is already constructed and is in operation (as per the Raw Water Option). Construction of the WTP would then be a conversion of the Raw Water Option into the Treated Water Option. Construction of the plant may take up to 2 years, and will be accomplished by a crew of approximately 60 personnel.

Pump Stations–Construction of the pump stations could be done at the same time as some sections of the pipeline. Construction of the Intake pump station would be accomplished at the same time and would use the same equipment as the Water Intake. Construction of the other two pump stations would take approximately 12 months. The pump stations would be unstaffed facilities. Operation, maintenance and repair would be accomplished through one visit per day by an operator or service mechanic.

Pipeline–It is anticipated that construction of the proposed pipeline will begin at seven different headings: two from Nacimiento Dam to Paso Robles, three from Paso Robles to the Cuesta Tunnel, and two south of the Cuesta Tunnel. These headings average 8 to 10 miles. Each of the headings may be constructed by a separate contractor or as few as possibly three contractors. However, due to pipe supply and construction company availability, it is most likely the total pipeline construction time may be spread over 3 to 4 years. The average pipeline lay rates vary depending on the pipe lay technique and the particular area of construction. Provided in Table 2.8 are approximate time periods for different pipe lay methods when construction is active and does not include periods of delay due to weather, etc.

Discharge Areas (Raw Water Option only)–Construction of the discharge areas could be done at the same time as sections of the proposed pipeline and could be done in approximately 3 months each. Operation of these areas would not be a part of this project, and would be carried out by the water purveyor(s) being served by the facility.

Table 2.8 Approximate Time Required for Pipeline Construction

Pipe Lay Methods	Pipe Lay Speed
Typical Construction in Open Country/Camp Roberts	Average Lay Rate 200–600 feet/day
Typical Construction in City Streets	Average Lay Rate 100–250 feet/day
Specialized Construction in City Streets	Average Lay Rate 100–150 feet/day
Creek Crossings	30 to 60 days each

2.7 Discretionary Actions Required

The underground pipelines, storage tanks, pump stations, water discharge facilities, construction of WTPs, upgrading an existing WTP, and a limited number of water exchange agreements are projects under the control and operation of various public entities. As a public agency, some may enjoy specific privileges reserved for public projects in the State Subdivision Map Act and local codes. Government Code Section 65402 requires county and city planning agencies to make findings on whether certain proposed public projects would be consistent with their respective adopted general plan and zoning of a specific location using the “conformity report” procedure. The types of discretionary actions required for each component of the project are discussed in this section.

California Government Code Section (G.C.) 53091 provides that county or city building and zoning ordinances shall not apply to the location or construction of facilities for the production, generation, storage, or transmission of water by a local agency. Thus, county grading permits would not be required as long as a local agency is constructing the pipeline or facility (SLOFCWCD is considered a local agency). Because, at the present time, it is not known with certainty what entity(ies) would be responsible for constructing the local pipelines, and Section 53091 includes exemptions for local agencies, specific permit requirements are unknown. The discussion below provides an indication of the types of permits that could be required.

As mentioned in the Introduction, each local purveyor or decision-making body would need to review and consider the information in this EIR before approving the proposed project.

2.7.1 Reach 1 through Reach 8 (Lake Nacimiento to City of San Luis Obispo WTP)

The proposed use of water as a supplemental water source for SLO County dates back to 1959, when the SLOFCWCD executed an agreement with the MCWRA entitling SLO County to 17,500 afy of supply from Lake Nacimiento.

The California Department of Health Service (DHS) would be the responsible permitting agency to determine requirements under the 1993 California Health and Safety Code, Section 115825, referencing body contact in reservoirs used for domestic water supply. An amendment to the Health and Safety Code (AB 1460) allows recreation to continue at Lake Nacimiento concurrent with use of lake waters for domestic supply (see Appendix D for the full text of AB 1460). DHS would be responsible for placing permit conditions on the proposed project under AB 1460. A copy of the DHS permit for the project is included in Appendix F.

Construction of the proposed project includes a pipeline proposed primarily within County and State road ROWs. Within public ROWs, no land use or grading permits for the project would be required. The County Public Works Department is responsible for issuing encroachment permits for pipeline installation work within county road ROWs for work performed by private contractors. An encroachment permit would also be required for construction in city streets for Paso Robles and Atascadero (treated water connection). The California Department of Transportation (CalTrans) has jurisdiction in the State ROW. Without the exemption referred to in G.C. 53091, installation of pipeline on private land would require grading permits (Land Use Ordinance [LUO] Section 22.05.026). This includes locations within existing private road or Southern Pacific Railroad (SPRR) easements. Where streambeds, wetlands, or areas with riparian vegetation are crossed, CDFG 1600 permits must be obtained from the CDFG and, possibly, 404 permits of the Clean Water Act issued by the ACOE. These permit requirements are more fully discussed in the Biological Resources section of this EIR. A General Plan Conformity Report would also be required for all permanent facilities, including the Intake at Lake Nacimiento, storage tank sites, pump stations, discharge ponds, and the WTP sites. For construction within Camp Roberts, a Use License will be required from the ACOE.

Discharge of water into dry water courses or stream beds, as proposed under the raw water option of the NWP, may require permits from the Regional Water Quality Control Board (i.e., a National Pollutants Discharge Elimination System [NPDES]). The discharge of water is of concern due to the potential for affecting water quality as a supplemental foreign source. Construction of the pipeline, discharge ponds, and treatment facilities may also trigger the requirement for a General Construction Activity Storm Water Permit.

The City of Atascadero would require grading permits for pipeline installation outside of the public road ROW, unless the pipelines are considered exempt per G.C. 53091. Within the public road ROW, only an encroachment permit would be required.

2.7.2 Reaches 8A Through 10

Pipeline extensions to connect with existing water purveyor facilities would be primarily located within county road ROWs, with the exception of Reach 10, which would be located in the City of San Luis Obispo and in areas designated as agricultural. Within the City of San Luis Obispo street ROWs, pipeline construction would require an encroachment permit, plan check and inspection, and possibly a franchise agreement for operation of a water utility through the city and a public improvement plan. No land use permits are required for public projects within county road ROWs. However, outside county road ROWs, a conformity report may need to be filed by the County Planning Department to determine compatibility with the county General Plan and zoning ordinances.

2.7.3 Water Treatment Plants

Permits required for construction and operation of a WTP include an Operations Plan and compliance with applicable regulations, as administered by the Department of Health Services, Office of Drinking Water in the Domestic Water Supply Permit. A description of the proposed hazardous materials storage, transport, and handling is required by the SLO County Health Department, Division of Environmental Health, in a Hazardous Materials Business Plan. An injury and illness prevention plan is required under State of California Division of Occupational Safety and Health (Cal/OSHA), Title 8, Section 3208. The Uniform Fire Code, 1988, Article 80 has been adopted by the SLO County Fire Department and requires approval of storage locations of hazardous materials.

2.7.4 Summary of Permit Requirements

- Outside the Coastal Zone, pipelines proposed within county road ROWs do not require land use permits (LUO Section 22.01.031a); only a road encroachment permit may be necessary.
- A General Plan Conformity Determination would be required by the County and all cities in which pipelines and related project facilities are located.
- The proposed water treatment facilities would be reviewed by the County Planning Department under the General Plan Conformity Report procedure (General Plan Land Use and Circulation Element, Framework for Planning, Inland Area, Chapter 8, pg. 8-13).
- Construction within the cities of El Paso de Robles (Paso Robles), Atascadero, and San Luis Obispo may require an encroachment permit, unless exempted by Government Code Section 53091.
- Additional State and Federal permits may be required from the CDFG and the ACOE, depending on the presence of biological resources, as discussed in this EIR.
- Where construction occurs in the ROW of a State Highway, a CalTrans encroachment permit would be required.
- Easements or other appropriate permits would be necessary where pipelines encroach on utility corridors. Utilities known to be in the project area include SPRR, oil and gas pipelines, and electrical transmission cables.
- The State Department of Health Services, Office of Drinking Water regulates the design, construction, and operation of surface water treatment through a Domestic Water Supply Permit.
- The transport, storage, use, and disposal of hazardous materials are regulated by State and local authorities through Title 24 of the California Code of Regulations requiring filing of a Hazardous Materials Business Plan with the County Health Department, and the 1988 version of the Uniform Fire Code, Article 80, regarding approval of chemical storage locations by the County Fire Department.

Table 2.9 displays a preliminary listing of the permits and associated permitting authority for each of the pipeline segments, two storage tanks, three pump stations, three water discharge facilities, construction of up to three WTPs, upgrading an existing WTP, and a limited number of water exchange agreements. Permits would be required as noted by an “X” in Table 2.9. The local water distribution project Reach elements 1 through 10 correspond to Table 2.3.

Table 2.9 Summary of Permit Requirements

Permit	Permit Authority	Reach														
		Pump Stations, Intake &Tanks	1	3	3A	4	5	6	7	7A	8	8A	9	10	WTP	Discharge Pond
Authority to Construct (ATC)	Air Pollution Control District	X													X	
Storm Water Permit	State Water Resource Control Board															X
Grading Permit (GP)	SLO County Planning & Building Department	X						X							X	
Domestic Water Supply	Department of Health Services														X	X
Entitlement	Monterey County Water Resources Agency	X														
SLO County General Plan Conformity Determination	SLO County Planning & Building Department	X	X	X	X	X	X	X	X	X		X		X	X	X
Hazardous Materials Business Plan	SLO County Environmental Health														X	
Uniform Fire Code and Title 19 of SLO County Construction Ordinance	CDF/SLO County Fire Department	X													X	
1988 Uniform Fire Code, Article 80, relative to hazardous materials storage	CDF/SLO County Fire Department														X	
Streambed Alteration Permit	CDFG	X	X	X	X	X		X	X			X		X		
ACOE Section 404 Permit	ACOE	X	X	X	X	X		X	X			X		X		X
Use-License (Camp Roberts)	ACOE	X	X	X											X	
Utilities	SPRR, etc.				X				X			X				

Table 2.9 Summary of Permit Requirements

Permit	Permit Authority	Reach														
		Pump Stations, Intake &Tanks	1	3	3A	4	5	6	7	7A	8	8A	9	10	WTP	Discharge Pond
City of Paso Robles General Plan	Paso Robles				X											
City of Atascadero General Plan	Atascadero						X	X	X							
Road Encroachment	SLO County Engineering		X	X	X	X	X	X	X	X		X		X		
Road Encroachment	City of Paso Robles				X											
Road Encroachment	City of Atascadero						X	X	X							
Road Encroachment	City of San Luis Obispo											X	X	X		
Road Encroachment	CalTrans		X	X	X	X	X	X	X	X	X			X		

Note: Reaches 2, 6A, 6B, 7B are fixed facilities and are covered under the water treatment plant and pond headings.

Source: San Luis Obispo County, SLO EIR, NWP 1997 EIR and SLOFCWCD

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-3
PIPELINE ALIGNMENT
STA 0+00 TO STA 150+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-4
PIPELINE ALIGNMENT
STA 150+00 TO STA 310+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

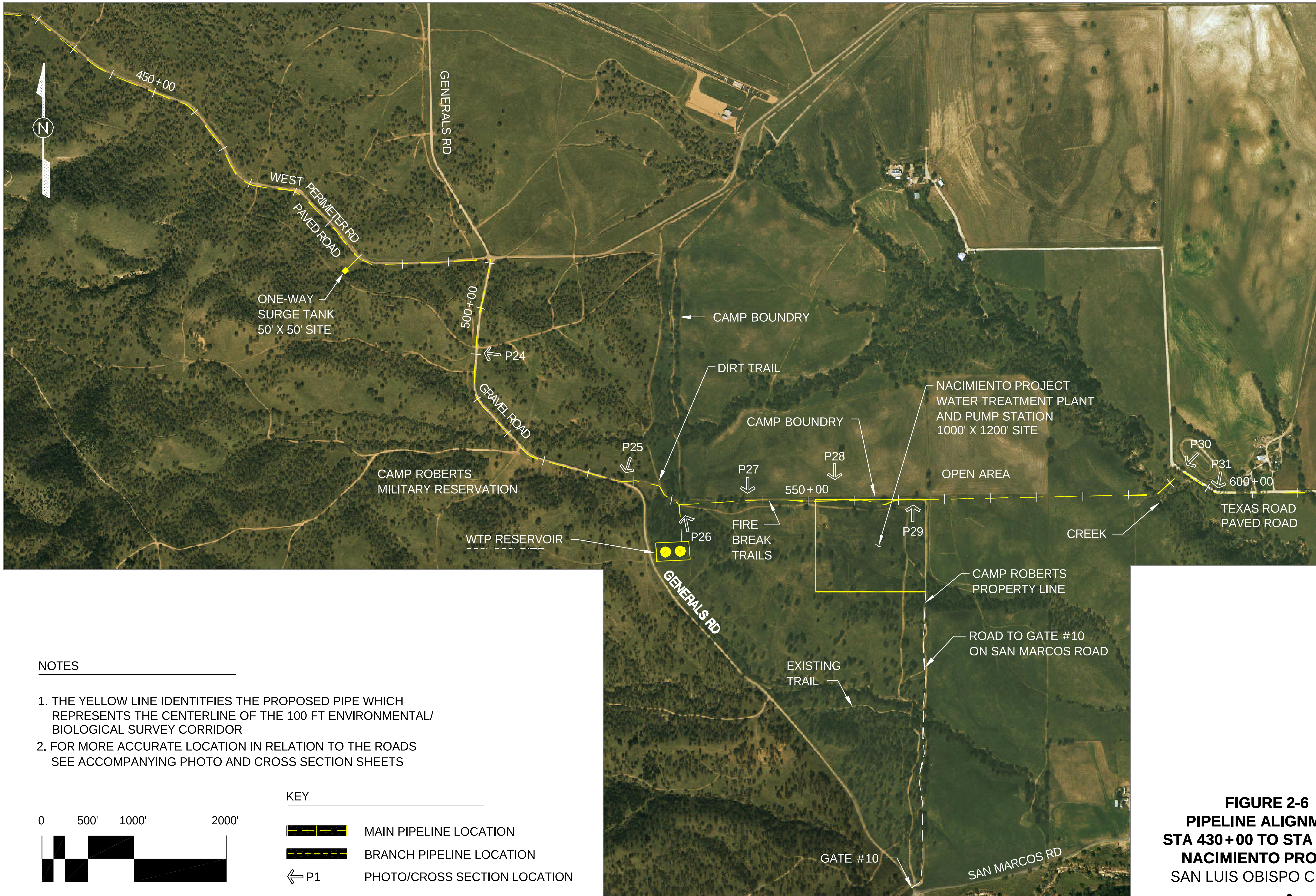
P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-5
PIPELINE ALIGNMENT
STA 310+00 TO STA 430+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers



NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

P1 PHOTO/CROSS SECTION LOCATION

FIGURE 2-6
PIPELINE ALIGNMENT
STA 430+00 TO STA 600+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-7
PIPELINE ALIGNMENT
STA 600+00 TO STA 752+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-8
PIPELINE ALIGNMENT
STA 752+00 TO STA 902+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-9
PIPELINE ALIGNMENT
STA 902+00 TO STA 1052+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-10
PIPELINE ALIGNMENT
STA 1052+00 TO STA 1220+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-11
PIPELINE ALIGNMENT
STA 1220+00 TO STA 1400+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-12
PIPELINE ALIGNMENT
STA 1400+00 TO STA 1550+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-13
PIPELINE ALIGNMENT
STA 1550+00 TO STA 1690+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-14
PIPELINE ALIGNMENT
STA 1690+00 TO STA 1850+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-15
PIPELINE ALIGNMENT
STA 1850+00 TO STA 2020+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

- MAIN PIPELINE LOCATION
- BRANCH PIPELINE LOCATION
- P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-16
PIPELINE ALIGNMENT
STA 2020+00 TO STA 2180+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

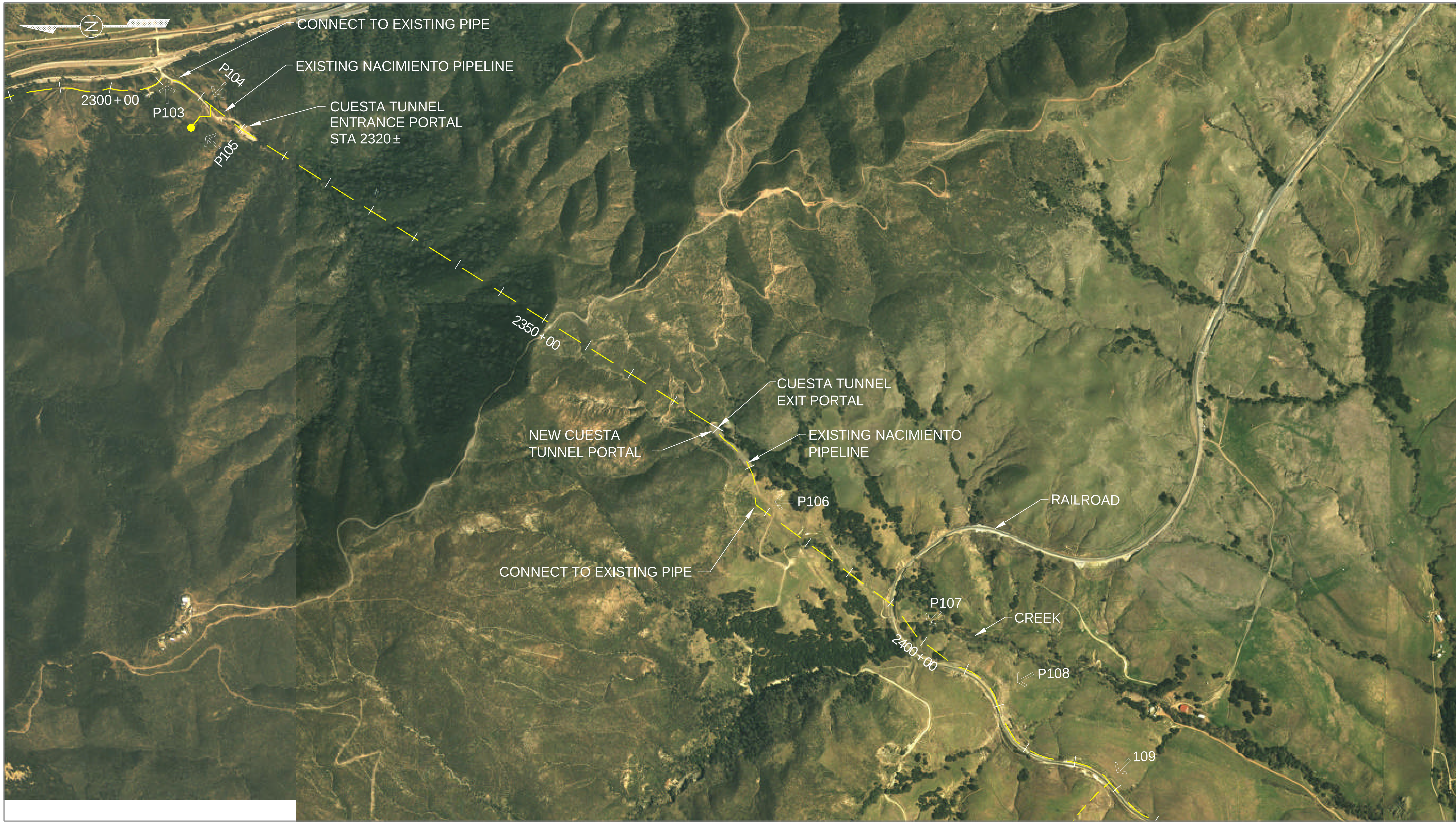
P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-17
PIPELINE ALIGNMENT STA 2170+00 TO CUESTA TUNNEL (STA 2320±)
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers



0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

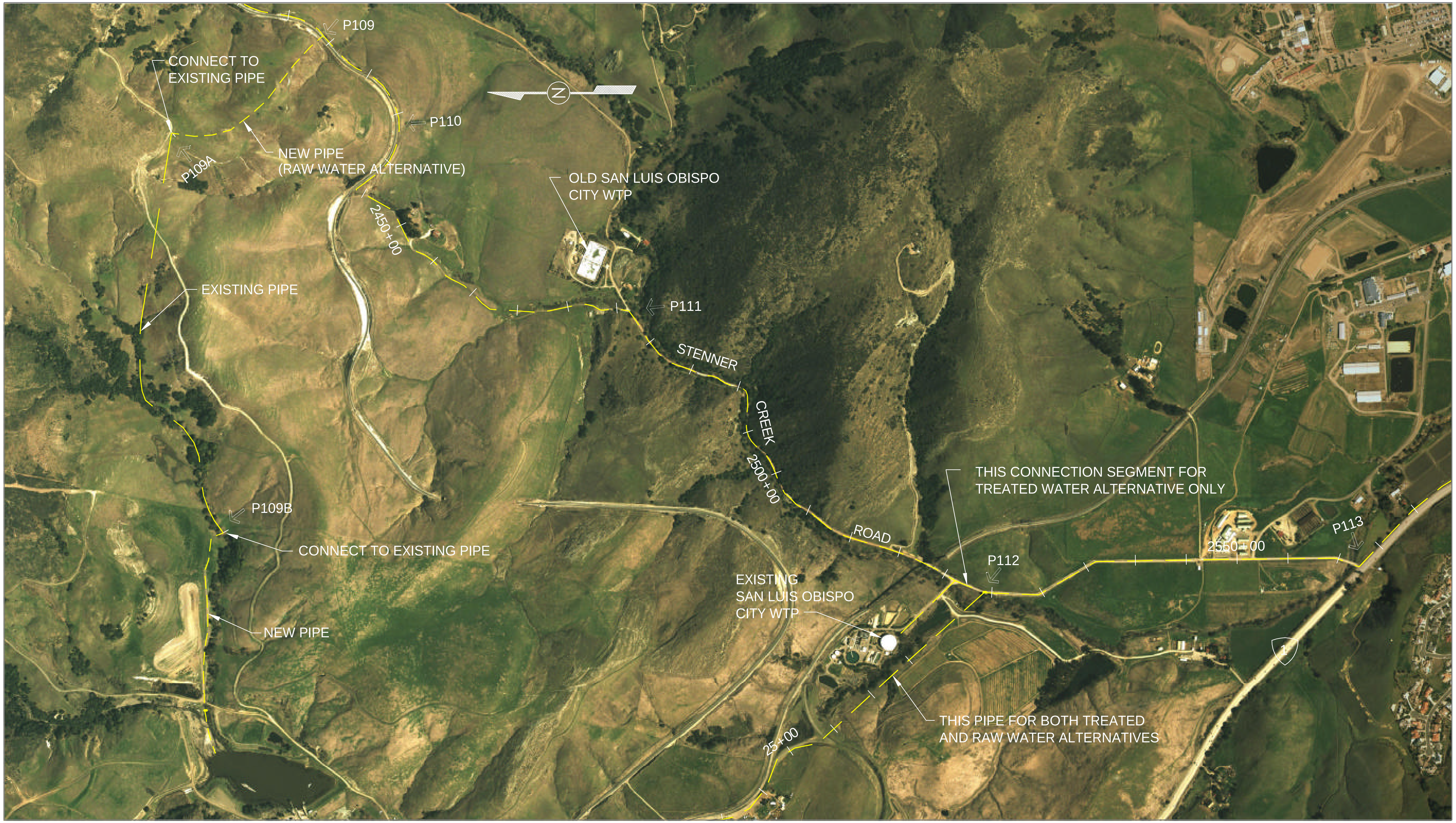
P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-18
PIPELINE ALIGNMENT CUESTA TUNNEL
STA 2320± TO STA 2430+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers



0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-19
PIPELINE ALIGNMENT
STA 2420+00 TO STA 2522+89
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-20
PIPELINE ALIGNMENT
START PIPELINE 2 - STA 2522+89
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-21
PIPELINE ALIGNMENT
STA 2530+00 TO STA 2720+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-22
PIPELINE ALIGNMENT
STA 2720+00 TO STA 2830+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-23
PIPELINE ALIGNMENT
STA 2830+00 TO STA 2990+00
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

0 500' 1000' 2000'

KEY

MAIN PIPELINE LOCATION

BRANCH PIPELINE LOCATION

P1 PHOTO/CROSS SECTION LOCATION

NOTES

1. THE YELLOW LINE IDENTITFIES THE PROPOSED PIPE WHICH REPRESENTS THE CENTERLINE OF THE 100 FT ENVIRONMENTAL/ BIOLOGICAL SURVEY CORRIDOR
2. FOR MORE ACCURATE LOCATION IN RELATION TO THE ROADS SEE ACCOMPANYING PHOTO AND CROSS SECTION SHEETS

FIGURE 2-24
PIPELINE ALIGNMENT
STA 2990+00 TO END
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

3.0 Alternatives

The California Environmental Quality Act, Section 15126 (d), requires an EIR to describe a reasonable range of alternatives to a project or to the location of a project which could feasibly attain its basic objectives and evaluate the comparative merits of the alternatives. This section discusses a range of alternatives to the proposed Nacimiento Water Project including, alternative water supply options, alternative pipeline and facility locations, and a "No Project" alternative. Criteria used to evaluate the range of alternatives and remove certain alternatives from further consideration are addressed. CEQA Guidelines Section 15126.6 provides direction for the discussion of alternatives to the proposed project. This section requires:

- A description of *"...a range of reasonable alternatives to the project, or to the location of a project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives."* [15126.6(a)]
- A setting forth of alternatives that *"...shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project."* [15126.6(f)]
- A discussion of the "No Project" alternative, *and "...If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives."* [15126.6(e)(2)]
- A discussion and analysis of alternative locations *"...that would substantially lessen any of the significant effects of the project need to be considered for inclusion in the EIR."* [15126.6(f)(2)(B)]

This document has used an alternative screening analysis to limit the number of alternatives evaluated in detail throughout the EIR. The use of an alternative screening analysis provides the detailed explanation of why some of the alternatives were rejected from further analysis and assures that only the environmentally preferred alternatives are evaluated and compared in the EIR.

This screening methodology also uses the *"rule of reason"* approach to alternatives as discussed in CEQA (Guidelines Section 15126.6(f)). The rule of reason approach has been defined to require that EIRs address a range of feasible alternatives that have the potential to diminish or avoid adverse environmental impacts. The CEQA Guidelines state:

> *"The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effect of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project."* (Section 15126.6(f))

In defining feasibility of alternatives the CEQA Guidelines state:

> *"Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site."* (Section 15126.6(f)(1))

If an alternative was found to be technically infeasible, then it was dropped from further consideration. This was the primary feasibility factor that was used to eliminate an alternative without further screening analysis.

In addition, CEQA states that alternatives should "…*attain most of the basic objectives of the project ...*" (Section 15126.6(a)). If an alternative is found to not obtain the basic objective, then it was also eliminated.

NEPA Section §1502.14 also requires an analysis of alternatives to the Applicant's proposed project that provides for a comparison of alternatives and provides a clear basis for choice among options for the decisionmaker and the public. NEPA requires the alternatives analysis to:

(a) "Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives for which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated."

(b) "Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits."

(c) "Include reasonable alternatives not within the jurisdiction of the lead agency."

(d) "Include the alternative of no action."

(e) "Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference."

(f) "Include appropriate mitigation measures not already included in the proposed action or alternatives."

The use of a screening analysis for the alternatives ensures that the full spectrum of environmental concerns is adequately represented, and that a reasonable choice of alternatives is selected for further evaluation throughout the EIR.

Alternatives screening analysis is used in EIR/EIS preparation as a tool for focusing the environmental review process and limiting the amount of detailed analysis. For example, in SLO County, this type of analysis has been used successfully in the Unocal Avila Beach Cleanup Project EIR/EIS (ADL 1998a), the Guadalupe EIR (ADL 1998b), and the WorldCom MFS Globenet EIR (Morro Group, 2000).

Given the CEQA mandates listed above, the remainder of this section covers: (1) a description of a range of reasonable alternatives to the proposed project, including alternative locations; (2) a screening analysis that summarizes and compares the significant environmental effects of the project and each alternative; and (3) the selection of alternatives chosen for further evaluation throughout the EIR.

3.1 Alternatives Selection Background Information

This section provides background information pertaining to project alternatives and policies that would influence the consideration of alternatives.

3.1.1 Project Objective

The objective of the NWP is to provide a reliable supplemental water source for a variety of uses within SLO County by supplementing the local ground and surface water supplies with a new surface water source. The objective is also to increase reliability of water deliveries, to improve water quality and to lessen the extent of future ground water pumping to existing residents, and provide sufficient supplies to support planning objectives in various communities of SLO County. The objective of the proposed project is, therefore, to ensure better management of water resources throughout the County.

3.1.2 San Luis Obispo County Master Water Plan

The San Luis Obispo County Master Water Plan Update of March 1986 concluded that the development of supplemental water sources were critical to address annual groundwater overdraft. The potential water supply elements for meeting supplemental water needs described in the update were:

- SWP through the Coastal Branch, Phase II, estimated at 25,000 acre feet per year (afy);
- NWP, estimated at 16,200 afy;
- Desalination of Sea Water, estimated at 9,200 afy;
- Reclamation of Waste Water, estimated at 5,600 afy;
- Enlargement of Salinas Dam, estimated at 1,300 afy;
- Enlargement of Lopez Dam, estimated at 640 afy;
- Enlargement of Nacimiento Dam, estimated at 4,000 afy; and
- Possible Construction of New Reservoirs.

The conclusions and findings included in the Master Water Plan Update regarding advantages and disadvantages of the above and other alternatives not quantified (e.g. watershed management and weather modification) are incorporated by reference into this EIR. The NWP was highly ranked as an alternative, second only to the State Water Project in terms of estimated cost to develop, anticipated yield, and ease of environmental or regulatory permitting.

In 1998, the County published an update of the Master County Water Plan. The 1998 Update included then-current estimates of water demand throughout twelve regions of the County (i.e., "Water Planning Areas") as well as projections of water needs at build-out. The updated water demand information was compared to the estimated yield from developed water sources in each Water Planning Area. In contrast to the 1986 Master County Water Plan, the Update did not address options for supplementing the County's water supplies. Rather, the idea was to take the basic demand and supply data to each Water Planning Area for confirmation. To date, this process is underway in the Nipomo area only. Staff is re-evaluating this approach to examining our regional water supply setting in light of the resource investment needed to address these, one area at a time.

Copies of both the Master Water Plan and the Update are available for public review at the County Public Works Department, County Government Center, Room 207, San Luis Obispo, CA 93408. In addition, a series of feasibility studies on the NWP were prepared under the direction of the County Public Works Department, as follows.

> *SLO County Flood Control and Water Conservation District, Preliminary Evaluation for the Nacimiento Water Supply Project, Phase I, Reliability Evaluation*, Boyle Engineering Corporation, October 7, 1992.

> *SLO County Flood Control and Water Conservation District, Preliminary Evaluation for the Nacimiento Water Supply Project, Phase II, and Phase III Preliminary Engineering Evaluation and Environmental Assessment, Final Report*, Boyle Engineering Corporation, May 1994.

The recommendations and conclusions of these studies were reviewed by the County Board of Supervisors at noticed public hearings. Copies of these documents, herein incorporated by reference, are available for public review at the San Luis Obispo County Public Works Department.

3.1.3 State Water Project

In 1992, the SLO County Board of Supervisors approved delivery of State Water to eleven entities, for a total of 4,830 afy of water. Although SLO County retains an excess entitlement (unsubscribed portion) of 16,553 acre feet (af), the pipeline was sized to deliver 4,830 afy of treated water to purveyors in SLO County. According to Central Coast Water Authority (CCWA) engineers, no more than 7% of additional capacity or approximately 340 afy would be available beyond the 4,830 afy of State Water designated for SLO County (Burnworth 1996). Both the participants and the required local facilities (pipelines) were addressed in the State Water Project Coastal Branch (Phase II) Local Distribution Lines and Facilities, Final Environmental Impact Report, March 1992 ("SLO EIR") and Addendum.

The local State Water contractors and their entitlements are shown in Table 3.l. The system became operational in 1997; however, in November of 1995, the County Board of Supervisors approved the sale of Shandon's 100 afy allocation (based on a community vote). Since that time the County has had numerous requests from other entities regarding the feasibility of purchasing Shandon's allocation.

Table 3.1 Status of State Water in San Luis Obispo County

Contractor	Deliverable Entitlement	Drought Buffer	Total
City of Morro Bay	1,313	2,290	3,603
City of Pismo Beach	1,240	0	1,240
Oceano CSD	750	0	750
Co Operations Center	425	425	850
CA Men's Colony	400	400	800
San Miguelito MWC	275	275	550
Cuesta College	200	200	400
Avila Beach CSD	100	0	100
Shandon	100	0	100
Avila Valley MWC	20	20	40
San Luis Coastal USD	7	7	14
TOTAL SUBSCRIBED	4,830	3,617	8,447
Excess Entitlement (Unsubscribed)			16,553
San Luis Obispo FC&WCD Total			25,000

Source: County Public Works Department, February 2003.

In January, 2003, the County Board of Supervisors adopted new policies for sale or transfer of any portion of the County's excess entitlement with the understanding there will be no permanent sales outside the District. Based on the definition that the District SWP "Excess Entitlement" is the portion of the District's total entitlement that is not contracted to others for their deliverable or drought buffer uses, the priority of use will be as follows:

1. Prior to transferring the excess entitlement for any other use, contractors of state water entitlement with capacity in Phase II of the Coastal Aqueduct shall have the first right to utilize the excess entitlement for "drought buffer" (reliability) purposes under the terms of a drought buffer agreement.
2. Preference shall be given to local agencies and water purveyors regardless of whether a transfer is on an annual, multi-year, or a permanent basis.
3. No permanent transfer of the excess entitlement for use outside District boundaries shall be made prior to a final update of the District's Master Water Plan adopted by the Board of Supervisors, and then only if the transfer is consistent with the then adopted Master Plan (see item #7).
4. No multi-year transfer for use outside District boundaries shall be made with a term in excess of five years prior to a final update to the District's Master Water Plan adopted by the Board of Supervisors, and then out of District transfers can only take place if the transfer is consistent with the adopted Master Plan.
5. On any out-of-District transfer, preference shall be given to those that provide: a) revenues that recover current costs and some or all of the District's past costs, b) maintain the District's right to use the water in the future, or c) which are used for environmental mitigation.
6. The Public Works Director is authorized to determine the annual amount of the excess entitlement to transfer to the SWP "Turnback Pools" established under the existing terms of State Water Agreements. In making that determination, the Public Works Director shall first

consider local needs and how the use of the Turnback Pool might impact other potential transfers.

7. The above policies were adopted by the Board of Supervisors with the understanding that there will be no permanent sales outside the District.

3.1.4 Reliability of the State Water Project and the Nacimiento Water Project

Reliability is defined as the ability of a water project to deliver water over an extended period of time. It may be acceptable for one component of a water purveyor's future water supply to have a reduced reliability, if the total water supply, consisting of two or more water sources, can make up for deficiencies in another water source during critical droughts (Boyle 1994).

3.1.4.1 State Water Project

Reliability of the SWP is generally dependent upon the following four factors:

- annual rainfall in northern California and snow levels in the Sierra Mountain ranges;
- the amount of water that will be allowed to be diverted from the Sacramento Delta for urban and agricultural use while preserving the environment for protected species;
- increased demands on the SWP from contractors; and
- the ability to construct new facilities designed to increase the yield of the SWP.

Estimated potential yields for the SWP range from a low of 20% during the driest year on record (1977) to 100% full entitlement. On the average, the State can deliver up to 76% of entitlement requests, when the project is at maximum demand (Table 5, pg. 13, Draft State Water Project Delivery Reliability Report, August 2002). Under current demand conditions, the State would have delivered 42% of entitlement requests during the 1987–1992 critical drought period. If no additional SWP facilities are constructed (such as the Los Banos Grandes Reservoir, Sacramento Delta improvement programs, and Kern Water Bank), each purveyor would only be able to rely on 24 to 74% (average 42%) of their entitlement (Table B-3, Draft State Water Project Reliability Report, August 2002). This SWP Reliability Report can be viewed at http://swpdelivery.water.ca.gov.

As shown in Table 3.1, in order to improve the reliability of State Water delivery schedules during times of drought, water purveyors choose to double or otherwise increase their initial requests. This means, for example, that if the County Operations Center can expect to receive approximately half of its entitlement due to reductions imposed by DWR, by doubling its entitlement it could receive its full 425 afy during drought periods. These supplemental requests do not affect the maximum capacity of the pipeline because no more than the initial request would be received in times of drought, at which time there would be excess capacity in the Coastal Branch pipeline due to general reductions in DWR water subscriptions.

In terms of obtaining State Water from other entities, within SLO County, Oceano Community Services District has expressed interest in marketing their State Water allocation (750 afy). However, they have not decided upon a preferred exchange arrangement (whether "short-term lease" or "permanent sale"). They are currently evaluating all their water sources to determine the most cost-effective approach for meeting their build-out demand and maximizing their water production. As mentioned earlier, Shandon's allocation of 100 afy has been available for sale since 1995, but due to a complicated contracting process it has not been reassigned as of March, 2003. There are currently no communities in Santa Barbara County that are actively selling all or a portion of their permanent State Water allocation.

In conclusion, because of the limited amount of State Water available within this county, it is not considered a feasible alternative to the NWP as a whole because the SWP would not meet the identified project objective of providing a viable supplemental water source in the amount of 16,200 afy, as proposed by the NWP.

3.1.4.2 Nacimiento Water Project

Reliability of the NWP is generally dependent on the following four factors:

- annual rainfall and runoff received into the lake from the Lake Nacimiento watershed;
- operation model or flood rule curve used by the MCWRA to manage Nacimiento Reservoir, sustain required California Department of Fish and Game (CDFG) releases, and maximize conservation releases for groundwater recharge in the Salinas Valley to mitigate seawater intrusion;
- the amount of water which can safely be retained in Lake Nacimiento as determined by the California Division of Safety of Dams and the Federal Energy Regulatory Commission (FERC) requirements; and,
- the ability to construct future improvements to the Nacimiento Dam spillway, or other improvements designed to maximize the volume of water that can be retained in storage.

Boyle Engineering Corporation examined the issue of reliability using data from 1951 to 1991 on storage, inflow, net evaporation, conservation and flood protection releases. Below normal inflow patterns during this 40- year period occurred regularly in three year cycles. Boyle Engineering Corporation (Boyle) concluded that the Nacimiento Reservoir from October 1950 through September 1991 would have been capable of delivering 17,500 afy to the San Luis Obispo Flood Control and Water Conservation District (SLOFCWCD) during historic cycles of below-average inflow. However, during periods of sustained drought, beginning in December 1990 (the fifth year of drought), the operations model indicated that Lake Nacimiento would have reached the minimum pool of 10,000 af, which would have reduced theoretical deliveries of NWP until March 1991, when significant rainfall was received (Boyle 1992). Estimated potential yields for the NWP range from a low of 90% during the 1987–1992 drought to 100 % full subscriptions. On the average, NWP will deliver 99% of subscriptions, including both wet and dry years (Boyle 1992, 1997).

In October of 2002 Boyle updated the reliability assessment. As part of that assessment Boyle modeled the impact the Nacimiento Water Project (NWP) would have had on historic lake levels if 16,200 afy of their 17,500 afy entitlement was delivered to San Luis Obispo County, according to a seasonally adjusted delivery schedule.[1] It was assumed that MCWRA would modify their

[1] Refer to the October 2002 Boyle Engineering Report "Nacimiento Reservoir – Reliability As A Water Source For San Luis Obispo County" for additional details.

annual release schedule (MCWRA typically releases over 230,000 afy from the Nacimiento Reservoir) in such a way as to ensure the availability of San Luis Obispo County's annual entitlement of 17,500 af. Boyle examined reservoir storage, elevation, inflow, and outflow data from 1958 to 2001 and concluded the following:

- Short Term Drought (1–2 years): During such periods the Nacimiento Reservoir would have never fallen into dead pool[2], and Nacimiento water deliveries could have been reliably delivered without modification to the delivery schedule.
- Long Term Drought – There would have been 4 occurrences in the 43-year study period where it would have been necessary to modify the Nacimiento water delivery schedule to prevent dead pool lake levels. However, utilizing a modified delivery schedule the total annual delivery of 16,200 af could have been delivered without reaching dead pool.

3.2 Alternatives to the 2003 Proposed Project

As discussed in the introduction and project description chapters, this 2003 EIR evaluates two project alternatives that include the following.

1. A treated water alternative that would provide chlorinated water directly to the various purveyors, and
2. A raw water alternative that would discharge water into the Salinas River and/or treat the water at a purveyor's water treatment facility.

A wide variety of alternatives for the Nacimiento Water Project were considered in a screening analysis to address potential alternatives to the proposed project, as well as individual project components. Alternatives were considered for the following components of the proposed Nacimiento Water Project:

- No Project Alternative,
- 1997 NWP EIR Project Alignment,
- Combined Raw and Treated Water Alternative,
- Bradley Well Field Options,
- Alternative Camp Roberts Route,
- Lake Nacimiento Reservoir Intake Alternatives,
- Alternative WTP Sites,
- State Water Project,
- Additional Groundwater Pumping,
- Desalination,
- Reclamation, and
- Conservation.

[2] Dead Pool is defined as the Reservoir Outlet Elevation (670 feet).

The alternatives involving pipeline routes are presented in Figure 3-1. The alternatives that were evaluated for each of the projects are summarized in the following sections.

A screening analysis was performed for each alternative. The alternatives were screened based on the ability to avoid potentially significant impacts associated with the proposed project, and minimize environmental impacts. The results of the screening analysis are also summarized below for each alternative category.

3.2.1 No Project/No Action Alternative

CEQA requires that the specific alternative of the “No Project” be evaluated along with its impacts as part of the EIR (CEQA Guidelines Section 15126.6(e)). NEPA Section §1502.14 also requires a No Action Alternative. As such, the No Project/No Action Alternative was not subject to the screening analysis and has been evaluated as an alternative to the proposed project throughout the EIR.

The No Project Alternative describes a water supply situation that acknowledges the Board of Supervisors’ decisions related to obtaining supplemental water from the SWP. However, it does not include assumptions that supplemental water supply projects will be developed when projects are either unfunded, unscheduled, or have not undergone environmental review.

Without the NWP, the communities that have expressed a desire to receive Nacimiento water would continue to depend on existing water supplies, and/or potential alternative water supplies, if developed at a later date. With regard to relying upon existing water supplies, 77% of the County water comes from groundwater (SLO County 2001), which continues to be used faster than it is replenished. Further, approximately 68% of all beneficial uses of water in SLO County are utilized for agriculture (Northwest Economic Associates 2002). Current water supplies for the whole County are 159,922 afy, with the existing demand of 186,550 afy, which already higher than the available supplies (SLO County 2001). By the year 2020, the demand is predicted to reach 205,660 to 264,000 afy (SLO County 2001). Water demands are already above the safe yields of the groundwater supplies. Without the development of supplemental water supplies, water demands would exceed dependable water supplies by approximately 45,700 to 104,000 afy for the entire county (SLO County 2001). In addition, there would be increased competition for groundwater among agricultural and urban users. Further, sustained and increasing groundwater pumping may result in lowering pumping water levels and deteriorating groundwater quality associated with seawater intrusion along the coast.

As noted in the following sections, there are numerous potential water supply alternatives that could, to a certain extent, offset the loss of the County’s Lake Nacimiento allocation should the proposed project not move forward. These alternatives could be implemented in the event the NWP is never constructed to partially offset the loss of availability of the NWP allocation, or could be implemented in addition to the NWP, thus supplementing the County’s ability to effectively manage water supply.

Under the No Project Alternative, each project participant would need to evaluate their specific water supply needs and available alternatives, which in many cases are quite divergent amongst the participants. While conjectural, it is likely that project participants would pursue a mix of water supply alternatives based on local need, availability, and cost. Beyond the continuing over reliance on groundwater resources, it would be speculative to undertake an evaluation of what alternative each participant would pursue in the absence of the NWP. Each of the projects discussed in the following sections could serve, at least partially, as an alternative to the proposed project, especially for some project participants, and have been evaluated on their own merit instead of as part of the No Project Alternative. The dependability of local water resources was demonstrated during the 1988–1991 drought. The majority of SLO County water purveyors experienced decline in well pumping water levels and deteriorating groundwater quality. Agricultural users reported similar experiences. Some lost the ability to operate wells altogether while others watched surface reservoirs drop to precariously low levels. One coastal community (City of Morro Bay) constructed an emergency seawater desalination plant. Restricted water use policies were common throughout the county. The 1988-1991 drought experience caused many purveyors to revise (downward) their estimates of sustainable yield.

Even before the drought, the 1986 Master County Water Plan prepared by DWR concluded that even with full 25,000 afy State Water entitlement, 17,500 afy Nacimiento supplies, enlargement of Salinas and Lopez Dams, conservation, reclamation, and desalination, SLO County still would need supplemental water to meet projected water needs. Supply shortages and advanced conservation, which the county experienced during the 1988–1991 drought, would occur again if the NWP were not completed, perhaps to a worse degree as demands increase.

With regard to other supplemental water projects other than the NWP, the 1986 Master Water Plan Update cited desalination, construction of new reservoirs, Salinas Reservoir expansion, coastal streams diversion, reclamation, and Whale Rock conjunctive use as possible options. Not one of the projects listed above is expected to yield the same supply as the NWP, nor would any one project benefit as many purveyors.

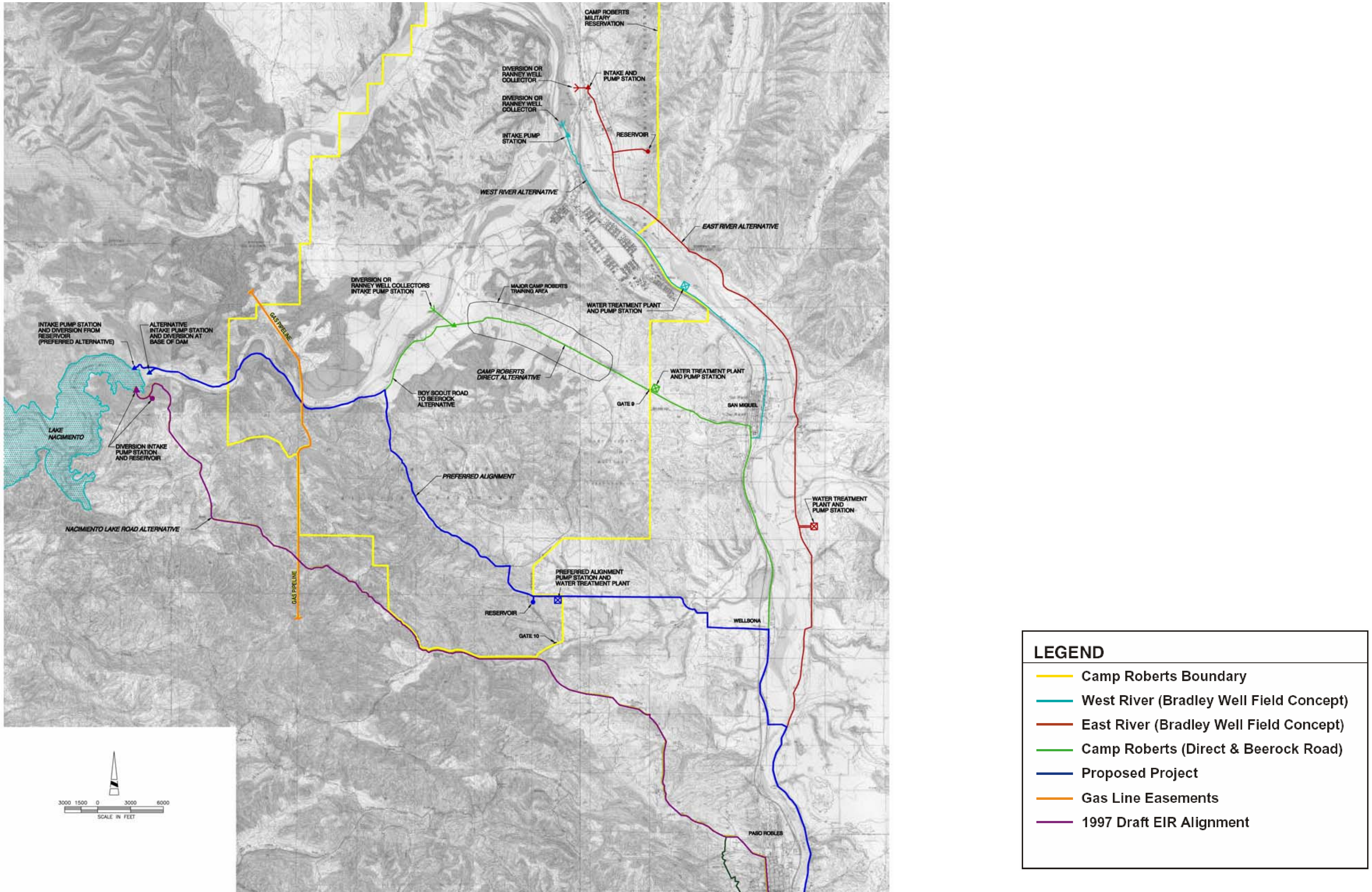
With no action, groundwater overdraft in some portions of San Luis Obispo County is expected to continue to increase, resulting in lowered groundwater levels, deteriorating water quality, potential aquifer subsidence and damage, and increased pumping costs, and increased competition between agricultural interests and domestic users. Supply shortages during drought periods could occur in some communities.

3.2.2 NWP 1997 EIR Alternative

3.2.2.1 Background

In May 1994, in light of the County Board of Supervisors decisions on the SWP and considering the need to develop supplemental water supplies as identified in the Master Water Plan Update, the Board of Supervisors adopted the NWP. The NWP was a conceptual water supply project which included a pipeline from Nacimiento Reservoir to the Edna Valley, south of San Luis Obispo. In 1995–1996 Carollo Engineers (Carollo) developed a number of project alternatives in the EIR Preparation Phase Engineering Reports, available for review at the County Public Works Department, and herein incorporated by reference. Carollo developed a set of criteria which were used to screen alternatives and make recommendations to the Nacimiento Participants Advisory Committee (NPAC).

Figure 3-1 Nacimiento Water Project Alternatives



These criteria included: (1) timing or phasing the development of water with water purveyors' forecasted needs; (2) water treatment options; and, (3) achieving the lowest cost of water. Some purveyors wanted Nacimiento water supplies immediately, while others did not require water for years. Some purveyors wanted raw water deliveries while others requested treated water. Carollo proposed that the cost of developing a regional water treatment plant could be deferred by developing a phasing concept, as recommended in the preferred project, and thus lower costs.

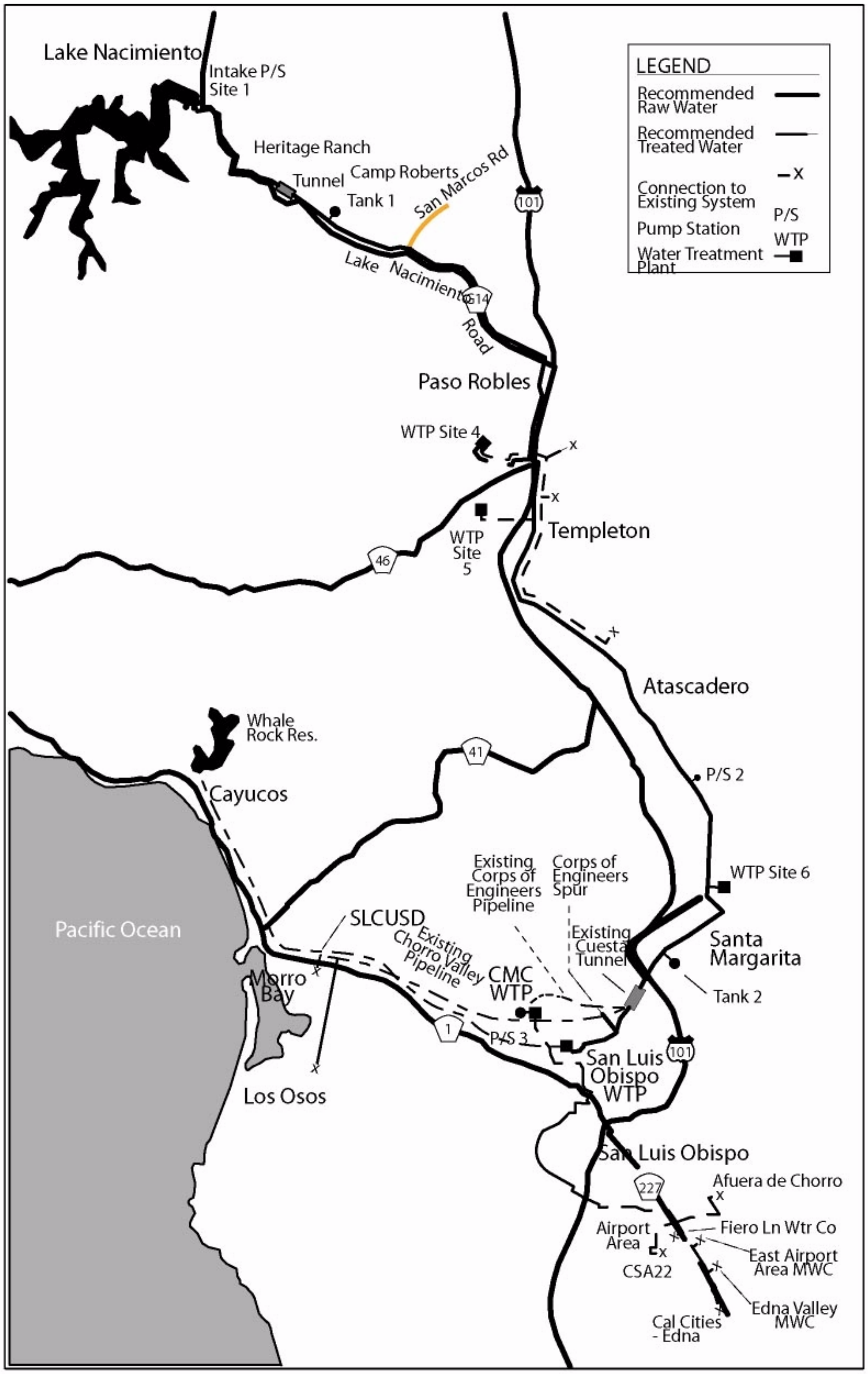
All project alternatives considered in the Carollo report include the construction of a water supply pipeline, originating at an intake within Nacimiento Reservoir. The first in a series of four conceptual project alternatives proposed a central water treatment plant WTP between Nacimiento Reservoir and Paso Robles which would treat the total water flow. The second alternative consisted of a raw water supply pipeline from the Nacimiento Reservoir to the City of SLO, with a single WTP constructed south of Paso Robles for the North County entities of Paso Robles, Templeton, Atascadero, and Santa Margarita; use of the existing City of SLO WTP for the City of SLO; treatment at the CMC WTP to serve the Los Osos area, SLO airport area participants, and a Whale Rock/Nacimiento water exchange with the City of SLO the community of Cayucos. The third alternative was the same as the second, except that two new WTPs were proposed to serve the community of Santa Margarita and Santa Margarita Ranch. The final alternative proposed by Carollo and adopted by the NPAC as the preferred project was the same as the third alternative, except that initial raw water discharge ponds for communities in the North County (Paso Robles, Templeton, Atascadero, and Santa Margarita) were added as part of the first phase of the project, as discussed in the Project Description below. The final alternative met the NPAC's initial criteria of phasing water supplies and deferring capital costs of a WTP with the purveyors' needs.

3.2.2.2 Project Description

This alternative was the subject of a previous NWP EIR in 1997 and has been thoroughly evaluated. The alternative is designed to take place in two timeframes. The first phase of the NWP 1997 EIR Alternative would include the construction and operation of an intake and pump station at Lake Nacimiento; a construction corridor of approximately 66 miles for water pipelines, two storage tanks and three pump stations; development of water discharge facilities north of the Cuesta Grade; upgrading an existing WTP at the CMC south of the Cuesta Grade; and a limited number of water exchange agreements. The second phase of the project would take place 5–10 years after Phase I. It would include construction of a WTP for Paso Robles, Templeton, and Atascadero; in addition, one or two WTPs would be constructed at the same site to serve both Santa Margarita purveyors. Water distribution pipelines and facilities are shown on Figure 3-2.

It is anticipated that the SLOFCWCD would act as Lead Agency for the construction and operation of the intake and pump station facility at Lake Nacimiento. Local pipelines would be constructed by the various agencies under contract to participate in the NWP, though the SLOFCWCD may act as Lead Agency for pipelines serving these water agencies. The SLOFCWCD would be responsible for constructing the improvements to the CMC's WTP.

Figure 3-2 NWP 1997 EIR Alternative, SLO County



Source: Carollo Engineers

Construction and operation of the four water discharge facilities would be the responsibility of the purveyors benefiting from the water (Paso Robles, Templeton, Atascadero, and Santa Margarita). SLOFCWCD (or a future joint powers authority), would serve as Lead Agency for the possible future construction of a WTP to treat water for Paso Robles, Templeton, and Atascadero, and for the possible future construction of one or two WTPs in Santa Margarita for Santa Margarita Water Works No. 6 and the Santa Margarita Ranch. Water treated at the upgraded CMC WTP would be placed in the existing Chorro Valley water pipeline for delivery to the SLCUSD in Morro Bay. SLCUSD would receive treated water through a water "wheeling" exchange agreement with the City of Morro Bay.

A direct water exchange agreement of Nacimiento water for Whale Rock Reservoir water between the three Cayucos water purveyors (CSA 10A, Morro Rock Mutual Water Company, and the Lewis Pollard Trust) and the City of San Luis Obispo is also proposed. The three Cayucos purveyors presently receive water from Whale Rock Reservoir under the terms of an agreement with the Whale Rock Commission for a total supply of 600 afy. Under the 1997 EIR Alternative, the City of San Luis Obispo would transfer additional water from Whale Rock Reservoir water to the three purveyors.

3.2.2.3 Intake and Pump Station (No. 1) at Lake Nacimiento

An intake would be constructed to convey water from Lake Nacimiento into the pipeline proposed under this alternative. The intake would be constructed in conjunction with Pump Station No. 1, located close to the dam, near the upstream face adjacent to Resort Drive. The intake and pump station would require up to two acres of disturbed area above the high-water level, and as much as 0.5 acre below the high-water level.

The multi-level intake structure would comprise a single, 20-foot diameter shaft drilled vertically into the ground from the shoreline pump station for approximately 160 feet where it would be connected with three horizontal intake tunnels. The shaft would be of sufficient diameter to accommodate the vertical turbine pumps and motors, switch gear, control gates, and maintenance access. Both the vertical shaft and the tunnels would be lined. Hydraulic control of the facility would be achieved within the vertical shaft where the control gates would be housed. Trash rack assemblies (debris screens) would be placed at the upstream end of the horizontal tunnel shafts. Water would flow through the horizontal tunnels and into the sump at the bottom of the vertical shaft where the pump bowl assemblies are located.

Pump Station No. 1 would be constructed in conjunction with the reservoir intake site, near the upstream face of the dam. Pump Station No. 1 would consist of five enclosed turbine pumps (800 horsepower each), located on the cover of the vertical shaft; a 20-foot shaft in the intake; and facilities including a building to house the motor control center and variable frequency drives, a generator building, a transformer yard, and a parking area. The pump station facilities would be constructed of masonry materials and landscaping would conform to local planning requirements.

Pump Station No. 1 would be designed to accommodate the surface water level of Lake Nacimiento, which varies from 670 to 800 feet in elevation. The pipeline from Pump Station No. 1 would convey water to a tunnel through the highest mountain on the pipeline route at an elevation of approximately 1,210 feet above sea level (asl), then to the first water tank (No. 1 or

1A). The water in the pipeline would then flow by gravity from the water tank (No. 1 or 1A), approximately 32 miles downstream to Pump Station No. 2 located south of the City of Atascadero.

3.2.2.4 Raw Water Distribution System

The raw water distribution pipelines would consist of approximately 52 miles (less Cuesta Tunnel) of pipeline ranging in diameter from 33 inches (in Nacimiento Lake Drive to the Templeton water system) to 12 inches (at the SLO WTP). Raw water distribution pipelines consisting of Reaches A through G are described below. In addition to the main pipeline, approximately 4 miles of pipeline would be constructed to connect WTPs, pump stations, tanks, and discharge areas.

North of the Cuesta Grade, raw water would be discharged into unlined basins located in Salinas River alluvium where it would percolate and then be drawn up through existing well fields, disinfected, and purveyed. South of the Cuesta Grade, two pipeline segments are proposed. One would distribute raw water to the City of San Luis Obispo WTP. The second pipeline ("Corps of Engineers spur") would distribute raw water to an existing pipeline where it would be deposited in an existing water reservoir and treated at the CMC WTP.

The pipelines would be laid in trenches at a minimum depth of cover of 4 feet (except where spanning of streams is proposed) and the construction corridor would generally be assumed to be 100-feet wide, unless special circumstances (e.g., traffic control or existing vegetation) dictate a narrower construction corridor. The construction corridor could be reduced to 30-feet wide or less where specialized construction techniques are implemented. The pipeline material would consist of cement-mortar lined and coated steel pipe or ductile iron pipe. Whenever feasible, the pipeline would be constructed in, or parallel to, existing roads and public ROWs in order to minimize the need to purchase new ROWs, facilitate access and maintenance, minimize traffic congestion, and avoid disturbance of vegetation.

Reach A (Lake Nacimiento to Highway 46 West)
Reach A would consist of a 33-inch diameter buried pipeline totaling approximately 18 miles in length. The pipeline would begin at the new inlet structure at Lake Nacimiento and run eastward along Resort Drive to Nacimiento Lake Drive, then follow Nacimiento Lake Drive to Paso Robles, where it would turn south on Vine Street to its intersection with Cuerno Largo Way. Within Reach A, the 1997 EIR Alternative follows the Nacimiento Lake Drive ROW in its entirety except for a 2,500-foot long tunnel segment and a segment on the perimeter of Camp Roberts.

Reach B (Highway 46 West to Main Street)
Reach B would consist of approximately 2.4 miles of 33-inch diameter buried pipeline located on the east side of Highway 101, opposite Cuerno Largo Way, to the Paso Robles River Discharge turnoff. It would then change to a 30-inch line as it follows Ramada Drive southward to the intersection of North Main Street and Highway 101 in Templeton.

Paso Robles River Discharge Area
Under Phase I, raw water would be discharged into bermed earthen ponds located approximately 2,000 feet from water wells operated by the City of Paso Robles. The turnoff to the Paso Robles river discharge area to the water wells would be located at an unnamed alley intersecting Ramada Drive opposite Cuerno Largo Way, approximately 1,000 feet south of the Highway 46 and 101 intersection. Disturbed area for site construction is estimated to be one acre, and would contain three ponds created by berming approximately 2 feet of earth around the pond's edges. The discharge facilities would consist of a series of three ponds with sufficient capacity to discharge the total flow (4.64 million gallons per day [mgd]) to each pond. There would be a pipe manifold with a valve on each pond influent pipe and a meter on the main influent line. Raw water from the NWP pipeline would be released into one of the discharge ponds at a time. This would allow for drying and maintenance (discing) of the idle ponds to prevent vegetation growth. The water would be expected to percolate into the Salinas River underflow where the naturally filtered water would be recovered (pumped) by existing wells, treated to meet State Drinking Water Standards through disinfection procedures (chlorination), and purveyed. The Salinas River discharge and extraction procedures proposed in Phase I would not be necessary once a WTP is constructed, as proposed in Phase II, but could be retained as a back up system when the WTP is off-line.

Templeton WTP Site
Under Phase II (expected to occur within a ten-year timeframe), the SLOFCWCD, or an appropriate joint powers authority, would construct and operate a new 9.8 mgd WTP. The turnoff to the WTP would be located on Cuerno Largo Way. The treated water pipeline from the WTP would cross under Highway 101 at Cuerno Largo Way in the same vicinity as the raw water line and follow the raw water pipeline route to Atascadero. The WTP site would be located in the foothills north of Templeton (at an elevation of approximately 900 feet asl) off Highway 101. It would be located along approximately 0.5 mile of existing frontage road and 0.36 mile of access road, 0.25 mile north of the intersection of South Vine Street and Highway 46. The WTP would serve Templeton, Paso Robles, and Atascadero during Phase II of the 1997 EIR Alternative. The site would result in approximately 15 acres of disturbed area (including 11 acres of facilities) plus improvements to the access road. Cut and fill material on both the WTP site and access road would be balanced on site. Separate raw and treated water lines to be constructed during Phase II would be located on opposite sides of the access road.

Reach C (Main Street to San Ramon Road)
Reach C would consist of a 30-inch diameter buried pipeline totaling approximately 2.8 miles in length, which would begin at the intersection of Ramada Drive and the Main Street overpass at the north end of Templeton. The route would extend southward on Main Street, through Templeton to Vineyard Drive, where it would cross and continue approximately 2,800 feet to the end of Main Street which terminates in a fenced materials storage area. The route would then cross under the east side of the SPRR tracks and follow them to Paso Robles Creek, north of Atascadero.

Templeton River Discharge Area
The connection point between the raw water pipeline and the discharge area would be located where the pipeline turns after crossing over the railroad in the materials storage area. Under

Phase I, raw water would be discharged into bermed earthen ponds located more than one mile away from water wells operated by the Templeton Community Services District. Disturbed area is estimated to be one acre, and would contain three ponds created by berming approximately 2 feet of earth around the pond's edges. The discharge facilities would consist of a series of three ponds with sufficient capacity to discharge the total flow (1.71 mgd) to each pond. There would be a pipe manifold with a valve on each pond influent pipe and a meter on the main influent line. Raw water from the NWP pipeline would be released into one of the discharge ponds at a time. This would allow for drying and maintenance (discing) of the idle ponds to prevent vegetation growth. The water would be expected to percolate into the Salinas River underflow where the naturally filtered water would be recovered by existing wells, treated to meet State Drinking Water Standards through disinfection procedures (chlorination), and purveyed. The Salinas River discharge and extraction procedures proposed in Phase I would not be necessary once a WTP is constructed, as proposed in Phase II.

Reach D (San Ramon Road to Santa Margarita Road)
Reach D would consist of approximately 9 miles of buried pipeline, which would begin at Paso Robles Creek and continue southward through the City of Atascadero along the east side of the SPRR tracks. The pipeline would be elevated over Atascadero Creek parallel to an existing bridge and would follow Sycamore Road for a distance of approximately 0.75 mile. From that point the alignment would continue, and, where necessary, be bored under the railroad tracks, ending south of Atascadero, near the convergence of the railroad and El Camino Real. The alignment would consist of 30-inch pipeline to the turnout for Atascadero's river discharge (Area 1), decrease to a 27-inch pipeline until it reaches Pump Station No. 2, and then reduce to a 24-inch pipeline.

Atascadero River Discharge Areas
Atascadero would have one river discharge area, however two discharge areas were evaluated for feasibility. Atascadero river discharge area No. 1 would be located adjacent to the Salinas River, off of the intersection of Ferrocaril Road east of Traffic Way and Chico Road west of Traffic Way. This location would serve as the connection point for both raw and treated water lines. Atascadero river discharge area No. 2 would be located approximately 2,000 feet south of Highway 41 and Sycamore Road.

Under Phase I, raw water at both river discharge areas would be deposited into bermed earthen ponds located approximately 200 feet from water wells operated by the Atascadero Mutual Water Company. Approximately one acre would be disturbed. The discharge facilities would consist of a series of three ponds created by berming approximately 2 feet of earth around the pond's edges, with sufficient capacity to discharge the total flow of water (3.48 mgd) to each pond. There would be a pipe manifold with a valve on each pond influent pipe and a meter on the main influent line. Raw water from the NWP pipeline would be released into one of the discharge ponds at a time. This would allow for drying and maintenance (discing) of the idle ponds to prevent vegetation growth. The water would be expected to percolate into the Salinas River underflow where the naturally filtered water would be recovered by existing wells, treated to meet State Drinking Water Standards through disinfection procedures (chlorination), and purveyed. The Salinas River discharge and extraction procedures proposed in Phase I would not be necessary once a WTP is constructed, as proposed in Phase II.

Pump Station No. 2
Pump Station No. 2 is proposed to boost water to Tank No. 2, from an elevation of 900 to 1,510 feet asl. The pump station would be located near the southeast corner of the intersection of Santa Clara Road and Sandoval Road, in the Garden Farms area of Atascadero, in an open area near the Salinas River. Pump station facilities would include a 2,500 square foot building to house five 400 horsepower vertical turbine electrical pumps. A diesel powered stand-by generator would be housed in a separate enclosure approximately 22-feet by 24-feet. A fenced area approximately 35-feet by 26-feet would be required for electrical transformers, plus construction of an access road and a parking lot.

Reach E (Santa Margarita Road to Estrada Avenue)
Reach E would consist of a 24-inch diameter buried pipeline totaling approximately 2.3 miles in length. Reach E would continue from the southern end of Reach D and follow along the east side of the SPRR tracks, except where the alignment would switch to the west side of the tracks to avoid an existing petroleum storage facility. Reach E would extend to the north end of Santa Margarita at the intersection of El Camino Real and Estrada Avenue.

Reach F (Estrada Avenue to Cuesta Tunnel)
Reach F would consist of a 24-inch diameter buried pipeline totaling approximately 4.8 miles in length. Reach F would run east along the road ROW of Estrada Avenue in Santa Margarita to the existing DWR pipeline alignment, then turn south and run parallel to the DWR pipeline to the connection point of the Cuesta Tunnel. The selected alignment south of Santa Margarita would parallel the State Water Project, Coastal Branch Phase II pipeline, which is presently under construction.

Santa Margarita WTP Site
A WTP site is proposed to be located southwest of town at an elevation of 1,380 feet on a ridgeline which slopes north toward the interchange between Highway 101 and Highway 58, just below the proposed raw water pipeline. The site is ringed by mature oaks, some of which were fire damaged. The eastern portion of the site contains a secondary power line which follows the ridgeline. An existing road would be improved to County Fire Department standards to serve both proposed Storage Tank No. 2 and the WRP. The site is approximately 3.5 acres, of which 2 acres are relatively level.

This WTP site was discussed in the Alternatives section of the NWP 1997 EIR, because the original site was determined to have unavoidable significant (Class I) impacts to cultural resources, and because the use of discharge ponds as proposed under Phase I is considered infeasible.

Storage Tank No. 2
Storage Tank No. 2 would be located in the foothills east of Highway 101 and south of Santa Margarita, at an elevation of approximately 1,488 feet asl. The tank site would be located approximately 9,700 feet south of the Estrada Avenue and DWR pipeline intersection. The site proposed for Storage Tank No. 2 may be visible from Highway 101; therefore, it is proposed to be a buried concrete tank approximately 160 feet in diameter and 24 feet deep. The storage volume would be 1.8 million gallons. Cut and fill material would be balanced on site.

Construction of the tank would result in up to two acres of disturbed land plus an access road. Landscaping would be designed to blend the tank site into the surrounding landscape. Facilities would include the tank, control valves located in underground vaults, and an access road. The tank site would be surrounded with fences and locked gates to limit and control access to the tank site and facilities.

Reach G (Cuesta Tunnel to Highland Drive)
Reach G would consist of a 24-inch diameter buried pipeline approximately 3.9 miles in length. Reach G would begin at the south portal of the Cuesta Tunnel and head southward under the Salinas and Chorro Valley pipelines to the SPRR alignment, cross under the railroad, then follow the railroad on the east side for nearly one mile before departing in a southeasterly direction to Stenner Creek Road. Within this segment, it would remain a 24-inch pipeline for approximately one mile south of the Cuesta Tunnel to a pipeline turnout called the Army Corps of Engineers (ACOE) spur ("COE spur"). At this point, the pipeline would split. The 12-inch "COE spur" would cross under the railroad tracks in a northwesterly direction through the foothills to a connection point with an existing 12-inch pipeline conduit described as the ACOE pipeline which eventually discharges the raw water into Chorro Creek and the unlined Chorro Reservoir utilized by the CMC WTP. The main pipeline would continue as a 12-inch main along Stenner Creek Road for approximately 2.9 miles to the San Luis Obispo WTP. The WTP would serve as the terminus of the main raw water pipeline.

"Corps of Engineers Spur"
The 12-inch "COE spur" pipeline would extend 0.4 mile to convey raw water into the existing ACOE pipeline, as described above.

Army Corps of Engineers Pipeline (Existing)
The existing, unused ACOE pipeline discharges into Chorro Creek which flows by gravity to a reservoir serving as the intake to the CMC WTP. Lake Nacimiento water would be treated at the CMC through a proposed WTP upgrade.

California Men's Colony WTP
As part of the 1997 EIR Alternative, the CMC WTP would be upgraded to serve the participating water districts in Los Osos, the SLCUSD, and the six San Luis Obispo airport participants: East airport area Mutual Water Company, CSA 22 – Airport, Cal Cities-Edna and Edna Valley Municipal Water Company, Fiero Lane Water Company, and Afuero de Chorro Water Company. Raw water would be diverted into the "COE spur" from the main Nacimiento pipeline to the existing, but unused, ACOE pipeline. The abandoned ACOE pipeline discharges to Chorro Creek which flows into a reservoir serving as the intake to the CMC WTP. The CMC presently has a 3 mgd treatment plant; however, less than half this capacity is currently being utilized.

Pump Station No. 3
The treated water from the CMC WTP delivered to Los Osos and SLCUSD would be pumped by Pump Station No. 3 into the Chorro Valley water line carrying State water to Morro Bay. Pump Station No. 3 is proposed to be a small station located on the grounds of the CMC WTP to boost water from the clearwell of the CMC WTP into the Chorro Valley pipeline. The pumps would be located within the CMC WTP fenced compound on a concrete foundation. The pump station

electrical controls and generator capacity would be included within the WTP facilities when the plant is upgraded. Pump Station No. 3 is designed to be powered by two active 25 horsepower vertical turbine electrical pumps with provisions for one stand-by pump. Each pump has the capacity to pump 300 gallons per minute (gpm).

City of San Luis Obispo WTP
The 1997 EIR Alternative would utilize the existing City of San Luis Obispo's WTP. No additional improvements to the City of San Luis Obispo WTP are proposed.

3.2.2.5 Treated Water Distribution System

Treated water distribution pipelines consisting of the remaining portion of Reach G, Reaches H and K are described below.

Continuation of Reach G (California Men's Colony to Highland Drive)
Reach G would continue as a 14-inch diameter treated water line, starting from the CMC WTP at the Chorro Reservoir, crossing the dam crest to a local access road running in a southeasterly direction. The pipeline would then follow the road in a southerly direction approximately 0.6 mile where it would turn east across an open field to the south side of the railroad alignment. It would follow the railroad for approximately 0.6 mile then continue across open fields southeast to Stenner Creek Road and then turn south on Stenner Creek Road to Highway 1. It would follow Highway 1 in a southeasterly direction to a location approximately 900 feet north of the Highland Drive intersection.

Reach H (Highland Drive to Dalidio Drive)
Reach H would continue as a 14-inch pipeline which would cross Santa Rosa Street to Chorro Street and turn south to the intersection of Highland Drive. It then would turn west and follow Highland Drive to Patricia Drive. At Patricia Drive, the route would head east on West Foothill Boulevard for approximately 0.3 mile, where it would gradually turn south in a sweeping semi-circle across open land behind Madonna Farms to a power line corridor. It would then follow the power line corridor through Laguna Park to Madonna Road. The route would turn south on Madonna Road and east on Dalidio Drive, to the east side of Highway 101 across from Prado Road. The total estimated length of Reach H is 4.3 miles.

Reach K (Dalidio Drive to Los Ranchos Road)
Reach K would continue as a 14-inch pipeline crossing under Highway 101 to Prado Road, then continue east on Prado Road to Highway 227. It would then turn south, and follow Highway 227 to Tank Farm Road. A 10-inch pipeline would continue from Tank Farm Road and Highway 227, to Buckley Road. The pipeline would then change to a 6-inch pipe at Buckley Road and continue southeasterly on Highway 227 to Los Ranchos Road and then along Los Ranchos Road to the main line termination point at the intersection of Glenview Drive. Reach K is approximately 4.4 miles long from Highway 101 to Los Ranchos Road.

County Service Area 22
An 8-inch spurline would be constructed approximately 1.3 miles to serve CSA 22. This spur would connect to Reach K at the intersection of Highway 227 and Tank Farm Road and head west to Santa Fe Road, then turn south on Santa Fe Road, past the San Luis Obispo airport to Buckley Road. This spur pipeline would then head east on Buckley Road, terminating at the intersection of Davenport Creek Road and Buckley Road.

Fiero Lane Water Company – Airport area
The Fiero Lane Water Company service area would be connected at Fiero Lane and the intersection of Highway 227.

Edna Valley Mutual Water Company
Edna Valley Mutual Water Company is a proposed purveyor south of the City of San Luis Obispo. A turnout at the intersection of Highway 227 and Buckley Road is proposed.

3.2.2.6 Screening of NWP 1997 EIR Alternative

This alternative, being the subject of a 1997 EIR, was subjected to identification of numerous potential impacts. Potential impacts that were identified for this alternative are included in Table 3.2. The NWP 1997 EIR identified several significant impacts in the areas of Air Quality, Water Resources, Biological Resources, Recreation and Growth Inducement. It is likely these impacts will also be identified for the proposed project, and at similar magnitudes. However, the proposed project would likely result in greater impacts to biological resources (given its more rural route), cultural resources, drainage/erosion/sedimentation, and agricultural resources. This alternative would avoid or lessen impacts in these areas. In addition, the proposed project raises some land use issues associated with segments of the route that cross private properties and could have implications for the future use of several properties.

Table 3.3 presents the results of the screening analysis, which compares the alternative to the proposed project. Given the potential for this alternative to avoid several potential impacts associated with the proposed project, the NWP 1997 EIR Alternative will be fully evaluated in Section 5.0 of this EIR.

3.2.3 Phased Raw and Treated Water Alternative

Similar to the NWP 1997 EIR Alternative, this alternative would be constructed in a phased approach, starting out as a raw water project as described in Section 2.4.2 (Figure 2-2), and upon completion, would be a treated water project as described in Section 2.4.1 (Figure 2-1). This alternative would not avoid or substantially lessen many of the impacts associated with the proposed project, but would spread many of the impacts out over a longer period of time. In addition, seasonally sensitive impacts could be avoided by scheduling construction activities during periods when impacts could be avoided or minimized, such as sensitive species breeding periods, or during rainy periods when erosion and sedimentation impacts would be greatest.

The results of the screening analysis for this alternative are presented in Table 3.4.

3.2.4 Alternative Project Configurations and Pipeline Alignments

Alternative project configurations and route modifications have also been evaluated for releasing the water from Lake Nacimiento for direct flow down the Nacimiento River through Camp Roberts to a well field where it would be pumped into a pipeline. The results of the screening analysis for each alternative water source considered are presented in Tables 3.5 through 3.7. Detailed discussions for each alternative are provided below.

3.2.4.1 West River (Bradley Well Field Concept) Alignment

This alternative would require a diversion pump station or intake diversion facility on either the Nacimiento or Salinas River and a pipeline to the Wellsona Road area. The location of Highway 101 in the area of the confluence severely constricts the site. This alternative would also require that the facilities include a large above ground surge tank to accommodate the long length of pipeline from the pump station to the nearest obtainable storage tank site. There are no storage tank sites available in the area on the west side of the Salinas River. The pipeline would have to be constructed in a constricted area between the railroad and the Salinas River and Highway 101. A WTP and pump station would be constructed on Camp Roberts property immediately east of Highway 101. The pipeline would follow the proposed project pipeline alignment from Wellsona Road southward.

Under this alternative, the pipeline would impact several areas of natural riparian habitat along the Salinas River. A portion of the alignment would cross Camp Roberts at areas where training activities and equipment would impact the pipeline and its operation. As a result, the project would require special design features in this active access route to the Camp Roberts training facilities east of the Salinas River.

The following are major reasons why the review of this alternative was discontinued:

A surface water diversion structure or well field would have to be constructed in the area of the confluence of the Nacimiento and Salinas Rivers. This area is highly vegetated and to get into the river channel would require major construction work in the wet below the confluence. The reason this would have to be done in the wet is that there are minimum flow requirements in the Nacimiento and Salinas Rivers at this point to comply with water rights and CDFG permits, similar to the proposed project. The diversion facilities would have to be flood protected and would also be in an area highly visible from Highway 101.

Archaeological investigations (Breschini 1983 and Gibson 2003) have determined that the area of the confluence of the Nacimiento and Salinas Rivers is likely an archaeologically sensitive area. Abundant water availability and local terrain features make the site ideal for habitation on a year round basis.

Table 3.2 Summary of Environmental Impacts and Mitigation Measures for the 1997 EIR Alternative

Resource	Description of Impact	Scope	Proposed Mitigation Measures	Residual Impacts
I. Unavoidable Significant Environmental Impacts (Decision-maker must issue a "Statement of Overriding Considerations" Under Section 15093 of the State CEQA guidelines if the project is approved).				
Air Quality	Emissions from pipeline construction equipment would exceed 6 tons per quarter (tons/qtr) for oxides of nitrogen (NO_X).	Short-term	A comprehensive construction activity and management plan shall be prepared in consultation with the SLO Air Pollution Control District (SLOAPCD). The plan shall include use of Best Available Control Technology (BACT).	Significant
	Particulate matter less than 10 microns in diameter (PM_{10}) (dust) during pipeline construction would exceed 2.5 tons/qtr PM_{10} threshold.	Short-term	To reduce the amount of disturbed ground and dust, mitigation strategies include: watering down the site area twice daily, use of soil binders, revegetating promptly, paving construction roads, and limiting vehicle speeds on unpaved surfaces.	Significant
Water Resources *NWP Phases I & II Operations*	During a sustained drought period, curtailed releases from Lake Nacimiento could increase seawater intrusion into aquifers near Monterey Bay.	Cumulative	When lake level reaches 748 feet, NWP participants shall implement increased water conservation for domestic water users.	Significant
Recreation	Restrictions on recreational use of Lake Nacimiento for swimming could potentially occur as a result of DHS conditions on bodily contact with a public water supply.	Long-term	DHS to review Watershed Sanitary Survey and Recreation Plan. Final EIR to evaluate potential impacts of the plan on recreational resources at the lake.	Significant
	NWP would lower the lake to minimum levels at a faster rate during periods of drought.	Long-term	During drought conditions, or when lake levels reach 748 feet or below, NWP participants shall implement increased water conservation consistent with best management practices for water users.	Significant
Biological Resources				
Amphibians and Reptiles	Direct impacts to red-legged frog and southwestern pond turtle in Reach G, "COE spur" to CMC WTP, and Los Osos spur.	Short-term	Project biologist to conduct pre-construction surveys for red-legged frogs and southwestern pond turtles at all drainages. If species present, avoid or capture and relocate or span drainage.	Potentially significant residual impacts where avoidance may not be possible for pipeline segments crossing Stenner and Chorro creeks (Reach G and Los Osos spur).
Fish	Direct impacts to steelhead trout, arroyo	Short-term	Pre-construction surveys of pipeline alignment shall be	Potentially

Table 3.2 Summary of Environmental Impacts and Mitigation Measures for the 1997 EIR Alternative

Resource	Description of Impact	Scope	Proposed Mitigation Measures	Residual Impacts
	chub, and tidewater goby potentially occurring in Salinas River, Santa Margarita, Stenner, San Luis Obispo, Los Osos and Chorro creeks.		conducted. If special status fish species is detected, fish shall be captured and relocated downstream, and/or construction will avoid breeding season.	significant residual impacts, if tidewater goby or steelhead trout is present along Los Osos spur.
	During a sustained drought period, curtailed releases from Lake Nacimiento could decrease the amount of water downstream, significantly affecting fishery resources in Nacimiento and Salinas rivers.	Cumulative	During drought conditions, or when lake levels reach 748 feet or below, NWP participants shall implement increased water conservation consistent with best management practices for water users.	Significant
Growth Inducement	Growth inducement is determined to be a significant impact because NWP supplies could result in additional growth or rate of growth in areas now subject to water resource constraints. Recently approved/updated General Plan have acknowledged that future growth will have significant, cumulative impacts. In areas where forecasted water supplies exceed future demand, NWP water could be used to foster growth outside existing service area boundaries. Private water companies in areas located outside of Urban Service Lines (USL) or in agriculturally-designated areas would be able to prove a source of water in applying for general plan amendments to change land use designations to accommodate projects with residential or other uses.	Long-term	The governing body of each water purveyor accepting NWP water shall include in their water management plans and programs, the goal of reducing groundwater basin overdraft in the long-term, with measurable objectives to accomplish this goal. Water purveyors in the Los Osos groundwater basin should continue to operate wells with the goal of preventing potential sea water intrusion into the aquifer.	Significant Significant
	The secondary or indirect impacts of growth depend on how local jurisdictions manage growth. School facilities would be significantly affected by future residential growth because existing funding sources are insufficient to fully mitigate impact.	Long-term	School districts shall be credited with sufficient water to allow development of planned improvements. If any of the Cayucos water purveyors decides to accept NWP supplies, a water allocation sufficient to build a school within CSA 10A shall be granted.	Significant

Table 3.2 Summary of Environmental Impacts and Mitigation Measures for the 1997 EIR Alternative

Resource	Description of Impact	Scope	Proposed Mitigation Measures	Residual Impacts
II. Significant Environmental Impacts That Can be Feasibly Mitigated or Avoided (Decision-maker must issue "Findings" Under Section 15091 of the State CEQA guidelines if the project is approved).				
Visual				
Intake & Pump Station No.1	Intake/pump station would be seen by large numbers of visitors to Lake Nacimiento Resort and would be inconsistent with natural terrain.	Long-term	Reduce building frontage along Nacimiento Lake Drive; increase landscape screening; match existing stone materials; use non-glare roofing and fencing materials; vary facade of electrical/generator building; and use hooded directional lighting fixtures.	Non-significant
Pipelines & Tunnel	Change in character of area as seen from public roads.	Short-term	Regrade terrain to natural contours; round slopes; revegetate with native vegetation.	Non-significant
Water Storage Tank 1 (Camp Roberts Alternative)	Visible from Nacimiento Lake Drive.	Long-term	Preserve existing trees; revegetate disturbed areas with fast growing native species; use non-reflective fencing; use hooded directional lighting fixtures. Water tanks shall be painted a matte gray green color to match surrounding landscape and sufficiently landscaped with oaks, laurels, and manzanitas so that at maturity, the majority of the tank will be obscured from public view.	Non-significant
Water Storage Tank 2	Grading for underground tank would alter character of area.	Long-term	Regrade terrain to natural contours, use non-reflective fencing; revegetate; use hooded directional lighting fixtures.	Non-significant
Water Treatment Plants (Phase II)	Construction of water treatment plants near Templeton and Santa Margarita would alter character of area.	Long-term	Architecture shall appear consistent with structures in area; limit height of elements to 24-feet; use earthtone colors; landscape with tall trees; minimize nightlighting by using motion detectors, hooded directional lighting fixtures. Site design plans to be reviewed by SLO County Environmental Coordinator's Office prior to General Plan Conformity Report.	Non-significant
Geology/Soils				
Human Health	Asbestos fibers in serpentinite formations is known to cause human health hazard. Serpentinite is known to exist in portions of Reaches A & G.	Short-term	Exact locations shall be mapped; a health and safety program shall be implemented by the contractor.	Non-significant
	Failure of steep or unstable slopes could damage project components. Landslide potential occurs in Reaches A,D, F & G.	Short-term	Site specific investigations of landslide potential shall be conducted by a qualified geologist and incorporated into final design.	Non-significant
	Safety of construction workers during excavation activities.	Short-term	Excavation safety shall conform to OSHA regulations.	Non-significant

Table 3.2 Summary of Environmental Impacts and Mitigation Measures for the 1997 EIR Alternative

Resource	Description of Impact	Scope	Proposed Mitigation Measures	Residual Impacts
Soils	Soil erosion near stream channels can adversely affect downstream water quality.	Short-term	Avoid trenching during rainy season (October 15 to April 15). Prepare Stormwater Pollution Prevention Plan (SWPPP) as required by the Regional Water Quality Control Board. Implement revegetation plan.	Non-significant
	Shrink-swell potential of expansive soils can adversely affect project components.	Long-term	Grading and specially designed foundations shall be constructed in accordance with the Uniform Building Code (UBC).	Non-significant
Seismic Risk (intake location)	Intake location is underlain by unnamed fault (Jolon Fault splay).	Long-term	Geotechnical seismic investigations shall be conducted for each pipeline segment, tunnel, and other components (intake, pump stations, tank sites, and WTPs) to be included in final construction plans; a geologist or civil engineer shall verify adherence to seismic design parameters of UBC or Engineering Association of California; detailed geotechnical investigations shall be conducted in areas with significant landslide and/or liquefaction potential; subsidence shall be mitigated by removal of liquefiable material and recompaction; and fail-closed valves and seismic detection sensors shall be installed.	Non-significant
Seismic Risk (pipelines)	Pipeline reaches A, B, D, and G cross the Rinconada, Jolon, and Nacimiento faults (potentially active faults which are capable of surface rupture).	Long-term	Geotechnical seismic investigations shall be conducted for each pipeline segment, tunnel, and other components (intake, pump stations, tank sites, and WTPs) to be included in final construction plans; a geologist or civil engineer shall verify adherence to seismic design parameters of UBC or Engineering Association of California; detailed geotechnical investigations shall be conducted in areas with significant landslide and/or liquefaction potential; subsidence shall be mitigated by removal of liquefiable material and recompaction; and fail-closed valves and seismic detection sensors shall be installed.	Non-significant
Water Resources	Construction could potentially alter surface water flow patterns causing erosion downstream during rainstorms.	Short-term	Within 100-year floodplains, construction shall occur only during non-rainy season (April-October) or periods of no flow.	Non-significant
			In-channel sedimentation basins shall be installed to trap fine soil materials prior to release downstream.	Non-significant
	Pipeline in Reaches A-F, H, K, & Los Osos spur would cross flood prone areas with potential for damage from flood flows.	Short-term	Emergency construction evacuation procedures shall be prepared and implemented by the contractor if flood flows occur. Obtain frequent weather updates.	Non-significant

Table 3.2 Summary of Environmental Impacts and Mitigation Measures for the 1997 EIR Alternative

Resource	Description of Impact	Scope	Proposed Mitigation Measures	Residual Impacts
	Potential for increased turbidity and sedimentation in streams.	Short-term	Construction activities shall be restricted to defined ROW. Equipment access and construction through drainages should be conducted from creek banks.	Non-significant
		Short-term	No storage of construction materials or spoil within channel or overbanks.	Non-significant
		Short-term	Lead or design agency shall prepare and implement erosion and sediment control plan that includes best management practices for sedimentation control.	Non-significant
	Potential for degradation of surface water and groundwater due to contamination by fuel.	Short-term	Establish “no fueling” zones within 25 feet of all drainages.	Non-significant
Operational Impacts	Potential for pipeline rupture causing erosion and downstream sedimentation.	Long-term	An emergency response plan to temporarily detain treated water shall be filed with the county and implemented by the contractor; Design Agency shall implement a regular pipeline maintenance and inspection program; Design Agency shall specify use of reliable pipeline materials; and pipeline shut-off values at suspended crossings shall be included in pipeline design.	Non-significant
	Potential public health effects if treated distribution water quality does not comply with applicable drinking water standards.	Long-term	Prepare Watershed Sanitary Surveys and manage the Lake Nacimiento watershed to control sources of contamination; institute focused monitoring programs; meet all State, federal and local requirements for drinking water quality.	Non-significant
	Potential for localized overdrafting caused by wells pumping from local aquifers where discharge ponds have failed to adequately recharge aquifers (Paso Robles, Templeton, Atascadero, and Santa Margarita).	Long-term	Demonstrate hydrogeologic feasibility of each recharge location.	Potentially significant for Santa Margarita where recharge/withdrawal location appears infeasible, and thus may have significant residual impacts.
Public Health	Potential for degradation of water quality in local aquifers due to sediments and metals from Lake Nacimiento or other sources.	Long-term	Compliance with RWQCB directives; Manage Lower Salinas Watershed to ensure additional contaminants do not reach water supply wells; monitor supply wells; meet all federal, state and local requirements for drinking water quality.	Non-significant

Table 3.2 Summary of Environmental Impacts and Mitigation Measures for the 1997 EIR Alternative

Resource	Description of Impact	Scope	Proposed Mitigation Measures	Residual Impacts
Phase I Operation	Degradation of surface water quality at percolation ponds.	Long-term	Periodic replacement of top sand filter layer within ponds. Implement groundwater monitoring for groundwater levels and water quality in wells near percolation ponds and production wells.	Non-significant
Air Quality				
Air Toxics	Potential for air toxic compounds to be emitted during water treatment process at WTP sites.	Long-term	A Health Risk Assessment (HRA) shall be performed as required by AB 2588.	Non-significant
	Cumulative construction emissions for 3 WTP sites would exceed the APCD threshold of 185 pounds per day for NO_x and PM_{10}.	Short-term	Phased construction of WTPs would reduce estimated cumulative construction emissions.	Non-significant
Biological Resources				
Flora and Fauna	General biological impacts to oak woodlands, wetlands, and special status plant and wildlife species could occur during construction (applies to all reaches).	Short-term	A project monitoring biologist(s) shall oversee construction activities to ensure compliance with the mitigation program. The lead project monitoring biologist shall have the authority to stop or delay construction activities that threaten significant biological resources.	Non-significant
			A contractor education program shall be implemented. Heavy equipment and construction activities shall be restricted to a defined construction ROW. Staging areas, construction routes, construction corridors, access roads, fueling sites, and storage locations for excavated soils shall be delineated on construction plans and reviewed by project monitoring biologist. The timing of construction activities shall minimize impacts to biological resources (e.g., avoidance of breeding season).	Non-significant
			"Exclusion zones" shall be designated where construction will be limited to a 15- to 30-foot corridor.	Non-significant
Flora	Direct impacts of up to 114.9 acres of oak woodland (215 trees) in Reaches A-G.	Long-term	During final design, the project monitoring biologist and project engineer shall identify a narrowed construction corridor to preserve individual oak trees.	Non-significant
	Direct impacts of up to 114.9 acres of oak woodland (215 trees) in Reaches A-G.	Long-term	Lead or design agency shall prepare tree replacement plan that includes oak tree replacement at a ratio of 4:1 for any trees subsequently lost due to damage from construction	Non-significant

Table 3.2 Summary of Environmental Impacts and Mitigation Measures for the 1997 EIR Alternative

Resource	Description of Impact	Scope	Proposed Mitigation Measures	Residual Impacts
			activities. Mitigation at 1:1 ratio for offsite replacement of oak woodland habitat.	
	Impacts to wetlands near Stenner Creek, Chorro Creek, Reach H, and Los Osos spur. Army Corps of Engineers (ACOE), California Department of Fish and Game (CDFG) policies state no net loss of wetland habitat quality/quantity.	Short-term	Permits from ACOE and CDFG require a detailed site-specific revegetation and monitoring plan prepared by a qualified biologist/ revegetation specialist. Where woody, vegetative growth is prohibited over pipeline, offsite mitigation may be warranted. Span drainages wherever feasible The construction easement shall be narrowed from 15 to 30-feet in drainages and other sensitive habitats.	Non-significant
	Potential impacts to needlegrass grassland, serpentine bunchgrass in Reaches G & H.	Short-term	Vegetation replacement and/or restoration plan shall include salvaging of topsoil, onsite seed collection, and native plant propagation.	Non-significant
	The following sensitive plant species may be impacted: Morro manzanita (observed in Los Osos spur), Blochman's dudleya (observed in Reach H), California suaeda (observed in Los Osos spur), San Luis mariposa lily (potential in all reaches), Brewer's spineflower (observed in Reach H), and San Luis Obispo sedge (expected in Reach G).	Short-term	Locations of sensitive plant species shall be shown on construction maps and labeled as areas to avoid. A detailed mitigation plan for salvage and restoration of special status plant populations shall be prepared where complete avoidance is not possible.	Non-significant
	Disruption of chaparral, central coastal scrub, and nonnative grassland would occur during grading for pipelines.	Short-term	A revegetation/restoration plan shall be prepared. Topsoil shall be segregated and stockpiled in disturbed areas delineated on construction plans and reviewed by biologist.	Non-significant
	Potential disruption of chaparral, central coastal scrub, and nonnative grassland at staging areas.	Short-term	Staging areas shall be located in disturbed habitat to the greatest degree feasible.	Non-significant
	Potential for toxic spills near streams during construction.	Short-term	Fueling of equipment shall occur at least 25 feet from all drainages.	Non-significant
Invertebrates	Potential disturbance to Monarch butterfly roosting sites along Los Osos spur.	Short-term	Preserve eucalyptus trees and/or restrict construction from mid-October to mid-March.	Non-significant
Birds	Special status bird species (yellow warbler and other riparian birds) observed in Reaches A, G, and Los Osos spur and potentially occurring in all riparian woodland.	Short-term	Pre-construction surveys of pipeline alignment shall be conducted. Avoid construction activities during breeding season (March 15 to September 15) near riparian areas and Morro Bay Estuary.	Non-significant

Table 3.2 Summary of Environmental Impacts and Mitigation Measures for the 1997 EIR Alternative

Resource	Description of Impact	Scope	Proposed Mitigation Measures	Residual Impacts
Mammals	Direct impacts to American badger and San Joaquin kit fox and Morro Bay kangaroo rat in Reaches A (Camp Roberts Alternative), E and Los Osos spur.	Short-term	A pre-construction survey per CDFG and/or USFWS mitigation protocols shall be conducted to avoid impacts to badger, kangaroo rat, and kit fox dens.	Non-significant
Traffic				
Short-term construction impacts	Heavily traveled commute routes with limited alternative roadways to destinations would be anticipated to experience significant vehicle delays. These roadways include: Nacimiento Lake Drive, Vine Street in Paso Robles, North and South Main Street in Templeton, Highway 41 in Atascadero, Estrada Avenue in Santa Margarita, and Highland Drive and Madonna Road in San Luis Obispo, Highway 227, and South Bay Boulevard in Los Osos.	Short-term	A Traffic Control Plan shall be developed by the design agency which addresses vehicle access issues; the design agency shall incorporate latest provisions of "Manual of Traffic Control for Construction and Maintenance Work Zones " into plan; the full width of the traveled way shall be available to traffic before 9 a.m. and after 4 p.m. Monday - Friday, weekends, and holidays.	Non-significant
			Construction scheduling on Nacimiento Lake Drive should be minimized during summer period (June 15-September 15). During the summer period the full width of Nacimiento Lake Drive shall be available to traffic from noon Friday through Sunday. A maximum delay of 20 minutes will be permitted.	Non-significant
			Along all roadway segments, the design engineer shall coordinate construction of pipeline with other public works projects, including Godfrey Grade widening.	Non-significant
Cultural Resources	Potential for damage to important archaeological resources (CEQA Appendix K) in Reach E (Santa Margarita area).	Long-term	Use Alternate Reach E, along the west side of El Camino Real to Reach F. If alternate Reach E is infeasible, prior to final design, Phase II testing shall be conducted by qualified archaeologists to assess importance of sites through test excavations; if sites are significant, pipeline alignments shall be relocated so that no impacts could occur; or, if avoidance is infeasible, a data recovery plan to excavate and analyze sensitive sites shall be implemented by the lead or Responsible Agency	Non-significant
	Potential for damage to important archaeological resources (CEQA Appendix K) at Santa Margarita WTP.	Long-term	Proposed Santa Margarita WTP site shall be moved to alternative location.	Non-significant. Alternative location proposed

Table 3.2 Summary of Environmental Impacts and Mitigation Measures for the 1997 EIR Alternative

Resource	Description of Impact	Scope	Proposed Mitigation Measures	Residual Impacts
				and evaluated in EIR Alternatives section.
Cultural & Historical Resources	Excavation and construction could directly impact 35 prehistoric and isolated artifact locations, 13 historic sites or features, and 2 modern cultural sites.	Short-term	Prior to final design, Phase II testing shall be conducted in 8 locations along the proposed alignment. After the Phase II testing and possible Phase III data recovery, each of the 8 areas shall be monitored during construction activity.	Non-significant
Public Services				
Fire Protection	Potential for wildland fires to occur as a consequence of construction activities.	Short-term	A Wildland Fire Protection Plan (WFPP) shall be required.	Non-significant
	Operation of facilities: intake, pump stations, water storage tanks, and water treatment plants.	Long-term	Final design plans shall incorporate fire safety requirements per SLO County Fire Department and the California Department of Forestry and Fire Protection Developer's Guide.	Non-significant
Risk Of Upset				
Construction	Construction of pipeline through contaminated areas (Reaches C,D,E, F,G, H & K) could impact the health and safety of workers and public during excavation.	Short-term	The design agency shall conduct detailed utilities survey. During design phase, the county shall perform Phase I and II hazardous materials site assessments prior to property acquisition or construction activities.	Non-significant
	Accidental releases of hazardous materials during transport or construction has the potential to adversely impact public health and environment. Fuel or chemical spills could result in fire or health danger.	Short-term	The contractor shall develop a Spill Contingency Plan, store hazardous materials in sealed containers within designated staging areas.	Non-significant
III. Other Environmental Impacts Which Are Potentially Adverse But Not Significant				
Agriculture	The pipeline would primarily affect grazing and pastureland. Land used for row crops may lose growing area for one season.	Short-term	Lead or Responsible Agency shall coordinate with agricultural land owners to minimize interference with agricultural operations; backfill materials shall reserve top soil for replacement.	Non-significant
WTPs, pump stations, and water storage tanks.	Construction of facilities would permanently displace land designated and utilized for agriculture.	Long-term	None proposed.	Non-significant
Pipeline easement	Pipeline easement could preclude planting of orchards or vineyards within maintenance corridors.	Long-term	None proposed.	Non-significant

Table 3.2 Summary of Environmental Impacts and Mitigation Measures for the 1997 EIR Alternative

Resource	Description of Impact	Scope	Proposed Mitigation Measures	Residual Impacts
Noise	Noise generated by construction of intake, pump stations, and water storage tanks in rural areas could exceed 100 decibels at 50 feet.	Short-term	Compliance with SLO County Noise Ordinance.	Non-significant
	Short-term construction noise associated with pipeline construction in urban areas could exceed 100 decibels at 50 feet.	Short-term	Sound generated from construction equipment is expected to comply with SLO County Noise Ordinance requirements. Equipment shall be operated and maintained in accordance with local noise ordinance requirements. All pipeline construction shall comply with the permitted hours as defined by each jurisdiction.	Non-Significant
	Potentially significant noise impacts could occur around areas supporting breeding bird habitat, such as riparian areas and the Morro Bay Estuary.	Short-term	Construction activities shall be limited during the breeding season (March 15 to September 15).	Non-significant
Operational Impacts	Noise associated with the operation of the intake and pump stations may exceed existing ambient conditions.	Long-term	Noise generating equipment associated with pump stations shall be enclosed or shielded to reduce noise levels to near ambient conditions.	Non-significant
	Noise from operation of Pump Station No. 2 could exceed existing ambient conditions.	Long-term	At 60% design phase for Pump Station No.2, plans shall be reviewed by a qualified acoustical engineer to assure that noise levels meet County Noise Element standards.	Non-significant
Risk Of Upset				
Transport and storage of chemicals at water treatment plants	The transport, handling, and storage of chlorine, ammonia, and liquid oxygen (if utilized) would increase the potential for a hazard to occur at WTPs.	Long-term	A Preliminary Hazard Analysis (PHA) shall be conducted during final design process.	Non-significant
Ozone	Risks associated with the transport, handling, and storage of liquid oxygen at WTPs.	Long-term	Generate ozone (if ozonation used) from air. Incorporate ambient and in-line ozone monitoring to determine ozone destruct system performance. Incorporate automatic power shutoffs.	Non-significant
	Risk associated with hazardous materials storage at WTPs.	Long-term	Hazardous materials storage and use areas shall include separate secondary containment areas for liquids, utilize non-combustible building construction materials, and install fire water sprinklers over inside storage/use areas.	Non-significant
Transportation	The use of residential streets and driveways would be interrupted during construction.	Short-term	Compliance with provisions of "Manual of Traffic Control for Construction and Maintenance Work Zones".	Non-significant

Table 3.2 Summary of Environmental Impacts and Mitigation Measures for the 1997 EIR Alternative

Resource	Description of Impact	Scope	Proposed Mitigation Measures	Residual Impacts
Visual	River discharge ponds would not be visible to general public.	Long-term	None proposed.	Non-significant
	Other facilities (blow-off valves, pump station 2) would have minimal visual impacts.	Long-term	Paint or screen with vegetation so that no visual impacts are created.	Non-significant
	California Mens Colony WTP is not visible from major public roads.	Long-term	None proposed.	Non-significant
Agriculture	Construction of Templeton WTP would remove 15 acres of dry land farming.	Long-term	None proposed.	Non-significant
Public Services	The use of potable water for dust suppression should be minimized.	Short-term	Use of non-potable water for dust suppression.	Non-significant
	Incremental contribution of spoils and sludge to area landfills.	Long-term	None proposed.	Non-significant
	Incremental increase in number of days hydroelectric facility downstream of Nacimiento Dam would not be able to operate.	Cumulative	None proposed.	Non-significant
IV. Beneficial Impacts				
Water Resources	Groundwater pumping competition between agriculture and municipal demand would be reduced.			
Water Supply	The NWP would provide an additional water supply not currently available to water purveyors. As a supplemental water source, it would have the potential to create a margin of safety should assumed firm water supplies be reduced or fail.			
Economic and Operational Benefits	The development of one large water supply project, such as NWP, would provide an economic benefit from not having to develop additional water supply projects to satisfy water demands at buildout.			

Table 3.3 Screening of 1997 DEIR Project Alternative

Area of Impact	Would Alternative Substantially Lessen or Avoid Impacts (-), Result in Increased Impacts (+) or Remain Approximately the Same (0) when compared to the Proposed Project?	
	1997 EIR Project	Notes
Aesthetic/Visual Resources	+	Facility locations and design resulted in greater impacts for this alternative, but would be approximately the same following mitigation.
Agricultural Resources	-	Alternative mainly follows roadways and urban areas and impacted fewer agricultural areas.
Air Quality	0	Construction emissions would be approximately the same, or only slightly higher.
Biological Resources	-	Alternative would avoid more sensitive biological areas by following roadways and urban areas.
Cultural Resources	-	Alternative would avoid more previously undisturbed resources.
Drainage, Erosion & Sedimentation	-	Alternative would avoid construction in and around numerous drainages.
Geology and Soils	-	Impacts to some geologically sensitive areas would be avoided.
Growth	0	Project and alternative impacts on growth would be the same.
Hazards and Hazardous Materials	+	By constructing through urban areas, the likelihood of encountering contaminated soils would be greater for this alternative.
Hydrology and Water Quality	-	Alternative has fewer river and creek crossings, thus minimizing potential water quality impacts.
Land Use	-	Alternative impacts fewer areas where land use conflicts might occur.
Noise	0	Alternative would impact a larger number of people, but in a noisier urban environment.
Public Services and Utilities	+	With an urban route, the probability of impacting public services and utilities are higher for this alternative.
Recreation	0	Impacts would be roughly the same as the proposed project.
Transportation/Circulation	+	Alternative would impact numerous roadways to a much greater degree than the proposed project.

Table 3.4 Screening of Combined Raw and Treated Water Alternative

Area of Impact	Would Alternative Substantially Lessen or Avoid Impacts (-), Result in Increased Impacts (+) or Remain Approximately the Same (0) when compared to the Proposed Project?	
	Combined Raw/Treated Water	Notes
Aesthetic/Visual Resources	0	Impacts would be the same as the proposed project, but occur over a longer period, thus reducing the magnitude in some cases.
Agricultural Resources	-	Project phasing could allow scheduling of construction activities to avoid conflicts with seasonal agricultural activities.
Air Quality	-	Phasing of project construction would reduce peak period air pollutant emissions.
Biological Resources	-	Construction Phasing would allow for avoidance of construction activities that would conflict with sensitive biological periods.
Cultural Resources	0	Impacts would be the same as the proposed project, but occur over a longer period, thus reducing the magnitude in some cases.
Drainage, Erosion & Sedimentation	0	Project phasing could allow scheduling of construction activities to avoid rainy periods when most impacts occur.
Geology and Soils	0	Impacts would be the same as the proposed project, but occur over a longer period, thus reducing the magnitude in some cases.
Growth	0	Impacts would be the same as the proposed project, but occur over a longer period, thus reducing the magnitude in some cases.
Hazards and Hazardous Materials	0	Impacts would be the same as the proposed project, but occur over a longer period, thus reducing the magnitude in some cases.
Hydrology and Water Quality	0	Project phasing could allow scheduling of construction activities to avoid rainy periods when most impacts occur.
Land Use	0	Impacts would be the same as the proposed project, but occur over a longer period, thus reducing the magnitude in some cases.
Noise	0	Impacts would be the same as the proposed project, but occur over a longer period, thus reducing the magnitude in some cases.
Public Services and Utilities	0	Impacts would be the same as the proposed project, but occur over a longer period, thus reducing the magnitude in some cases.
Recreation	0	Impacts would be the same as the proposed project, but occur over a longer period, thus reducing the magnitude in some cases.
Transportation/Circulation	0	Impacts would be the same as the proposed project, but occur over a longer period, thus reducing the magnitude in some cases.

Table 3.5 Screening of Bradley West River Alternative

Area of Impact	Would Alternative Substantially Lessen or Avoid Impacts (-), Result in Increased Impacts (+) or Remain Approximately the Same (0) when compared to the Proposed Project?	
	Bradley West River	Notes
Aesthetic/Visual Resources	0	Impacts would be roughly the same as the proposed project.
Agricultural Resources	0	Impacts would be roughly the same as the proposed project.
Air Quality	0	Emissions associated with pipeline construction would decrease, but would be offset by emissions from construction of a diversion or well field.
Biological Resources	+	Alternative would require construction activities within the Salinas River and impact sensitive species and habitat. Seasonal flow of the Nacimiento and Salinas Rivers would also be altered, potentially affecting several sensitive species.
Cultural Resources	-	Pipeline construction through areas with sensitive resources would be avoided.
Drainage, Erosion & Sedimentation	+	Alternative would require construction activities within the Salinas River, and seasonal flow of the Nacimiento and Salinas Rivers would also be altered.
Geology and Soils	0	Impacts would be roughly the same as the proposed project.
Growth	0	Impacts would be roughly the same as the proposed project.
Hazards and Hazardous Materials	0	Impacts would be roughly the same as the proposed project.
Hydrology and Water Quality	+	Alternative would require construction activities within the Salinas River, and seasonal flow of the Nacimiento and Salinas Rivers would also be altered.
Land Use	0	Impacts would be roughly the same as the proposed project.
Noise	0	Impacts would be roughly the same as the proposed project.
Public Services and Utilities	0	Impacts would be roughly the same as the proposed project.
Recreation	0	Impacts would be roughly the same as the proposed project.
Transportation/Circulation	0	Impacts would be roughly the same as the proposed project.

Table 3.6 Screening of Bradley East River Alternative

Area of Impact	Would Alternative Substantially Lessen or Avoid Impacts (-), Result in Increased Impacts (+) or Remain Approximately the Same (0) when compared to the Proposed Project?	
	Bradley East River	Notes
Aesthetic/Visual Resources	0	Impacts would be roughly the same as the proposed project.
Agricultural Resources	0	Impacts would be roughly the same as the proposed project.
Air Quality	0	Emissions associated with pipeline construction would decrease, but would be offset by emissions from construction of a diversion or well field.
Biological Resources	+	Alternative would require construction activities within the Salinas River and impact sensitive species and habitat. Seasonal flow of the Nacimiento and Salinas Rivers would also be altered, potentially affecting several sensitive species.
Cultural Resources	-	Pipeline construction through areas with sensitive resources would be avoided.
Drainage, Erosion & Sedimentation	+	Alternative would require construction activities within the Salinas River, and seasonal flow of the Nacimiento and Salinas Rivers would also be altered.
Geology and Soils	0	Impacts would be roughly the same as the proposed project.
Growth	0	Impacts would be roughly the same as the proposed project.
Hazards and Hazardous Materials	0	Impacts would be roughly the same as the proposed project.
Hydrology and Water Quality	+	Alternative would require construction activities within the Salinas River, and seasonal flow of the Nacimiento and Salinas Rivers would also be altered.
Land Use	0	Impacts would be roughly the same as the proposed project.
Noise	0	Impacts would be roughly the same as the proposed project.
Public Services and Utilities	0	Impacts would be roughly the same as the proposed project.
Recreation	0	Impacts would be roughly the same as the proposed project.
Transportation/Circulation	0	Impacts would be roughly the same as the proposed project.

Table 3.7 Screening of Camp Roberts Direct Route Alternative

Area of Impact	Would Alternative Substantially Lessen or Avoid Impacts (-), Result in Increased Impacts (+) or Remain Approximately the Same (0) when compared to the Proposed Project?	
	Camp Roberts Direct	Notes
Aesthetic/Visual Resources	0	Impacts would be roughly the same as the proposed project.
Agricultural Resources	-	Route would avoid some agricultural areas and slightly reduce impacts for this segment of the route.
Air Quality	0	Impacts would be roughly the same as the proposed project.
Biological Resources	+	Route would result in disturbance of Kit Fox habitat, an endangered species.
Cultural Resources	0	Impacts would be roughly the same as the proposed project.
Drainage, Erosion & Sedimentation	0	Impacts would be roughly the same as the proposed project.
Geology and Soils	0	Impacts would be roughly the same as the proposed project.
Growth	0	Impacts would be roughly the same as the proposed project.
Hazards and Hazardous Materials	0	Impacts would be roughly the same as the proposed project.
Hydrology and Water Quality	0	Impacts would be roughly the same as the proposed project.
Land Use	+	Pipeline would adversely affect training activities and could be damaged by live-fire military exercises.
Noise	0	Impacts would be roughly the same as the proposed project.
Public Services and Utilities	0	Impacts would be roughly the same as the proposed project.
Recreation	0	Impacts would be roughly the same as the proposed project.
Socioeconomics	0	Impacts would be roughly the same as the proposed project.
Transportation/Circulation	+	Construction would affect Camp traffic and training. Impacts outside of Camp Roberts would be the same as proposed project.

The pump stations/diversion works would impact a significant amount of natural riparian habitat. The pipeline would impact areas of the Salinas River natural habitat as there are no alternative alignments except for very close to the Salinas River because of the alignment of the railroad and Highway 101.

Large surge facilities would be required because of the inability to get to a storage tank in the area. This would cause a negative visual impact to travelers on Highway 101 in a natural habitat area.

After leaving Camp Roberts, the alignment can continue in existing County roadways and would be crossing the Salinas River in the area of the San Miguel Mission which would impact this historical site. Although this pipeline would be buried and backfilled, historical mapping and archaeological review is anticipated to be extensive in the area.

This alternative does not avoid or substantially reduce impacts associated with the proposed project. Therefore, this alternative has been excluded from further analysis.

3.2.4.2 East River (Bradley Well Field Concept) Alignment

As with the West River (Bradley Well Field Concept) Alignment, this alternative would entail moving the diversion point from Lake Nacimiento to the Salinas River channel on the east side of the river near the confluence of the Nacimiento and Salinas Rivers. This alternative would include a diversion from the Salinas River or a well field in the Salinas River channel, a pump station with reservoir, a pipeline along the farm and County roads and a portion of Camp Roberts on the east side of the river to a northerly (near North Paso Robles) crossing of the Salinas River. A WTP and pump station would be constructed east of North River Road between Estrella and Wellsona Roads. The pipeline would follow the proposed project pipeline alignment from an area north of Paso Robles southward.

This alternative was reviewed and preliminary concept designs proposed. It was found not to be worthy of further analysis based on those preliminary conceptual designs. The basis for this decision is described below:

A surface water diversion structure or well field would have to be constructed in the area of the confluence of the Nacimiento and Salinas Rivers. This area is highly vegetated and to get into the river channel would require major construction work in the wet below the confluence. This would have to be done while there is water in both rivers because there are minimal flow requirements for the Nacimiento and Salinas Rivers at this point as required by the water rights permit requirements.

The facilities would have major susceptibility to flooding during high flows on the Salinas River because of the constricted area of river channel in this area. A review of the soils in the area indicates that the soils are probably not amenable to construction of an infiltration gallery or Ranney type well.

The construction of a reservoir on the mountains east of the Salinas River appear to be in an area where there have been substantial sliding of the soils over time. Therefore, this alternative (pipeline and reservoir) would be subject to landslides and unstable soil conditions. The pipeline would have to be constructed across Camp Roberts and in an area where there are major training exercises with heavy armored equipment. Thereby, the pipeline would be susceptible to damage caused by unusual loads as a result of the California Army National Guards' training area. The diversion pump station or wells that would constitute a major pump station would require a major power line construction into the area and this is not believed to be compatible with Camp Roberts operations as a training base.

This alignment while being shorter would impact more native riparian vegetation along the Salinas River.

This location would also require substantial protection from flooding by the Salinas River. Access to the diversion pump station and reservoir would require construction and maintenance of a road in an area that does not have any all-weather service roads.

Archaeological investigations (Breschini 1983 and Gibson 2003) have determined that the area of the confluence of the Nacimiento and Salinas Rivers is likely an archaeologically sensitive area. Abundant water availability and local terrain features make the site ideal for habitation on a year round basis.

The County's water rights permit for diversion of water from Lake Nacimiento would need to be modified and result in a diversion point located in Monterey County. The potential regulatory constraints could jeopardize the feasibility of the project moving forward.

This alternative does not avoid or substantially reduce impacts associated with the proposed project. Therefore, this alternative has been excluded from further analysis.

3.2.4.3 Camp Roberts Direct Alignment

This alternative follows a historic access route along a County road that is now within the Camp Roberts jurisdiction. The facilities would entail a diversion from the Nacimiento River near the historic Nacimiento Ranch Headquarters, a pipeline adjacent to existing roadways to San Miguel, and then on to a crossing of the Salinas River north of Paso Robles. This alternative alignment would entail construction of a diversion works on the Nacimiento River or, if found to be appropriate, a well field taking subsurface flows from the Nacimiento River and a pipeline along Beerock Road. A WTP and pump station would be constructed adjacent to the east side of Camp Roberts. The pipeline would follow the proposed project pipeline alignment from Wellsona Road southward.

This alignment is entirely within Camp Roberts and the active area of their training activities. This area is where actual maneuvers are held using heavy military vehicles. Their training is both during the day and night so restrictions exist to access and emergency lighting. A review of this alignment with the Commander of Camp Roberts and his staff indicated that the pipeline, if constructed in this area, would be subject to severe loading from the heavy military vehicles that do training in this area plus munitions that may be used in the training exercises. Based on the review with Camp Roberts and the design, this alternative is rejected for the following reasons:

A large above ground surge tank would be required to accommodate the surge control because there is not a location for a large gravity tank. This facility could be above ground and would be a severe hindrance to the Camp Roberts training mission.

There is not any major power source to this site and, therefore, power lines below ground would have to be brought in through the training area which would make the power lines susceptible to damage and possible injury to troops training in the area.

The pipeline adjacent to the historic Beerock Road is directly in the area of major training activities and would result in severe disruption to the training mission of the Camp and in all probability the Camp would not allow this alternative to be pursued even if it was found to be acceptable.

This area is in the habitat area of the Kit fox and is protected by an active program by the Environmental Team at Camp Roberts.

A variation to this alternative is a Beerock Road alignment. The diversion point would remain at Nacimiento Dam along with the pump station, surge control, and related facilities. From Boy Scout Road to Beerock Road the alignment would be a pipeline only and would be along Camp Roberts roads.

The Beerock Road alternative requires that Beerock Road be part of the alignment and as such impacts to the training mission, as described above, would occur. This alignment would not require power lines in Camp Roberts nor a pump station on Camp Roberts. Because the major training area on Camp Roberts will still be impacted this alignment is not desirable from the Camp Roberts standpoint.

This alternative does not avoid or substantially reduce impacts associated with the proposed project. Therefore, this alternative has been excluded from further analysis.

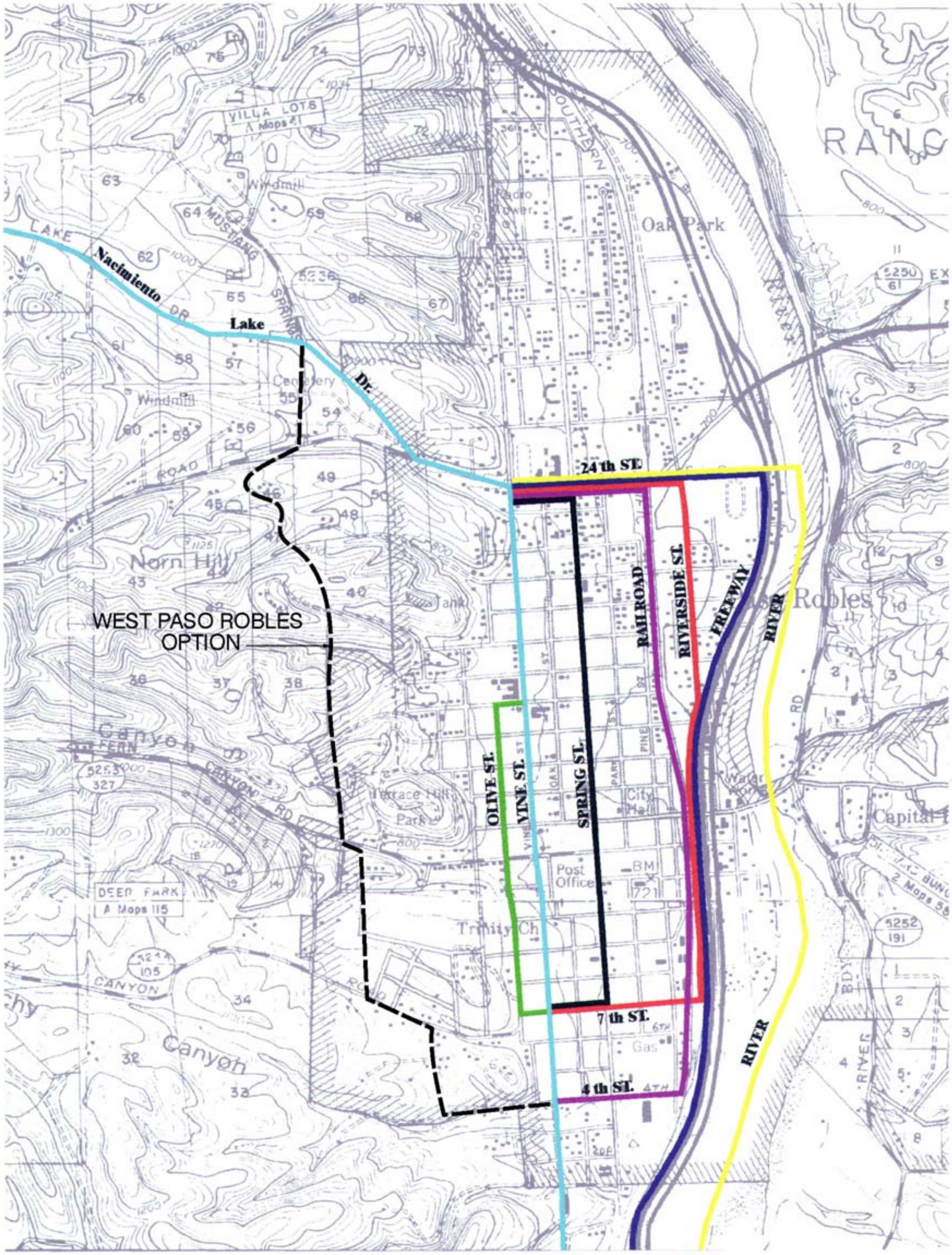
3.2.4.4 Paso Robles Vine Street Alternatives

Subsequent to the NWP 1997 EIR, six additional routes through Paso Robles were investigated as an option to Vine Street, including Spring Street, Olive/Vine, Riverside Avenue, railroad ROW, Highway 101 ROW, and the Salinas River as shown on Figure 3-3. These options required the pipeline to be extended further east and back west again to join the main line.

The Salinas River option was rejected as construction of a pipeline in or near the river would be unstable and obtaining a permit from the ACOE to build would be questionable given the potentially substantial impacts to biological habitat. Highway 101 was rejected as CalTrans does not allow parallel pipelines in Highway ROW.

The remaining options were also excluded from the analysis because they did not avoid or substantially reduce impacts associated with the proposed project, as each alternative would result in similar construction impacts on residents and businesses as Vine Street. The railroad option was not considered feasible due to space constraints, existing structures and potential incompatibility issues associated with railroad ROW contamination and hazardous materials that are transported through the ROW.

Figure 3-3 West Paso Robles Street Options per 1997 EIR



Another potential alignment bypassed the City of Paso Robles to the west. Due to hilly terrain, the route would need to traverse up and down several ridgelines, resulting in grading and tree removal impacts that would be similar to the proposed project. Because this alternative would not avoid or substantially reduce impacts associated with the proposed project, it has not been analyzed any further.

3.2.4.5 Templeton Main Street Alternatives

Subsequent to the NWP 1997 EIR, additional pipeline routes through Templeton were investigated as an option to Main Street as shown in Figure 3-4.

The Old Country Road option was not considered feasible due to narrow right of way, substantial existing utilities, and construction near a public school. An alignment within the Southern Pacific Railroad right of way was also eliminated due to limited construction area, property acquisition issues, and potential right of way contamination issues.

Additional routes east of the Salinas River were not evaluated due to potential impacts associated with pipeline river crossings. No suitable alternative routes west of Old Country Road were identified, mainly due to the lack of adequate north-south trending roadway right-of-way in this area.

3.2.4.6 Use of Gas and Oil Pipeline Easements

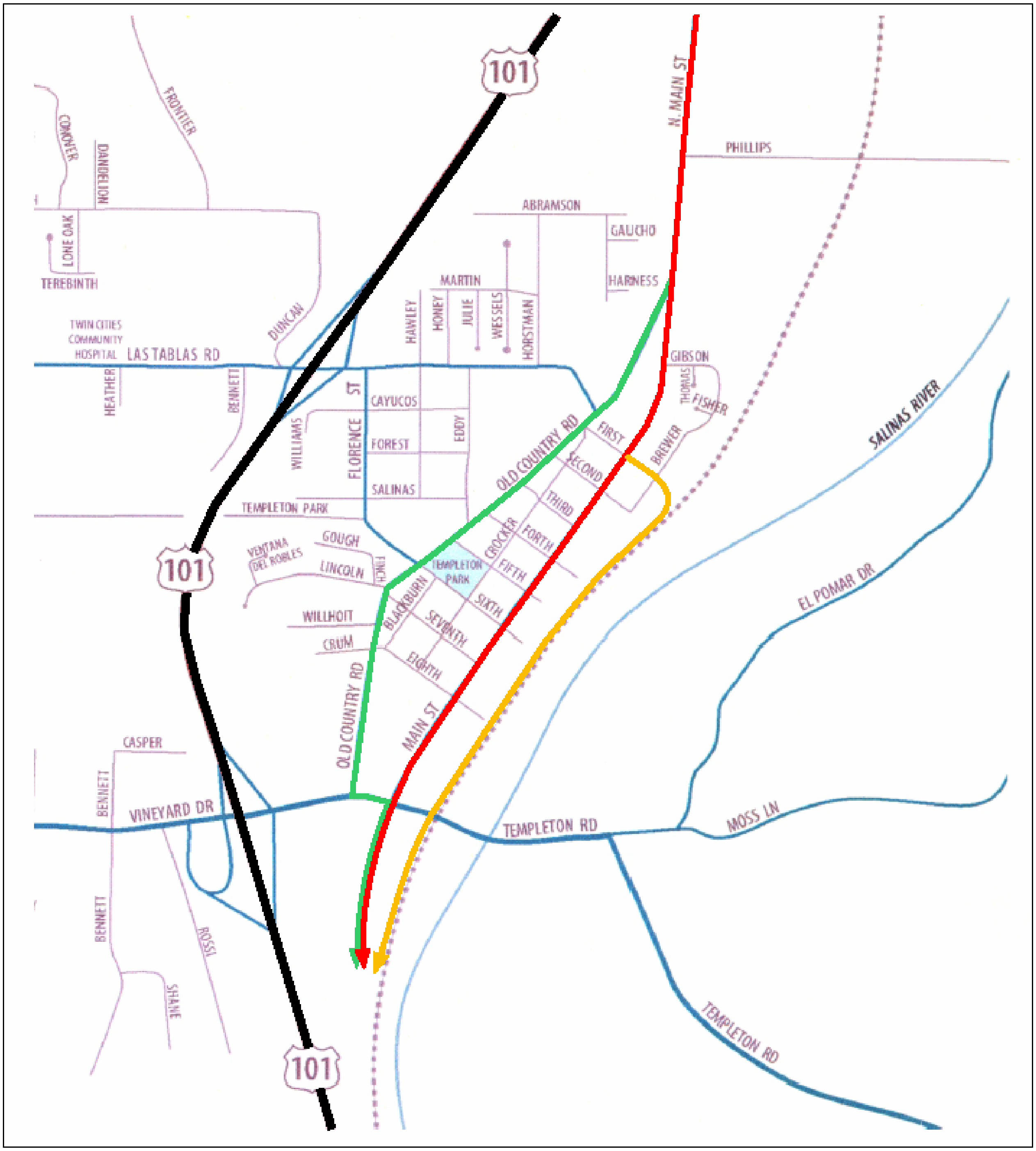
During the development of the new project alignment, the alternatives of utilizing existing gas and oil pipeline easements in the Paso Robles area and specifically using an existing oil pipeline easement extending from San Ardo (near Bradley) to Estero Bay near Cayucos were evaluated.

In this alternative, Lake Nacimiento water would be conveyed through existing unused pipelines or in a new pipeline built within the easement.

In terms of using existing gas or oil pipelines in the Paso Robles area, the known easements do not follow the general alignment of the proposed project (i.e., they run in an east-west direction, rather than in a north-south direction). Also, the gas pipelines are constructed in a straight line, over steep hills, which would make the construction of a pipe the size proposed for the Nacimiento water project infeasible due to additional pumping costs because the water would be pumped from higher elevations than required for the system needs.

The San Ardo oil pipeline easement spans approximately 17.5 miles from a point along Lake Nacimiento Road to the Old Creek arm of Whale Rock Reservoir near Cayucos. The easement is linear and traverses the Coastal Range in a north-south direction. The terrain is hilly, with numerous peaks and valleys. Elevations along the easement range from 200 to 1950 feet above msl.

Figure 3-4 Templeton Main Street Alternatives



Three steel pipelines lie within the easement, ranging in size from 4–12 inches in diameter and have been used for transporting heavy crude oil. Use of these existing pipes was studied from a hydraulics standpoint. In terms of capacity, the lines would be able to convey less than 40% of the planned capacity in this reach of pipeline. Maintaining recommended pipeline pressures would not be feasible due to the terrain. At least three pump stations would be needed in addition to the pump station at the lake, as well as a pressure regulator. Even with the combination of pumps and pressure regulators, it appeared uncertain that the existing pipelines could withstand the pressures that would be required to move the water through the pipes. Based on hydraulics (capacity, number and location of pump stations, and high line pressures) it is not feasible to use the existing oil pipelines in the San Ardo easement.

Installing a new pipe in the oil easement was also evaluated. A 24-inch diameter pipeline would be needed with two pump stations in addition to the pump station at the lake. The pipe material would require high pressure rating due to the high pressures required to move the water over the hilly terrain. While costly, a new pipeline would be feasible from a hydraulic standpoint. Project construction impacts would be similar to the proposed project with the addition of cleanup of contaminated soils that likely exist along an oil pipeline route installed as early as 1914, and installation of electrical improvements needed to provide power for the pump stations. In addition, this pipeline alignment would deliver water to participants located south of Cuesta Grade. North County participants with allocation requests totaling 8160 afy would not be served by this pipeline. The concept of delivering Lake Nacimiento water to Whale Rock Reservoir in exchange for additional releases from Salinas Reservoir to serve North County poses water rights issues in addition to the fact that Salinas does not have sufficient safe yield to meet the requested allocations. Based on insufficient yield, a pipeline (and eventually a treatment plant) would still need to be constructed to deliver the remainder of the Nacimiento allocation to North County.

This alternative does not avoid or substantially reduce impacts associated with the proposed project. Therefore, this alternative has been excluded from further analysis.

3.2.5 San Luis Obispo “Wheeling” Alternative

An alternative to serving the Edna Valley Mutual Water Company, Fiero Lane Water Company, and Airport CSA is the use of the City of San Luis Obispo’s transmission, storage, and distribution system to deliver water to these entities. To make this wheeling arrangement work, water from the Nacimiento Water Project would be delivered to the City of San Luis Obispo’s WTP and then wheeled through the City’s system.

While the City of San Luis Obispo’s system may not be sized to handle the demand of the Airport CSA, Edna Valley MWC, and Fiero Lane Water Company, it is believed that with relatively minor improvements, modifications and extensions service could be provided. According to the 1998 City Water Master Plan by Boyle Engineering Corporation, the City serves an average demand of 470 gallons per minute (gpm) to their Airport Service Area through a 12” pipe along Highway 227. This service area is located around Fiero Lane Water Company and adjacent to the Airport CSA, although neither entity is served by the City.

The Water Master Plan was reviewed and it appears that the existing 12” pipe along Highway 227 is adequate to carry an additional 1,620 acre-feet per year (AFY), or 1030 gpm average flow, which is the total requested allocation for the three Nacimiento participants. The existing 12” pipe could be extended approximately 12,000 linear feet along Highway 227 to serve Edna Valley Mutual Water Company. The existing 12" pipe is located adjacent to the Fiero Lane Water Company, allowing a system connection without a significant pipeline cost. Another 6000 lf of 12" pipe could be extended along Buckley Road from the Highway 227 waterline extension to the Airport CSA.

This alternative would lend itself to phased construction which the preferred alternative does not. Also, improvements to the City's water system could be scheduled with their routine system maintenance, improvements, and expansions.

This alternative is currently deemed infeasible since the City has, by policy, not provided water service to potential users outside City limits. However, the City Council could make a finding that water wheeling does not violate this policy or decide to revise this policy in the future. Obviously, this alternative would require City approval and a wheeling agreement to be implemented. This alternative, while considered speculative under the current circumstances and thus not feasible, and not studied in depth herein, would avoid some Class II and III impacts associated with construction of the proposed project between the SLO WTP and Airport Area end users. However, because potential impacts associated with improvements to the City's water system would be similar to NWP pipeline construction south of the City, it is likely that a water wheeling agreement would be consistent with the EIR findings.

3.2.6 Reservoir Intake Alternatives

Alternative reservoir intake options were evaluated in the report entitled "Nacimiento Water Supply Project (Phase II) Reconnaissance Level Intake Alternative Evaluations" dated July 1996 prepared by Harza Engineering Company of California (the 1996 Harza Report). An additional evaluation of the proposed intake location was included in a subsequent geotechnical report from Fugro West, Inc. (Fugro), dated September 2000. These alternatives were summarized in the Carollo report "EIR Preparation Phase Engineering Report, Updated Draft" (April 2002)

3.2.6.1 Alternative Reservoir Intake Options

Nine intake options were reviewed at a conceptual level for this report. Out of the initial nine options, six were deemed not viable from a conceptual point of view and were therefore eliminated from further consideration. Screenings for initial viability of an option were based on engineering, technical feasibility, maximizing water supply reliability, and conflicts with current operational requirements of the existing outlet facilities. The following alternatives were evaluated in the Carollo Report as follows:

Viable Alternatives

Option 1 Single-Port Tunnel Intake with Lake Destratifier
Option 2 Multi-Port Sloping Intake
Option 4 Multi-Port Tunnel Intake (Proposed Project)
Option 7 Intake Facilities Upstream of South Abutment (1997 EIR)

Non-Viable Options

Option 3	Free-Standing Tower Intake
Option 5	Connection Upstream of Powerhouse
Option 6	Connection Downstream of Powerhouse
Option 8	Floating Intake
Option 9	Modification of Existing Low-Level Outlet Works

The feasibility of each option is discussed below.

3.2.6.2 Non-Viable Alternatives

Six reservoir intake options were rejected from consideration as an alternative to the proposed project option for a variety of environmental, engineering and economic reasons as summarized below.

Option 3 – Free-Standing Tower Intake
Because of the height of the towers, seismic concerns are of great importance in designing the facility. Due to these concerns, it is not considered economically feasible to construct free-standing intake towers in comparison with sloping intakes or the single-level submerged inlet. The design for the foundation of the intake tower is critical because the intake tower will need to be designed to withstand seismic forces that would be expected to occur in the region over the project lifetime. Given the potential impact on project reliability and economics, this option was eliminated from further consideration.

Option 5 – Connection Upstream of Powerhouse
This option for taking Nacimiento water from the Nacimiento reservoir was through a discharge pipe at the bottom of the reservoir, which is connected to the Monterey County Resources Agency's power plant. This outlet basically draws water from one elevation in the reservoir which means that reservoir turnover and other water quality issues such as sediment on the bottom of the reservoir would be passed along to a treatment plant located downstream from the intake. The reasons for eliminating this alternative diversion point are as follows:

- The water quality cannot be controlled (i.e., selective withdrawal) at the outlet as compared to the preferred alternative.
- The intake pump station would have to be located adjacent to the spillway and powerhouse of the Nacimiento reservoir. Access to the pump station would be severely restricted during flood flows on the Nacimiento Dam outlet works. Access to the powerhouse is via a small bridge over the Nacimiento River from the spillway to the powerhouse. The same access route would be required for the pump station.
- The pump station surge may have an impact on the dam outlet works that could create problems with the powerhouse of Monterey County Water Resources agency and therefore, may increase significantly the operational concerns and costs relative to this connection point.
- Impacts that will potentially require State of California Division of Safety of Dams (DSOD) review and approvals may be necessary with the pump station at the base of the dam because

this is in the area of the dam foot print. It is possible that this alternative could adversely impact dam safety.

Based upon the above factors, this option would not meet the project water quality goals and could raise serious safety concerns. Therefore, this alternative was eliminated from further consideration.

Option 6 – Connection Downstream of Powerhouse

For a connection downstream of the powerhouse, the major technical concerns are the construction of a check dam in the stream, the construction of a steep pipeline out of the riverbed, finding a suitable pump station location, possible interruption during flood events and the difficulty of installing bypass system/controls.

The facilities (pump station and appurtenances) would need to be located at a high enough elevation to avoid damage in the event of flooding due to flows that may overtop the dam spillway. Additionally, construction of a pipeline alignment up the steep canyon walls, to convey water to a booster pump station from the low-lift pump station, may prove to be infeasible.

Other water related technical concerns that would occur include inconsistent water supply, interruption of water supply due to dam operations, and construction challenges. Water supply for the intake may fluctuate greatly, due to hydraulic control of the hydroelectric facility, providing for an inconsistent water source for the project. The water supply to the project may be interrupted in the event the dam spillway were to overtop due to the degradation of the water quality downstream of the dam caused by turbulent waters drawing up sediments and debris into the water, and may not be suitable for treatment.

This alternative would not meet the proposed project reliability and water quality goals and was eliminated from further consideration.

Option 8 – Floating Intake

A floating intake is not considered a permanent or durable solution for providing water supply to the County. This option is difficult to maintain due to exposure of the facilities to wind, weather, and waves. Access and maintenance would be more difficult than for an on-shore facility. There are also inherent complications associated with the type of appurtenances needed to allow for connection to the shoreline as the reservoir elevation changes, which given the current and planned operation of the lake is a regular occurrence, that would adversely affect the reliability of the intake structure. Therefore, this alternative was dropped from further consideration.

Option 9 – Modification of Existing Low-Level Outlet Works

This option is deemed not viable due to MCWRA concerns with connections to its existing outlet works as it may compromise hydroelectric production downstream. Additionally, this alternative brings into question the safety concerns DSOD may have to alterations done on the main outlet facilities of the dam. Therefore, this alternative was eliminated from further consideration.

3.2.6.3 Viable Alternatives

Option 1 – Single-Port Intake with Lake Destratifier

This option would utilize a channel or tunnel with a single low-level intake structure that would be connected to the down stream end of the tunnel. The tunnel would extend horizontally to a drilled pump bowl shaft extending vertically into the ground from the shoreline pump station.

The horizontal distance between the submerged inlet and the shoreline pump station would be sufficient as to allow for a minimum of a 1H:1V excavation slope[2] from the shoreline pump station to a tunnel intake at elevation 670 feet. Water would reach the submerged intake via an underwater dredged channel from the low point of the reservoir.

The low-level intake structure would also be concrete encased, placed in either a vertical, horizontal, or inclined position, and would incorporate a trash rack or bar screen at the entrance. The tunnel would be steel-lined, approximately 72 inches in diameter for maintenance and construction access. The vertical shafts are expected to be 30 inches in diameter and slip lined with a steel pipe.

No provisions for maintenance accessibility under dewatered conditions are envisioned. The 72-inch diameter steel-lined tunnel is sized, not for maximizing hydraulic efficiency, but rather for construction access.

Advantages of this option are attributed in main part to offering a minimum amount of maintenance because there exists less appurtenant structures associated with this option.

The main disadvantage of this option is the inability to selectively withdraw water from different levels to maximize water quality. An aeration system would be utilized for destratification of the water column above the submerged inlet and increasing the dissolved oxygen content. An aeration system can reduce the concentrations of many contaminants, which remain in solution only under the anaerobic conditions that occur in the hypolimnion of a stratified reservoir. Aeration would be accomplished by incorporating piped air to the entrance of the submerged inlet thus creating a mixing of the water column around the inlet or by anchoring a diffuser system to the bottom of the reservoir near the entrance of the submerged inlet.

The facilities necessary for aeration include a compressor system located at the shoreline pump station with the air being piped along the pump bowl shafts and along the tunneled pipeline to the submerged inlet entrance. If an anchored air diffuser is used, then there is no need for a piping system to be installed parallel to the tunneled piping system, instead, the air diffuser would supply air via a floating rigid piping system extending into the reservoir from the shoreline. An additional disadvantage of this option is that maintenance to the trash rack will necessitate drawing down of the reservoir or the use of divers in order to access the facility.

Option 2 – Multi-Port Sloping Intake

Option 2 proposes construction of a sloping intake facility composed of a sloping collector pipeline approximately 48 inches in diameter to allow for 30 cfs withdrawal of water from the

[2] 1H:1V excavation slope refers to a slope with a ratio of 1 horizontal to 1 vertical length and is a typical terminology in construction.

reservoir at low water surface elevations and would allow for access into the intake assembly for maintenance purposes.

The sloping intake would incorporate three separate gated intake pipes along the sloping collector pipe system. Each gate would be operated automatically, with hydraulic controls, to shut off flow to the sloping collector pipe. Each intake pipe would incorporate placement of a trash rack or bar screen at the upstream entrance to keep out debris. Flow collected through the three gates would feed a shoreline pump station with a tunnel as described in Option 1.

All electrical components related to pumping would be located above the reservoir water surface at the shoreline pump station, improving access when maintenance is necessary. Access to the trash racks would require drawing down the reservoir or the use of divers.

Option 4 – Multi-Port Tunnel Intake (Proposed Project)
Option 4 proposes construction of a multi-level intake structure comprised of drilling a single 20-30 foot diameter shaft vertically into the ground from the shoreline pump station for approximately 160 feet, connecting it to three horizontal intake tunnels located at differing elevations. The bottom horizontal intake tunnel elevation would match the existing MCWRA outlet elevation of 670 feet. The shaft would be of sufficient diameter to accommodate several pump bowl assemblies, control gates, and maintenance access. Both the vertical shaft and the tunnels would be lined.

Hydraulic control of the facility would be achieved within the vertical shaft where the control gates would be housed. Trash/fish rack assemblies would be placed at the upstream end of the horizontal tunnel shafts. No hydraulic control is envisioned at the upstream end. Water would flow through the horizontal tunnels and into the sump at the bottom of the vertical shaft where the pump bowl assemblies are located.

Advantage associated with this option is the availability to control water quality by allowing for selection of reservoir releases at differing elevations. The disadvantages are the extensive tunneling required in combination with drilling of the vertical access shaft of relatively large diameter (20–30 feet in diameter).

Option 7 – Intake Facilities Upstream of South Abutment (NWP 1997 EIR)
This option is identical to the proposed project but located on the opposite side of the dam and was also evaluated in the 1997 EIR. This option is also a component of the 1997 EIR alternative that was evaluated in Section 3.2.2. Therefore, this option is already being evaluated in the EIR and will not be discussed further in this section.

3.2.6.4 Screening of Viable Alternatives

Table 3.8 provides an overview of potential impacts associated with each viable reservoir intake option as compared to the proposed project (i.e., Option 4 above). Only Option 2 with the use of submersible pumps could reduce an impact associated with the proposed project in the area of visual resources. However, this option would not be capable of consistently delivering water of the same quality as the proposed project, and thus would not meet all of the proposed project goals. Therefore, with the exception of Option 7, which is part of the 1997 EIR alternative, none of these alternative reservoir options will be fully evaluated further in the EIR.

3.2.7 Alternative Water Treatment Locations

The proposed treated water project would utilize a single WTP that would be located within Camp Roberts. The NWP 1997 EIR evaluated the construction of WTPs to serve north County purveyors. The second phase of the 1997 EIR project included construction of a WTP for Paso Robles, Templeton, and Atascadero and one or two WTPs to serve Santa Margarita purveyors.

The 1997 EIR included five alternative WTP site locations that were identified by the project engineer (Carollo 1996). The locations selected were primarily based on hydrologic considerations and gravitational flow. Whether a proposed WTP location is feasible depends on the overall hydraulic profile of the pipeline route. Evaluation of alternative WTP locations was based on hydrologic, environmental, economic, and social factors. Alternative water treatment plant sites included either a regional water treatment scenario or a local water treatment plant proposal to address the varying needs of the project participants. Alternative water treatment plant sites that were considered in the 1997 EIR included the following:

- Site 1 – Heritage Ranch (Regional WTP);
- Site 2 – Chimney Rock (Regional WTP);
- Site 3 – San Marcos Road (Regional WTP);
- Site 4 – Templeton (Local WTP); and
- Site 5 – Templeton alternative (Local WTP).

3.2.7.1 WTP Sites 1 Through 3

Two of the regional WTP sites listed above (Sites 1and 2) would not be feasible alternatives to the proposed project due to their locations. These sites are viable alternatives for the NWP 1997 EIR route and were evaluated in that document. Site 3 at San Marcos Road is very close to the proposed project WTP. Site 3 is located approximately one-half mile west of Oak Flat Road and approximately one mile east of San Marcos Road. An access road of approximately 2,000 feet, plus raw and treated water pipelines totaling 1.5 miles would be constructed under this alternative. Site 3 would be constructed at an elevation of 1,100 feet or slightly higher than the hydraulic grade line of the main pipeline. Site 3 consists of approximately 19 acres of nonnative grassland, two acres of scrub and chaparral, and 0.28 acre of valley oak woodland onsite. This site was not carried forward for analysis because it does not offer any improvements over the proposed project and would likely have environmental impacts greater than the proposed WTP site on Camp Roberts.

Table 3.8 Screening of Alternative Reservoir Intake Options

Area of Impact	Would Alternative Substantially Lessen or Avoid Impacts (-), Result in Increased Impacts (+) or Remain Approximately the Same (0) when compared to the Proposed Project?			
	Option 1	Option 2	Option 7	Notes
Aesthetic/Visual Resources	0	-	+	Option 2 could avoid an above-ground pump station; Option 7 would be located in a more sensitive area.
Agricultural Resources	0	0	0	No substantial difference between alternatives.
Air Quality	0	0	0	No substantial difference between alternatives.
Biological Resources	0	0	+	All options, except 7, would be constructed on previously disturbed site.
Cultural Resources	0	0	0	No substantial difference between alternatives.
Drainage, Erosion & Sedimentation	0	0	+	Option 7 site would require more site alteration and potential for erosion and sedimentation.
Geology and Soils	0	0	+	Option 7 site would require more site soil alteration.
Growth	0	0	0	No substantial difference between alternatives.
Hazards and Hazardous Materials	0	0	0	No substantial difference between alternatives.
Hydrology and Water Quality	+	+	0	Options 1 and 2 would result in lower water quality than proposed project.
Land Use	0	0	0	No substantial difference between alternatives.
Noise	0	0	0	No substantial difference between alternatives.
Public Services and Utilities	0	0	0	No substantial difference between alternatives.
Recreation	0	0	0	No substantial difference between alternatives.
Transportation/Circulation	0	0	0	No substantial difference between alternatives.

3.2.7.2 WTP Site 4 Templeton WTP

Site 4 is located on a 48.89 acre parcel with access from Cuerno Largo Way, one mile west of South Vine Street in Paso Robles. The site, located at an elevation of 900 feet asl, would require approximately 15 acres of graded land which includes approximately 11 acres for the facility and the remaining for cut and fill slopes. Access to the plant would be from Highway 101 and a frontage road, then approximately 0.5 mile of existing road and 0.36 mile of new road.

The site is presently in and designated for agriculture in the Salinas Area Plan. The nearest residence is approximately 0.3 mile below the proposed site. This site was selected as the preferred project location and was analyzed in the 1997 NWP EIR. Because a new parcel would be created for a WTP site, a Public Lot procedure and General Plan Conformity Report would be required which would assess the proposed WTP site's consistency with the county's policies on conversion of agricultural land to a public facility. No significant environmental impacts were identified for this site. However, this site does not offer any benefit over the proposed WTP site on Camp Roberts. In addition, this site would require two pipelines (raw and treated water) between the pipeline and WTP route, which is located on the east side of the Salinas River. Therefore, an additional river crossing would be required to accommodate this WTP site. Because the site does not reduce or avoid any environmental impacts associated with the proposed WTP site on Camp Roberts, the site was not carried forward for further analysis in the EIR.

3.2.7.3 WTP Site 5 Templeton Alternative

Alternative WTP Site 5 would be located on farmland approximately three miles west of the main pipeline in Templeton at an elevation of 900 feet asl. This site was rejected for the same reasons as Site 4. In addition, the site would be located within sight distance near a large number of existing residential home sites. The nearest residence would be approximately 0.1 mile away and near the same elevation as the proposed WTP. Because the site does not reduce or avoid any environmental impacts associated with the proposed WTP site on Camp Roberts, the site was excluded from further analysis in the EIR.

3.2.7.4 Other Alternative WTP Sites

The Project Engineer (Carollo 2002), identified four alternative WTP site configurations, none of which would avoid or substantially reduce potential impacts associated with the proposed project and are not considered viable CEQA alternatives to the proposed project. Therefore, none of these alternatives were evaluated in this EIR.

In order to provide treated water to the first purveyor along the pipeline route (i.e., Paso Robles), an alternative WTP site would need to be located between Lake Nacimiento and the Paso Robles turnout. Otherwise, additional pipelines would be required to deliver treated water from a WTP site south of Paso Robles. A reconnaissance of the pipeline route between Lake Nacimiento and Templeton was conducted in order to evaluate additional alternative sites. While there are numerous alternative WTP sites along the pipeline route, none offered any environmental benefit over the proposed WTP site on Camp Roberts. Therefore, no other additional sites were identified for evaluation in the EIR.

Under the raw water option, it is recognized that project participants may elect to receive raw water and pursue various treatment alternatives. However, in the absence of specific proposals, it would be speculative to evaluate the construction of additional water treatment facilities for each of the project participants when these facilities are not required to receive or distribute their NWP allocation. Additional construction of water treatment facilities under the raw water option would not substantially reduce or avoid any of the significant impacts identified in the EIR. In fact, construction of additional water treatment facilities by project participants would likely lead to the identification of new environmental impacts not identified in the EIR. Therefore, additional environmental review would be required prior to construction of water treatment facilities by any of the project participants.

3.2.8 Alternative Water Sources

Alternative sources of water have also been included in the alternative screening analysis. These alternatives have been evaluated in terms of potentially avoiding impacts that would be associated with the proposed project, as well as meeting the proposed project's goals and objectives. The results of the screening analysis for each alternative water source considered are presented in Tables 3.9 through 3.13. Detailed discussions for each alternative are provided below.

3.2.8.1 State Water Project

This alternative would utilize the unused 16,553 afy of water from the Coastal Branch of the SWP. Because the SWP Coastal Branch is operated at or near its capacity (see Section 3.1.3.1), a new SWP Coastal Branch pipeline would need to be constructed for portions of the SWP that cannot be upgraded to accommodate the increased 16,553 afy flow. In addition, a new pipeline would need to be constructed between Santa Margarita and Paso Robles in order to supply most north county locations.

This alternative was not selected for further review because it would share many of the same impacts as the proposed project due to the need to construction additional pipelines. In addition, this alternative does not meet the proposed project's basic needs of greater water supply reliability.

3.2.8.2 Additional Groundwater Pumping

In the absence of the NWP allocation, this alternative assumes that groundwater would continue to be used to meet current water demand and increased in the future at a level equivalent to the NWP water supply allocation, in part to meet the growth projected in the County's General Plan. In many instances, County purveyors would be required to obtain additional ground water rights, and potentially shift water usage between urban and agricultural uses.

Table 3.9 Screening of State Water Project Coastal Branch Alternative

Area of Impact	Would Alternative Substantially Lessen or Avoid Impacts (-), Result in Increased Impacts (+) or Remain Approximately the Same (0) when compared to the Proposed Project?	
	State Water Project	Notes
Aesthetic/Visual Resources	+	The design of the Coastal Branch of the State Water Project resulted in numerous visual impacts that are greater than the proposed project.
Agricultural Resources	0	Impacts would be similar to the proposed project.
Air Quality	0	Impacts would be similar to the proposed project.
Biological Resources	0	Impacts would be similar to the proposed project.
Cultural Resources	0	Impacts would be similar to the proposed project.
Drainage, Erosion & Sedimentation	0	Impacts would be similar to the proposed project.
Geology and Soils	0	Impacts would be similar to the proposed project.
Growth Inducement	0	Impacts would be similar to the proposed project.
Hazards and Hazardous Materials	0	Impacts would be similar to the proposed project.
Hydrology and Water Quality	+	This source of water would not be available when it is needed most, during drought periods. The lower reliability of State Water would result in greater overdraft of County groundwater resources during drought periods, thus impacting local water quality.
Land Use	0	Impacts would be similar to the proposed project.
Noise	0	Impacts would be similar to the proposed project.
Public Services and Utilities	0	Impacts would be similar to the proposed project.
Recreational Resources	-	The proposed project will likely contribute to potential recreation impacts at Lake Nacimiento, mainly in association with the Salinas Valley Water Project. This alternative would avoid contributing to potential recreation impacts at Lake Nacimiento, but would only minimally reduce cumulative Salinas Valley Water Project impacts.
Transportation/Circulation	0	Impacts would be similar to the proposed project.

Table 3.10 Screening of Additional Ground Water Development Alternative

Area of Impact	Would Alternative Substantially Lessen or Avoid Impacts (-), Result in Increased Impacts (+) or Remain Approximately the Same (0) when compared to the Proposed Project?	
	More Ground Water	Notes
Aesthetic/Visual Resources	-	Alternative would avoid impacts associated with proposed project construction.
Agricultural Resources	+	Alternative would reduce the future amount of water available for agricultural resources
Air Quality	-	Alternative would avoid impacts associated with proposed project construction.
Biological Resources	-	Alternative would avoid impacts associated with proposed project construction.
Cultural Resources	-	Alternative would avoid impacts associated with proposed project construction.
Drainage, Erosion & Sedimentation	-	Alternative would avoid impacts associated with proposed project construction.
Geology and Soils	-	Alternative would avoid impacts associated with proposed project construction.
Growth Inducement	-	Alternative would make less water available to accommodate the growth projected in the County General Plan.
Hazards and Hazardous Materials	-	Alternative would avoid impacts associated with proposed project construction.
Hydrology and Water Quality	+	Increased ground water pumping would result in decreased water quality.
Land Use	0	Impacts would be roughly the same as the proposed project.
Noise	-	Alternative would avoid impacts associated with proposed project construction.
Public Services and Utilities	-	Decreased water supply would limit the ability of local water purveyors to supply their customers, especially during a drought.
Recreational Resources	-	Alternative would avoid impacts associated with withdrawal of water from Lake Nacimiento.
Socioeconomics	-	Alternative would avoid impacts associated with withdrawal of water from Lake Nacimiento.
Transportation/Circulation	-	Alternative would avoid impacts associated with proposed project construction.

Table 3.11 Screening of Desalination and Salinas Reservoir Alternative

Area of Impact	Would Alternative Substantially Lessen or Avoid Impacts (-), Result in Increased Impacts (+) or Remain Approximately the Same (0) when compared to the Proposed Project?	
	Desalination	Notes
Aesthetic/Visual Resources	+	Visual impacts at Salinas Reservoir and desalination facility would likely be significant and greater than proposed project.
Agricultural Resources	0	Impacts would be roughly the same as the proposed project, but in different locations.
Air Quality	+	Long-term air pollutant impacts associated with desalination process would be significant.
Biological Resources	+	Impacts would occur in vicinity of the Salinas Reservoir and to marine species from disposal of desalination brine.
Cultural Resources	0	Impacts associated with project pipeline construction would be avoided. Impacts to sensitive areas could occur elsewhere.
Drainage, Erosion & Sedimentation	0	Impacts would be roughly the same as the proposed project, but in different locations.
Geology and Soils	0	Impacts would be roughly the same as the proposed project
Growth Inducement	0	Impacts would be roughly the same as the proposed project
Hazards and Hazardous Materials	0	Impacts would be roughly the same as the proposed project
Hydrology and Water Quality	+	Disposal of brine from desalination process would adversely impact marine water quality.
Land Use	+	Shoreline areas around Salinas Reservoir would be lost.
Noise	+	Long-term noise associated with desalination facility would likely be significant.
Public Services and Utilities	0	Impacts would be roughly the same as the proposed project, but in different locations.
Recreational Resources	-	Alternative would avoid impacts associated with withdrawal of water from Lake Nacimiento.
Transportation/Circulation	0	Impacts would be roughly the same as the proposed project, but in different locations.

Table 3.12 Screening of Water Reclamation Alternative

Area of Impact	Would Alternative Substantially Lessen or Avoid Impacts (-), Result in Increased Impacts (+) or Remain Approximately the Same (0) when compared to the Proposed Project?	
	Water Reclamation	Notes
Aesthetic/Visual Resources	0	Impacts would be roughly the same as the proposed project.
Agricultural Resources	+	Alternative would reduce the future amount of water available for agricultural resources
Air Quality	0	New pipeline construction for reclaimed water would have impacts similar to proposed project.
Biological Resources	0	New pipeline construction for reclaimed water would have impacts similar to proposed project.
Cultural Resources	0	New pipeline construction for reclaimed water would have impacts similar to proposed project.
Drainage, Erosion & Sedimentation	0	New pipeline construction for reclaimed water would have impacts similar to proposed project.
Geology and Soils	0	New pipeline construction for reclaimed water would have impacts similar to proposed project.
Growth Inducement	-	Alternative would make less water available to accommodate the growth projected in the County General Plan.
Hazards and Hazardous Materials	0	New pipeline construction for reclaimed water would have impacts similar to proposed project.
Hydrology and Water Quality	0	New pipeline construction for reclaimed water would have impacts similar to proposed project.
Land Use	0	Impacts would be roughly the same as the proposed project.
Noise	0	New pipeline construction for reclaimed water would have impacts similar to proposed project.
Public Services and Utilities	0	New pipeline construction for reclaimed water would have impacts similar to proposed project.
Recreational Resources	-	Alternative would avoid impacts associated with withdrawal of water from Lake Nacimiento.
Transportation/Circulation	+	New pipeline construction for reclaimed water would have impacts similar to proposed project.

Table 3.13 Screening of Water Conservation Alternative

Area of Impact	Would Alternative Substantially Lessen or Avoid Impacts (-), Result in Increased Impacts (+) or Remain Approximately the Same (0) when compared to the Proposed Project?	
	Water Conservation	Notes
Aesthetic/Visual Resources	-	Alternative would avoid impacts associated with proposed project construction.
Agricultural Resources	+	Alternative would reduce the future amount of water available for agricultural resources
Air Quality	-	Alternative would avoid impacts associated with proposed project construction.
Biological Resources	-	Alternative would avoid impacts associated with proposed project construction.
Cultural Resources	-	Alternative would avoid impacts associated with proposed project construction.
Drainage, Erosion & Sedimentation	-	Alternative would avoid impacts associated with proposed project construction.
Geology and Soils	-	Alternative would avoid impacts associated with proposed project construction.
Growth	-	Alternative would make less water available to accommodate the growth projected in the County General Plan.
Hazards and Hazardous Materials	-	Alternative would avoid impacts associated with proposed project construction.
Hydrology and Water Quality	+	Increased ground water pumping would result in decreased water quality.
Land Use	0	Impacts would be roughly the same as the proposed project.
Noise	-	Alternative would avoid impacts associated with proposed project construction.
Public Services and Utilities	-	Decreased water supply would limit the ability of local water purveyors to supply their customers, especially during a drought.
Recreation	-	Alternative would avoid impacts associated with withdrawal of water from Lake Nacimiento.
Transportation/Circulation	-	Alternative would avoid impacts associated with proposed project construction.

The amount of water pumped during dry years should not exceed an aquifer's capacity for recharge during the next occurrence of above-average rainfall. However, there is effectively no program in place to ensure that aquifers are managed in this manner. In aquifers subject to excessive overdraft from year to year, the long-term trend of water in storage is downward, a condition that can lead to such undesirable consequences as land subsidence, higher pumping costs and loss of the aquifer as an effective source of supply during droughts.

Table 3.14 lists each participant in the NWP, their requested allocation, and whether the groundwater basin has been determined for planning purposes to be over-subscribed. Under this alternative, many of the County's groundwater basins would remain over subscribed and susceptible to overdraft and supply interruptions or poor water quality during drought years.

Table 3.14 NWP Purveyors and Associated Groundwater Basins

Water Purveyor	NWP Allocation (acre feet)	Groundwater Basin	Over Subscribed Yes/No
San Miguel CSD	610 af	Paso Robles	Yes
City of Paso Robles	4,000 af	Paso Robles	Yes
Templeton CSD	250 af	Paso Robles	Yes
Atascadero MWC	3,000 af	Paso Robles	Yes
Santa Margarita Ranch	200 af	Paso Robles	Yes
CSA 23–Santa Margarita	100 af	Paso Robles	Yes
City of San Luis Obispo	3,380 af	San Luis Obispo	Yes
Camp San Luis Obispo	200 af	San Luis Obispo	Yes
CSA 22–Airport Area	890 af	San Luis Obispo	Yes
Fiero Lane WC–Airport Area	30 af	San Luis Obispo	Yes
Edna Valley MWC–Airport Area	700 af	Edna Valley	Yes
San Luis CUSD–Morro Bay	55 af	Not Applicable	No
CSA 10A Cayucos	80 af	Not Applicable	No
Morro Rock MWC–Cayucos	30 af	Not Applicable	No
Lewis Pollard Trust–Cayucos	50 af	Not Applicable	No
Lakeside Use	1,300 af	Not Applicable	No

This alternative was not selected for further analysis because it would exacerbate potential impacts associated with overdraft in several groundwater basins, and would likely result in additional overdraft problems in the future. In addition, this alternative does not meet the proposed project's basic needs of greater water supply reliability. Potential impacts associated with additional ground water pumping are also evaluated as part of the No Project Alternative.

3.2.8.3 Desalination and Salinas Reservoir Expansion Alternative

Under this alternative, areas south of the Cuesta Grade would utilize water obtained through seawater desalination, while areas north of the grade would use water from the Salinas Reservoir Expansion project to recharge groundwater supplies.

Desalination is the process that converts seawater or brackish groundwater to fresh water (or water in an otherwise more usable condition) through the removal of dissolved solids. It has been used successfully in many parts of the world lacking fresh water supplies. The most common desalination method is reverse osmosis. Reverse osmosis is a process that uses special membranes to allow the passage of water while blocking the passage of dissolved salts and minerals. Depending on the quality of the source water, the "recovery" or production ratio of the treatment process can range from 35% for straight seawater to 75% for brackish water (City of Morro Bay 1990). The recovery level would depend upon the end use of the water and the criteria set by the DHS.

Desalination facilities can be developed in incremental stages more readily than other types of water supply projects to provide desired quantities of potable water. Within SLO County, the City of Morro Bay has used desalination of brackish groundwater as a supplemental water supply on a temporary emergency basis (with a capacity of 645 afy), although their desalination facility is currently not being utilized due to cost and technical issues. The City of SLO and the City of Morro Bay studied desalination as an alternative water supply; however, the City of Morro Bay is no longer interested in pursuing a cooperative project or sharing in that facility with the City of SLO (Moss 2003). Cambria CSD Desalination facility's design capacity is 565 afy. The desalination facility at the Diablo Canyon Power Plant is capable of producing up to 645 afy, however, produced water is only used on site for the power plant's needs. The Morro Bay Power Plant desalination plant is capable of producing water at a rate of approximately 480 afy. These plants are potentially capable of producing over 2,000 afy of water. Additional capacities could be developed.

The use of desalination to replace the NWP allotment would result in many of the same impacts as the proposed project given water supply and distribution issues. Also, distribution pipelines would still need to be constructed for delivery to individual purveyors. Additional adverse environmental impacts would occur from disposal of mineral- and metal-rich brine (reverse osmosis byproduct) into the marine waters.

As a water supply option, desalination is most suited to coastal communities because of the costs associated with transporting water (pipeline construction and energy to pump water). The operational disadvantages of desalinated water are its high cost and limited yield. General impacts associated with desalination are related to energy demand, sea water intake, and waste brine disposal. Many mitigation measures exist that can lessen these impacts (California Coastal Commission [CCC] 1993), but not to a level of insignificance in all cases. Typically, discharge of water with high salt concentrations into the ocean waters (that have similar salt constituents), does not present an environmental problem; at the same time, care must be taken relative to possible environmental changes related to the receiving waters for the discharge from added constituents, dissolved oxygen levels, and different water temperatures (Buros 2002). High energy demand for desalination would also create energy impacts.

The Final EIR for the City of Santa Barbara's and Ionics, Inc. Temporary Emergency Desalination Project (SB-106-90, March 1991) states that all impacts can be mitigated for that project; however, discharge of desalination waste brines into the ocean would require a comprehensive monitoring and reporting program regulated by the Regional Water Quality Control Board. The Cambria Desalination Facility Final EIR (R. Bein, W. Frost & Associates 1994) has also concluded that there would not be any unavoidable significant impacts to the environment from construction or operation of the proposed facility after all proposed mitigation measures are implemented.

The City of SLO has been pursuing the Salinas Reservoir Expansion Project for the past 10 to 15 years. The installation of a spillway gate on Santa Margarita Lake would raise the maximum water surface level by approximately 19 feet. This would increase the storage capacity by almost 18,000 af (currently 23,843 af) and would result in an estimated increase of safe annual yield of 1,650 af.

The City of SLO published a Draft EIR on the Salinas Reservoir Expansion Project in November 1993. Issues addressed in the project EIR included: the effects of the expansion on water resources and water quality to downstream users; biological resources within the reservoir and downstream (estimates of more than 1,000 oak trees would be inundated and approximately 80 acres of high quality wetland habitat used by environmentally sensitive species would be lost); cultural resources; land use and recreational issues; and possible growth inducement due to increased water supplies to the City of SLO. The major issues associated with the project involve environmental impacts due to inundation of areas around the lake, opposition by agencies and individuals in the north county due to concerns of impacts to groundwater resources, and strengthening of the dam to safely store the additional water.

The City commissioned additional evaluation of the seismic safety of the Salinas Dam which was prepared by URS Corporation (formerly Woodward-Clyde). The analysis was undertaken to determine whether the facility could meet current design standards if the spillway gates were installed to increase the water level. The analysis revealed that due to new design requirements, the dam with spillway gates installed would not be structurally adequate. The analysis concluded that significant strengthening of the dam would be required if the project were to move forward. The consultants also provided a preliminary assessment of the existing dam (i.e., without the gates) and concluded that the facility could meet the current design standards. The estimated costs for strengthening the dam would add an additional $10 million to the project costs. This would bring the total project cost to approximately $30 million. Peer review by the Bureau of Reclamation located in Denver Colorado reached the same conclusions relative to the required strengthening of the dam if the spillway gates were installed.

Another issue with the Salinas Reservoir Expansion Project involves the City's water rights permit. The State Water Resources Control Board granted a ten year time extension to the City for the water rights permit at Salinas Reservoir. Based on the ten-year time extension granted by the State Water Resources Control Board, a deadline of December 31, 2010, has been established relative to completing the expanded storage capacity at the Salinas Reservoir.

In summary, the Salinas Reservoir Expansion Project would result in many acres of land being lost to permanent inundation, resulting in loss of habitat, displacement of wildlife, and damage to County Park facilities. The Salinas Reservoir also has a limited yield of water (5–6,000 afy) which is not enough to serve the requested allocations for the North County, and the City of SLO retains the water rights to this water source.

This alternative does not avoid or substantially reduce impacts associated with the proposed project. Therefore, this alternative has been excluded from further analysis.

3.2.8.4 Water Reclamation

Wastewater reclamation is the use of treated municipal sewage effluent in lieu of potable water for specific applications. Reclaimed water must meet DHS quality standards and requirements for a specified use (i.e., irrigation, groundwater recharge, in-stream flows). Uses for reclaimed wastewater include golf course watering, landscaping, and irrigation for non-food crops, such as pasture. Approximately 20% more reclaimed water than potable water is needed to water landscapes and gardens because of the relatively high salt content of reclaimed water. By saturating the ground longer, the dissolved salt will soak beneath the roots, where it will not affect the life of the plant.

The County Master Water Plan (SLO 2001) lists several future water supply options and there are several projects that target water reclamation: City of San Luis Obispo Water Reuse Project (utilization of tertiary treated wastewater for irrigation primarily to parks and other areas that currently receive potable water off of the City system, with potential supply of 1,233 afy), City of Morro Bay Reuse (construction of a satellite wastewater treatment plant that would divert approximately 40% of the wastewater flow from the existing Morro Bay-Cayucos treatment plant; water reclaimed at the proposed satellite plant would be used to both sustain year-round flow in Chorro Creek as well as to supply some irrigation users in the vicinity of the proposed plant, with potential supply of 1,680 afy), South County Sanitation District Reclamation (upgrade of the existing wastewater treatment plant from oxidized secondary treatment to disinfected tertiary treatment; also includes construction of transmission facilities to deliver water to area golf courses, highway landscaping, schools, and City parks, with potential supply of 1,100 to 4,400 afy). The total water supply from these water reclamation projects would be equal to between 4,013 and 7,313 afy.

Effluent quality, legal constraints on treated wastewater use, costs of adequate treatment, and the costs to construct a completely separate distribution network, as well as environmental health considerations and public acceptance, are factors which will influence the use of reclaimed water in the future. Wastewater reclamation would only supply a small portion of water needed. Therefore, this alternative would not meet the basic reliability goals of the proposed project.

3.2.8.5 Water Conservation

Water conservation includes water use reductions realized from voluntary, more efficient water use practices; from mandated requirements to install water-conserving fixtures in buildings; and from measures that increase irrigation efficiency. Voluntary water conservation is encouraged through programs such as public information and product distribution campaigns, home water use surveys, and through financial incentives such as low-flow toilet rebates and payments for turf reduction. Mandated requirements for water conservation fixtures include fixture requirements for all new construction, water offset or retrofitting of existing buildings for new water allocations, and prohibitive water use codes.

The amount of water conserved through water conservation varies from community to community and depends on such factors as public education, cost of water supplies, and enforcement of water conservation measures. In the City of SLO, water consumption reduced by nearly 50% after the city's June 1990 implementation of a Mandatory Water Conservation (35% reduction) Program. However, the city's 50-percent reduction was temporary and drought-related. It cannot be projected long-term. Five to ten percent is more realistic in urban areas, and one percent in agricultural areas.

According to the Coastal Branch FEIR, even a combination of conservation and reclamation is "too limited to be considered a reasonable option." For many communities, "conservation and reclamation are already being implemented and the potential for expansion to meet future water supply is limited" (DWR 1991). Therefore, this alternative would not meet the basic reliability goals of the proposed project.

3.3 Summary of Alternatives Selected for Analyses throughout the EIR

CEQA requires that alternatives be *considered "...which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project..."* [CEQA Guidelines Section 15126.6(a)]. Many of the alternatives summarized in the previous section do not meet the minimum CEQA standard for alternatives and have been eliminated from further consideration and environmental review.

NEPA Section §1502.14 also requires that the environmental review *"[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives for which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated."* This alternatives screening analysis has provided a comprehensive review of potential alternatives and the reasons for eliminating alternatives not considered feasible under CEQA or NEPA.

Based on the results of the alternative screening analysis, several alternatives were selected for analysis throughout the EIR. The alternatives selected for full environmental review are listed in Table 3.15 and are evaluated by issue area in Section 5.0 of the EIR.

Table 3.15 List of Alternatives Selected for Analysis Throughout the EIR

Alternative	Brief Description	Location of Detailed Description and Screening
No Project/No Action Alternative	The proposed project would not move forward. Existing water supplies would be utilized. This alternative would avoid all of the construction-related impacts associated with the proposed project, but would exacerbate future water shortages and impacts associated with overdraft of County groundwater basins.	Section 3.2.1
NWP 1997 EIR Alternative	This alternative would follow the route, phasing and treatment options that were evaluated in an EIR prepared in 1997. This route would mainly follow public rights-of-way, such as city and county roads, thus avoiding many biologically sensitive areas. However, this alternative could result in greater disruption to County residents along the proposed pipeline right-of-way due to temporary construction and traffic impacts.	Section 3.2.2
Phased Raw and Treated Water Alternative	This alternative would combine the co-equal projects (raw and treated water alternatives) and phase development in over a longer period. The project would initially be constructed as a raw water project, adding treatment as necessary in the future. While this alternative would experience all of the same impacts as the two co-equal projects (raw and treated water), phasing of the project over a longer time period would potentially reduce the magnitude of numerous impacts, as well as provide more flexibility in meeting County-wide water needs.	Section 3.2.3

4.0 Cumulative Projects Description

In Section 15355 of the CEQA guidelines, a “cumulative impact” is defined as two or more individual effects that, when considered together, are either considerable or compound other environmental impacts.

A typical “project specific” cumulative analysis looks at the changes in the environment that result from the incremental impact of development of a proposed project and other reasonably foreseeable projects that have not been included in the environmental setting. For example, the traffic impacts of two projects in close proximity may prove to be insignificant when analyzed separately, but could be significant when the impacts of the projects are analyzed together. While these projects may be unrelated, their combined (i.e., cumulative) impacts are significant. These projects could include:

A) funded public works projects;
B) reasonably foreseeable public works projects; and
C) approved/expected to be approved private development projects.

This chapter provides only a description of the cumulative projects. The impacts associated with these projects are discussed in Section 5.0, Analysis of Environmental Issues.

4.1 Cumulative Development Projects

Given the large lead time for the NWP, with construction expected to begin in 2005, very few projects fall into the categories listed above. However, several projects have been identified where construction would occur prior to initiation of NWP pipeline and facility construction. In these cases, the project schedules wouldn’t coincide, but construction of the NWP would result in a prolonged impact to an area, or trenching through recently repaved streets. In these cases, construction of the NWP would be accelerated for these pipeline segments to accommodate a single construction event.

The proposed project consists of a pipeline corridor approximately 64 miles long and associated water conveyance and treatment facilities (See Section 2.0, Project Description). The construction period is assumed to extend from 2006 to 2009, with deliveries from the NWP available by mid 2009. No additional details are available on construction phasing for the various pipeline reaches; however, at this early stage in project development, NWP construction activities could potentially be scheduled to either avoid or take advantage of other major projects.

A list of all approved, pending development projects located in the study area for the proposed project was assembled using information from the San Luis Obispo County Department of Planning and Building, CalTrans, and cities located along the pipeline route. Table 4.1 provides a list of projects. The goal was to identify projects which were to be constructed in the vicinity of the proposed project.

Table 4.1 Cumulative Projects

	Project Name	Status	Schedule	Brief Description
San Luis Obispo County Projects				
1	Trout Creek Pipe Replacement (Atascadero)	Approved	2003	Water pipe replacement
2	Santa Margarita F Street Pipe Replacement	Approved	2003	Replacement of water pipe.
3	San Marcos Road (Paso Robles)	Approved	2004	Road surface overlay
4	Wellsona Road (Paso Robles)	Approved	2006	Road surface overlay
5	North River Road (Paso Robles)	Approved	2004	Road surface overlay
6	North River Road (Paso Robles)	Approved	2005	Bridge replacement
7	South River Road (Paso Robles)	Approved	2006	Road surface overlay
8	El Pomar Drive (Templeton)	Approved	2004	Road surface overlay
9	Templeton Road (Templeton)	Approved	2002–2007	Realign northern 1.5 miles
10	Santa Clara Road (Atascadero)	Approved	2003	Road surface overlay
11	Wilhelmina Road (Santa Margarita)	Approved	2003	Road surface overlay
12	Stenner Creek Road (San Luis Obispo)	Approved	2002–2007	Bridge replacement
13	Foothill Road (San Luis Obispo)	Approved	2007–2012	Widening by This Old House
14	Santa Fe Road (San Luis Obispo)	Approved	2007–2012	Realign northerly quarter mile
15	Buckley Road (San Luis Obispo)	Approved	Unknown	Widening from Santa Fe Road to 0.75 miles east
City of San Luis Obispo Projects				
16	Cal Poly Faculty Housing H-8/H-9	Approved	2004–2005	Construction of additional faculty housing
17	Marketplace (Dalidio)	In process	Unknown	Commercial development
18	Prado Rd/Hwy 101 Interchange	Approved	2005	Freeway interchange improvement
19	Prado Road Extension	In process	Unknown	Extension of Prado Road to Highway 227
20	Margarita Specific Plan	In process	Unknown	Public improvements/trunk facilities for new development
21	Damon/Garcia Sports Fields	Approved	2003	Construction of a sports field adjacent to Prado Road
22	City of SLO Water Reuse project	Approved	2003	Distribution system construction
23	Tank Farm Gravity Sewer and Lift Station	Approved	2004	System improvements with reconstruction of new sewer lines and lift station.
24	Bob Jones Bike Trail	Approved	2004	Construction of bike trail (Prado Road to Los Osos Valley Road)
City of El Paseo de Robles Projects				
25	13th Street Bridge Widening	Approved	2003–2004	Widening of 13th Street bridge and portions of North and South River Roads and Union Road. Installation of new water and sewer lines.
26	Tract 2422	Pending	Unknown	Private Residential Development. Extent unknown pending receipt of application.
27	Templeton Sewer Project	Approved	2003	Increase size of existing sewer line in River Road from Charolais to Serenade Drive.
Monterey County Projects				
28	Salinas Valley Water Project (Lake Nacimiento and Monterey County)	Approved	2003–2004	Improvements to Lake Nacimiento dam and re-operation of reservoir to mitigate sea water intrusion in the lower Salinas Valley.

4.2 Monterey County Salinas Valley Water Project (SVWP)

The most substantial cumulative development project in the vicinity of the NWP, and the project most likely to result in significant cumulative impacts with the NWP, is the Monterey County Salinas Valley Water Project (SVWP). MCWRA is the public agency that has responsibility to manage and ensure preservation of water resources in the Salinas Valley. As such, MCWRA has developed the proposed SVWP with the purpose to meet the following objectives:

- stopping the sea water intrusion into the basin;
- providing adequate water supplies to meet current and future (year 2030) needs; and
- improving the hydrologic balance of the groundwater basin in the Salinas Valley (Basin).

The proposed SVWP includes several actions summarized below:

- Modification of the Nacimiento spillway – The existing spillway would be modified by replacing a section with an inflatable rubber dam or radial gates that are capable of passing the probable maximum flood event. This modification will increase the spillway capacity and allow the reservoir to store a higher volume of water throughout the wet season. The surface elevation would not change.
- Reoperation of Nacimiento and San Antonio Reservoirs – Because Lake Nacimiento can store more water through the wet season, it can be reoperated to release less water in the wet season and release it during the irrigation season. San Antonio Reservoir would also be reoperated to store more water in the wet season and release it during the irrigation season. This store/release scenario would allow for a greater level of groundwater recharge and diversion of water at the lower Salinas River for direct delivery. Water will be in the Salinas River year round, except during droughts.
- Surface Diversion/Impoundment – A seasonal diversion structure would be constructed on the northern reach of the Salinas River to divert an average of 9,700 afy for irrigation during April through October. The diversion structure would be equipped with pneumatically operated gates. Outside the diversion season, the gates would be lowered to lay flat on a concrete sill on the river bed. During the diversion season, the gates would be raised to create an impoundment from which water would be diverted. The gates would be comprised of multiple panels that may be raised and lowered independently to facilitate fish passage and control the water level in the impoundment. The maximum depth of the impoundment would be 9 feet at the diversion structure. The impoundment would extend approximately 4.5 miles upstream. The diversion structure would also include a fishway and fish screens to provide for fish passage when the dam is raised. A pump station with a capacity of 85 cfs would discharge the diverted water into the existing Castorville Seawater Intrusion Project (CSIP) pipeline and co-mingle with water from the Monterey County Regional Wastewater Treatment Plant. If the amount of diverted water needs to be increased in the future, an expanded delivery and distribution system would be required.
- Delivery – The diversion structure would be constructed near the current point where the CSIP pipeline crosses the Salinas River. The CSIP pipeline delivers recycled water to agricultural users in the CSIP service area. The pipeline has sufficient capacity to deliver

project water to the CSIP area also. Hydrologic modeling shows that the project may not halt seawater intrusion in the long-term future (year 2030). If this were to occur, additional distribution capacity will be created in a new pipeline and water would be delivered outside the CSIP area to ensure project objectives are met and seawater intrusion is halted. The proposed surface diversion facility would divert up to 25,000 acre feet of water from the Salinas River at Salachi Ranch Road into the exiting CSIP distribution pipeline for delivery to agricultural users for irrigation. The diverted water would serve as an alternate groundwater supply to offset groundwater pumping. San Antonio Reservoir and Lake Nacimiento would be reoperated to release water primarily during the late-spring and summer irrigation season. Increased spring and summer flows would be available for diversion to agricultural users via the surface diversion facility. Increased flows would also provide increased recharge through the river bed to the groundwater aquifer.

- Pumping Limitations – In areas where project water is delivered, groundwater pumping would be limited to peaking capacity and deliveries during drought.

The proposed SVWP is expected to halt seawater intrusion. This would be a substantial beneficial impact to groundwater quality within the MCWRA jurisdiction. The schedule for releasing water from reoperated Lake Nacimiento and San Antonio Reservoir would result in additional variation in surface elevations compared with existing operations.

5.0 Analysis of Environmental Issues

The initial study for the Nacimiento Water Project identified 15 issue areas where significant impacts could occur. For each issue area, the following sections are provided:

- Environmental Setting
- Regulatory Setting
- Significance Criteria
- Proposed Project Impacts and Mitigation Measures (including Residual Impacts)
  - Treated Water Option
  - Raw Water Option
- Alternatives Impacts and Mitigation Measures
  - No Project Alternative (Impacts)
  - NWP 1997 EIR Project Alternative (Impacts, Mitigation Measures, Residual Impacts)
  - Phased Raw/Treated Water Alternative (Impacts, Mitigation Measures, Residual Impacts)
- Cumulative Impacts
- Mitigation Monitoring Plan

The impact analysis has been developed based on the information provided in Sections 1 through 4. All impacts in this document have been classified according to the following criteria:

- <u>Class I – Significant adverse impacts that cannot be mitigated to insignificance:</u> Significant impacts that cannot be effectively mitigated. No measures could be taken to avoid or reduce these adverse effects to insignificant or negligible levels.
- <u>Class II – Significant impacts that can be mitigated to insignificance:</u> These impacts are potentially similar in significance to those of Class I, but can be reduced or avoided by the implementation of mitigation measures.
- <u>Class III – Adverse but insignificant impacts:</u> Generally, no mitigation measures are required for this Class of impacts.
- <u>Class IV – Beneficial impacts:</u> Effects that are beneficial to the environment.

The term "significance" is used in the impact summary tables and throughout the EIR to characterize the magnitude of the projected impact. For the purpose of this EIR, a significance impact is a substantial or potentially substantial change to resources in the local proposed project area or the area adjacent to the proposed project.

In the discussions of each issue area, criteria used to distinguish between significant and insignificant impacts are provided. To the extent feasible, distinctions are also made between local and regional significance and short- versus long-term duration. Impacts and mitigation measures are systematically presented in tabular form in the Impact Summary Tables, which are located directly following the Executive Summary.

5.1 Hydrology and Water Quality

This section addresses the water quality component of the Nacimiento Water Project. This component includes surface water and groundwater conditions as they relate to the use of water from Lake Nacimiento.

5.1.1 Environmental Setting

The NWP is a water resources project. The objective of the proposed project is to provide a reliable water source for domestic use within SLO County by supplementing the local ground water supplies with surface water. As such, there will be significant overall benefits to county water resources. The proposed project also has the potential, however, to adversely impact water resources. The intake facilities construction and operation, local alteration of the hydrologic balance, water rights, proposed river discharge, and changes in water quality are all issues that will affect surface water and ground water conditions. This water resources section addresses surface water and groundwater conditions as they relate to the construction and implementation of the NWP, for the raw and treated water options, and project alternatives.

The general approach for the hydrology and water quality environmental review is to present the existing data on surface and groundwater conditions and then select specific thresholds of significance for impacts analysis under project conditions.

Surface water conditions described herein pertain to Lake Nacimiento, the Salinas River, and Chorro Reservoir. Groundwater basin conditions described herein pertain to the Paso Robles groundwater basin, the San Luis Obispo Valley groundwater basin, and the Chorro Valley groundwater basin.

5.1.1.1 Existing Surface Water Conditions

San Luis Obispo County covers portions of five major drainage areas: the Salinas River Basin, the Carrizo Plain, the coastal drainage areas, the Santa Maria River Basin, and a small fringe of the San Joaquin Valley drainage area. The NWP is primarily within the Salinas River Basin, although water deliveries include purveyors operating within coastal drainage areas.

Lake Nacimiento, the Salinas River, and Chorro Reservoir are of particular interest to this project. The location of Chorro Reservoir is at the CMC WTP (Figure 2-1). Reservoirs fed by surface water provide roughly 20 percent of the water supply for the county; groundwater provides the remaining 80 percent (EDAW 1998).

Lake Nacimiento

General Lake Information

Lake Nacimiento has a storage capacity of 377,900 acre-feet (af) (DWR 2003) and is owned and operated by the Monterey County Water Resources Agency (MCWRA), although it is located in SLO County. Reservoir operations began in 1957.

MCWRA operates Lake Nacimiento in conjunction with the San Antonio Reservoir based on four criteria (MCWRA 2001):

- Storing winter time runoff from tributary watersheds to the Nacimiento and San Antonio rivers while maintaining adequate flood attenuation storage (i.e., available capacity);
- Maximizing recharge to ground water basin through timely releases during the dry seasons;
- Minimizing (accounting for other demands) the Salinas River outflow to the ocean, and;
- Maintaining a minimum downstream flow requirement based on a 1985 Memorandum of Agreement (MOA) with the California Department of Fish and Game (CDFG).

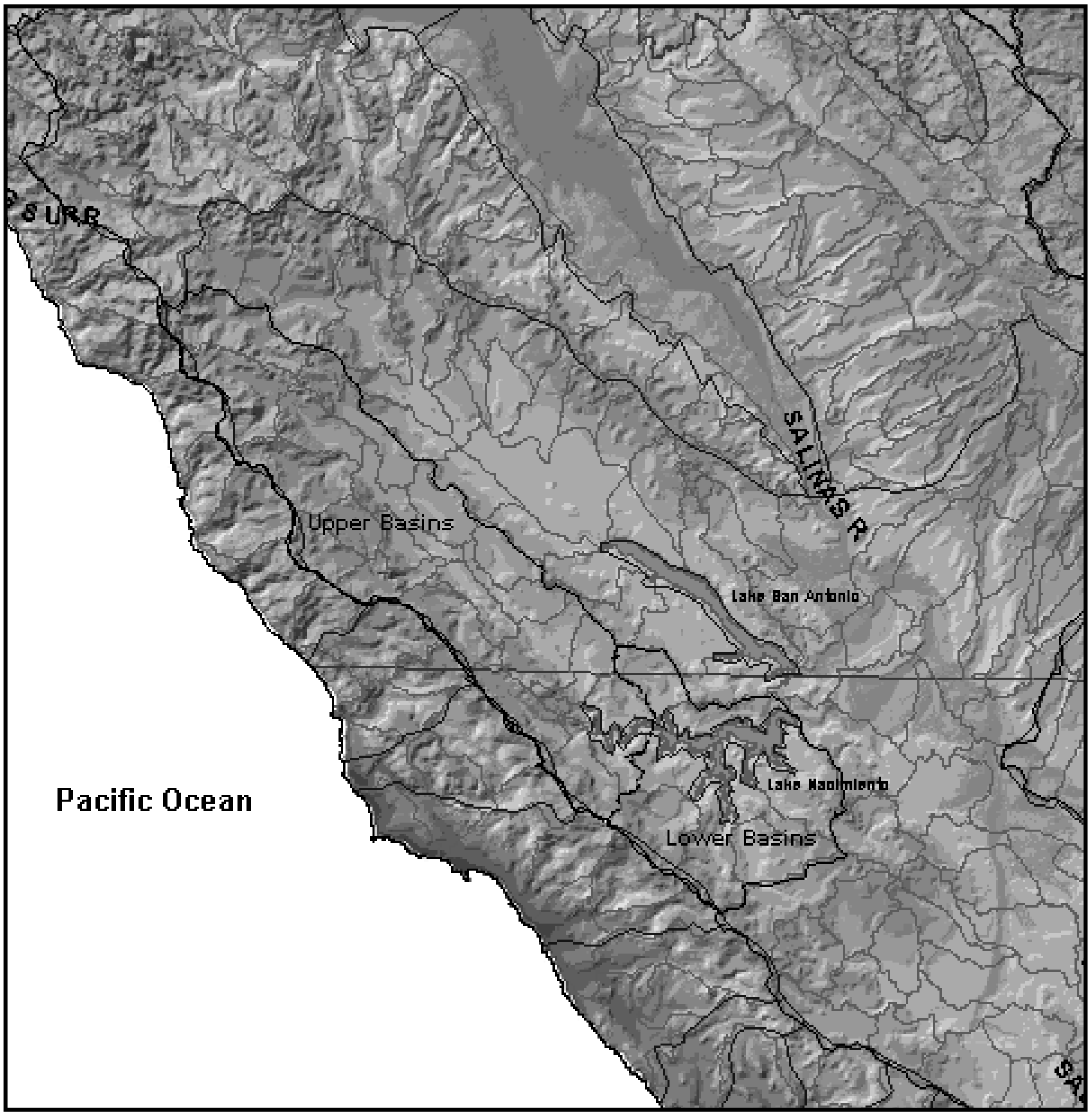
At full capacity the reservoir surface is 800 feet in elevation and has a maximum surface area of 5,727 acres (Boyle 1992). The State Division of Mines and Safety of Dams (DSOD) requires that Lake Nacimiento be operated according to the established flood control rule curve. The DSOD flood control rule curve stipulates the levels at which the reservoir is to be drawn down at the beginning of each month throughout the water year. This flood space is intended to be adequate to collect runoff from an extreme rainfall event to avoid catastrophic dam failure. MCWRA, however, operates the reservoir in accordance with a more conservative flood control rule curve, which the agency has adopted to prevent downstream flooding. At present, MCWRA maintains approximately 110,000 af of maximum flood space at Lake Nacimiento as of January 1st of each year (MCWRA 2001).

A low-level (670 feet elevation) outlet works is connected on the downstream face of Nacimiento Dam, with a hydroelectric facility that is rated to produce up to 4 MW of power (Carollo 1996a). It is required that 22,000 af of water be maintained above the low-level outlet works as of September 30th of each year, out of which 12,000 af is above 670 feet elevation (minimum pool) and 10,000 af is below (dead pool). In addition, MCWRA seeks to maintain conservation releases from Lake Nacimiento to recharge the Salinas Valley groundwater basins and mitigate seawater intrusion. The desire to maintain conservation releases throughout the summer months is limited by the DSOD and MCWRA flood control rule curve requirements. An average of 195,617 af of water per year was released for conservation and flood protection during the period from 1951 to 1991 (Boyle 1992). With wetter climatic conditions prevailing since the 1987–1991 drought, the annual MCWRA releases from the reservoir have been over 230,000 af (Boyle 2002).

Historically, there have been periods of no flow measured in the Nacimiento River below the dam, based on data from the United States Geological Survey (USGS) stream gage 11149400, located 2.2 miles downstream of the dam. During the early 1960s (in the first decade of dam operation) there were several extended periods of no flow measured at the stream gage, including an 86-day period from October 17, 1960, through January 10, 1961. Since May 1965, however, there have been only two extended periods of no flow measured at the gage. In 1977, a 15-day period of no flow was recorded beginning February 1, and in 1990, a 6-day period of no flow was recorded beginning June 20.

Watershed
The watershed for Lake Nacimiento encompasses approximately 330 square miles, about half of which is located in SLO County and half in Monterey County as shown in Figure 5.1-1.

Figure 5.1-1 Nacimiento Watershed



Land use in the watershed is approximately 50 percent grazing, 47 percent open space, 1 percent housing, 1 percent camping, and 1 percent inactive mines (Chipping 1994). The principal inflow and outflow is the Nacimiento River while the outflow ultimately flows into the Salinas River. Other Lake Nacimiento inflows include Dip Creek, Snake Creek, and Las Tablas Creek. The individual drainage basins within this watershed can be divided into two groups: the lower basins that drain directly to the lake and the upper basins that drain to the Nacimiento River and then flow to the lake (Chipping 1994 and MCWRA 1997).

Limnology

Lake Nacimiento can be divided into three zones, which are distinguished by temperature and water chemistry, based on 32 logging events conducted by the County near the dam in 1997-98 and 2001-03 (Slo County, 2003). The uppermost zone, the epilimnion, is located from the lake's surface to a depth of 20 to 30 feet. The metalimnion extends down from the epilimnion to a depth of approximately 50-60 feet and includes the thermocline. The hypolimnion extends from 60 feet s to the bottom of the lake. Summer water temperatures range from 22 to 25 degrees Celsius (72 to 77 degrees Fahrenheit) in the epilimnion. A steep thermocline drops water temperature to approximately 12 degrees Celsius (54 degrees Fahrenheit) at the base of the metalimnion. In the hypolimnion, summer water temperatures stabilize at close to 11degrees Celsius (52 degrees Fahrenheit) .

Because water density is related to temperature, thermal stratification results in a density gradient within the lake. Wind induced mixing is reduced as a result of the density differences allowing only the epilimnion and sometimes the metalimnion to mix under moderate summer wind conditions. During the summer and fall, no mixing occurs in the hypolimnion, which can result in relatively low dissolved oxygen concentrations in this zone

The maximum solubility of oxygen in water is controlled mainly by temperature and pressure, therefore, both mixing and the metalimnion thermocline affect dissolved oxygen. The reduction in dissolved oxygen across the metalimnion averages 2.6 mg/l. The range of dissolved oxygen in the lake runs from less than 1 mg/l up to maximum solubility (close to 12 mg/l), and is almost always greater than 5 mg/l in the epilimnion. Fluctuations in hypolimnion dissolved oxygen patterns during the year is more unpredictable than temperature, due to the effects of mixing.

The onset of autumn brings cooler air temperatures and shorter days resulting in the lowering of the water temperatures in the epilimnion such that by December the lake may have only a 5 degree difference between the epilimnion and the hypolimnion. Temperatures generally range between 13 degrees Celsius and 17 degrees Celsius in the epilimnion during the winter months, with corresponding hypolimnion temperatures of 9 to 11 degrees Celsius .

Winter and spring storms further cool the epilimnion and induce mixing of the upper strata. The depth to which mixing occurs is a function of the intensity of the storm and the density gradient which has to be overcome. Oxygen is restored to the hypolimnion during mixing typically between January and May

Water Quality at Lake Nacimiento

The following sections present a discussion of water quality data and information for Lake Nacimiento. As the lake is used as a source of drinking water, the emphasis of the discussion is on water quality parameters that are regulated in drinking water. The water quality parameters discussed are bacteria, mercury, other metals, organics (including MTBE), general minerals, other inorganics, general physical parameters, and radioactivity. Other information is provided about possible sources of constituents in the water and/or sediments.

Bacteria. Table 5.1.1 summarizes data on the total organism count of lake water at the 5-foot and 80-foot depths during March to September 1993, collected near the dam. The data indicate that lake water near the surface has a much higher organism count as is the case with all surface water reservoirs (Boyle 1994). More recent (1997-2003) data on total organisms has also been reviewed, and supports the general trend of lower algae counts with increased lake depth (SLO County 2003).

Table 5.1.1 Organism Data for Lake Nacimiento

Date	Depth (feet)	Total Organism (Count/ml)
3/3/93	5	736
	80	14
4/6/93	5	4
	80	NS
4/14/93	5	NS
	80	33
5/93	5	403
	80	18
6/4/93	5	632
	80	7
7/14/93	5	507
	80	32
9/21/93	5	445
	80	20
Average	5	445
	80	20

Notes: All samples collected near dam; NS=Not Sampled; ml=milliliters.

Source: Boyle 1994

In addition, samples were collected by the Heritage Ranch Community Services District in 1995 at two different locations in the lake (one near a cattle grazing area and one near the dam) in order to determine the presence and level of Giardia and Cryptosporidium. Both Giardia and Cryptosporidium were found to be present in the lake (Heritage Ranch Community Services District 1995), which is expected in surface water bodies. Lake water samples from the epilimnion (top 5-7 meters) collected near the dam by the County in December 2001 and April 2002 did not contain Giardia or Cryptosporidium cysts (SLO County, 2003).

Between February 1997 and May 2003, the County analyzed 35 samples collected from the epilimnion and 35 samples from the hypolimnion near the dam. The shallow epilimnion samples contained an average most probable number (MPN) of approximately 800 total coliform per 100 ml of sample, while the hypolimnion samples averaged an MPN of 500 total coliform per 100 ml (SLO County, 2003).

The presence of total coliforms in the lake water serves as an indication of potential bacteriological presence in the source water. They are a primary measure of the microbial quality of drinking water. Coliforms are usually present in water contaminated with human and animal feces and are often associated with outbreaks of disease. Although total coliforms are usually not pathogenic themselves, their presence in drinking water indicates that fecal pathogens may also be present. The most common identified bacterial diseases are gastroenteritis (salmonellosis) and dysentery (shigellosis). Other waterborne bacteriological diseases that have been identified in public water systems in recent years include giardiasis and cryptosporidiosis.

According to the California Code of Regulations (CCR) Title 22 (§64426.1), a public water system is in violation of the Total Coliform Maximum Contaminant Level (MCL) if more than 5.0 percent of the samples collected in a domestic distribution system during any month is total coliform positive. Because the data indicate that coliform bacteria are present in lake water, treatment would be required to remove and deactivate bacteria prior to public distribution. The

State DHS typically requires disinfection that will remove biological contaminants from product water. Also, intake design will allow the operator to take the water from appropriate levels for optimum quality raw water.

The potential exists for bacteriological contamination of Lake Nacimiento water from grazing and human activities. Land use in approximately 50 percent of the watershed is use for grazing (Chipping 1994). Grazing animals may be carriers of Giardia and Cryptosporidium (AWWA). The potential of bacteriological contamination by humans due to bodily contact with lake water also exists.

Mercury. The area surrounding Lake Nacimiento contains natural occurrences of the mineral cinnabar (mercury sulfide) deposits. These deposits have been mined since the late 1800s. Studies described in the Clean Lake Assistance Program for Lake Nacimiento have shown that runoff from these mines has caused mercury contamination of sediments within Lake Nacimiento and its tributaries (Central Coast Regional Water Quality Control Board [RWQCB] 1994). Toxicological monitoring data indicate that the U.S. Food and Drug Administration (FDA) action level for mercury has been exceeded in fish from Lake Nacimiento, and the California Department of Health Services (DHS) has posted a health advisory calling for reduced consumption of fish because of high mercury concentrations found in largemouth bass and white bass (Chipping 1994 and SWRCB 1993).

A study by the California Polytechnic State University, on behalf of the RWQCB, evaluated sources of mercury contamination in the Lake Nacimiento watershed and resultant mercury contamination. In this study, both sediment and water samples were collected from within the lake, as well as from several inflowing tributaries including Nacimiento River, Las Tablas Creek, Snake Creek, and Dip Creek. The study determined that the Las Tablas Creek watershed was the primary mercury source in the watershed, that mercury contamination exists in sediments, and that water samples contained significantly lower mercury concentrations than associated sediment samples (Chipping 1994).

Of concern to the potential drinking water supply of Lake Nacimiento water is the level of mercury in the water near the proposed intake. Under relatively neutral pH (hydrogen ion concentration) conditions, mercury compounds do not readily dissolve in aqueous solutions. Therefore, as observed in Lake Nacimiento, mercury levels are typically higher in sediment samples than in water samples. Mercury can bond to both inorganic and organic components of soil. Inorganic and organic mercury-laden particles can settle in water and accumulate in bottom sediments (Chipping 1994).

There were ten surface water and 13 bottom water samples collected in Lake Nacimiento in June 1992. Total mercury in water samples ranged from below the laboratory detection limit (0.001) to 0.868 micrograms per liter (µg/l), all below the MCL for mercury of 2 µg/l. The deeper water samples generally had higher mercury concentrations than the surface water samples. Mercury concentrations in lake water near the proposed Intake location have consistently been below MCL. The highest mercury levels in both surface and bottom water samples were collected in the Las Tablas Creek arm of the lake: these water data followed the trends seen in the sediment data. In all cases, the water samples contained significantly lower mercury concentrations than associated lake bottom sediment samples (Chipping 1994).

Subsequent water quality monitoring in Lake Nacimiento indicate mercury is not present near the proposed NWP intake structure. Analytical results of shallow (5 to 30 feet) and deep (30 to 125 feet) lake water from three sampling events near the dam in 1993 and eight sampling events in 1995 were all less than 1 μg/l (Boyle 1994; Carollo 1996b). Since 1995, there have been 60 lake water samples collected by the County near the dam for total mercury analysis. None of these water samples, which were roughly half from the epilimnion and half from the hypolimnion, contained detectable mercury concentrations (SLO County, 2003). Also, mercury will be removed during the treatment process for the raw water to meet MCL guidelines.

Trends in the sediment data collected during the RWQCB study indicated that total mercury levels were found to generally decrease in lake-bottom sediments from the mouth of Dip Creek, east to the Nacimiento Dam. Also, it was noted that there were locations in the lake without sediment. It was suggested that most of the fine-textured lake bottom sediments (which would likely be highest in mercury content) are located in deep submerged channels of the Old Nacimiento River and are also deposited in the several tributary arms that directly enter the lake, mostly from the south (Chipping 1994).

Other Metals. In general, metals tend to precipitate out of solution under neutral pH conditions and accumulate in bottom sediments. Therefore, it would be expected that mercury and other metals would also accumulate in lake-bottom sediments. However, other metals have not been studied to the extent that mercury has been. The 1994 RWQCB study focused only on mercury.

Analytical results for metals other than mercury in Lake Nacimiento water during 1993, 1995, 1996 and 1997 are summarized in Tables 5.1.2a and b. Locations of samples are near the dam. Based upon the results, the lake water would be considered to comply with drinking water standards without treatment for all metals listed in the tables with the exception of aluminum, manganese, and iron. CCR Title 22 prescribes a primary MCL for aluminum of 1,000 μg/l (§64431), and a secondary MCL for aluminum of 200 μg/l (§64449). The MCLs for iron and manganese are secondary MCLs. Secondary MCLs are established for constituents that may adversely affect the taste, odor, or appearance of drinking water and are not based on health issues. Aluminum was found to exceed the primary MCL in 5 of the 11 sampling dates but mostly in the hypolimnion, or deep sample location. Aluminum was found to exceed the secondary MCL in each of the 11 sampling dates, with 3 of these in the hypolimnion only. Iron exceeded the secondary MCL in 11 of the 13 sampling dates but mostly in the hypolimnion or deep sample location. Manganese exceeded the secondary MCL in 6 of the 13 sampling dates, only in the deep sample location (Boyle 1994; Carollo 1996b; SLO County 1996). Based on these data, and a review of the most recent data set provided by the County (SLO County, 2003), treatment of Lake Nacimiento water would be required to reduce aluminum, manganese, and iron to levels below the MCLs. The principal source of metals to Lake Nacimiento is probably the mine wastes and tailings present in the watershed which enter creeks in the watershed as well as Lake Nacimiento (Envicom 1986). Monitoring of discharges from inactive mines in the watershed has shown that metals other than mercury exceed permit limitations more often than mercury. These metals include nickel, iron, chromium and thallium (Ogden 1997).

Table 5.1.2a Metals Analyses of Lake Nacimiento Water

		3/3/93		5/5/93		7/14/93		9/21/93		5/31/95		6/13/95		7/11/95	
Parameter[a]	**MCL[b]**	**5 ft**	**80 ft**	**5 ft**	**80 ft**	**5 ft**	**80 ft**	**5 ft**	**80 ft**	**15 ft**	**120 ft**	**10 ft**	**100 ft**	**5 ft**	**180 ft**
Aluminum	1,000 (200)[c]	1,600[d,e]	1,700[d,e]	540[e]	875[e]	35	525[e]			220[e]	1,100[d,e]	308[e]	1,090[d,e]	280[e]	730[e]
Antimony	6									<1	<1				
Arsenic	50	<1	<1	<1	<1	<1	<1			<2	<2				
Barium	1,000	29	38	36	34	58	48			26	40				
Beryllium	4									<1	<1				
Cadmium	5	<0.1	<0.1	<0.1	0.2	<0.1	<0.1			<0.1	<0.1				
Chromium	50	1.7	2.2	0.6	1.3	0.4	1.7			0.8	1.9				
Copper	1,000	15	26	17	15	17	16	16	18	<5	<5				
Iron	300	1020[e]	1240[e]	218	816[e]	86	2800[e]	79	28	130	990[e]	76	770[f]	68	680[e]
Lead	50	<1	<1	<1	<1	<0.2	0.2			<0.8	<0.8				
Manganese	50	17	22	<5	12	13	16	11	42	8	20	8	14	11	76[e]
Mercury	2	<1	<1	<0.5	<0.5	<1	<1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Nickel	100									1.4	3.2				
Selenium	50	<1	<1	<1	<1	<1	<1			<2	<2				
Silver	100	<0.5	<.5	<0.5	<0.5	<0.5	<0.5			<0.5	<0.5				
Thallium	2									<1	<1				
Zinc	5,000	28	45	22	38	27	27	42	56	<50	50				

Notes: Data provided by SLO County (2003) for more recent water samples are similar to above results

All samples collected near dam

[a] Units in micrograms per liter (µg/l).

[b] MCL=Maximum contaminant level.

[c] Secondary MCL for aluminum is 200 µg/l.

[d] Exceeds primary drinking water standard.

[e] Exceeds secondary drinking water standard.

Sources: Boyle 1994, Carollo 1996b, SLO County 1996, 1997

Table 5.1.2b Metals Analyses of Lake Nacimiento Water

		8/8/95		9/12/95		10/11/95		10/31/95		12/19/95		8/6/96		2/25/97		3/12/97	
Parameter[a]	MCL[b]	5 ft	30 ft	2 ft	30 ft	15 ft	125 ft	(E)	(H)	30 ft	90 ft	10 ft	90 ft	30 ft	120 ft	30 ft	120 ft
Aluminum	1,000 (200)[d]	280[e]	280[e]	210[e]	240[e]	57	1,800[d,e]	120	1,400[d,e]	140	590[e]			260[e]	1800[d,e]	210[e]	2400[e]
Antimony	6									<0.63	<0.63						
Arsenic	50	<2	<2					<2	<2					<1.0	<1.0		
Barium	1,000	34	34					35	37					32	44		
Beryllium	4									<0.071	<0.071						
Cadmium	5	<0.2	<0.2					<0.1	<0.1					<0.1	<0.1		
Chromium	50	0.6	0.9					0.7	1.9					1.0	1.8		
Copper	1,000	<5	<5					<5	<5			<5	<5	<5	<5		
Iron	300	96	340[e]	57	440[e]	52	720[e]	850[e]	900[e]	120	550[e]	64	257	280	1900[e]	320[e]	2200[e]
Lead	50	2.2	<1.0					<1.0	<1.0					<1.0	<1.0		
Manganese	50	13	54[e]	9	78[e]	10	140[e]	12	127[e]	22	140[e]	<5	30	5	69[e]	<5	67[e]
Mercury	2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5
Nickel	100	<1.0	<1.0					<1.0	3.4					1.9	6.5		
Selenium	50	<2	<2					<2	<2					<2.0	<2.0		
Silver	100	<0.5	<0.5					<1.0	<1.0					<1.0	<1.0		
Thallium	2									<0.26	<0.26						
Zinc	5,000	<50	<50					<50	<50			<25	<25	<25	<25		

Notes: Data provided by SLO County (2003) for more recent water samples are similar to above resultsAll samples collected near dam

[a] Units in micrograms per liter (µg/l).

[b] MCL=Maximum contaminant level.

[c] Secondary MCL for aluminum is 200 µg/l.

[d] Exceeds primary drinking water standard.

[e] Exceeds secondary drinking water standard.

(E)=Epilimnion and (H)=Hypolimnion

Sources: Boyle 1994, Carollo 1996b, and SLO County 1996, 1997

The State Water Resources Control Board's (SWRCB) Toxic Substances Monitoring Program (TSMP) evaluated the levels of various metals in fish (SWRCB 1993). Sediment and white bass samples were collected from Lake Nacimiento in July 1991 (one station located on the Dip Creek arm of Lake Nacimiento and one station located on Las Tablas Creek arm of Lake Nacimiento) and analyzed for metals. At both sampling locations, concentrations of arsenic and copper in white bass equaled or exceeded the elevated data level (EDL) 95; and silver and zinc in white bass equaled or exceeded the EDL 85. Exceedance of EDL 85 indicates that a chemical is elevated from the median; exceedance of EDL 95 indicates that a chemical is highly elevated above the median. The median is calculated from all data collected in all TSMP measurements of the toxic substances in the same fish and tissue type between 1978 and 1991. Previous reports indicated that white bass from Lake Nacimiento had the highest level of copper (445 ppm) ever recorded in the TSMP (Envicom 1986). This value exceeds the EDL 95 and is much greater than the level of copper (200 ppm) found during the July 1991 sampling.

In summary, metals other than mercury are of concern to the potential drinking water supply of Lake Nacimiento. Conditions in the lake during summer stratification could potentially facilitate the release of metals such as copper, arsenic, silver, and zinc from the bottom sediments. If bottom water with elevated metal concentrations is drawn in and transported (entrained) in the water supply system, treatment would be necessary to remove the metals to levels below the MCLs. However, as with mercury, the hypolimnion water sample data in Tables 5.1.2a and b indicated that metals in lake water (without treatment) other than aluminum, manganese, and iron are below drinking water limits in lake water near the proposed intake structure.

Organic Compounds. Boyle (1994) reported that on September 21, 1993, water collected from two lake depths (epilimnion and hypolimnion) was analyzed for regulated volatile organic chemicals and unregulated organics. Samples were collected at 5 feet and 80 feet depths near the dam. The analysis results indicated that none of the regulated or unregulated organic compounds were detected at either depth during this sampling event. MCLs for 27 volatile organic chemicals (MTBE added May 17, 2000) and 33 non-volatile synthetic chemicals are established in CCR Title 22 §64444-A. It is not known if the regulated organics tested included each of these volatile and non-volatile chemicals. The unregulated organics are established in CCR Title 22 §64450. Again, it is not known if the unregulated organics tested correspond with the unregulated organics in CCR Title 22 §64450.

MCWRA and SLO County Division of Environmental Health (SLODEH) independently collected water samples at Lake Nacimiento for methyl tertiary butyl ether (MTBE) analysis between May 1999 and December 2001. MTBE is a gasoline additive in use since 1979 that helps fuel burn more completely, thereby reducing harmful air emissions. The State of California has established two MCLs for MTBE, a primary standard of 0.013 milligrams per liter (mg/l) and a secondary standard of 0.005 mg/l. The secondary standard represents the MTBE concentration at or above which the taste and odor of drinking water could be adversely affected, while the primary standard represents the concentration at or above which the public health faces an unacceptable level of risk.

MCWRA collected lake water samples in May and September 1999. The mean concentration of MTBE in lake water was reported at 0.0078 and 0.0045 mg/l, respectively, with a maximum of 0.010 mg/l in a sample from May 1999. A follow up study was conducted by SLODEH between May 2001 and December 2001. Surface water samples (2 feet below lake surface) were collected at four locations, along with water samples from three ground water wells recharged from the lake. The results of the sampling events are summarized in Table 5.1.3 (Poel 2002).

The report summarizing and interpreting the results of water sampling for MTBE in Lake Nacimiento and other county reservoirs includes the following conclusion, “Based on the analytical data, the concentration of MTBE in area lakes appears to be below levels that would pose a health threat to consumers of lake water. Although some recent samples approached or exceeded the primary MCL of 13 ppb, these samples represented worst-case scenarios for raw lake water, not the drinking water delivered to the public” (Poel 2002) It should be noted that at the time of the report, Lake Nacimiento was not part of the drinking water delivered to the public.

Table 5.1.3 MTBE Concentrations in Lake Nacimiento Water

Sample Location	Sample Depth	MTBE Concentration (mg/l)							
		5/99	9/99	5/31/01	9/4/01	9/15/01	10/25/01	11/27/01	12/17/01
Marina	<2 feet			0.0027	0.014		0.0013	0.0012	0.0005
North Shore	<2 feet			0.0029			0.0005		
Section A	<2 feet				0.011		0.0005	0.001	<.0005
Epilimnion (dam)	<2 feet				0.014		0.0012	0.0007	<.0005
Various (MCWRA)		0.0078	0.0045						
Cal Shasta Club	(well)					<0.0005			
Laguna Vista	(well)					<0.0005			
Hazards	(well)					<0.0005			

Source: Poel 2002.

The presence of pesticide residues (DDT, chlordane, hexachlorocyclohexane) in white bass from the Las Tablas Creek arm of Lake Nacimiento was reported in the 1981 TSMP (Envicom 1986). No other data are available regarding pesticides in Lake Nacimiento.

Drinking water standards regulate trihalomethane (THM) formation potential within water distribution systems. Summarized in Table 5.1.4 are THM formation potential test results collected in August 1993 near Nacimiento Dam. THMs are formed when chlorine, used in drinking water treatment for bacteria, combines with certain organics such as humic acids, to form carcinogenic compounds. THMs are single-carbon organics with three of the carbon bonds occupied by halogens such as chlorine, bromine, or iodine. Chloroform is the most commonly occurring THM, but brominated forms are often encountered as well. The MCL for “total THMs” is 0.1 mg/l. Lake sampling indicates that excessive levels of THMs may form at a free chlorine level of 1.0 mg/l and greater (Boyle 1994). This is a contaminant that will be maintained below the MCL through the treatment process as required by the State.

General Minerals Analyses and Other Water Quality Parameters. Lake Nacimiento water quality has been described as good in terms of mineral quality (DWR 1986; Envicom 1986; SWRCB 1979), and the lake has been described as mesotrophic (having a moderate amount of nutrients), although summer stratification can result in an increase in nitrate concentration with depth (Envicom 1986). Relatively low concentrations of phosphate and nitrate in the epilimnion are maintained by watershed management practices which include minimal residential use, lack of fertilizer dependent crops in the watershed, and no wastewater effluent discharge to the lake (Envicom 1986).

Table 5.1.5 summarizes general mineral water quality data between March 1993 and September 1999 from samples collected from the epilimnion and hypolimnion near the dam (May 1993 sample results not shown in Table 5.1.5 but generally fall between March and July 1993 results). Total dissolved solids (TDS) concentrations were well below the MCLs of 500 mg/l (recommended MCL) and 1,000 mg/l (upper MCL), and also well below the 3,000 mg/l established in the SWRCB's Sources of Drinking Water Policy (SWRCB 1988). The levels of TDS found were similar to those reported in other studies (DWR 1986, SWRCB 1979). Other minerals were found to be below the MCLs. Corrosive water was identified in many of the hypolimnion water samples (Boyle 1994, Carollo 1996b, SLO County 1996).

Summarized in Table 5.1.6 are the laboratory results for temperature, odor, turbidity, color, and pH, collected between March and September 1993 and in August 1996. The data show that odor, turbidity, and color would have to be reduced by treatment of the water supply to meet MCLs for odor, turbidity, and color. Other sampling between May 1995 and May 2003 (results not shown in Table 5.1.6) provided similar results.

Ammonia and phosphorus data are available for water collected near the dam.. A total of 16 samples of epilimnion water and 16 samples of hypolimnion water were collected for ammonia nitrogen analysis by SLO County in 1997 and 1998. All 16 epilimnion samples, and 12 of 16 hypolimnion water samples were non-detected for ammonia nitrogen. The remaining four hypolimnion water samples, collected in four consecutive months from September to December 1997, contained between 0.14 mg/l and 0.22 mg/l ammonia as nitrogen.

A total of 23 samples of epilimnion water and 23 samples of hypolimnion water were collected by SLO County for orthophosphate as phosphorous analysis between 1997 and 2003. Most samples (37) were non-detected for orthophosphate. The remaining samples contained concentrations of orthophosphate close to detection limits (0.1 mg/l), except one sample collected from the epilimnion in March 1998 that contained 0.34 mg/l orthophosphate as phosphorous. Water samples were also collected by MCWRA in September 1999 for ammonia and orthophosphate analyses. These constituents were found at or below detection limits (Table 5.1.5).Ammonia and total phosphorous in the lake water will be removed during water treatment to below the MCL.

General minerals and physical parameters presented in Tables 5.1.5 and 5.1.6 with corresponding secondary MCLs (with the exception of fluoride, nitrate, nitrate plus nitrite, and nitrate as nitrogen) are regulated as secondary drinking water standards. Secondary drinking water MCLs are based on adverse affects due to taste, odor, or appearance of drinking water, or affects that may render the water less desirable for use. Excessive color or odor causes the public to question the safety of drinking water and result in complaints from users. A noncorrosive water with an alkaline pH is desirable to reduce pipe corrosion contributing iron and other trace metals to the water by dissolution from water mains and plumbing.

Table 5.1.4 Trihalomethane Formation Testing Results Lake Nacimiento Samples Collected 8/10/93

Chlorine Residual (mg/l)	0		1		2		3		4		5		6	
Sampling Depth (feet)	**5**	**80**	**5**	**80**	**5**	**80**	**5**	**80**	**5**	**80**	**6**	**80**	**5**	**80**
Chloroform (µg/l)	<1	<1	32	28	73	70	120	120	150	170	170	180	190	200
Bromodichloromethane (µg/l)	<1	<1	1	<1	6	2	9	<1	10	6	10	6	11	7
Chlorodibromomethane (µg/l)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform (µg/l)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total THMs (µg/l)	<1	<1	33	28	79	72	129	125	160	176	180	186	201	227

Notes: All samples collected near dam; Results for more recent SLO County sampling events (through 2003) are similar to those presented above

Source: Boyle 1994

Table 5.1.5 General Mineral Analyses And Other Water Quality Parameters of Lake Nacimiento Water

Parameter[a] (mg/l)	MCL	Dates and Depths (feet) of Sample Collection																	
		3/3/93		7/14/93		9/21/93		5/31/95		8/8/95		10/31/95		8/6/96		2/25/97		9/29/99	
		5'	80'	5'	80'	5'	80'	15'	120'	5'	30'	15'	120'	10'	90'	30'	120'	Surf.	145'
Temperature (°C)		11.7	9.2	23.2	9.0	17.8	7.8	19.3	11	25.8	16.6	18.7	11.5	24.5	11.5	11.5	10.5		
pH at 25°C		8.86	7.81	7.53	8.16	7.33		8.74	7.72	8.78	7.32	7.94	7.4	8.38	7.3			7.3	7.8
EC (µmhos)	900-1600	180	220	275	250	380	340	190	245	237	223	300	300	329	240	259	232	305	286
Langelier Index		+0.3	-0.7[b]	+0.5	-0.9[b]	+0.1	-1.2[b]	+0.4	-0.7[b]	+0.6	-1.0[b]	-0.3	-1.0[b]	0.5	-1.0[b]	-0.7[b]	-0.6[b]		
TDS (at 180°)	500-1000	150	190	240	198	306	270	142	194	232	184	204	210	188	160	150	170		
Carbonate ($CaCO_3$)		4	0	0	0	0	0	4	0	4.4	0	0	0	3	0	0	0		
Bicarbonate ($CaCO_3$)		70	85	100	92	110	89	71	91	82.2	82.0	94.6	95.4	110	100	84	100		
Ttl Alkalinity $CaCO_3$		74	85	100	92	110	89	75	91	86.6	82.0	94.6	95.4	113	100	84	100	106	102
Ttl Hardness $CaCO_3$		84	100	120	110	129	104	86.5	114	95.3	87.8	125	120	122	109	87	105		
Chloride	250-500	7.6	8.3	12	10	10	8	4.8	6.6	4.1	2.2	6.0	4.9	6.0	4.7	3.8	4.2	6	5
Fluoride (mg/l)	1.4-2.4	0.1	0.11	0.14	0.12			0.12	0.13	0.15	0.13	0.16	0.14			0.12	0.12		
Potassium																		1.2	1.1
Nitrate (NO_3)	45	<.44	1.1	<.44	.93	<.4	<.4	<0.44	1.0	<0.44	<0.44	<0.44	0.93	<0.22	<0.22	0.27	1.1	<1	<1
Nitrate+Nitrite as N	10							<0.1	0.330	<0.1	<0.1	<0.1	0.220			0.061	0.250		
Nitrite (as N)	1							<0.005	0.0083	<0.005	<0.005	<0.005	0.0065			<0.005	<0.005		
Ammonia (as N)																		<0.05	<0.05

Table 5.1.5 General Mineral Analyses And Other Water Quality Parameters of Lake Nacimiento Water

Parameter[a] (mg/l)	MCL	Dates and Depths (feet) of Sample Collection																	
		3/3/93		7/14/93		9/21/93		5/31/95		8/8/95		10/31/95		8/6/96		2/25/97		9/29/99	
		5'	80'	5'	80'	5'	80'	15'	120'	5'	30'	15'	120'	10'	90'	30'	120'	Surf.	145'
Sulfate	250–500	22	31	33	34	38	29	25.2	34.2	30.1	26.4	30.8	32.8	33.2	23.0	21	26	32	29
Calcium		19	22	28	24	30	24	20.7	26.5	22.9	20.9	24.4	25.3	29.2	25.3	20	24	28	28
Magnesium		9	11	12	12	13	11	8.5	12	9.3	8.7	16	14	12	11	9.0	11	14	13
Sodium		6.2	7.6	9.4	7.6	10.1	7.6	7.0	8.4	8.0	7.4	7.7	7.2	9.4	8.0	7.0	7.4	10	9
MBAS	0.5	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<1	0.15		
Orthophosphate (P)																		<0.03	0.03

Notes: All samples collected near dam; Results for more recent SLO County sampling events through 2003 are similar to those presented above.

[a] Values reported in mg/l except as noted.

[b] Indicates corrosive water.

MCL=Maximum contaminant level; EC=Electrical conductivity.

Sources: Boyle 1994, Carollo 1996b, SLO County 1996, 1997, MCWRA, 2001

Table 5.1.6 General Physical Analyses of Lake Nacimiento Water

Sampling Location	Date	Temp (°C)	Odor (units)	Turbidity (NTU)	Color (units)	pH
MCL		**–**	**3**	**5**	**15**	
Dam at 5 feet	3/3/93	11.7	10	20.60	29	8.86
Dam at 80 feet	3/3/93	9.2	5	27.70	28	7.81
Log Boom at 5 feet	4/6/93	15.3	10	6.42	15	8.25
Log Boom at 80 feet	4/14/93	–	8	14.50	23	7.28
Log Boom at 5 feet	5/5/93	19.6	7	1.90	–	8.35
Log Boom at 80 feet	5/5/93	9.3	7	19.60	–	7.58
Log Boom at 5 feet	6/2/93	9.5	8	12.74	–	7.89
Dam at 5 feet	7/14/93	23.2	12	1.18	–	8.40
Dam at 80 feet	7/14/93	9.0	4	12.89	–	7.67
Log Boom at 5 feet	8/4/93	23.1	15	1.49	5	–
Log Boom at 80 feet	8/4/93	8.6	20	9.40	18	–
Log Boom at 5 feet	9/21/93	17.8	10	1.74	–	8.16
Log Boom at 80 feet	9/21/93	7.8	5	4.53	–	7.33
Dam (epilimnion)	8/6/96	24.5	7	2.20	7	–
Dam (hypolimnion)	8/6/96	11.5	4	5.30	13	–
(Location Not Specified) at 120 feet	4/1/97	11.0	2	26.00	23	7.53
(Location Not Specified) at 15 feet	4/1/97	13.5	2	2.90	10	8.20
(Location Not Specified) at 2 feet	4/1/97	17.5	2	3.00	9	8.65
(Location Not Specified) at 30 feet	4/1/97	12.0	2	2.40	12	7.74
(Location Not Specified) at 60 feet	4/1/97	11.0	2	8.50	17	7.68
(Location Not Specified) at 90 feet	4/1/97	11.0	3	16.00	21	7.61

Notes: Results for more recent SLO County sampling events through 2003 are similar to those presented above.

NTU=Nephelometric Turbidity Units

Sources: Boyle 1994, SLO County 1996, 1997

Radioactivity. Seven lake samples were collected from the epilimnion near the dam between August 2001 and February 2003 and analyzed for gross alpha particle activity (SLO County 2003). Five of the seven samples were non-detected and two were detected below the MCL (1.8 pCi/L in November 2001 and 1 pCi/L in February 2002). The MCL for gross alpha is 15 pCi/L. It is unknown whether any surface water samples collected from the lake have been monitored for radium-226, radium-228, uranium, tritium, strontium-90, or gross beta particle activity. References cited do not contain radioactivity data for Lake Nacimiento water. MCLs for natural and man-made radioactivity are contained in CCR Title 22 §64441 and 64443.

Beneficial Uses

Beneficial uses of inland surface water bodies are listed in the "Central Coast Basin Water Quality Control Plan" in order to aid in achieving the highest water quality consistent with the maximum benefit to the people of the state (RWQCB 1994). Lake Nacimiento is listed in this inventory. The beneficial uses for Lake Nacimiento, along with other surface water bodies in the watersheds crossed by the NWP are listed in Table 5.1.7.

Proposed Pipeline Reaches 1 through 7

General Water Body Information

Proposed Reaches 1 and 2 begin at Lake Nacimiento and run east along the Nacimiento River to Camp Roberts military reservation, southeast through the reservation, east to Wellsona, and south along the Salinas River to Paso Robles. From Paso Robles, Reaches 3 through 7 run south for approximately 25 miles to the Cuesta Tunnel. From Wellsona, the alignment generally parallels roads on the east side of the Salinas River through Garden Farms, then parallels the Southern Pacific Railroad and Highway 101 up to the Cuesta Tunnel. The pipeline would cross the Nacimiento River once, the Salinas River twice, a few notable drainages (San Marcos Creek, Rocky Canyon, Trout Creek, and Santa Margarita Creek), and several small unnamed tributaries of the Nacimiento and Salinas rivers.

The Salinas River is the principal river system in the central portion of the county. It originates in the La Panza Range and flows northwestward into Santa Margarita Lake. Santa Margarita Lake (also called the Salinas Reservoir) is a water supply reservoir that was formed by the Salinas Dam in 1942 to provide water to Camp San Luis Obispo and the City of San Luis Obispo (USGS 1970). Downstream of the lake, the Salinas River continues northwestward, then turns north near Templeton. North of Paso Robles, the river picks up flow from Huerhuero Creek, San Marcos Creek, and the Estrella River, which drain much of the central interior of the county. The Salinas River discharges into the Pacific Ocean at Monterey Bay.

Salinas River Water Quality

The raw water option of the proposed project includes recharging groundwater with Lake Nacimiento water at three locations along the Salinas River between Paso Robles and Atascadero. Because the raw (untreated) Lake Nacimiento water would be "mixed" with water in the Salinas River during the proposed recharging, the existing water quality in the Salinas River is discussed below.

Table 5.1.7 Beneficial Uses of Inland Surface Water Bodies

Waterbody Name	MUN	AGR	PROC	IND	GWR	REC1	REC2	WILD	COLD	WARM	MIGR	SPWN	BIOL	RARE	EST	FRESH	NAV	POW	COMM	AQUA	SAL	SHELL
Lake Nacimiento	X	X			X	X	X	X	X	X		X		X		X	X	X	X			
Nacimiento R. downstream of Res.	X	X		X	X	X	X	X	X	X	X	X		X					X			
Las Tablas Cr.	X	X			X	X	X	X	X	X		X		X					X			
San Marcos Cr.	X	X			X	X	X	X		X									X			
Paso Robles Cr.	X	X			X	X	X	X	X		X	X		X					X			
Atascadero Cr.	X	X			X	X	X	X	X			X		X	X				X			
Santa Margarita Res.	X	X		X	X	X	X	X	X	X		X		X		X	X	X	X			
Salinas River	X	X		X	X	X	X	X	X	X	X	X		X					X			
Chorro Cr.	X	X			X	X	X	X	X	X	X	X	X	X		X			X			
Stenner Cr.	X	X			X	X	X	X	X		X	X		X					X			
San Luis Obispo Cr.	X	X		X	X	X	X	X	X		X	X		X					X			
Davenport Cr.	X					X	X	X						X					X			

Notes:

MUN=Municipal and domestic supply
AGR=Agricultural Supply
PROC=Industrial Process Supply
IND=Industrial Service Supply
GWR=Groundwater Recharge
REC1=Water Contact Recreation
REC2=Non-Contact Water Recreation
WILD=Wildlife Habitat
COLD=Cold Freshwater Habitat
WARM=Water Habitat
MIGR=Fish Migration
SPWN=Fish Spawning
BIOL=Preservation of Biological Habitats
RARE=Rare, Threatened, or Endangered Species
EST=Estuarine Habitat
FRESH=Freshwater Replenishment
NAV=Navigation
POW=Hydropower Generation
COMM=Commercial and Sport Fishing
AQUA=Aquaculture
SAL=Inland Saline Water Habitat
SHELL=Shellfish Harvesting

Source: RWQCB 1994

Table 5.1.8 Salinas River Water Quality

Source ID/Water Type	Date	Flow (cfs)	Units	Ca	Mg	Na	K	HCO3	SO4	Cl	TDS
Salinas River @ Hwy 58	4/10/1962	2000	mg/l	18.00	7.00	7.70	2.40	68.00	32.00	6.00	172
Ca HCO_3-SO_4			meq/l	0.90	0.58	0.33	0.06	1.11	0.67	0.17	
	2/14/1954	150	mg/l	20.00	16.00	8.00	1.90	98.00	29.00	7.00	211
Mg-Ca HCO_3			meq/l	1.00	1.32	0.35	0.05	1.61	0.60	0.20	
Salinas @ Paso Robles	02/06/58	1500	mg/l	45.00	17.00	20.00	0.40	180	49.00	18.00	270
Ca HCO_3			meq/l	2.25	1.40	0.87	0.01	2.95	1.02	0.51	
	03/13/68	500	mg/l	84.00	29.00	55.00	3.00	286.00	137.00	46.00	553
Ca HCO_3			meq/l	4.19	2.39	2.39	0.08	4.69	2.85	1.30	
	04/02/65	25	mg/l	71.00	34.00	36.00	1.00	263.00	110.00	39.00	458
Ca HCO_3			meq/l	3.54	2.80	1.57	0.03	4.31	2.29	1.10	

Notes: cfs=cubic feet per second, mg/l=milligrams per liter, and meq/l=milliequivalents per liter.

Source: Fugro 2002.

Limited recent water quality information is available for the Salinas River between Santa Margarita and Paso Robles. A sample of historical data is shown in Table 5.1.8. There is no flow in the river north of Atascadero during most of the year, and there are few industrial discharges to the river in this area. The City of Paso Robles wastewater treatment plant discharges directly to the Salinas River, while Atascadero and Templeton wastewater treatment plants discharge to the river via percolation ponds.

Watershed Sanitary Surveys for the Upper Salinas Watershed and the Lower Salinas Watershed, prepared in accordance with the California Surface Water Treatment Rule (SWTR; 22 CCR §64665), provide some information pertaining to the quality of surface water in the Salinas River (Metcalf and Eddy 1996a and 1996b). The Watershed Sanitary Survey for the Upper Salinas Watershed identifies potential pollutant sources and water quality information for Santa Margarita Lake which is located approximately 5 miles southeast of the town of Santa Margarita. Santa Margarita Lake discharges into the Salinas River.

Santa Margarita Lake is used for municipal supply by the City of San Luis Obispo, and water quality is monitored at the influent line to the City of San Luis Obispo water treatment plant (WTP). Raw water has exceeded drinking water MCLs for turbidity, pH, color, odor, total and fecal coliform, and manganese (Metcalf and Eddy 1996a). The Watershed Sanitary Survey for the Lower Salinas Watershed covers the area northwest of Santa Margarita Lake to the City of Atascadero, and identifies potential pollutant sources and water quality information for groundwater supply wells located near the Salinas River operated by the Atascadero Mutual Water Company, including three wells that have been determined to be under the influence of surface water. Water quality in the Salinas River is not discussed in the sanitary survey, however the report identifies potential sources of pollutants to the river, including grazing animals, wastewater collection systems, septic tank systems, and urban runoff (Metcalf and Eddy 1996b). Sanitary Surveys for the Salinas River watershed between Atascadero and Paso Robles have not been prepared.

The Central Coast Water Quality Control Plan (RWQCB 1994b) provides median surface water quality objectives for the Salinas River for TDS, chloride (Cl), sulfate (SO_4), boron (B), and sodium (Na). These objectives are listed in Table 5.1.9. The RWQCB establishes water quality objectives which, in the Regional Board's judgment, are necessary for the reasonable protection of beneficial uses and for the prevention of nuisance.

Beneficial Uses

There are many beneficial uses for creeks in this area. These uses are listed in Table 5.1.7. According to the Basin Plan, any creeks not specifically listed are designated for municipal and domestic water supply use and the protection of both recreation and aquatic life (RWQCB 1994).

Reaches 8 through 11

General Water Body Information

Reach 8 begins at the Cuesta Tunnel, through which the NWP pipeline has already been constructed. South of the Cuesta Tunnel, the NWP pipeline would continue southwest toward Stenner Road and the SLO water treatment plant. Under the raw water option, a branch line upstream of Stenner Road would carry water to the east and into Chorro Reservoir, which serves as the intake to the California Men's Colony (CMC) WTP. Treated NWP water from the CMC plant would be piped in a NWP extension line south to the Airport area and would also connect with the Chorro Valley pipeline for water delivery to San Luis Coastal Unified School District sites in Morro Bay.

Table 5.1.9 Surface Water Quality Objectives[a]

Sub-Basin/Sub-Area	TDS	Cl	SO_4	B	Na
Salinas River					
Salinas River					
Above Bradley	250	20	100	0.2	20
Above Spreckles	600	80	125	0.2	70
Gabilan Tributary	300	50	50	0.2	50
Diablo Tributary	1200	80	700	0.5	150
Nacimiento River	200	20	50	0.2	20

Notes:

[a] Objectives shown are annual mean values reported in mg/l. Objectives are based on preservation of existing quality or water quality enhancement believed attainable following control of point sources.

TDS=Total Dissolved Solids, Cl=Chloride, SO4=Sulfate, B=Boron, and Na=Sodium

Source: RWQCB 1994.

Chorro Creek originates in Los Padres National Forest, within the Cuesta Ridge Botanical Area of the Santa Lucia Range. It flows southwestward into Chorro Reservoir (serving the CMC), and continues southwestward through CMC. The creek turns westward at Highway 1 and flows through Camp San Luis Obispo. In this reach, the creek picks up flow from Dairy Creek, Pennington Creek, and several small, unnamed tributaries. Past Cuesta College, Chorro Creek turns northwestward and roughly parallels Highway 1, passing Hollister Peak, Quintana Cemetery, and Cerro Cabrillo. Chorro Creek picks up flow from San Luisito Creek and San Bernardo Creek in this reach. At Black Hill, Chorro Creek turns southward, crosses under South Bay Boulevard at Chorro Bridge, and empties into Morro Bay through the estuary.

Proposed Reaches 9 through 11 continue to the south from the western end of the SLO WTP. Reach 9 crosses San Luis Obispo Creek at the Prado Road bridge. Reach 10 crosses a small tributary of San Luis Obispo Creek. The existing Chorro Valley Pipeline begins at the south portal of the Cuesta Tunnel and runs west for 13 miles to Morro Bay.

Chorro Reservoir Water Quality

Within Reach 8, untreated Lake Nacimiento water is proposed to be distributed through a branch line which would discharge the raw water into Chorro Reservoir. Lake Nacimiento water would be “mixed” with existing water in the Chorro Reservoir prior to treatment at the CMC. Existing water quality in Chorro Reservoir is presented below in Table 5.1.10.

Beneficial Uses

There are many beneficial uses for creeks in this area. These uses were listed in Table 5.1.7 (RWQCB 1994b).

Table 5.1.10 Water Quality Parameters at Chorro Reservoir

Parameter	Units	MCL	Chorro Reservoir
Sample date			1/3/2002
Source Temperature	°C		--
pH at 25°C			7.94
EC	µmhos	900-1,600	650
TDS	mg/l	500-1,000	350
Carbonate (CO_3)	mg/l		ND
Bicarbonate (HCO_3)	mg/l		430
Total Alkalinity ($CaCO_3$)	mg/l		360
Total Hardness ($CaCO_3$)	mg/l		340
Chloride	mg/l	250-500	16
Fluoride (mg/l)	mg/l	1.4-2.4	ND <0.1
Potassium	mg/l		0.48
Nitrate (NO_3)	mg/l	45	ND<2
Nitrate + Nitrite (as N)	mg/l	10	ND<0.4
Nitrite (as N)	mg/l	1	ND<0.4
Sulfate	mg/l	250–500	13
Calcium	mg/l		16
Magnesium	mg/l		73
Sodium	mg/l		9.5
MBAS	mg/l	0.5	ND
Aluminum	µg/l	1,000	620
Antimony	µg/l	6	ND<6
Arsenic	µg/l	50	ND<2
Barium	µg/l	1,000	ND<100
Beryllium	µg/l	4	ND<1
Cadmium	µg/l	5	ND<1
Chromium	µg/l	50	11
Copper	µg/l	1,000	ND<50
Iron	µg/l	300	900
Lead	µg/l	50	ND<5
Manganese	µg/l	50	53
Mercury	µg/l	2	ND<1
Nickel	µg/l	100	55
Selenium	µg/l	50	ND<10
Silver	µg/l	100	ND<10
Thallium	µg/l	2	ND<1
Zinc	µg/l	5,000	ND<50

Note: MCL=Maximum contaminant level; EC=Electrical conductivity.

Source: CMC 2002.

5.1.1.2 Existing Groundwater Conditions

SLO County is part of the Central Coastal Hydrologic Study Area (HSA), which includes San Benito and Monterey counties to the north and Santa Barbara County to the south. A total of 40 groundwater basins were identified in this HSA in the 1980 update of DWR Bulletin 118, "Groundwater Basins in California" (DWR 1980). Of these, 24 groundwater basins are wholly or partly within SLO County. These include 4 large basins covering hundreds of square miles each (Paso Robles Basin, Carrizo Plain, Cuyama Valley, and Santa Maria Basin), and 20 smaller basins covering less than 50 square miles each, such as Arroyo Grande Valley-Nipomo Mesa, San Luis Obispo Valley, and Chorro Valley.

Groundwater is found within younger alluvium deposited in river valleys, and older alluvium and marine sediments. The small coastal groundwater basins in SLO County are generally composed of younger deposits while the larger inland basins contain primarily older alluvium (DWR 1980).

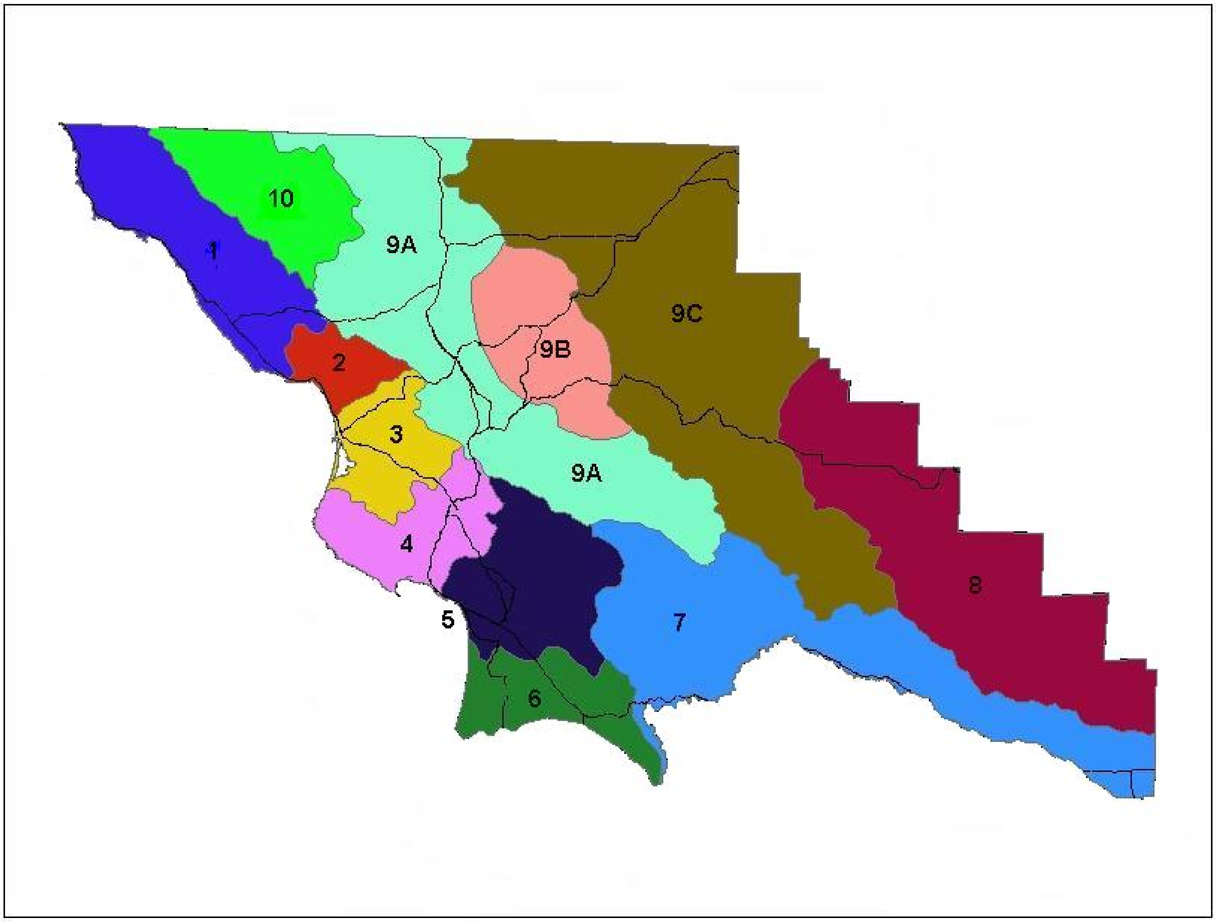
Groundwater is an important resource, as it provides more than 80 percent of the total water supply for both SLO and Santa Barbara Counties (DWR 1991). SLO County is divided into ten Water Planning Areas (WPAs). The WPA represents the geographic organization of the County, and is intended foremost to recognize important hydrogeologic units throughout the County (EDAW 1998). The areas which may receive NWP water are WPA 3, 4, 9a, and 10, shown on Figure 5.1-2. Groundwater basins corresponding to these WPA which could be impacted by the proposed pipeline are listed below.

- WPA 2 (Cayucos) – Cayucos Basin, Old Basin
- WPA 3 (Los Osos/Morro Bay) – Chorro Valley Basin
- WPA 4 (San Luis Obispo) – San Luis Obispo Valley Basin
- WPA 9a (Salinas) – Paso Robles Basin
- WPA 10 (Nacimiento) – No basins present

The NWP participants include purveyors in WPA 2 (Cayucos), however, these purveyors hope to benefit from the NWP through a water exchange agreement for Whale Rock Reservoir water with another NWP participant who is also a Whale Rock Commission Member. Therefore, NWP water would not actually flow to Cayucos. Groundwater in these WPA is generally suitable for municipal and domestic water supply and agricultural use (RWQCB 1994). Key points from the Coastal Branch, Phase II FEIR, DWR Bulletin 118-80 (DWR 1980), the San Luis Obispo County Master Water Plan Update (EDAW 1998), and the Paso Robles Groundwater Basin Study (Fugro 2002) are discussed below for the areas that may receive NWP water.

WPA 9a: Salinas (Proposed Pipeline Reaches 1 through 7)
The Salinas Water Planning Area 9a is comprised of the Paso Robles groundwater basin, the largest groundwater basin in the county. DWR has historically drawn the northern edge of the Paso Robles groundwater basin at the Monterey County line. Under current interpretation, however, the basin boundaries continue into Monterey County and include a portion of what the DWR described as the Salinas Basin (Fugro 2002).

Figure 5.1-2 Map of SLO County Water Planning Areas



Source: SLO County Master Water Plan, 2001.

Table 5.1.11 Characteristics of the SLO County Groundwater Basins Affected by Project

WPA	Basin Name	Area (square miles)	Groundwater in Storage (acre-feet)	Basin Yield (acre-feet/year)
WPA 9a	Paso Robles[a]	790	30,500,000	94,000
WPA 3	Chorro Valley[b]	1.1	3,060	1,700
WPA 4	San Luis sub-basin[c]	5	18,000	2,000 - 2,500

Notes:

a. From Fugro West, Inc., and Cleath & Associates, “Paso Robles Groundwater Basin Study” (August 2002). 30,500,000 af is the value of groundwater in storage based on the 1980-97 average.

b. From Cleath & Associates/Boyle Engineering Corp., “City of Morro Bay Water Management Plan, Appendix B, Ground Water Analysis” (October 1993).

c. From DWR Southern District draft report, “San Luis-Edna Valley Ground Water Study” (December 1997).

The Paso Robles Basin is bounded on the north and east by the Temblor and Diablo ranges, on the west by the Santa Lucia Range, and on the south by the La Panza Range. The basin encompasses watersheds of the Estrella River, Huerhuero Creek, San Juan Creek and the upstream reaches of the Salinas River. Communities within this area include Bradley, San Miguel, Paso Robles, Templeton, Atascadero, Santa Margarita, Creston, Whitley Gardens, and Shandon. The Paso Robles groundwater basin is estimated to have more than 30 million af of ground water in storage and a perennial yield of 94,000 afy (acre-feet per year) (Fugro 2002). Table 5.1.11 lists area in square miles, groundwater in storage, and dependable yield for the basin. Reaches 1 through 7 are located in this basin.

The overall hydrology in the Paso Robles groundwater basin is complex with interrelated surface water and groundwater systems (Envicom 1994). Northwest-southeast trending fault systems, including the Rinconada fault, which extend from the vicinity of Paso Robles to Santa Margarita, affect the hydrogeologic setting in the study area. The main, central portion of the groundwater basin extends east from the City of Paso Robles to Shandon. Sedimentary layers within the Paso Robles Formation form the principal water-bearing aquifers and extend up to 2,500 feet belowground surface in the basin interior. Recent alluvial deposits are also productive and are extensively developed along the Salinas River floodplain. The Rinconada fault is known to cause the presence of a major hydraulic separation between the Atascadero sub-basin and the main Paso Robles groundwater basin to the northeast (The Morro Group 1991, and Fugro 2002). In the Santa Margarita area, a relatively thin alluvium layer overlies the bedrock (Envicom 1994). The underlying bedrock formations, including the Pancho Rico, Santa Margarita, Monterey, Atascadero and granitic rock formations, are generally considered non-water bearing by the DWR, although water-bearing zones within these bedrock units are present beneath the alluvial basin in some areas, including geothermal zones in the vicinity of Paso Robles (Fugro 2002).

The Central Coast Water Quality Control Plan (RWQCB 1994) establishes water quality objectives which are necessary for the reasonable protection of beneficial uses and for the prevention of nuisance. General objectives for groundwater include those for tastes and odors, and radioactivity. For municipal and domestic supply, objectives include those for bacteria, organic chemicals, chemical constituents, and radioactivity. For specific basins, median values for groundwater are shown in Table 5.1.12.

Water quality concerns in area groundwater basin include TDS, chlorides, and nitrates. Recent (1999–2002) groundwater quality in the Paso Robles basin along the NWP alignment has TDS concentrations that range from 330 mg/l, near the confluence of the Salinas River and Santa Margarita Creek, to over 1,200 mg/l near Wellsona. The MCL for TDS is 500 mg/l (recommended limit) to 1,000 mg/l (upper limit). Chloride concentrations range from 19 mg/l, near the confluence of the Salinas River and Santa Margarita Creek, up to 260 mg/l near Wellsona. Recent nitrate concentrations in ground water samples along the NWP alignment range from non-detected, near the confluence of the Salinas River and Santa Margarita Creek, up to 21 mg/l near Wellsona (Fugro 2002).

Geothermal waters, which flow from springs and wells in the northern portion of the study area near Paso Robles, are known to be of higher mineral content and poorer quality than basin waters. A sample of geothermal water collected in 2002 at Paso Robles contained 1,560 mg/l TDS and 564 mg/l chloride (Fugro 2002). There have also been reports of high levels of hydrogen sulfide recorded from wells in the vicinity of Paso Robles (DWR 1986).

Table 5.1.12 Median Groundwater Quality Objectives[a]

Area	TDS	Chloride	Sulfate	Boron	Sodium	Nitrogen
			———	mg/l	———	
Paso Robles						
Paso Robles	1050	270	200	2.0	25	2.3
Templeton	730	100	120	0.3	75	2.7
Atascadero	550	70	85	0.3	65	2.3
San Luis Obispo	900	200	100	0.2	50	5.0

Notes:

[a] Objectives shown are median values reported in mg/l based on data averages; objectives are based on preservation of existing quality or water quality enhancement believed attainable following control of point sources. Basis for objectives in Paso Robles basin is in the report "A Study of the Paso Robles Groundwater Basin to Establish Best Management Practices and Establish Salt Objectives", Coastal Resources Institute, June 1993.

TDS=Total Dissolved Solids.

Source: RWQCB 1994

Paso Robles Discharge Area

Wells closest to the Paso Robles Discharge Area include private domestic and irrigation wells along the Salinas River. The nearest water purveyor wells are in the Thunderbird well field, approximately 1/2 mile upstream of the proposed discharge area. There are four active Thunderbird wells. The wells are between 140 and 210 feet deep and are not subject to the Surface Water Treatment Rule (City of Paso Robles Water Division 2000).

Templeton Discharge Area

Wells closest to the Templeton Discharge Area include private domestic and irrigation wells. The nearest purveyor well with available water quality data is the TCSD Smith River well, located approximately 1,700 feet downstream of the discharge area. This well is 65 feet deep and not subject to the California SWTR. Due to water rights issues, the well is operated only during the wet season by TSCD (Sorensen 2002).

Atascadero River Discharge Area

Wells closest to this river discharge area are two water level monitoring wells owned by the Atascadero Mutual Water Company (AMWC). Inactive irrigation wells are also present within a 1/2-mile downstream. The nearest active purveyors wells are in the AMWC Sycamore well field, approximately 1 mile upstream of the discharge area (Wells 4, 16, 10, 9, 7, 6, all of which are operated by the AMWC). Each of these wells is actively used for water supply, though none are under the Surface Water Treatment Rule (Ogden 1997). Wells 4 and 16 are "shallow" wells and are 70 to 105 feet in depth, while wells 9, 7, and 6 are "deep" wells and are 310 to 600 feet in depth. None of these wells have been determined to be under the influence of surface water and therefore are not subject to the California SWTR (Metcalf and Eddy 1996b). AMWC has also conducted subsurface investigation in the vicinity of the proposed discharge area, including locating sites for future ground water supply wells.

Water quality for shallow purveyor wells closest to the raw water discharge areas are presented below in Table 5.1.13.

Table 5.1.13 Water Quality Parameters at Purveyor Wells near Raw Water Discharge Areas

Parameter	Units	MCL	Purveyor Well Nearest to Raw Water Discharge Areas		
			Thunderbird 13 27S/12E-9M03 City of Paso Robles 140 feet deep	Smith - River 27S/12E-29H03 Templeton CSD 65 feet deep	Well 4 28S/12E-4J02 Atascadero MWC 86 feet deep
Sample date			9/12/2000	2/14/2000	6/9/1995
Source Temperature	°C		20	20	16.1
pH at 25°C			7.0	7.43	7.7
EC	µmhos	900–1,600	834	805	640
TDS	mg/l	500–1,000	504	494	375
Carbonate (CO_3)	mg/l		<1	<1	<1
Bicarbonate (HCO_3)	mg/l		279	293	231.1
Total Alkalinity ($CaCO_3$)	mg/l		229	240	189.6
Total Hardness ($CaCO_3$)	mg/l		378	368	286.8
Chloride	mg/l	250–500	46	42.1	30.6
Fluoride (mg/l)	mg/l	1.4–2.4	<0.1	0.346	0.2
Potassium	mg/l		<1	1.3	1.1
Nitrate (NO_3)	mg/l	45	8	<2	9.6
Nitrate + Nitrite (as N)	mg/l	10	1.85	<0.4	2.167
Nitrite (as N)	mg/l	1	<0.4	<0.4	<0.4
Sulfate	mg/l	250–500	145	149	93.8
Calcium	mg/l		91	85.5	73.7
Magnesium	mg/l		37	37.5	27.3
Sodium	mg/l		40	33.6	25.1
MBAS	mg/l	0.5	<0.02	<0.02	<0.02
Aluminum	µg/l	1,000	<50	<50	<50
Antimony	µg/l	6	<6	<6	<6
Arsenic	µg/l	50	<2	<2	<2
Barium	µg/l	1,000	<100	<100	<100
Beryllium	µg/l	4	<1	<1	<1
Cadmium	µg/l	5	<1	<1	<1
Chromium	µg/l	50	<10	<10	<10
Copper	µg/l	1,000	<50	<50	<50
Iron	µg/l	300	<100	<100	<100
Lead	µg/l	50	<5	<5	<5
Manganese	µg/l	50	<20	<20	<30
Mercury	µg/l	2	<1	<1	<1
Nickel	µg/l	100	<10	<10	<10
Selenium	µg/l	50	17	17	17
Silver	µg/l	100	<10	<10	<10
Thallium	µg/l	2	<1	<1	<1
Zinc	µg/l	5,000	<50	<50	<50

Notes: MCL=Maximum contaminant level and EC=Electrical conductivity.

Sources: City of Paso Robles, Templeton CSD, and Atascadero MWC.

WPA 3 and 4: Reaches 8 through 11 and Existing Chorro Valley Pipeline
WPA 3 and 4 is comprised of several inland and coastal basins of which only two (Chorro Valley basin and San Luis sub-basin) would be impacted by the proposed NWP pipeline. Storage capacity and dependable yield for the San Luis sub-basin is estimated to be 18,000 af and 2,000-2,500 afy, respectively (DWR 1997). The storage capacity and dependable yield for Chorro Valley is estimated to be 3,060 af and 1,700 afy, respectively (Cleath 1993). Table 5.1.11 listed total storage capacity, usable storage, and dependable yield for these three basins.

There are no discharge ponds proposed in WPA 3 or 4. The western extent of the existing Chorro Valley Pipeline is located in the Chorro Valley Basin. Reaches 8 and 8A are outside of recognized groundwater basins. Proposed Reaches 9 through 11 are partially located in the San Luis sub-basin of the San Luis Obispo Valley groundwater basin.

As mentioned earlier, WPA 2 (Cayucos) includes NWP participants, but there would be no NWP pipeline reaches or actual NWP water delivered to this area.

San Luis Obispo Valley groundwater basin, which covers approximately 11 square miles (DWR 1997), is located approximately 10 miles inland from the Pacific Ocean adjacent to the City of San Luis Obispo in the San Luis Obispo valley. This basin is bordered by the Santa Lucia Range to the north and the San Luis Hills to the south. There are two sub-basins within the San Luis Obispo Valley Basin. The San Luis sub-basin is located in the northern half of the basin in the San Luis Obispo Creek drainage and the Edna Valley sub-basin is located in the southern half of the basin in the Pismo Creek drainage (RWQCB 1995). Portions of proposed Reaches 9, 10 and 11 are located in the San Luis Valley sub-basin. The total storage capacity of the San Luis sub-basin basin is estimated to be 18,000 af, with 2,000–2,500 afy identified as dependable yield (DWR 1987).

Groundwater quality concerns in the San Luis sub-basin include nitrates, tetrachloroethylene (PCE), and manganese. Groundwater from some wells in this basin contain nitrate, and several wells have been shown to produce water containing nitrate in excess of the MCL of 45 mg/l (Boyle 1991 and RWQCB 1995). Water samples from three wells have been found to contain TCE above the MCL of 5.0 µg/l (Boyle 1991). One well was found in the City of San Luis Obispo's study to exceed the MCL for manganese of 0.05 mg/l (Boyle 1991).

Boyle (1991) reported that six shallow wells screened in the valley alluvium yield poor quality magnesium-bicarbonate water. All of the water exceeds the recommended MCLs specified in Title 22, CCR, Section 64473. The wells are located in the San Luis sub-basin as well as in the Edna Valley sub-basin. Analyses of the water from these wells all indicate excessive amounts of nitrate ion and elevated amounts of chloride ion. In addition, five of the six wells screened in the non-water bearing bedrock yield water with an electrical conductivity that exceeds the upper MCL of 1,600 micromhs.

5.1.1.3 Dependable Yield and Overdraft

In the Master Water Plan Update (EDAW 1998), "dependable" groundwater yield is defined as "the average annual amount of groundwater that can be extracted from a groundwater basin over a long period of time without developing a net change in storage of fresh water." Operating a basin within its "safe" or "dependable" yield should prevent undesirable effects such as declining groundwater levels, sea water intrusion or other quality degradation, and subsidence.

If a groundwater basin is overdrafted, the amount of water pumped out exceeds the long-term recharge which replenishes the basin over years. This could eventually lead to the undesirable effects noted above. Dependable yields for the individual basins discussed previously are presented in Table 5.1.11. Estimated storage capacities are also listed.

Due to intermittent drought conditions and the subsequent depletion of surface water supplies, groundwater safe yield may be temporarily exceeded for many basins. In DWR Bulletin 118-80, published in 1980, nine basins in the Central Coastal HSA were considered to be under overdraft conditions, including the Paso Robles Basin in SLO County.

Since the time DWR Bulletin 118-80 was published, SLO County authorized a comprehensive update of the situation in the Paso Robles groundwater basin (Fugro 2002). This study found that the basin was no longer in overdraft due primarily to a decline in irrigation of alfalfa. In 2000, groundwater pumpage in the Paso Robles groundwater basin was approximately 82,600 af, compared with the perennial yield estimate of 94,000 afy. The Atascadero subbasin pumpage in 2000 was approximately 11,100 af, compared to the perennial yield estimate of 16,500 afy. Despite a lack of overdraft in the basin-at-large, there has been a decline of groundwater in storage for the Estrella area, which includes the City of Paso Robles. Increased pumping along the Highway 46 corridor by the increasingly concentrated development of rural ranchettes, vineyards, parks, and golf courses has resulted in water level declines of up to 60 feet. The San Luis Obispo County Water Master Plan (EDAW 1998) projects future water demands for the Paso Robles ground water basin area to be 120,620 afy by the year 2020, which would results in overdraft conditions if the increased water use were provided by groundwater.

The Chorro Valley groundwater basin has experienced sea water intrusion in the past (Cleath 1993). Over the last 10 years, pumpage from basin wells has been significantly reduced and imported water brought into the basin. As a result the basin is not in overdraft.

The San Luis groundwater sub-basin has experienced groundwater level declines resulting in localized subsidence during the 1990 drought. In the past 10 years, there has been a significant reduction in municipal and agricultural pumping from the sub-basin. Sub-basin extractions in 1990 were estimated at approximately 3,300 afy. By 1995, basin extractions had declined to an estimated 1,200 afy, which is below the dependable yield of 2,000-2,500 afy (DWR 1997 – draft report subject to revision).

5.1.2 Regulatory Setting

Drinking water quality regulations are summarized below.

5.1.2.1 The Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) of 1974 gave the U.S. Environmental Protection Agency (EPA) authority to set standards for drinking water. Under the provisions of the SDWA, the DHS has the primary enforcement responsibility for water quality. The authority of DFIS is established in Title 22 of the California Administrative Code.

In 1986, Congress passed sweeping amendments to the SDWA. In the amendments to the SDWA, Congress established specific deadlines for new regulations. In addition to requiring EPA to establish 83 standards within 3 years, Congress mandated that EPA establish 25 additional standards every three years. As a result of that, the EPA has established the following water quality regulations that apply to water treatment plants and distribution systems:

- The EPA National Primary Drinking Water Regulations (EPA 1975), originally adopted as "interim" standards in 1975, no longer referred to as "interim" standards after the 1986 Amendments to the SDWA (some of the standards have been revised by recent subsequent rules);
- The EPA secondary drinking water regulations (U.S. EPA 1979 and 1991), which are advisory in nature are to be applied as determined by the states;
- EPA's trilialomethane regulations (EPA 1979);
- EPA requirements for special monitoring (EPA 1980) for sodium and corrosivity characteristics;
- EPA's Phase I regulations for eight VOCs adopted in July 1987, which include requirements for monitoring unregulated compounds;
- EPA's SWTR final June 29, 1989, with compliance effective June 29, 1993 for filtering systems;
- EPA's revised Total Coliform Rule (TCR), final June 29, 1989, effective December 31, 1990;
- EPA's Phase H regulations (covering SOCs and IOCs) which were final January 30, 1991, and July 1991 with compliance monitoring to begin January 1993;
- EPA's Lead and Copper Rule which was final June 7, 1991; and
- EPA's Phase V Drinking Water Regulations covering 23 inorganic and organic compounds, which were final on July 17, 1992.

Current drinking water regulations include both primary and secondary standards. Compliance with primary standards is mandatory, as these standards are based on potential health effects to consumers. The primary standards define MCLs that cannot be exceeded by any public water system.

Secondary standards are those parameters that may adversely affect the aesthetic quality of drinking water, such as taste and odor. These standards are not federally enforceable, although DHS has reserved the right to enforce secondary standards if warranted.

5.1.2.2 California Surface Water Treatment Rule

The existing California SWTR establishes specific requirements for treating surface water. These requirements include disinfection dose and contact time requirements, specific filtering mechanisms, and requirements for the identifications of contamination sources within the watershed, also known as a sanitary survey. The survey is to be used to identify point and non-point sources of contamination and identify measures to reduce potential contamination. The California SWTR stipulates the update of the sanitary survey every five years.

Specific water quality parameters regulated by the California SWTR include filtration, disinfection, turbidity, Giardia lamblia, viruses, *Legionella,* and heterotrophic bacteria.

The California SWTR would be applicable to the proposed project for treatment and distribution of future Salinas River diversions. Based on raw water quality parameters, treatment criteria of Salinas River water would be established for filtration and disinfection (reduction and inactivation of viruses and Giardia cysts). Operational criteria would also be established for treatment plant performance, monitoring and staffing. One such operational criteria is the requirement to maintain continuous disinfection and to provide a minimum distribution system disinfectant residual of 0.2 mg/l. The California SWTR also outlines design standards for new treatment plants that would be adhered to for the proposed project.

5.1.2.3 Information Collection Rule

The purpose of the Information Collection Rule (ICR) is to collect microbial data and, for systems serving more than 100,000 people, water quality and Disinfection By-Products (DBP) data that are crucial to the development of new regulations created by the 1986 SDWA amendments. The information collected as part of the ICR will be used for development of long-term (Stage 2) Disinfectant/Disinfection By-Products Rule (D/DBP Rule) ions and the development of an Enhanced Surface Water Treatment Rule (ESWTR).

5.1.2.4 Interim Enhanced Surface Water Treatment Rule

The Interim Enhanced Surface Water Treatment Rule (IESWTR), which went into effect February 16, 1999, amends the existing Surface Water Treatment Rule to strengthen microbial protection, including provisions specifically to address Cryptosporidium, and to address risk trade-offs with disinfection by-products. The final rule includes treatment requirements for waterborne pathogens (e.g., Cryptosporidium). In addition, systems must continue to meet existing requirements for Giardia lamblia and viruses. Specifically, the rule includes: maximum contaminant level goal (MCLG) of zero for Cryptosporidium; 2-log Cryptosporidium removal requirements for systems that filter; strengthened combined filter effluent turbidity performance standards; individual filter turbidity monitoring provisions; disinfection profiling and benchmarking provisions; and sanitary surveys, conducted by each state, for all surface water systems regardless of size.

The IESWTR, with tightened turbidity performance criteria and individual filter monitoring requirements, is designed to optimize treatment reliability and to enhance physical removal efficiencies to minimize the Cryptosporidium levels in finished water. Turbidity requirements for combined filter effluent will remain at least every 4 hours, but continuous monitoring will be required for individual filters. In addition, the IESWTR includes disinfection profiling and benchmarking provisions to ensure continued *levels of* microbial protection while facilities take the necessary steps to comply with new DBP standards.

5.1.2.5 Total Coliform Rule

Coliforms are one of a group of microbiological contaminants regulated as part of the SDWA 1986 Amendments. Total coliforms, which include the fecal coliforms, are usually not pathogenic. However, their presence in drinking water indicates the potential presence of pathogens associated with waterborne disease outbreaks. In particular, the presence of fecal coliforms in drinking water indicates that an urgent public health problem may exist.

The TCR mandates two primary procedures for total coliform testing: the presence or absence of total coliforms in a given sample and all samples testing positive for total coliforms must be followed by repeat sampling and tested further to determine whether fecal coliforms are present.

The MCL for total coliforms is stated in terms of a certain percentage of positive sampling results per month. Specifically, to be in compliance, no more than one sample per month can test positive if fewer than 40 samples are analyzed per month (this applies to a less than 40,000 population served). Systems in which total coliforms are detected in any sample are required to take several steps to resample within 24 hours. If a positive sample is repeated, or if the presence of fecal coliforms is detected, the system would be in acute violation of the rule and may require public notification.

The TCR would only apply to the proposed project if it would potentially be serving urban areas. In such a case, sampling the transmission system up to the existing municipal systems would be required.

5.1.2.6 Disinfectants/Disinfection By-Products Rule

A draft version of the D/DBP Rule was published on July 29, 1994, and a final version of Stage 1 of the rule was published on December 16, 1998. Stage 2 will be set after additional information is available on occurrence and health effects as part of the ICR.

The Stage 1 D/DBP Rule establishes lower MCLGs and maximum contaminant levels (MCLs) for disinfection by-products, including THMs, haloacetic acids (HAAs), bromate, and chlorite.

In addition, the D/DRP Rule also finalizes National Primary Drinking Water Regulations (NPDWRs) for three disinfectants (chlorine, chloramines, and chlorine dioxide), two groups of organic disinfection by-products (THMs and HAAs), and two inorganic disinfection by-products (chlorite and bromate). The NPDWRs consist of treatment techniques for these disinfectants and their by-products. The NPDWRs also include monitoring, reporting, and public notification requirements for these compounds. The EPA believes that the Stage I D/DBP Rule will provide public health protection for an additional 20 million households that were not previously covered by drinking water rules for disinfection by-products. In addition, implementation of the Stage I D/DBP Rule will for the first time provide public health protection from exposure to HAAs, chlorite (a major chlorine dioxide by-product) and bromate (a major ozone by-product).

The Stage 1 D/DBP Rule applies to public water systems that are community water systems and non-transient non-community water systems that treat their water with a chemical disinfectant either primary or residual treatment. In addition, certain requirements for chlorine dioxide apply to transient non-community water systems.

5.1.3 Significance Criteria

The thresholds of significance selected for analysis cover the critical issues for the NWP water supply, based on a review of agency and public comments on the previous DEIR (Ogden 1997) and the EIR consultants' local water resources experience.

5.1.3.1 Criteria for Construction

Short-term surface water resources impacts due to construction could be significant if:

- temporary changes in lake levels to accommodate NWP intake structure construction result in drought-like conditions at the lake;
- an increase in turbidity occurs in lake releases, attributable to construction of NWP intake structure, affecting downstream water users; and
- degradation of surface water quality occurs due to contamination by fuel or other materials related to construction activities.

Short-term groundwater impacts due to construction could be significant if:

- localized changes in groundwater flow patterns occur due to trenching and dewatering; and
- degradation of groundwater quality occurs due to percolation of water contaminated by fuel or other materials related to construction activities.

5.1.3.2 Criteria for Operation

Impacts due to operation of the proposed project, under both the raw water and treated options, would be significant if:

- drought conditions result in the reduction of NWP pipeline deliveries
- low water levels in Lake Nacimiento during drought result in no releases at the dam, affecting recharge at downstream water supply wells; and
- curtailed releases from Lake Nacimiento result in increased seawater intrusion into aquifers near Monterey Bay.

5.1.3.3 Criteria for Operation of Raw Water Option Only

Impacts due to raw water deliveries would be significant if:

- discharge of raw water results in degradation of groundwater quality in local aquifers or Chorro Reservoir, or does not meet drinking water standards at recovery wells;
- degradation of surface water quality occurs at percolation ponds due to adverse odor and/or floating material;
- discharge facilities cannot accept total volume of raw water deliveries, resulting in a decreased yield at recovery wells or a reduction of the water right to Salinas River underflow;

- overpumping at supply wells occur because discharge water was not being fully intercepted by the pumping wells; and
- existing water treatment plants cannot treat the raw water without major improvements that are not expected by participants.

5.1.4 Proposed Project Impacts and Mitigation Measures

Methods used in the impacts analyses included an independent estimate of water availability during drought using historical stream gage records, MODFLOW computer modeling for raw water discharge area analyses, and a direct comparison of pertinent surface water (Chorro Reservoir) and groundwater water (Salinas River alluvium) quality with an average of 30 water quality samples collected from Lake Nacimiento.

Construction and Operational impacts have been assessed for the treated and raw water options. Specific significance thresholds are defined for each impact in the following sections. The impacts analysis sections include a brief statement defining the specific significance threshold and an analysis of impacts for each co-equal option. A conclusion about the level of significance for each impact is provided.

5.1.4.1 Treated Water Option

Impacts from Construction
The trenches for the proposed pipelines will be relatively narrow and shallow, and will be backfilled, compacted, and graded to the original contour when construction is complete. Because pipelines will have relatively small diameters, installation will be fairly rapid and any required dewatering will probably be limited. Localized changes in groundwater flow patterns are not expected to be noticeable, therefore, no impacts are expected from trenching and dewatering.

Impact	Impact Description	Residual Impact
WQ.1	Potentially significant impact of degradation of surface water quality and groundwater quality due to contamination by fuel or other materials related to construction activities.	Class II

The proximity of some of the proposed project facilities (Intake, portions of the pipeline) to surface water bodies increases the potential hazard associated with fuel or other contaminant spills. If a spill or other release occurred during construction, the contaminant could enter Lake Nacimiento or streams along the pipeline alignment, harming aquatic life and causing general pollution of surface waters, this would represent a significant impact.

Mitigation Measures
Implementation of Mitigation Measures HM-2, HM-3 and HM-5 (see Section 5.6, Hazards and Hazardous Materials) would ensure that any fuel spills are dealt with according to the

appropriate regulations and according to the Hazardous Materials Contingency Plan outlined in those measures.

WQ-1 *"No fueling" zones shall be designated wherein fueling of vehicles or equipment is prohibited within 25-feet of all drainages. All equipment used in or near drainages shall be clean and free of leaks and/or grease. Emergency provisions should be in place at all drainage crossings prior to onset of construction to deal with unintentional spills.*

Residual Impacts

After implementation of the mitigation measures, the proposed project construction water impacts would be *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
WQ.2	Increased turbidity impacts from construction work within the water bodies.	Class III

Construction of the preferred intake structure at Lake Nacimiento will involve work within the lake itself. The proposed method of construction affects what lake levels are acceptable during inlet structure construction, and how lake turbidity is managed at the construction site.

The project engineer's recommended NWP intake structure is a Multi-Port Tunnel intake and shaft system. The Multi-Port Tunnel intake involves drilling a single, 20–30 foot diameter shaft vertically into the ground from the shoreline pump station for approximately 160 feet, and connecting it with three horizontal intake tunnels located at different elevations. The bottom horizontal intake tunnel elevation will match the existing MCWRA outlet elevation of 670 feet. Water would flow through the horizontal tunnels and into the sump at the bottom of the vertical shaft where the pumps would be located (Carollo 2002).

The Multi-Port Tunnel construction would not be sensitive to lake water levels, and no cofferdam excavation would be required. Draining the lake is not required, and no artificially created, drought-like condition would result from temporary construction impacts.

Construction of the Multi-Port Tunnel intake will disturb lake-bottom sediments at the points of entry to the reservoir by the three horizontal tunnels. The tunnel boring machine will exit into the reservoir and be picked up from the lake bottom by a floating barge and crane. Additional work installing trash/fish racks at the tunnel inlets will also disturb lake-bottom sediments. During intake construction, excavated material will be brought to the ground surface to be used as fill for the intake pump station. Very little, if any, channel excavation in the lake bottom would be required, due to the steep slope of the reservoir where the horizontal tunnels emerge (Carollo 2002).

Turbid water in the vicinity of the horizontal tunnel inlet locations is unavoidable during the temporary construction events described above. Temporary elevated turbidity at the lake bottom does not present a significant adverse impact to water resources. Elevated turbidity in lake water releases may affect downstream water users, however.

The dam outlet works are located near the south abutment. All releases except spillway flood releases are from low-level outlet works at 670 feet elevation, and could potentially draw turbid water created at the lake bottom from NWP intake construction. MCWRA monitors dissolved oxygen and electrical conductivity at the hydroelectric powerhouse, but does not monitor turbidity (Carollo 2002). There are two water supply facilities that currently rely on releases from the dam, Water World Resorts, Inc., and Heritage Ranch Community Services District (CSD).

Water World Resorts, Inc. operates a water treatment plant served by a well that taps a graded sand filter bed extending beneath the river channel. Water system personnel routinely monitor turbidity. A review of historical turbidity data from 1993 to 1997 shows turbidity levels in raw well water averaged between 0.1 and 0.2 nephalometric turbidity units (NTU), with a few occurrences between 1 and 2 NTU, and only one occurrence between 2 and 3 NTU (San Luis Obispo Co. Health Dept. 1998). The State drinking water maximum contaminant level (MCL) for turbidity is 5 NTU. In 1998, during a 24-hour monitoring period of elevated turbidity in the Nacimiento River (10–13 NTU; water cloudy, light brown color), the turbidity measured in raw water pumped from the supply well was less than 1 NTU (San Luis Obispo County Health Dept. 1998). Based on the data, temporary elevated turbidity in lake releases would not result in significant impacts to the water supply well for Water World Resorts, Inc.

The Heritage Ranch CSD operates a gallery well system and 2 million gallon per day water treatment plant. The gallery wells are separated from the river channel by both graded sand filter material and native material. Turbidity in the river source water does not significantly impact gallery well water quality, although it can affect production. During periods of elevated stream flow turbidity, gallery system backflushing is required more often. During the occasional periods of very high turbidity during or immediately following heavy precipitation, the operator may temporarily shut down the gallery well system until the highest turbidity flows have subsided (Heritage Ranch water system operator, personal communication, November, 2002). In consideration of the temporary nature of the potential elevated turbidity releases attributable to the NWP intake construction, such releases would not create a significant impact to the Heritage Ranch gallery well system.

Mitigation Measures

No mitigation measures are proposed.

Residual Impacts

Residual water quality impacts would be *adverse but not significant* (Class III).

Impacts from Operation

Under the treated water option, raw Lake Nacimiento water will pass through a new WTP at Camp Roberts for treatment. The new WTP must treat the Lake Nacimiento water such that levels of organics, inorganics, radionuclides, general minerals/physical analyses, and bacteria are below maximum contaminant levels as specified by DHS. In addition, the disinfection method must be designed and operated to limit the formation of harmful disinfection by-products. Water distribution systems are required to meet these criteria as demonstrated by an approved monitoring program such that public health effects do not occur. There are no potentially adverse impacts to water resources from the water treatment at the WTP. Potentially adverse impacts associated with other aspects of the proposed project are discussed below.

Impact	Impact Description	Residual Impact
WQ.3	Potentially significant impact from reduction of water deliveries during drought and resulting water shortages to the participants.	Class II

The annual NWP pipeline delivery allocation is 16,200 af. At present, there are 13,575 af reserved for project participants, with the remaining 2,625 af as contingency. Ultimately, the entire 16,200 af will likely be reserved for participants. A reduction in deliveries, especially during drought, could result in severe water shortages to some project participants.

A reduction of deliveries is defined as when the full annual allocation for NWP participants is not met. This definition does not apply to monthly reductions or temporary interruptions and redistribution of NWP deliveries during the course of a year. It has been recognized in the Nacimiento Reservoir Reliability Study (Boyle, 2002) that during drought, some redistribution of the monthly allocations could occur, and is assumed to be part of the NWP project description.

Boyle Engineering has prepared a model for evaluating the impacts of NWP deliveries on lake levels (Boyle 2002). The Boyle model balances the annual NWP deliveries by withholding 16,200 afy from historical reservoir releases. As noted in the Boyle report text:

For deliveries to NWP, it is assumed that reservoir operations would be modified such that the annual SLO County deliveries of 16,200 af would have been withheld from the Lake Nacimiento release during the month of June. Therefore, the total quantity of water taken annually from the reservoir remains historically unchanged.

The above assumption provides a means of comparing lake levels with and without the NWP on the basis of redistributing seasonal releases. There is no formal requirement for MCWRA to withhold 16,200 af from releases in June, however. For the purposes of worst-case impacts analysis, it cannot be assumed that MCWRA will reserve the NWP delivery allocation by decreasing June conservation releases, although MCWRA should manage the reservoir to make the NWP water available in accordance with the 1959 dam agreement.

Under an agreement executed in 1959, entitling the San Luis Obispo Flood Control and Water Conservation District (SLOFCWCD) to 17,500 af of annual supply from Lake Nacimiento (the 1959 Agreement), the Monterey County Flood Control and Water Conservation District (Monterey County Water Resources Agency) is required to maintain a minimum lake pool of 22,000 af (or 12,000 af above the elevation of the low level outlet works) as of September 30th of each year for the benefit of SLOFCWCD (Boyle 1992). During periods of sustained drought, SLOFCWCD would be allowed to draw lake levels down to the dead pool of 10,000 af.

The terms of the 1959 agreement do not obligate MCWRA to reserve reservoir storage, in excess of the minimum pool, as a drought buffer for SLO County. The terms of the agreement do not require MCWRA to reserve the SLO County entitlement from June reservoir releases. SLO County has the first right to 17,500 afy from the reservoir, however and MCWRA will be expected to manage the reservoir such that SLO County can exercise its right. The SLO County entitlement is annual (i.e. use it or lose it) and does not accumulate from one year to the next.

A worst-case evaluation on reliable water availability for the NWP has been performed assuming a minimum pool on September 30th of the first drought year. Estimates of net reservoir inflow during specific historical droughts were then applied to determine whether or not there is sufficient water for NWP deliveries.

Stream gage records provided by SLO County on Nacimiento River gages upstream and downstream of the reservoir were used for the net reservoir inflow estimates. A comparison of the aggregate flow for the available period of record (1958–1995) shows that the upstream gage flow (reservoir inflow) measured approximately two thirds of the downstream gage flow (reservoir outflow). Therefore, on average, the upstream gage represents approximately two-thirds of the net inflow to the reservoir (minus all natural losses and all lakeside water uses that occur between the upstream and downstream gages).

The minimum (worst-case) lake storage reserve available for the NWP on September 30th at the onset of drought is 12,000 af. This minimum storage reserve is guaranteed by the 1959 agreement. The most severe one-year drought in the historical record for lake inflow is 1976–77 (which followed the most severe precipitation drought year of 1975–76). Between October 1976 and September 1977, the upstream gage into the reservoir measured a total of 4150 af. Using a 2:3 ratio, the net reservoir inflow available to the NWP during the 1976–77 year is estimated at approximately 6,220 af. Therefore, under worst-case conditions, a single year drought would result in 18,220 af available for NWP deliveries, and there would be no shortage.

A similar analysis for the worst-case, two-year (1975–77) drought shows the available water for NWP in 1975–76 would be 21,380 af (12,000 af minimum pool storage and 9,380 net inflow). The second year of this drought would begin with only 5,180 af in storage, therefore, the total available water for NWP would be 11,400 af. Under these conditions, there would be approximately 4,800 af deficit in NWP deliveries.

The worst three-year drought (1959–1961) and four-year drought (1987–1990) at the lake, however, show no deficit in NWP deliveries, based on a net inflow analysis. Even in the driest year of these two droughts (1989–90), there was approximately 16,150 af of net reservoir inflow, with ample storage reserve left from 1988–89 to permit full NWP deliveries.

In summary, if the NWP had been operating since 1958, there could have been one year (1976–77) during which there would have been a reduction or interruption of full NWP deliveries. The estimated deficit in deliveries in 1976–77 could have been approximately 4,800 af.

The above worst-case analysis does not take into account reservoir management by MCWRA to uphold SLO County's first right to water, nor does it take into account the historical lake levels on September 30th of each year. A review of lake levels shows that the average lake storage on September 30th between 1959 and 2001 is 139,600 af. There were six occasions where storage on September 30th was less than the 26,800 af (22,000 af minimum pool plus 4,800 af potential deficit in NWP deliveries) needed to pass the above drought reliability analysis. All six of these years (1960, 1961, 1972, 1977, 1989, and 1990) were the second or third years of drought periods, rather than the first year as assumed in the above analysis. In fact, under the historical reservoir management practices, the NWP deliveries would have continued during the 1975-77 drought, since there was adequate water in storage during the first drought year (1975-76).

Under NWP operations, MCWRA and SLO County must recognize that releasing all the water down to minimum pool during these drought years could result in an NWP shortage if the drought were to continue. Therefore, although the drought reliability analysis indicates a potentially significant impact of reduced deliveries during drought, the impact can be mitigated to less than significant through reservoir management.

Mitigation Measures

Implementation of the following mitigation measure would reduce potential impacts associated with reduction of water deliveries during drought periods to less than significant.

WQ-2 SLO County or the designated NWP engineer shall: 1) monitor reservoir storage and precipitation patterns, 2) notify MCWRA when conditions are such that releases down to a minimum pool on September 30th could result in a shortage for the NWP if drought persisted along historical patterns, and 3) recommend an alternative minimum level of September 30th storage for maintaining NWP deliveries through drought and ensuring SLO County's first right to water.

Residual Impacts

After implementation of the mitigation measure this water impact would be *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
WQ.4	Potential impact of prolonged (over one week) shutdown of releases from Lake Nacimiento during minimum pool conditions, resulting in water shortages at Water World Resorts and Heritage Ranch.	Class II

Heritage Ranch and Water World Reports are lakeside developments that share in the 1,300 afy SLOCFCWCD allocation for lakeside use. Unlike other lakeside water users, however, the water supply facilities for both Water World Resorts and Heritage Ranch are dependent on stream flow and associated underflow in the Nacimiento River channel. The storage capacity of the river channel deposits is limited, and a minimum release through the dam is needed to maintain a reliable supply of water for Heritage Ranch and Water World Resorts. A sustained period (i.e., 1 week or more) of no releases at the dam could result in a shortage of water at one or both of these developments.

The Nacimiento dam is an earth-filled dam set into the Tierra Redonda Formation (sandstone). Underflow beneath the dam has not been quantified. There were periods, however, of up to several months of no-flow recorded at the stream gage below the dam in the 1960s (prior to operation of the Heritage Ranch gallery well). These records indicate that dam underflow is reduced. Since Heritage Ranch infiltration gallery construction in the mid 1970s, there have been only 8 days of no-flow recorded at the downstream gage. According to the Heritage Ranch water system operator, even a week with no releases through the dam could impact their gallery wells, therefore this impact would be potentially *significant.*

Under the NWP, any releases from the reservoir during minimum pool conditions would require authorization by SLOCFCWCD. SLO County, however, is not obligated to release water from the minimum pool as a means of delivering water to lakeside users. If SLO County does not plan on releasing water from the minimum pool through the dam, Heritage Ranch, and Water World Resorts would need to develop alternatives to their existing supply wells for obtaining lake water from the minimum pool. The impact from a temporary interruption of dam releases could be mitigated by Heritage Ranch and Water World Resorts, provided these two lakeside users have sufficient advance notice.

Mitigation Measures

WQ-3 SLO County shall notify both Heritage Ranch and Water World Resorts as to whether or not releases from the dam are expected to continue when water levels reach the minimum pool under NWP operations.

Residual Impacts

After implementation of the mitigation measure this water impact would be *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
WQ.5	Impacts to groundwater from sea water intrusion in Salinas Basin.	Class III

Decreasing Lake Nacimiento water delivery to the Salinas River by 16,200 afy has the potential to increase the existing net overdraft of coastal aquifers in Monterey County. An increase in this overdraft, which would occur during sustained drought periods, could result in more seawater intrusion than is already observed in these coastal aquifers.

From 1958 to 2001, Lake Nacimiento has released an average of 203,180 afy of water for flood control and conservation purposes, with an average of over 230,000 afy between January 1992 and January 2002 (Boyle 2002). According to the Salinas Valley Water Project (SVWP) EIR, Lake Nacimiento and San Antonio Lake have historically provided approximately 142,000 afy of conservation releases (MCWRA 2001). The reservoirs are operated together using an approximate 3:1 ratio of Lake Nacimiento storage to San Antonio Lake storage, therefore, the portion of average annual conservation releases attributable to Lake Nacimiento is estimated at 106,500 afy. Conservation releases comprise close to half of the total releases at Lake Nacimiento.

When flood releases are taking place and the Salinas River is flowing into Monterey Bay, the NWP deliveries will have no effect on recharge to the lower Salinas Basin. During these years with historical flood releases, a portion (or all) of the historical flood release will be transferred over to conservation release under NWP. This is because, unless MCWRA voluntarily reduces conservation releases to offset NWP (as assumed in the Boyle model), the NWP will lower reservoir storage going into the wet season.

The main curtailment of MCWRA conservation releases by the NWP would occur during drought, when there are no flood releases and storage has historically been fully utilized for conservation releases. The MCWRA flood rule curve begins to require increasing storage capacity beginning in September and running through the end of March. Typically, flood release wouldn’t be needed in September or October, or even November, because conservation release have already provided storage capacity going into the wet season. If we assume flood releases for

December, January, February, and March then the NWP deliveries would only impact conservation releases during eight months of the year. If, under worst-case conditions, all the NWP water not pumped during flood releases were balanced by a reduction in conservation releases, the amount of reduction would be close to 10,800 afy.

Of the 13,575 afy currently scheduled for NWP delivery, 8,160 afy would stay within the Salinas River watershed. The North County NWP participants discharge wastewater to the Salinas River, therefore, an estimated 50%, or 4,000 af, of the NWP water which is delivered to the North County will return directly to the river through wastewater discharges (for example, the City of Paso Robles water demand is approximately 6,200 afy, and wastewater discharges for the City are approximately 3,100 afy). Therefore, if 10,800 afy of NWP water were from reduced conservation releases, at least 2,700 afy would be mitigated by return flows from wastewater (eight months per year credited). The resulting effective reduction in conservation flows is estimated to average up to 8,100 afy, compared to historical conservation releases.

The reason there are reductions in conservation releases under NWP is due to the historical use by MCWRA of NWP project water for this purpose. Mitigation for the reductions in releases has been addressed by MCWRA through the Salinas Valley Water Project (SVWP). The SVWP, described herein under cumulative projects, has received voter approval in Monterey County and is moving forward. The SVWP mitigation for sea water intrusion incorporates the NWP.

Mitigation Measures

No mitigation measures are proposed.

Residual Impacts

Residual water quality impacts would be *adverse but not significant* (Class III).

5.1.4.2 Raw Water Option

All impacts (Impacts WQ.1 though WQ.5) would be similar for Raw Water Option. The same mitigation measures would apply (Mitigation Measures WQ-1 and WQ-3). Additional impacts from operation of the Raw Water Option are discussed each under a separate impact box.

The raw water option impacts assessment includes an analysis of deliveries to Paso Robles, Templeton, and Atascadero discharge areas, to Chorro Reservoir, and to existing water treatment plants. The impacts assessment does not include analysis of San Miguel NWP deliveries. San Miguel CSD will conduct independent environmental studies for their raw water and treated water options. Areas and issues that are expected to be impacted by the proposed project are discussed below.

Nacimiento water discharged via the percolation ponds or discharged to the Salinas River would have an overall beneficial effect to improve the water balance situation in the Paso Robles Groundwater Basin, the San Luis Obispo Groundwater Basin, and NWP participants' coastal aquifers. NWP participants who desire to recover the NWP raw water must either have facilities that capture that water or must have the capacity to pump other water in lieu of actual NWP discharge. Otherwise, overpumping at well facilities could occur. Overpumping can occur at any well whose pump capacity exceeds its yield, and it is the well operator who is responsible for monitoring pumping levels to avoid overpumping.

Overpumping by water supply wells can lead to cascading water, sanding problems, air entrainment, encrustation, biofouling, and ultimately pump and/or well failure. This could become significant if the participants recharging raw water do not have well facilities capable of extracting the discharged water, or of extracting an equivalent quantity of water elsewhere from Salinas River underflow.

Water system operators generally have a practical understanding of their system's capacity. They will avoid overpumping to protect the longevity of their water wells, unless absolutely necessary to serve the customer (i.e. during critical drought). Therefore, significant overpumping is not expected to occur as a result of the NWP. In fact, NWP water should reduce that likelihood of overpumping at purveyor wells, especially during drought.

Existing water treatment plants will be needed in the raw water option. If there are unexpected upgrades required to treat the raw NWP water, those participants with treatment plants could be significantly impacted economically. However economic impacts not followed by physical change to the environment are not CEQA issues. For informational purposes, the existing water treatment plants capacities and capabilities are discussed below.

Water treatment of the Lake Nacimiento water should be similar to how Santa Margarita Lake water is now treated, such that levels of organics, inorganics, radionuclides, general minerals/physical analyses, and bacteria are below MCLs as specified by the State of California Department of Health Services (DHS). In addition, the disinfection method must be designed and operated to limit the formation of THMs. Public health impacts would result from the distribution of water with elevated levels of harmful constituents that would be consumed by the public. Water distribution systems must meet these criteria as demonstrated by an approved monitoring program such that public health effects do not occur.

Raw water from Lake Nacimiento will either be percolated at discharge sites or will be delivered to water treatment plants. The only water treatment plants that, under the raw water option, have not yet been built are at Santa Margarita Ranch and possibly at San Miguel (San Miguel CSD's project is not analyzed in this document, however). The treatment plant for Santa Margarita Ranch must be designed with adequate capacity and capability to treat raw NWP water to be permitted by the DHS. The threshold of significance for the capacity and capability of water treatment plants under the raw water option only applies to existing plants.

South of Cuesta Grade water will be distributed to CMC WTP (1.84 MGD, with peaking) and the City of San Luis Obispo WTP (4.08 MGD, with peaking). The CMC WTP will treat water allocated for Camp San Luis Obispo, CSA 22 – Airport, Fiero Lane WC, the Edna Valley MWC, and San Luis Coastal USD (Morro Bay). The City of San Luis Obispo would treat water allocated for themselves and for CSA 10 – Cayucos, Lewis Pollard Trust, and Morro Rock MWC.

The CMC WTP capacity is 3 MGD. CMC is currently receiving almost all of its water from the State Water Project. There is sufficient existing capacity for 1.84 MGD of NWP water to be treated at the CMC, provided state water is also flowing. There will need to be an additional 2 MGD of plant capacity, however, to cover existing demands and NWP deliveries during periods when the state water pipeline is shut down. This capacity expansion is anticipated as part of the NWP project (Carollo 2002).

The existing treatment process at the CMC WTP consists of alum and a polymer added as coagulants, which flow through a flocculation chamber into two circular clarifiers, then through sand and gravel filter media prior to chlorination (Ogden 1997). The surface water quality in Chorro Reservoir has more mineralization and metals content than raw Lake Nacimiento water, therefore, no significant upgrades to the CMC WTP are anticipated to be necessary (other than the capacity expansion).

The City of San Luis Obispo is planning an increase in sedimentation basin area for their 16 MGD WTP that would be used for NWP or other supplemental surface water. The sedimentation basin expansion is part of their long-term WTP facilities plan, and the City of San Luis Obispo is evaluating the associated environmental impacts. There are no other major upgrades anticipated for the NWP raw water option (personal communication, Gary Henderson, City of San Luis Obispo, December 2002).

Impact	Impact Description	Residual Impact
WQ.6	Potential degradation of groundwater quality resulting from aquifer discharge using Lake Nacimiento water containing elevated metals concentrations.	Class II

Lake Nacimiento water will mix with alluvial water at Paso Robles, Templeton, and Atascadero, and with surface water in Chorro Reservoir. Water quality changes at each location will vary depending on the ratio of Lake Nacimiento being mixed with the existing waters and the geochemical compatibility of the two water types. Potentially significant water quality impacts to local aquifers include the percolation of waters containing metals, if water is drawn from deeper intervals within the reservoir during drought periods.

To evaluate the potential impacts on water quality from mixing Lake Nacimiento water with alluvial aquifers and Chorro Reservoir, a direct comparison of water quality was performed on a constituent-by-constituent basis. The average of all historical water quality measurements taken at Lake Nacimiento were compared to the water quality in the Salinas River alluvium and in Chorro Reservoir. The results of the comparison are shown below in Table 5.1.14.

NWP water is lower overall in general mineral constituent concentrations than the natural sources with which it will be mixed. The NWP water has less total dissolved solids, and is over three times softer than the receiving waters. For agricultural uses, the NWP water is suitable for irrigation of all crops without restriction, although there may be a relatively slight to moderate reduction in soil infiltration compared to the receiving waters due to a low sodium adsorption ratio and low electrical conductivity. Mixing NWP water with the Salinas alluvial water and Chorro Reservoir water will improve overall water quality for agricultural uses.

With the notable exception of aluminum, iron, and manganese, the NWP water is purer and of superior quality for drinking compared to the Salinas alluvial water and Chorro Reservoir water. Aluminum, iron, and manganese have been detected in water from Lake Nacimiento at levels that exceed the drinking water standards. Chorro Reservoir also contains elevated levels of these metals. The alluvial aquifers, however, do not contain these metals, based on the analytical results from Table 5.1.14.

Iron, manganese, aluminum, and mercury are the principal constituents of concern for degrading aquifer water quality by mixing with Lake Nacimiento water. In a stratified reservoir such as Lake Nacimiento, the deeper water is relatively depleted of dissolved oxygen and attains a low Eh (electrode potential) during the summer months. Under these reducing but typically near-neutral pH conditions of the lake environment, metal ions tend to be in reduced complexes. Ferrous iron can be retained in solution in water of this type up to several tens of milligrams per liter. Similarly, groundwaters with pH of 6–8, if sufficiently reducing, can carry ferrous iron concentrations up to approximately 50 mg/l. As soon as iron-bearing water dissolves oxygen from the air, however, the Eh goes up, and iron is oxidized to the ferric form, which precipitates as ferric hydroxide. Manganese concentrations, on the other hand, may be stable at concentrations between 0.1 mg/l and 10 mg/l in near-neutral conditions and at the Eh one might find in surface water exposed to air. Aluminum reaches minimum solubility at near-neutral conditions, and concentrations close to 1 mg/l probably represent particulate matter (Hem 1970).

Mercury is also a constituent of concern for lake water quality, due to the presence of abandoned mines, which contribute mercury to lake sediments. However, mercury has never been detected above 1 µg/l in lake water (typically non-detected), and under relatively neutral pH conditions, mercury compounds do not readily dissolve in water (see Environmental Setting section).

Although Lake Nacimiento is not a prolific source of sedimentation, the design of the intake facilities should take into account the need to minimize bottom sediment mobilization and drawing from the lower Eh (reducing) environment. The invert elevation of the lowest portion of the existing intake facilities (670-foot elevation) is above the lowest portions of the reservoir (Carollo 2002). MCWRA currently releases reservoir water through the power plant outlet at an elevation of 670 feet. Depending on the time of year, the quality of water released from Lake Nacimiento will vary. The proposed project calls for the construction of a multi-port intake at Lake Nacimiento to selectively withdraw the highest quality water and avoid mobilizing the bottom sediments and metals associated with deeper water.

The ability of the multi-port intake to work from the highest level of the lake will significantly mitigate the potential for elevated metals concentrations in the raw water. Iron concentrations, for example, average 605 µg/l (MCL is 300 µg/l) in 30 samples of lake water between 1993 and 1997. A shallow and deep sample was collected during each sampling event. The shallow sample set averaged only 234 µg/l iron, while the deep sample set averaged 975 µg/l iron. Similarly, the shallow manganese set averaged 9 µg/l (MCL is 50 µg/l) while the deep sample set averaged 60 µg/l. The shallow aluminum sample set averaged 328 µg/l (primary MCL is 1,000 µg/l; secondary MCL is 200 µg/l) while the deeper sample set averaged 1,118 µg/l total aluminum. Clearly, a shallower intake will provide much lower metals concentrations than a deeper intake.

Data in Table 5.1.14 also shows, however, that a shallower intake level will pump water with higher organism counts. Most organisms are filtered out relatively quickly during subsurface transport, hence the State guideline of a 150-foot setback for domestic supply wells from a surface water body. Disinfection of public drinking water systems also protects against organisms. The metals concentration would be the primary water quality criteria for intake port selection, rather than the lower organism count, because organisms are more easily filtered out in the subsurface.

Table 5.1.14 Water Quality Parameters at Purveyor Wells near Raw Water Discharge Areas

Parameter	Units	MCL	Paso Robles 27S/12E-9M03	Templeton 27S/12E-29H03	Atascadero 28S/12E-4J02	Chorro Reservoir	Lake Nacimiento
Sample date			9/12/2000	2/14/2000	6/9/1995	1/3/2002	1993-1999
Source Temperature	°C		20	20	16.1	--	15.0
pH at 25°C			7.0	7.43	7.7	7.94	7.89
EC	µmhos	900–1,600	834	805	640	650	266
TDS	mg/l	500–1,000	504	494	375	350	199
Carbonate (CO_3)	mg/l		<1	<1	<1	ND	<1 (0.96)
Bicarbonate (HCO_3)	mg/l		279	293	231.1	430	91
Total Alkalinity ($CaCO_3$)	mg/l		229	240	189.6	360	93
Total Hardness ($CaCO_3$)	mg/l		378	368	286.8	340	106
Chloride	mg/l	250-500	46	42.1	30.6	16	6.3
Fluoride (mg/l)	mg/l	1.4–2.4	<0.1	0.346	0.2	<0.1	0.13
Potassium	mg/l		<1	1.3	1.1	0.48	1.15
Nitrate (NO_3)	mg/l	45	8	<2	9.6	<2	0.3
Nitrate + Nitrite (as N)	mg/l	10	1.85	<0.4	2.2	<0.4	0.1
Nitrite (as N)	mg/l	1	<0.4	<0.4	<0.4	<0.4	<0.4 (0.3)
Sulfate	mg/l	250–500	145	149	93.8	13	29.4
Calcium	mg/l		91	85.5	73.7	16	24.5
Magnesium	mg/l		37	37.5	27.3	73	11.5
Sodium	mg/l		40	33.6	25.1	9.5	8.1
MBAS	mg/l	0.5	<0.02	<0.02	<0.02	ND	0.03
Aluminum	µg/l	1,000	<50	<50	<50	620	723
Antimony	µg/l	6	<6	<6	<6	<6	<6
Arsenic	µg/l	50	<2	<2	<2	<2	<2
Barium	µg/l	1,000	<100	<100	<100	<100	<100 (38)
Beryllium	µg/l	4	<1	<1	<1	<1	<1
Cadmium	µg/l	5	<1	<1	<1	< 1	<0.2
Chromium	µg/l	50	<10	<10	<10	11	1
Copper	µg/l	1,000	<50	<50	<50	< 50	8
Iron	µg/l	300	<100	<100	<100	900	605
Lead	µg/l	50	<5	<5	<5	< 5	<5 (0.17)
Manganese	µg/l	50	<20	<20	<30	53	35
Mercury	µg/l	2	<1	<1	<1	< 1	<0.5
Nickel	µg/l	100	<10	<10	<10	55	<10 (2.1)
Selenium	µg/l	50	17	17	17	< 10	<2
Silver	µg/l	100	<10	<10	<10	< 10	<1
Thallium	µg/l	2	<1	<1	<1	< 1	<1
Zinc	µg/l	5,000	<50	<50	<50	< 50	18.6

Note: MCL=Maximum contaminant level and EC=Electrical conductivity, pH – hydrogen ion concentration.

Source: City of Paso Robles; Templeton CSD; Atascadero MWC; California Mens Colony.

There will be times when water containing elevated iron, manganese, and aluminum concentrations in reduced complexes would be present in the NWP raw water (no elevated mercury concentrations would be expected, based on the historical data). Mitigation for reduction of these constituents will be part of the discharge facility operation. Natural surface aeration will precipitate the iron as ferric hydroxide. In general, metal complexes tend to be attached to particulates in water at near neutral pH conditions. Suspended particulate metals will be filtered out during percolation of water to the underlying aquifer. Manganese, however, may be less affected by natural aeration and filtration than the other metals.

The highest manganese concentrations in Lake Nacimiento water were from samples collected at the deepest portions of the lake. Water would be drawn from the low-level port when water level had dropped below the two upper level ports. At that time, manganese concentrations in excess of the MCL could appear in the NWP raw water.

The above geochemical discussion is supported by observations at local water systems. Aluminum, for example, is not present in the raw water supply for Heritage Ranch, whereas elevated iron and manganese concentrations are present (verbal communication, water systems operator, 2002). The Heritage Ranch gallery well has a limited filtration capacity of approximately 10–12 feet, but is effective at reducing turbidity and the associated aluminum particulates. The iron component of Lake Nacimiento water, however, requires more time and distance to precipitate out during subsurface filtration than is available at the Heritage Ranch gallery well, and is removed by the treatment plant.

Iron and manganese concentrations are not present at the Water World Resorts well. This well is within 1,000 feet of the Heritage Ranch gallery well and draws from the same source. The Water World Resorts well, however, is not a gallery well, and has over 50 horizontal feet of subsurface filtration between the well and the river. The Heritage Ranch gallery well also pumps at a greater discharge rate than the Water World Resorts well. Therefore, there is significantly more time and distance for the iron and manganese to precipitate out before being pumped from the Water World Resorts well than the Heritage Ranch gallery well. Although solubility controls on manganese do not necessitate precipitation following aeration, historical data from the Water World Resorts well indicates that significant manganese filtration and precipitation will occur in recharging NWP water.

Discharge facilities must typically be set back at least 150 feet from any recovery well to avoid the Surface Water Treatment Rule. It is anticipated, based on the above observations and geochemical considerations, that there will be sufficient time and distance for all of the aluminum and a significant portion of the iron and manganese concentrations to be removed through filtration and precipitation in the subsurface.

The Porter-Cologne Water Quality Control Act of 1969 (CCR Chapter 4, Article 4, Section 13260) mandates that state waters are protected such that activities that may affect waters of the State shall be regulated to attain the highest quality. Under the provisions of this act, the Regional Water Quality Control Board (RWQCB) requires that, for any discharge that may affect the quality of surface or groundwater, a Report of Waste Discharge be submitted to the RWQCB. Monitoring and reporting requirements established and enforced by the RWQCB must be implemented to determine if and when discharge of groundwater with Lake Nacimiento water does not adversely affect groundwater quality.

Mitigation Measures

WQ-4 *Operation of the intake structure shall be managed to minimize the concentration of total metals in NWP water deliveries.*

WQ-5 *NWP raw water discharge areas shall be designed to allow raw water to percolate and flow through the subsurface a minimum of 150 feet before reaching a recovery well.*

Residual Impacts

After implementation of the mitigation measures the proposed project construction water impacts would be *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
WQ.7	Potential nuisances caused by the presence of vegetation in the ponds and/or eutrophication.	Class II

Potential impacts to surface water quality in the percolation ponds could be significant if adverse odors are created and/or floating material is noted. Both odor and floating material are noted in the Central Coast Basin Plan inland water quality objectives as controlled constituents. Increased total organic carbon (TOC) levels resulting from decomposing vegetation is important because when TOCs come into contact with chlorine they can react and form THMs.

Surface water quality in the discharge ponds could be degraded if percolation ponds are not maintained properly. Removal of vegetation within the percolation ponds should be conducted prior to filling, since decomposing vegetation could pose a nuisance. Furthermore, the introduction of warmer near-surface water from Lake Nacimiento into the percolation ponds could cause an increase in the frequency and density of algal blooms (eutrophication), also affecting water quality. If substantial vegetation remained in the pond area during the filling period, it would begin to decompose when inundated, causing an increase in levels of TOC, a measure of natural organic compounds in the water. When chlorine and TOC react together during the typical water treatment disinfection process, THMs are formed. THMs in high enough doses have been found to cause cancer in laboratory animals and may pose dangers to humans. As water is withdrawn for use, the TOC would react with chlorine during treatment, thus increasing THM concentrations.

The project's proposed typical river discharge pond system consists of three ponds to allow for maintenance such as discing/plowing and weed control (Carollo 2002). These procedures should mitigate the adverse vegetation/algae impact to the below significance level.

Mitigation Measures

WQ-6 *Clear vegetation in pond areas during construction and design ponds to allow for periodic drying and cleaning.*

Residual Impacts

After implementation of the mitigation measures, the proposed project construction water impacts would be *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
WQ.8	Impacts from lack of sufficient capacity of the Paso Robles Discharge Area to take full NWP deliveries;	Class II
	and	
WQ.9	Impacts from lack of sufficient capacity of the City of Paso Robles' Thunderbird well field to extract the total combined water right to Salinas River underflow after adding the NWP water right.	Class II

The raw water option for the NWP will distribute raw lake water to three discharge areas along the Salinas River as follows:

- Atascadero Discharge and Recovery Area – 3.60 MGD maximum flow rate.
- Templeton Discharge Area – 0.29 MGD maximum flow rate.
- Paso Robles Discharge Area – 4.64 MGD maximum flow rate.

The Atascadero discharge and recovery facility has been studied in greater detail than the Paso Robles or the Templeton discharge areas due to the need by the AMWC for a near-complete recovery of the actual discharged water. In contrast, the Templeton CSD and the City of Paso Robles do not need to recover the actual NWP raw water, but instead will exchange the discharge water quantity for a right to pump an equal quantity of water from the Salinas River underflow.

<u>At the Atascadero Discharge and Recovery Area</u>, 3,200 afy of Lake Nacimiento water would be extracted via recovery wells and then disinfected prior to distribution of the water to the public. Treatment involves filtration by allowing the water to naturally move through older alluvial terrace deposits and Salinas River alluvium, and chlorination at the wellheads or at existing chlorination and blending facilities at the nearby Sycamore well field. A tie into County Service Area 23 will convey 200 afy to the community of Santa Margarita.

Cleath & Associates originally investigated the hydrogeology of the Atascadero Discharge and Recovery Area in 1997 (Nacimiento Water Discharge and Recovery Concept, Draft Feasibility Study, April, 1997). The study included a field investigation, monitoring well construction and testing, and ground water modeling. The results of the study showed that the discharge and recovery concept is feasible.

In September 2002, additional drilling was conducted in the vicinity of the discharge and recovery area. The drilling program improved the definition of an ancestral (buried) river channel through the area. The new information will alter the specific placement of discharge ponds and recovery wells, but the concept remains feasible.

There are approximately 1.5 acres of available discharge area on an alluvial terrace above the Salinas River, and an additional 1.5+ acres of available discharge area outside of the active river channel in the floodplain. A typical Nacimiento Discharge area pond design is shown in Figures 2-36 and 2-37 (see Section 2.0, Project Description).

Discharge would be via percolation ponds, and groundwater recovery would be via water wells drilled into the ancestral river channel a minimum of 150 feet from of the discharge areas. The capacity of the discharge areas to accept NWP water has been evaluated using MODFLOW, a widely-accepted groundwater flow model developed by the U.S. Geological Survey. MODFLOW was run under steady-state (long-term equilibrium) conditions.

Depth to water beneath the approximate 797-foot elevation alluvial terrace during normal conditions is approximately 34 feet, and 13 feet beneath the 776-foot elevation floodplain. The terrace (above the ancestral channel) is comprised of coarse sand and fine gravel, with little to no fines (Cleath 1997). The ancestral channel is filled with loose sand and gravel and extends down to a base elevation of between 711 and 723 feet above sea level. The floodplain is generally coarse sand with some clay lenses. Recovery wells are estimated to have a capacity of 500+ gpm, and the hydraulic conductivity of the ancestral channel deposits is at least 200 ft/day, based on the pumping test conducted in 1997. With four recovery wells operating, the groundwater modeling shows that the elevated terrace can accept the 3,200 afy NWP deliveries spread over a half-acre area, with a maximum 13-foot rise beneath the center of the pond due to mounding of the percolating water. With 1.5 acres available on the terrace, the entire discharge operation may be possible at that location, pending pilot tests.

The lower discharge area is approximately 10 feet above the river channel, and does not flood seasonally. If the floodplain is used for additional percolation area, there could be some surfacing of water in the adjacent active river channel, depending on the exact area needed and the available setback from the river. Surfacing discharge water may lead accelerated erosion of the channel bank. Extraction facilities should be operated to preclude these impacts.

Given the options available for pond placement and the presence of the highly permeable ancestral river channel for recovery wells, there will be sufficient discharge and recovery capacity at the Atascadero Discharge and Recovery Area to successfully implement the raw water option.

<u>At the Templeton Discharge Area</u>, raw Lake Nacimiento water would be allowed to percolate into the floodplain alluvium, and mix with alluvial water. The recovery will be indirect, using the existing Templeton CSD Smith River well, located approximately 1,700 downstream of the discharge area. This well is 65 feet deep and not subject to the California SWTR. As mentioned previously, Templeton SCD currently operates the well only during the wet season.

By adding NWP water to the Salinas River underflow, the Templeton CSD will obtain the right to extract the same quantity of water from the underflow. The Smith River well has the capacity to extract the full 250 afy NWP deliveries.

The Templeton Discharge Area is situated approximately 9 feet above the Salinas River channel. Depth to water during normal fall conditions is approximately 12–13 feet. The surficial soils at the discharge area, based on observed stratification in the stream bank, include dark brown sandy silt and silty sand with gravel through approximately four feet depth. Below four feet depth is fine to coarse sand. Percolation ponds at this site would require removal or replacement of the top two feet of soil, and possibly the top four feet, to allow unrestricted percolation into the clean sands. Two inactive wells are present in the adjacent river channel.

The capacity of the discharge area was evaluated using a MODFLOW groundwater model. Assumptions for the model included 250 afy discharge, a hydraulic conductivity of 100 feet/day, an initial alluvial saturated thickness of 70 feet, and a percolating area of 2,500 square feet. The resulting model calculates a four foot rise in the water table beneath the discharge area, however, the percolating water may daylight from the bank of the active river channel and rising water could surface in the channel. This may lead to accelerated erosion of the channel bank. To avoid these impacts, an estimated 100-foot setback from the river bank would be recommended, based on groundwater modeling (there is no setback under the currently proposed project). This would place the discharge area within the area identified for the truck staging area.

At the Paso Robles Discharge Area, 4,000 afy of Lake Nacimiento water will be allowed to percolate into the floodplain alluvium, and mix with alluvial water. There will be no recovery of actual NWP water. The City of Paso Robles has a permit (No. 5956; Application 10294), to divert 8 cfs (approximately 3,590 gpm) from the Salinas River underflow with a priority date of October 10, 1941. By percolating the NWP water into the Salinas River underflow, the City anticipates increasing its right to pump by an additional 4,000 afy. Assuming no peaking, the additional water right would be equivalent to 5.5 cfs (approximately 2,480 gpm).

The existing Thunderbird well field, located approximately 2,000 upstream of the discharge area, would be used to exercise the City's right to pump the additional water.

There are four active wells in the Thunderbird well field:

- Thunderbird Well #10 was drilled in 1970 and cased to a total depth of 210 feet with 16-inch diameter steel. The well is screened from 60 feet to the bottom, and pumps approximately 1,025 gpm.
- Thunderbird Well #13 was drilled in 1983 and cased to a total depth of 140 feet with 16-inch diameter steel. The well is screened from 70 feet to 130 feet, and pumps approximately 1,000 gpm.
- Thunderbird Well #17 was drilled in 1993 and cased to a total depth of 140 feet with 16-inch diameter steel. The well is screened from 70 feet to 130 feet, and pumps approximately 1,000 gpm.
- Thunderbird Well #23 was drilled in 1998 and cased to a total depth of 150 feet with 16-inch diameter steel. The well is screened from 90 feet to 140 feet, and pumps approximately 1,300 gpm.

For practical purposes, it is assumed that all the water extracted from these wells is underflow. The total capacity of the well field is a nominal 4,325 gpm. This capacity is 735 gpm more than the current water right (permit 5956) of 3,590 gpm. Therefore, the NWP deliveries will provide 735 gpm more instantaneous flow capacity to the City, with the remaining water right held in reserve. An inactive City well field exists that taps river underflow downstream of the Paso Robles Discharge Area (Ronconi field); however, those wells are under the Surface Water Treatment Rule and would require a treatment plant for use. They are also old wells and casing deterioration may be such that they require replacement. Production at the Thunderbird well field has been maximized by existing wells (Carollo 1993). The City would need to treat water from the Ronconi wells or develop a new well field to realize the full benefit of the NWP raw water option.

The Paso Robles Discharge Area is a 3.4-acre site in the active Salinas River channel. This is a significantly different hydrologic setting than either the Atascadero or Templeton sites. A level survey was conducted across the Paso Robles Discharge area. The lowest elevation through the discharge area is a river channel meander that follows the east bank of the river and is 2.5 feet higher than lowest channel elevation west of the discharge area. Close to half of the discharge area is within 5 feet of the base of the active river channel elevation. Portions of the discharge area will be subject to seasonal flooding. Berms cannot protect against stream underflow rising to surface within the discharge areas. In a wet year, it is virtually certain that the entire area will be washed out.

The raw water option assumes that NWP water will be percolated into the ground. This is also part of the mitigation strategy for the filtration and precipitation of metals. The Paso Robles Discharge Area will not be available for percolating NWP water when flows have breached the pond berms or when stream underflow has risen into the base of the ponds.

The water level at the discharge area during normal fall conditions is estimated at 7-10 feet deep. The capacity of the Paso Robles discharge area was evaluated using a MODFLOW groundwater model. Assumptions for the model included 4000 afy discharge, a hydraulic conductivity of 200 ft/day (based on a pumping tests at Thunderbird well #10), an initial alluvial saturated thickness of 100 feet (based on Thunderbird well field data), and an active percolating area of 1.14 acres. The resulting model shows a 10.5 foot rise in water levels at the center of the percolation pond, which is too high, given the 7–10 foot depth to water. At 3,000 afy, the mound is 8 feet at the center of the pond, and at 2,500 afy, the mound reaches 6.5 feet and does not rise into the pond. As mentioned earlier, however, the pond area may not be available for use during three or four months out of the year, which would further reduce the capacity of the area for NWP discharge.

Under the current NWP project description using three ponds (one active and two drying), a flow rate of 1550 gpm could be maintained for an estimated 8 months out of the year, for a total NWP delivery of 1,670 afy. As mentioned above, this assumes that the NWP water must be percolated into the ground at the Discharge Area. However, the area is in the active river channel, so if it doesn't percolate at the Discharge Area, it will flow downstream and percolate somewhere else. From a standpoint of exchanging the NWP water for a right to pump Salinas River underflow, there is no difference between discharging NWP as surface flow or percolating into the underflow. The filtration capacity for precipitated metals is also not necessary if the water is not intended to be recovered at the Discharge Area. Lake Nacimiento water has been flowing historically into the Salinas River without restriction, and there would be no change in water quality impacts from the current conditions if the Paso Robles Discharge Area was reclassified as a Discharge Area, with no percolation requirement. Therefore, the full NWP allocation may be discharged into the Salinas River system at the location selected for Paso Robles. A redesign of the in-stream facilities would be needed to minimize the effects of regular flooding.

Mitigation Measures

WQ-7 *Operate as a Discharge Area, with facility design that incorporates direct mixing and off-site transport of NWP water with Salinas River flows and surfacing underflow.*

WQ-8 *Develop new source capacity for underflow recovery. Assess environmental impacts in supplemental study. This mitigation is not required until such time as the City of Paso Robles desires to do so.*

Residual Impacts
After implementation of the mitigation measures, the proposed project construction water impacts would be *not significant with mitigation* (Class II).

5.1.5 Alternatives Impacts and Mitigation Measures

There are three project alternatives aside from the raw water and treated water options. These alternatives are the no project alternative, the preferred alternative from the 1997 EIR analysis, and a phased project alternative where the raw water option is followed in time by the treated water option. The impacts to water resources for each of these alternatives are compared to the two main project options below.

5.1.5.1 No Project Alternative

Without the NWP project, the NWP participants will continue to depend on their current water supplies. In many cases, there is little or no opportunity for significant increases in yield from these existing supplies. Supplemental water options from sources other than NWP are also beyond the reach of many NWP participants.

Unless supplemental water is developed, the extractions from the largest groundwater basin in the County (the Paso Robles Groundwater Basin) are forecast to exceed the current estimated perennial yield within 10 years (Fugro 2002). To the south, the San Luis subbasin has already been overpumped beyond the perennial yield during the last drought, in large part due to an increase in well production by one of the NWP participants. Without the NWP, the demands on this basin during the next drought may be even greater, resulting in potential water shortages in areas where access to basin storage is limited, such as the Airport Area. Some of the conditions that currently operating NWP participants would likely face under the no project alternative are described below.

San Miguel CSD
San Miguel CSD will continue to face challenges related to groundwater quality. The 2002 Paso Robles Groundwater Basin Study identified six locations across the basin where major trends of declining water quality were occurring. Two of these locations were San Miguel and nearby San Lawrence Terrace. Trends of increasing TDS, chloride, and nitrate are documented. Nitrate and TDS have exceeded the MCL at San Lawrence Terrace, and fluctuations in TDS are projected to exceed the MCL at San Miguel within the next 20 years, based on the current trends. In addition, groundwater in the San Miguel area has the highest radioactivity levels in the basin, with detections of up to twice the MCL for gross alpha particle counts (Fugro 2002).

City of Paso Robles
The City of Paso Robles will need to develop additional sources of water to provide for the growth allowed under its General Plan. Over the next 10 years, water demands in the basin are projected to exceed the current basin perennial yield. Given that a major portion of future basin growth is expected in the City of Paso Robles, this area will be stressed to a greater degree than other areas. Currently, sources of groundwater have already been extensively developed near Paso Robles, as evidenced by a localized pumping depression northeast of the City. In addition,

the geothermal resource that underlies the City limits the potential for continued deep aquifer development. There may not be adequate, reliable sources of groundwater within the City's domain to support buildout. The City's current right to divert 8 cubic feet per second (3,600 gpm) of underflow in the Salinas River has been fully developed by the Thunderbird well field.

The City of Paso Robles continues to face water quality challenges with respect to its wastewater discharges. The City's facility, which is considered to discharge directly to the Salinas River, has been in violation of discharge requirements for mineral salts. A source of low salinity water is needed to bring its wastewater discharges into regulatory compliance.

Templeton CSD and Atascadero MWC
These two purveyors within the Atascadero subbasin will need to secure additional water resources to support their projected growth. Drought reliability is one of the main concerns. The most productive well sites within their respective service areas have already been developed, and the prospect of drilling and operating numerous marginally producing wells with poor drought performance is unsatisfactory from a cost and reliability standpoint.

Water quality may also be a critical factor in the future water supply. One of the most drought-resistant and prolific groundwater supply wells in the subbasin has seen steadily increasing TDS (25 mg/l per year) and chloride concentrations over time, and will likely exceed the MCL for TDS within the next 10 years (Fugro 2002).

Santa Margarita CSA 23
The pressures facing Santa Margarita's water supply relate to both quantity and quality. Water availability is of major concern within the community, where a water shortage led to water rationing during the last drought. A deep, bedrock well subsequently drilled for the community has provided an alternate source from the drought-sensitive shallow alluvium, and has shown to be capable of supplying the communities water needs over an average demand month, although the well requires treatment for metals and has taste and odor problems. Three of the system's shallow wells are currently out-of-service due to surface water treatment rule issues (SLO County 2001).

City of San Luis Obispo
The City of San Luis Obispo needs to develop additional sources of water to meet its growth projection under its General Plan, and to secure a drought reliability reserve. Expansion of Santa Margarita Lake is one option that could provide a portion of the projected supplemental water needed; however, the project has been shelved due to concerns from North County water purveyors. Groundwater resources in the San Luis sub-basin are available to the City, although the maximum level of historical City pumpage will not likely be significantly increased due to basin yield limitations. The City's third water source, Whale Rock reservoir, has no potential for increased capacity.

Camp San Luis Obispo
Camp San Luis Obispo needs to develop additional sources of water to meet forecasted water demands during peak training periods. Their current source of drinking water is through the State Water Project. Camp San Luis receives water from the CMC treatment plant when State Water is off-line.

San Luis Coastal Unified School District
The District buys water from the various purveyors providing service to coastal area communities. The particular allocation of District NWP water is intended for delivery to Morro Bay area schools, where water rates are higher relative to other communities within the District. As an existing customer of the City of Morro Bay, the District's pressures for water service are mainly financial, rather than based on water quality or reliability.

Cayucos Area NWP Participants
The NWP participants in the Cayucos area include CSA 10A, Morro Rock MWC, and the Lewis C. Pollard Family Trust. The first two purveyors are dependent on Whale Rock reservoir and the small coastal aquifer downstream of the reservoir, which is subject to sea water intrusion. These participants will need to develop additional water supplies to meet build-out projections under current zoning plans. The Lewis C. Pollard Family Trust operates a water system with shallow wells that are impacted by sea water intrusion. The trailer park has been unable to secure alternate well sites in the Cayucos Creek alluvium further upstream, and there is no other on-site source of water.

Airport Area Participants
Airport Area NWP participants include CSA 22 and Fiero Lane Water Company. This area is currently served by local groundwater wells within in the San Luis subbasin. The local water quality is generally potable quality but very hard (Boyle 1991). Supplemental water will be needed to support the planned buildout of the airport area (SLO City 2002).

Edna Valley MWC
The Edna Valley MWC is located southeast of the SLO County Regional Airport, on the Edna Valley side of the watershed divide between the San Luis and Edna Valley sub-basins. The mutual water company has requested 700 afy to provide water service for future development. In this area, near the town of Edna, selenium can be a concern in water quality, and well production is sensitive to drought conditions.

5.1.5.2 NWP 1997 EIR Alternative

The 1997 EIR (Ogden) evaluated numerous project alternatives, including State Water, desalination, Santa Margarita Lake expansion, water conservation, and wastewater reclamation. None of the water supply alternatives were expected to yield the amount of water (16,200 afy), nor would any one of the water supply alternatives benefit as many purveyors, as the NWP. Therefore, the NWP was preferred over alternative supplemental water options.

Various NWP pipeline routes and facilities locations were analyzed, although not altogether the same analyzed under this EIR, and the environmentally superior alternative was selected.

With respect to impacts to water resources, however, the alignment of the pipeline is not particularly important. What is more important from a facilities perspective is the locations of raw water discharge points and the location of the NWP intake at the reservoir.

The recommended locations of the raw water discharge areas were unchanged between the 1997 EIR and the current plan being evaluated, with the exception that the Santa Margarita discharge area was eliminated and the associated discharges moved to Atascadero. According to the 1997 EIR, the Santa Margarita discharge may have been infeasible, because the supply wells would not have been expected to intercept the actual discharged water. Therefore, the elimination of this discharge area appears warranted, and on this basis the current raw water discharge plan is estimated to have slightly less adverse impacts to water resources than the 1997 plan.

Impact	Impact Description	Residual Impact
WQ.10	For the 1997 south side intake location and design, there would be an increased potential for turbidity in discharges from the MCWRA power plant during NWP intake construction.	Class I

Under the 1997 preferred alternative, the intake was proposed to be tunneled from the south side of the dam, as opposed to the current north side tunneling plan. In addition, the lowest level inlet was positioned at 660 feet elevation (10 feet below the current plan) and included a dredged channel leading into the inlet. For the 1997 south side intake location and design, there would be an increased potential for turbidity in discharges from the MCWRA power plant during NWP intake construction. The south side inlets are closer to the MCWRA low level outlet works, and a dredged channel at 660 feet elevation would create much greater turbidity than the currently proposed trash rack inlet termination. With respect to impacts to water resources during construction, the current intake location and design is environmentally superior to the 1997 plan.

Mitigation Measures
No mitigation measures have been identified.

Residual Impacts
The proposed project construction water impacts would be considered *significant* (Class I).

5.1.5.3 Phased Raw and Treated Water Alternative

The phased project alternative consists of the raw water option initially, with the treatment plant phased in at a later date. With respect to impacts to water resources, the phased alternative is essentially equivalent to the raw water option. This is because there are no potential significant impacts to water resources from the treated water option that aren't also found under the raw water option. There are, however, potentially significant impacts under the raw water option that do not exist under the treated water option. Therefore, the phased project alternative has the same potential impact to water resources as the raw water option, and a greater potential impact to water resources compared to the treated water option.

5.1.6 Cumulative Impacts

Cumulative impacts on water resources will be assessed by adding the impacts of relevant projects to the impacts of the NWP. One relevant project was identified for cumulative water resources impacts analysis, the SVWP.

5.1.6.1 Salinas Valley Water Project (SVWP)

The SVWP is a water resources project proposed by MCWRA that includes increasing the spillway capacity at Lake Nacimiento and re-operation of the dam to increase conservation releases. A DEIR was published in June 2001 for the project by MCWRA. According to the DEIR document, the SVWP has been designed to reflect and not interfere with San Luis Obispo's 17,500 afy contractual entitlement. The SVWP DEIR analyses include (reflect) the NWP, therefore, the impacts presented for the SVWP are, in fact, cumulative SVWP and NWP impacts.

Water Supply

The re-operation plan for Lake Nacimiento under SVWP does not alter the conditions of the 1959 agreement, including the requirement that a minimum pool of 22,000 afy be available in the reservoir as of September 30th of each year. This is the assumption used earlier in Section 5.1.4.1. Because the SVWP does not change the worst-case condition, it will not result in less water available for the NWP.

The re-operation plan does, however, increase the conservation releases from the lake by reducing the flood control releases required under the new flood rule curve (a result of lowering the spillway). This mitigates the impacts to conservation releases from the NWP.

Water Quality

The cumulative impacts on water quality from the SVWP and NWP projects would potentially increase the level of total metals in NWP water due to a lower average lake storage under SVWP. As discussed previously, higher concentrations of metals (aluminum, iron, and manganese in particular) are associated with deeper water samples collected from the lake. The SVWP could result in a greater duration of NWP pumping from the lowest reservoir inlet compared to NWP pumping without the SVWP. This cumulative impact would be mitigated by the mitigation measures proposed above.

Currently, dam releases are from the MCWRA low level outlet works, which are at 670 feet elevation (dead pool elevation). Surface water releases through the dam already draw from the lower hypolimnion, and the water quality of dam releases would not be expected to change significantly with the SVWP.

5.1.7 Mitigation Monitoring Plan

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
WQ-1	"No fueling" zones shall be designated wherein fueling of vehicles or equipment is prohibited within 25-feet of all drainages. All equipment used in or near drainages shall be clean and free of leaks and/or grease. Emergency provisions should be in place at all drainage crossings prior to onset of construction to deal with unintentional spills.	County PW Dept or contractor to identify "no fuelling" areas to the County prior to construction start	Dept of P&B	To review and approve the designated areas. Visits to the construction sites to review compliance with the designated zones.	Prior to Board of Supervisors approval to advertise for construction bids, and during construction
WQ-2	SLO County or the designated NWP engineer shall: 1) monitor reservoir storage and precipitation patterns, 2) notify MCWRA when conditions are such that releases down to a minimum pool on September 30th could result in a shortage for the NWP if drought persisted along historical patterns, and 3) recommend an alternative minimum level of September 30th storage for maintaining NWP deliveries through drought and ensuring SLO County's first right to water.	Establish periodic communication mechanism between SLO County and MCWRA on need for alternative minimum lake level on September 30th following a drought year.	Dept of P&B	Ongoing communication between the agencies during drought periods.	Prior to Board of Supervisors approval to advertise for construction bids.
WQ-3	SLO County shall notify both Heritage Ranch and Water World Resorts as to whether or not releases from the dam are expected to continue when water levels reach the minimum pool under NWP operations.	Notice Heritage Ranch and Water World Resorts prior to beginning NWP construction.	Dept of P&B	Review copy of notice.	Periodic review of the communication documentation
WQ-4	Operation of the intake structure shall be managed to minimize the concentration of total metals in NWP water deliveries.	SLO County, Intake operator Develop an operating plan that ensures minimization of metals in water deliveries.	Dept of P&B and RWQCB	Review of the operation plans and the collected water quality data	Periodically during operations
WQ-5	NWP raw water discharge areas shall be designed to allow raw water to percolate and flow through the subsurface a minimum of 150 feet before reaching a recovery well.	County PW Dept and design engineering firm to present final plans for review and approval prior to Board of Supervisors approval to advertise for construction bids.	County P&B Dept	Review and approval of the final design plans, verify compliance with the measure	During final design phase, and verification of compliance with design during construction

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
WQ-6	Clear vegetation in pond areas during construction and design ponds to allow for periodic drying and cleaning.	County PW Dept and Discharge areas operator Present final plans for review and approval prior to Board of Supervisors approval to advertise for construction bids.	County P&B Dept	Review the final design plans	During final plans review, prior to Board of Supervisors approval to advertise for construction bids, compliance verification during construction
WQ-7	Operate as a Discharge Area, with facility design that incorporates direct mixing and off-site transport of NWP water with Salinas River flows and surfacing underflow.	1. The final design shall allow for this type of operation. 2. Prepare operating plan/procedure that ensures the desired operation	County P&B Dept	1. Review and approval of the final design. 2. Review and approval of the operating procedures.	1. During the final design review 2. During operation
WQ-8	Develop new source capacity for underflow recovery. Assess environmental impacts in supplemental study. This mitigation is not required until such time as the City of Paso Robles desires to do so.	County PW Dept and City of Paso Robles to develop plans detailing how the new source capacity can be achieved	County P&B Dept	Review and approval of the Plans	During review of the Plans and verification of operation during operations. This measure is not required until the City of Paso Robles desires to do so.

Note: County PW Dept=Department of Public Works at the SLO County (The Applicant); Dept of P&B=Department of Planning and Building of the SLO County

5.2 Geology, Seismicity, and Soils

5.2.1 Environmental Setting

5.2.1.1 Geology

General Geology

The geologic data presented in this section are summarized from a geohazards study of the previously proposed project alignment and alternatives conducted by Fugro-McClelland (West), Inc. (Fugro), in July, 1993, that included a review of literature available at that time, an analysis of aerial photographs and a limited field reconnaissance. The findings of the geohazards study have been adjusted to the revised proposed project alignment where appropriate using the geologic mapping of Dibblee, Durham, Hart and Hall.

The discussion of the seismicity has been modified from the NWP 1997 EIR based on more recent publications, primarily by the California Geological Survey relating to the activity of major faults and the application of this information in the 1997 version of the Uniform Building Code. The soils units and their limitations along the revised proposed project alignment and at other project facilities have been revised based on Soil Conservation Service (SCS) Soil Surveys of the San Luis Obispo Area-Coastal Part (1984) and Paso Robles Area (1983).

SLO County is situated within the Coast Ranges Geomorphic Province of California. Major subdivisions of this province include: the Temblor Mountain Range; inland valleys of the upper Salinas River, the Carrizo Plain and the Cuyama Valley, the coastal mountains of the Santa Lucia Range, La Panza Range and the San Luis Range, and several coastal valleys, including the Santa Maria, San Luis, and Los Osos Valleys (Envicom 1975).

The project area can generally be divided into three geologic provinces that are separated by two major northwest-trending faults (Figure 5.2-1). The northeast block is bounded on the southwest by the San Andreas Fault Zone and is underlain at depth by a basement of extensively folded and faulted Franciscan rocks of Jurassic age (for reference purposes, the geologic timescale is presented in Figure 5.2-2). Sedimentary rocks of Cretaceous to Late Tertiary age are commonly exposed at the surface in this province and are extensively folded and faulted. Pleistocene and Recent sediments are offset along the San Andreas fault.

The central block is bounded on the northeast by the San Andreas fault and on the southwest by three segments of the Rinconada fault. This province is underlain by Cretaceous and Jurassic-age granitic basement rock that has structurally been relatively stable throughout geologic history. Deformation of younger sedimentary cover in this province has not occurred.

A Jurassic-age Franciscan basement underlies the southwest block, similar to the northeast fault block. Cretaceous to Late Tertiary sedimentary rocks are exposed at the surface. The rock units in this province have been extensively folded and faulted with complexity of structural deformation decreasing with depth.

Figure 5.2-1 Geologic Provinces of San Luis Obispo County

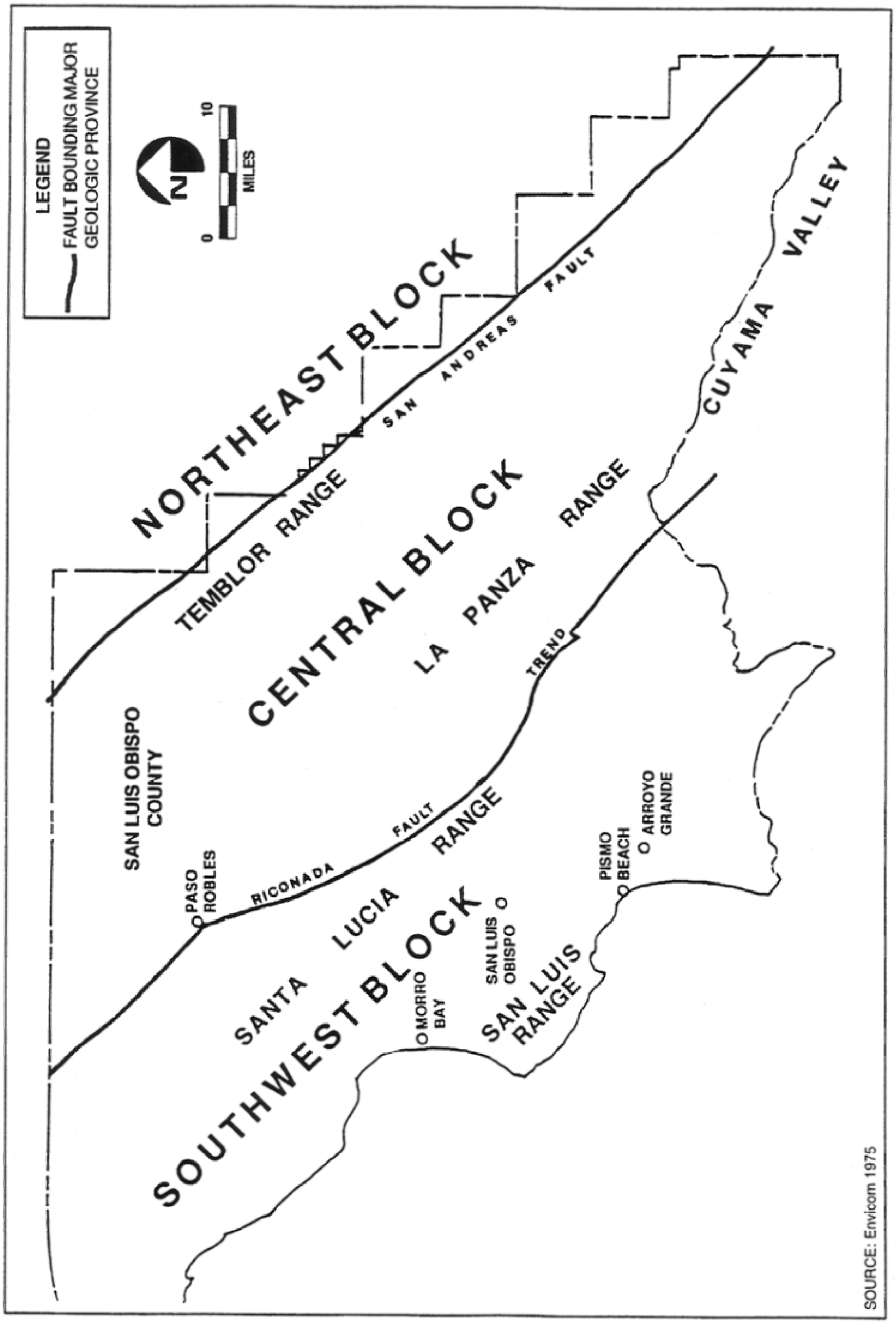


Figure 5.2-2 Geologic Time Scale

ERA	PERIOD	EPOCH	MILLIONS OF YEARS AGO (approximately)
		Recent began 10,000 years ago	
CENOZOIC	Quaternary	Recent (Holocene)	
		Pleistocene	1.6
	Tertiary	Pliocene	
		Miocene	
		Oligocene	
		Eocene	
		Paleocene	68
MESOZOIC	Cretaceous		140
	Jurassic		205
	Triassic		230
PALEOZOIC	Permian		285
	Pennsylvanian		325
	Mississippian		350
	Devonian		410
	Silurian		430
	Ordovician		500
	Cambrian		600
PRECAMBRIAN	Upper Middle Lower		

Geologic Units

A brief description of the mapped stratigraphic units within the project area, summarized from Fugro (1993), is presented below in order of increasing age. The general distribution of these units is discussed below under Geologic Structure.

Alluvium – Alluvial sediments are located within and adjacent to most drainages, streams, creeks, and rivers. Those materials generally consist of by products of weathering and erosion of upslope and upstream parent materials, and will vary considerably in engineering properties and consistencies based on location. Thicknesses of alluvial materials generally range from less than a foot in smaller drainages to tens of feet (or more) in prominent drainages and rivers. Alluvium can typically be excavated using conventional grading equipment, may be water-bearing, and depending on its lithology, may or may not be suitable as pipe-zone backfill materials. Most alluvium, aside from large cobbles and boulders, will probably be suitable for trench backfill materials.

Landslide Deposits – Landslide deposits are locally present in some parts of the project area. Those deposits are derived from parent materials located adjacent and upslope. Landslide deposits observed by Fugro (1993) along the proposed and alternate pipeline alignments then proposed ranged from small "popouts" consisting of only a few cubic yards of earth materials, to very large features encompassing more than 50 acres in area. The observed landslide deposits appear to range from very recent features, such as those located south of San Luis Obispo, to older features that probably have not moved during historic times. Depending on the landslide source zone and degree of weathering, landslide deposits may or may not be easy to excavate, may be water bearing, and probably will not be suitable for pipe-zone backfill materials. Landslide debris may be suitable for trench backfill materials.

Older Alluvium – Older alluvial materials consist of terraces located adjacent to larger drainages, such as adjacent to the Nacimiento and Salinas Rivers. Those materials typically consist of fine- to coarse-grained soils with localized conglomeratic and cobble- and boulder-laden interbeds. Thicknesses of older alluvial materials probably range from less than 10 feet to many tens of feet. Older alluvium typically is excavatable using conventional heavy equipment, might be water-bearing, and typically is suitable for trench backfill materials, provided it is screened of large cobbles and boulders. Older alluvium may not be suitable for pipe-zone materials, depending on its lithology.

Paso Robles Formation – The nonmarine, Plio-Pleistocene-age Paso Robles Formation consists of massive to locally crossbedded, poorly exposed, weakly consolidated mixtures of gravel, sand, silt, and clay. Typically, the Paso Robles Formation can be excavated using conventional grading equipment, is generally nonwater-bearing, and is typically suitable for trench backfill materials. The Paso Robles formation is generally unsuitable for pipe-zone backfill.

Santa Margarita Formation – The Miocene-age, Santa Margarita Formation predominantly consists of poorly stratified, sandy, marine sediments that conformably overlie the Monterey Formation and are locally unconformably overlain by the Paso Robles Formation. The arkosic sandstone of this formation is typically massive to coarsely crossbedded and locally contains abundant shell beds and reefs. The thickness of the Santa Margarita Formation ranges from approximately 200 feet west of Atascadero to a maximum of 2,000 feet northeast of Santa Margarita. The Santa Margarita Formation is generally excavatable using conventional grading equipment, may be locally water-bearing, and may be suitable for trench and pipe-zone backfill materials.

Monterey Formation – The Miocene-age Monterey Formation consists of well-bedded, marine, siliceous and calcareous shale. That shale includes interbeds of chert along with diatomaceous, porcelaneous, tuffaceous, and dolomitic units. Local interbeds of sandstone are also present within an upper member of that formation, where distinguishable. The shale ranges in thickness from approximately 200 feet to more than 2,000 feet. Aside from dolomitic materials, the Monterey Formation is generally excavatable using conventional heavy equipment. Dolomitic materials might require very difficult ripping or unconventional techniques such as blasting to excavate. The Monterey Formation might be locally water-bearing, is generally suitable as trench backfill materials, but is probably unsuitable for pipe-zone materials.

Tierra Redonda Formation – The Miocene-age Tierra Redonda Formation consists of non-fossiliferous, thickly bedded to massive sandstone located southwest of the Jolon fault. That formation locally is composed of granitic boulder conglomerate with clasts ranging in size from 1 to 8 feet in greatest dimension. The Tierra Redonda Formation conformably overlies the Vaqueros Formation and intertongues with the Sandhodt Member of the Monterey Formation. The Tierra Redonda Formation has a thickness of approximately 1,650 feet in the type area. The Tierra Redonda Formation can typically be excavated using conventional grading equipment. Materials from this formation, aside from large cobbles and boulders, can typically be used for trench backfill; however, Tierra Redonda Formation materials are probably not suitable for pipe-zone backfill.

Unnamed Tertiary/Cretaceous Unit – This unit is located west of Paso Robles, specifically southwest of the Jolon fault, and consists predominantly of sandstone and conglomerate with locally abundant mudstone. The thickness of this unit is unknown because the base of the unit is obscured; however, the unit is at least 2,500 feet thick. This unit is typically excavatable using conventional grading equipment, is locally water-bearing, and is typically suitable for trench backfill, but not pipe-zone backfill.

Atascadero Formation – The Atascadero Formation is encountered west of Santa Margarita along the proposed pipeline alignment. That formation consists of thinly to thickly bedded sandstone with interbedded siltstone, mudstone, and subordinate amounts of conglomerate and limestone. The formation is at least 5,000 feet thick. The Atascadero Formation is typically excavatable using conventional grading equipment, is locally water-bearing, and is typically suitable for trench backfill materials. Selected granular soils of that formation might be suitable for pipe-zone backfill.

Unnamed Cretaceous/Jurassic Units – Unnamed Cretaceous/Jurassic units consist of serpentinite and ultramafic rocks encountered in the vicinity of and south of Cuesta Ridge. Thicknesses and consistencies of those materials vary greatly over short distances. Serpentinites of this unit are typically excavatable using conventional grading equipment; however, ultramafic rocks might require heavy ripping and possibly blasting to excavate them. Rocks of this unit are typically nonwater-bearing. Excavated materials of this unit are probably suitable for trench backfill, but not for pipe-zone materials.

Franciscan Formation – The Franciscan Formation consists of a mélange of sandstone, mudstone, and greenstone, with lesser amounts of chert, serpentinite, diabase gabbro, and blueschist facies metamorphic rocks. Those materials are thinly bedded to massive, locally highly fractured and discontinuous, and poorly to well indurated. Serpentinite-rich zones within the Franciscan Formation may locally contain a magnesium-silicate mineral called chrysotile. Chrysotile typically occurs in veins of silky fibers and is an important source of commercial asbestos. The Franciscan Formation is encountered in and south of Cuesta Ridge along the proposed pipeline alignment. The Franciscan Formation is typically excavatable using conventional grading equipment; however, diabase gabbro and metamorphic rocks might require heavy ripping or blasting to excavate. The Formation is locally water-bearing and is typically suitable for trench backfill, but not for pipe-zone backfill.

Structure

North of Cuesta Ridge, the primary geologic structure affecting conditions in the project area is the Rinconada fault. Movement on the fault has deformed the near surface geologic units in the vicinity of the fault, resulting in the exposure of a variety of geologic units and conditions along the trend of the fault. The project as proposed crosses the Rinconada fault zone at two locations: 1) along the Nacimiento River 2 to 3 miles downstream from the dam, and 2) on Santa Ysabel Ranch, approximately 2 miles south of Niblick Road. Otherwise, the pipeline route north of Cuesta Ridge follows existing roads located primarily on flat-lying Paso Robles Formation and/or alluvium.

To the south of Cuesta Ridge, the pipeline route would be located in Franciscan rocks, and geologic structure along the route is complex. However, as in the part of the proposed project to the north of Cuesta Ridge, the pipeline route primarily follows established roads, valleys and ridges where the structure of the rocks has little effect on geologic hazards.

Groundwater

Groundwater conditions in the project area are generally unknown, and are likely quite variable. Groundwater in the Paso Robles basin has been reported at depths greater than 100 feet below ground surface (bgs); however, groundwater in the San Luis Obispo basin has been observed at less that 5 feet bgs (Fugro 1993). Depths to groundwater in other areas of the project area largely unknown, although shallow groundwater (i.e., groundwater less than 15 feet bgs) occurs locally along the pipeline alignment, as discussed below. Shallow perched or unconfined groundwater may be encountered during construction of the pipeline in alluvial valleys, creek crossings, fault zones, landslides, and in areas of rock discontinuities. General areas where shallow groundwater will likely be encountered include below the Nacimiento Dam, adjacent to the Salinas River, adjacent to the many creeks in the area, and within and south of the City of San Luis Obispo.

Intake Location

Based on geologic mapping by Durham (1968), the water intake site now proposed is underlain by the same geologic unit as at the previously proposed location. Based on mapping by Fugro, the rocks at the new location are Oligocene-aged Vaqueros formation—a sandstone with minor interbeds of shale and mudstone. Refraction data for the Vaqueros Formation in Santa Barbara indicates seismic wave velocities ranging from 8,000 to 12,000 feet per second, implying relatively hard rock. As noted for the Intake Pump Station, the intake is located approximately 700 feet easterly of an unnamed fault, likely a splay of the Jolon Fault zone as mapped by Durham (1968).

Pipeline Segments

The proposed pipeline alignment and alignment alternatives traverse a variety of geologic terrains. These terrains can be divided into five distinct zones described as follows:

1. ***Nacimiento Dam to West Perimeter Road*** (Sta. 0+00 to Sta. 275+00) – This zone is characterized by rocks of the Tierra Redonda through Paso Robles Formations deformed along and to each side of the Rinconada fault zone (San Marcos and Jolon strands). Bedding in the deformed rocks trends parallel with the fault trends (northwest-southeast), and is inclined at angles up to vertical.
2. ***West Perimeter Road to Cuesta tunnel*** (Sta. 275+00 to Sta. 2320+00) – This zone is characterized by undeformed (flat-lying) rocks of the Paso Robles Formation overalin by older and younger alluvium. The Rinconada fault crosses beneath the alignment at approximately Station 1190+00 where it is overlain by alluvium.
3. ***Cuesta tunnel*** (Sta. 2320+00 to Sta. 2370+00) – This zone was previously constructed by tunneling through Franciscan bedrock including serpentine.
4. ***Cuesta tunnel to Highway 1*** (Sta. 2370+00 to Sta. 2560+00) – The pipeline route between Cuesta tunnel and Highway 1 would be located primarily on Franciscan rocks including melange, serpentine, and meta-volcanics. Alluvial areas are relatively limited.
5. ***Highway 1 to South end of project*** (Sta. 2560+00 to Sta. 3037+25) – From Highway 1 to the southerly end of the proposed project, areas underlain by alluvium increase, and areas of Franciscan bedrock decrease.

Water Treatment Plant

The proposed water treatment plant (WTP) would be constructed in flat-lying, non-marine sediments of the Paso Robles Formation. The site has not been investigated in detail, but it appears to be relatively devoid of geologic hazards. As noted for the storage tanks at the water treatment plant, the proposed site is approximately 1 mile from the nearest strand of the Rinconada fault zone.

Storage Tanks and Pump Stations

The Intake Pump Station, located near the intake adjacent to Nacimiento Lake at the beginning of Reach 1, would be located within the Oligocene-aged Vaqueros Formation and the Miocene-aged Tierra Redonda Formation. As noted for the intake location, the proposed site is located approximately 700 feet easterly of an unnamed fault, likely a splay of the Jolon Fault zone as mapped by Durham (1968).

Storage tanks for the water treatment plant would be located approximately 550 feet west of the plant on a knob of relatively resistant Paso Robles Formation. As noted for the water treatment plant, this site is located approximately 1 mile from the nearest strand of the Rinconada fault zone.

A second Pump Station would be located at the proposed water treatment plant, and geologic conditions are as described above for that project component.

Rocky Canyon Storage Tank and Happy Valley Pump Station would be located near the Rinconada fault zone. Mapping by Hart (1976) indicates Monterey Formation within and to the east of the zone, and Santa Margarita Formation to the west. The site has not been examined in detail, but potential geologic hazards include poor foundation conditions due to fracturing within the zone, and possible ground rupture or co-seismic movement during an earthquake on another major fault. The potential for movement on the Rinconada fault is discussed in the Seismicity section, below.

The Cuesta Tunnel Storage Tank would be located on a spur ridge approximately 200 feet northwest of, and approximately 50 feet above pipeline elevation. This area was previously reviewed by Fugro (1993), and no landslides have been identified.

5.2.1.2 Seismicity

General Seismic Description
Earthquake activity, also known as seismicity, is common throughout many areas of California. In SLO County, the most prominent concentration of historic earthquakes is located along the San Andreas fault (discussed below). Other concentrations of earthquakes occur near San Simeon and in the offshore and nearshore areas west of Santa Maria near the southwest corner of the County (Envicom 1975).

As noted above, there are three structural provinces in SLO County that are divided by two major northwest trending faults. The structural provinces include the northeast province bounded on the southwest by the San Andreas fault, the central province bounded by the San Andreas and Rinconada faults, and the southwest province that borders the coast. Refer to Figure 5.2-1 for a depiction of these three structural provinces and their associated faults.

Fault Activity
The California Geological Survey (CGS, formerly Division of Mines and Geology, CDMG) classifies faults as active, inactive or potentially active, according to standards developed for implementation of the Alquist-Priolo Earthquake Fault Zone Act of 1972 (Hart 1994). A fault that has exhibited surface displacement within the Holocene Epoch (the last 11,000 years) is defined as active. A fault that has exhibited surface displacement during Quaternary time (i.e., within the past 1.6 million years) but which cannot be proven to have moved or not moved during Holocene time is defined as potentially active.

For purposes of earthquake shaking and application to the current version of the Uniform Building Code (1997), faults are classified by the CGS (1998a) as A, B or C. A-faults are the most destructive, and C-faults are the least. B-faults are intermediate in destructive capability, and only A- and B-faults are included in the CGS's probabilistic earthquake shaking maps and analyses.

A- and B-faults in SLO County include the San Andreas, Rinconada, Los Osos and Hosgri (Figure 5.2-3). These faults are discussed briefly below based primarily on information provided by CGS (1998a):

- The San Andreas fault, which has ruptured repeatedly during historic time, is classified as active and an A-fault by the CGS. The maximum moment magnitude assigned by the CGS (1998a) to the segment closest to the proposed project is 7.8.

- The Rinconada fault has not been classified as active based on standards developed for implementation of the Alquist-Priolo Act, but it has been classified by the CGS as a B-fault for purposes of analysis of earthquake shaking under the Uniform Building Code. The maximum moment magnitude assigned to the fault is 7.3
- The Los Osos fault is zoned as active by the CGS in the area just west of the limits of the City of San Luis Obispo. For purposes of the Uniform Building Code, the entire fault, from its intersection with the Hosgri fault offshore to its southeastern end (Figure 5.2-3), is classified as “B”, with a maximum moment magnitude of 6.8.
- The Hosgri fault is zoned as active by the CGS in the area near San Simeon, and it is classified as a B-fault with a maximum moment magnitude of 7.3 for purposes of the Uniform Building Code.

Of the four faults described briefly above, the San Andreas is the most likely to generate the strongest shaking with the longest duration over the entire project area. The Rinconada and Los Osos faults are closer, and would generate strong shaking locally if either were to rupture during the useful life of the proposed project. The Hosgri fault is more distant than the Rinconada or the Los Osos, and earthquakes expected from this fault are not expected to significantly affect design of the project.

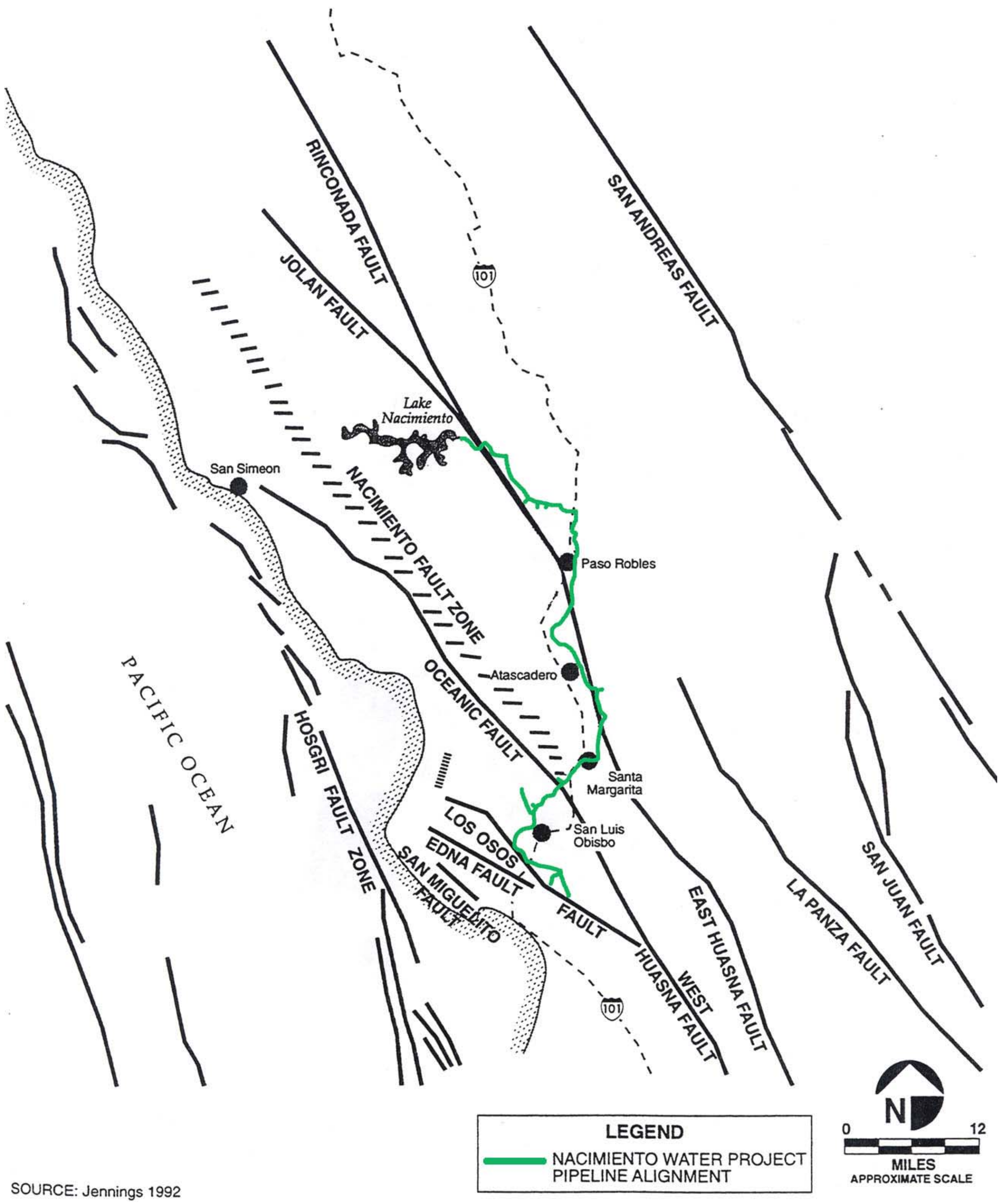
Seismic Hazards

Potential seismic hazards associated with the proposed project include seismic shaking, fault rupture, liquefaction, seismic settlement, tsunamis, and seiches. Each of these hazards is briefly discussed below. As discussed by the Applied Technology Council (1992), seismic shaking, fault rupture, and liquefaction dominate earthquake threat to water supply systems. Seismic shaking can cause major damage to nodal facilities such as water treatment plants and pump stations, but accounts for a very small portion of pipeline damage. Faulting may produce extensive damage to buried pipelines within a few hundred feet of the rupture, and widespread damage to pipelines typically results where liquefaction occurs. Damage to nodal facilities may also occur in the fault rupture zone and in zones of liquefaction.

Design of the proposed project to resist *seismic shaking* is expected to occur under the 1997 version of the Uniform Building Code that has been substantially expanded from earlier versions to take into account the expected effects of various active faults in the region as discussed above. Procedures for providing the appropriate geological information to the design process are described in San Luis Obispo County Guidelines for Engineering Geology Reports [draft] (Rosenberg 2002).

Fault rupture is a potential hazard where project components would cross or be constructed astride the Rinconada fault or fault zone. This fault has not been classified as "active" under criteria established for implementation of the Alquist-Priolo Act (Hart 1985). However, it has been included in a compilation by CGS (1998b) titled "Maps of Known Active Fault Near-Source Zones in California and Adjacent Portions of Nevada", and some additional investigation of this potential hazard would be appropriate.

Figure 5.2-3 Location of Proposed Pipeline Alignment in Relation to Selected Major Faults



SOURCE: Jennings 1992

Liquefaction is defined as the transformation of a soil or sediment from a solid to a liquid state as a result of increased pore pressure induced by earthquake vibrations. Generally, liquefaction requires loose, unconsolidated silts or sands at or near the groundwater table. Liquefaction susceptibility is primarily a function of sediment type, age, density, depth of sediment, and depth to groundwater. Research and historical data indicate that saturated sediments with clay contents of less than 20% are most susceptible to liquefaction. Generally, liquefaction susceptibility decreases as depth to groundwater increases.

Three basic types of ground failure are associated with liquefaction: (1) flow failures (soil materials flowing rapidly down slope in a liquefied state); (2) lateral spreading (limited displacement of surface soil layers down mild slopes); and (3) loss of bearing strength (failure of foundations due to weakening of underlying soil material) [Applied Technology Council 1992].

Seismic settlement may occur in loose, unconsolidated sediments such as bay muds and recent alluvium may settle in response to seismic shaking, thereby damaging overlying structures. In general, liquefaction-prone areas are also susceptible to seismic settlement.

Tsunamis, sometimes referred to as “tidal waves”, are large ocean wave typically generated by a distant, offshore earthquake. They are not a hazard to the proposed project as components are not located close to the ocean.

Seiches are standing waves produced in a body of water by winds, atmospheric change, or most importantly, by earthquake waves. Studies of true seiches are limited, but a 1968 study by McGarr and Vorhis (as cited by Envicom 1975) of seiches induced by the 1964 Alaskan earthquake indicates that the largest recorded wave heights did not exceed 1.2 feet. This measurement is less than wave heights expected from wind-induced waves; therefore, seiches are not considered an important concern in SLO County (Envicom 1975).

5.2.1.3 Soils

Soils are the product of the weathering of bedrock, which is influenced by topographic relief, weather (precipitation, wind, etc.), vegetation and decomposition of organic materials. The U.S. Department of Agriculture, Soil Conservation Service (SCS) has published soil surveys of the San Luis Obispo area (Paso Robles Area in 1983 and Coastal Part in 1984), which document the physical characteristics of soils in the region under natural, ungraded/unaltered conditions. A generalized soil map is presented in Figure 5.2-4, and soil characteristics for natural soils within the pipeline alignment are summarized in Table 5.2-1. Predominantly, soil characteristics along the proposed pipeline corridor have a moderate to high erosion hazard, moderate to high shrink-swell potential, a high risk of corrosion for uncoated steel and low to moderate risk of corrosion for concrete.

5.2.2 Regulatory Setting

The following are State and Local regulations that apply to development projects and are designed with the objective of protecting health and safety from geologic hazards.

Figure 5.2-4 Generalized Soils Map

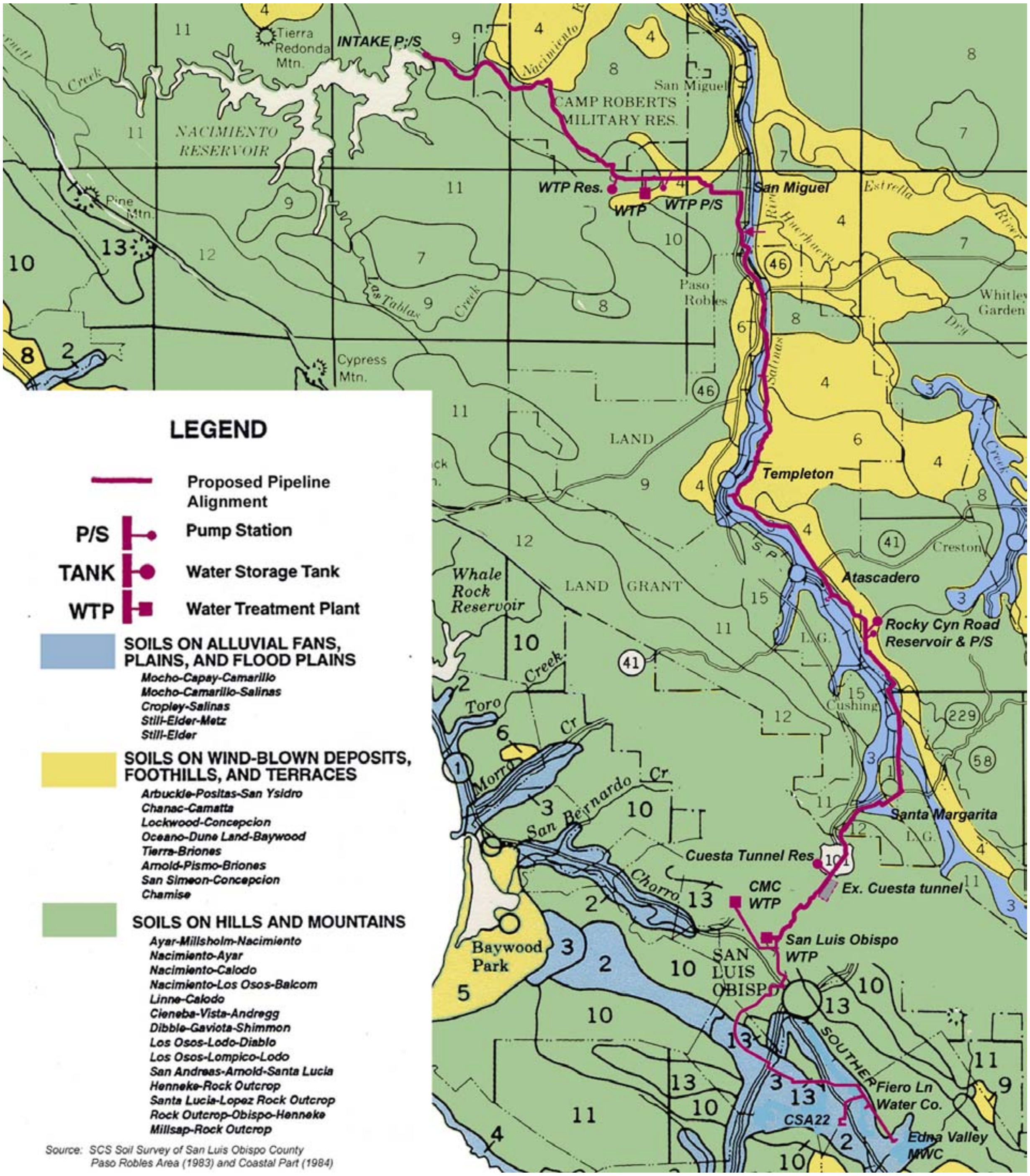


Table 5.2.1 Description of Soil Characteristics along The Pipeline Alignment

Soil Name and Type	SCS Symbol	Slope %	Shrink-Swell Potential	Erosion Hazard	Reactivity (steel/concrete)
Reach 1: Nacimiento Lake Intake to Water Treatment Plant					
Arbuckle fine sandy loam	100	0–2	Moderate	Low	Moderate/Moderate
Arbuckle-Positas complex	102	9–15	Low–High	Moderate	Moderate–High/ Moderate
Arbuckle-Positas complex	103	15–30	Low–High	High	Moderate–High/ Moderate
Arbuckle-San Ysidro complex	106	2–9	Low–High	Moderate	Moderate–High/ Moderate
Balcom-Calleguas complex	113	50–75	Moderate	Very High	High/Low
Balcom-Nacimiento association	115	30–50	Moderate	High	High/Low
Dibble clay loam	134	9–15	High	Moderate	High/Moderate
Hanford and Greenfield soils	147	0–2	Low	Slight	Moderate–High/Low
Hanford and Greenfield soils	148	2–9	Low	Moderate	Moderate–High/Low
Linne-Calodo Complex	154	9–15	Moderate	High	High/Low
Metz loamy sand	166	0–5	Low	Slight	High/Low
Metz-Tujunga complex	167	0–5	Low	Slight	Low–High/Low
Nacimiento-Los Osos complex	179	9–30	Moderate–High	High	High/Low–Moderate
Nacimiento-Los Osos complex	180	30–50	Moderate	High	High/Low
Xerofluviants-Riverwash assoc.	212		–	Very High	–
Reach 2: Water Treatment Plant					
Nacimiento-Los Osos complex	179	9–30	Moderate–High	High	High/Low–Moderate
Reach 3: Water Treatment Plant to Monterey Rd./Wellsona					
Arbuckle fine sandy loam	100	0–2	Moderate	Low	Moderate/Moderate
Arbuckle-Positas complex	102	9–15	Low–High	Moderate	Moderate–High/ Moderate
Arbuckle-Positas complex	103	15–30	Low–High	High	Moderate–High/ Moderate
Arbuckle-Positas complex	105	50–75	Low–High	Very High	Moderate–High/ Moderate
Arbuckle-San Ysidro complex	106	2–9	Low–High	Moderate	Moderate–High/ Moderate
Hanford and Greenfield loams	149	0–2	Low	Slight	Moderate–High/Low
Hanford and Greenfield loams	150	2–9	Low	Moderate	Moderate–High/Low
Metz-Tujunga complex	167	0–5	Low	Slight	Low–High/Low
Nacimiento-Los Osos complex	179	9–30	Moderate–High	High	High/Low–Moderate
Pico fine sandy loam	184	2–9	Low	Moderate	High/Low
Rincon clay loam	188	2–9	High	Moderate	High/Moderate
San Emigdio fine sandy loam	194	0–2	Low	Slight	High/Low
San Ysidro loam	197	0–2	High	Slight	High/Moderate
Reach 3A: Monterey Rd./Wellsona to Charolais Rd./So. River Rd.					

Table 5.2.1 Description of Soil Characteristics along The Pipeline Alignment

Soil Name and Type	SCS Symbol	Slope %	Shrink-Swell Potential	Erosion Hazard	Reactivity (steel/concrete)
Arbuckle fine sandy loam	100	0–2	Moderate	Low	Moderate/Moderate
Arbuckle-Positas complex	104	30–50	High	High	Moderate/Moderate
Arbuckle-Positas complex	105	50–75	Low–High	Very High	Moderate–High/ Moderate
Balcom-Calleguas complex	113	50–75	Moderate	Very High	High/Low
Elder loam (flooded)	140	0–5	Low	Slight	Moderate/Moderate
Hanford and Greenfield loams	149	0–2	Low	Slight	Moderate–High/Low
Hanford and Greenfield loams	150	2–9	Low	Moderate	Moderate–High/Low
Linne-Calodo complex	152	9–30	Moderate	High	High/Low
Metz loamy sand	166	0–5	Low	Slight	High/Low
Mocho clay loam	173	0–2	Moderate	Slight	High/Low
Pico fine sandy loam	184	2–9	Low	Moderate	High/Low
Still clay loam	209	2–9	Moderate	Moderate	Moderate/Low
Xerofluviants-Riverwash assoc.	212		–	Very High	–
Reach 4: Charolais Rd./So. River Rd. to Vineyard Dr./Templeton Rd.					
Arbuckle-Positas complex	102	9–15	Low–High	Moderate	Moderate–High/ Moderate
Arbuckle-Positas complex	103	15–30	Low–High	High	Moderate–High/ Moderate
Arbuckle-Positas complex	105	50–75	Low–High	Very High	Moderate–High/ Moderate
Arbuckle-San Ysidro complex	106	2–9	Low–High	Moderate	Moderate–High/ Moderate
Linne-Calodo complex	152	9–30	Moderate	High	High/Low
Linne-Calodo Complex	154	9–15	Moderate	High	High/Low
Lockwood shaly loam	158	2–9	Moderate	Moderate	High/Low
Lockwood-Conception complex	159	2–9	Moderate	Moderate	High/Low
Lockwood-Conception complex	160	9–15	Low–High	Moderate	High/Low
Metz loamy sand	166	0–5	Low	Slight	High/Low
Mocho clay loam	173	0–2	Moderate	Slight	High/Low
Pico fine sandy loam	183	0–2	Low	Low	High/Low
Pico fine sandy loam	184	2–9	Low	Moderate	High/Low
Reach 5: Vineyard Dr./Templeton Rd. to Templeton Rd./New Hwy. 41					
Arbuckle-Positas complex	102	9–15	Low–High	Moderate	Moderate–High/ Moderate
Arbuckle-Positas complex	103	15–30	Low–High	High	Moderate–High/ Moderate
Arbuckle-Positas complex	104	30–50	High	High	Moderate/Moderate
Arbuckle-San Ysidro complex	106	2–9	Low–High	Moderate	Moderate–High/ Moderate
Elder loam (flooded)	140	0–5	Low	Slight	Moderate/Moderate
Reach 5: Vineyard Dr./Templeton Rd. to Templeton Rd./New Hwy. 41 (Cont.)					
Hanford and Greenfield soils	148	2–9	Low	Moderate	Moderate–High/Low
Hanford and Greenfield loams	150	2–9	Low	Moderate	Moderate–High/Low

Table 5.2.1 Description of Soil Characteristics along The Pipeline Alignment

Soil Name and Type	SCS Symbol	Slope %	Shrink-Swell Potential	Erosion Hazard	Reactivity (steel/concrete)
Linne-Calodo Complex	154	9–15	Moderate	High	High/Low
Lockwood-Conception complex	160	9–15	Low–High	Moderate	High/Low
Still gravelly loam	207	0–2	Low–Moderate	Slight	High/Low
Still clay loam	208	0–2	Moderate	Slight	Moderate/Low
Reach 6: Templeton Rd./New Hwy. 41 to Happy Valley Pump Station					
Arbuckle-Positas complex	102	9–15	Low–High	Moderate	Moderate–High/ Moderate
Arbuckle-Positas complex	103	15–30	Low–High	High	Moderate–High/ Moderate
Elder loam (flooded)	140	0–5	Low	Slight	Moderate/Moderate
Hanford and Greenfield soils	147	0–2	Low	Slight	Moderate–High/Low
Hanford and Greenfield soils	148	2–9	Low	Moderate	Moderate–High/Low
Hanford and Greenfield loams	150	2–9	Low	Moderate	Moderate–High/Low
Linne-Calodo complex	152	9–30	Moderate	High	High/Low
Lockwood shaly loam	158	2–9	Moderate	Moderate	High/Low
Reach 6A: Rocky Canyon Storage Tank					
Linne-Calodo Complex	154	9–15	Moderate	High	High/Low
Reach 6B: Happy Valley Pump Station					
Hanford and Greenfield soils	148	2–9	Low	Moderate	Moderate–High/Low
Reach 7: Happy Valley Pump Station to Santa Margarita/CSA Turnout					
Arbuckle-Positas complex	102	9–15	Low–High	Moderate	Moderate–High/ Moderate
Botella sandy loam	116	2–9	Moderate	Moderate	Moderate/Moderate High/Moderate
Clear Lake clay, drained	130		High	Low	High/High
Hanford and Greenfield soils	148	2–9	Low	Moderate	Moderate–High/Low
Metz loamy sand	166	0–5	Low	Slight	High/Low
San Andrew-Arujo complex	193	9–15	Low–Moderate	Moderate	Moderate/Low–Moderate
Still clay loam	208	0–2	Moderate	Slight	Moderate/Low
Xerofluviants-Riverwash assoc.	212		–	Very High–	
Reach 7A: Santa Margarita/CSA Turnout to Cuesta Tunnel Entrance Connection					
Arbuckle fine sandy loam	101	2–9	Low–Moderate	Moderate	Moderate/Moderate
Arbuckle-Positas complex	103	15–30	Low–High	High	Moderate–High/ Moderate
Dibble clay loam	134	9–15	High	Moderate	High/Moderate
Lompico-McMullin complex	162	50–75	Low–Moderate	Very High	Moderate–High/Moderate–High
Millsholm-Dibble clay loam	169	15–30	High	High	Moderate/Moderate
Shimmon-Dibble assoc., steep	203	30–50	Low	High	Moderate/Moderate

Table 5.2.1 Description of Soil Characteristics along The Pipeline Alignment

Soil Name and Type	SCS Symbol	Slope %	Shrink-Swell Potential	Erosion Hazard	Reactivity (steel/concrete)
Still clay loam	208	0–2	Moderate	Slight	Moderate/Low
Still clay loam	209	2–9	Moderate	Moderate	Moderate/Low
Area within Los Padres National Forest not mapped					
Reach 7B: Cuesta Tunnel Storage Tank					
Area within Los Padres National Forest not mapped					
Reach 8: Cuesta Tunnel					
Route not in soil					
Reach 8B: Cuesta Tunnel to San Luis Obispo WTP					
Area within Los Padres National Forest not mapped					
Diablo and Cibo clays	130	9–15	High	Moderate	High/Low
Diablo and Cibo clays	131	15–30	High	Moderate	High/Low
Gazos-Lodo clay loam	144	30–50	Moderate	High	Moderate/Low
Lodo clay loam	149	30–50	Moderate	High	Moderate/Low
Los Osos loam	160	15–30	Moderate to High	High	High/Moderate
Los Osos-Diablo complex	165	30–50	Moderate–High	High	High/Low–Moderate
Obispo-rock outcrop complex	183	15–75	Moderate	High–Very High	High/Low
Riverwash	194		–	variable	–
Reach 9: San Luis Obispo WTP to CMC					
Diablo-Lodo complex	133	15–50	High	Moderate/High	High/Low
Lodo clay loam	148	15–30	Moderate	High	Moderate/Low
Los Osos loam	160	15–30	Moderate to High	High	High/Moderate
Los Osos-Diablo complex	163	9–15	High	Moderate	High/Moderate
Obispo-rock outcrop complex	183	15–75	Moderate	High–Very High	High/Low
Riverwash	194		–	variable	–
Rock Outcrop-Lithic Haploxerolls	195	30–75	–	–	–
Reach 10: San Luis Obispo WTP to Edna Valley					
Conception loam	120	2–5	Low–High	Slight	High/Low
Conception loam	121	5–9	High	Moderate	High/Low
Conception loam	123	15–30	High	Moderate–High	High/Low
Cropley clay	127	0–2	High	Slight–Moderate	High/Low
Cropley clay	128	2–9	High	Slight–Moderate	High/Low
Diablo clay	129	5–9	High	Slight–Moderate	High/Low
Lodo clay loam	147	5–15	Moderate	Moderate	Moderate/Low
Los Osos-Diablo complex	162	5–9	Moderate	High	High/Low–Moderate
Los Osos-Diablo complex	163	9–15	High	Moderate	High/Moderate
Los Osos-Diablo Complex	164	15–30	Moderate to High	High	High/Moderate
Los Osos Variant clay loam	168	15–50	Moderate–High	Moderate–High	High/Low
Marimel sandy clay loam	169		Moderate	Slight	High/Low
Marimel silty clay loam	170		Moderate	Slight	High/Low
Obispo-rock outcrop complex	183	15–75	Moderate	High–Very High	High/Low
Riverwash	194		–	variable	–
Salinas silty clay loam	197	0–2	Moderate	Slight	High/Low
Tierra sandy loam	216	2–9	High	Slight–Moderate	High/Moderate

Table 5.2.1 Description of Soil Characteristics along The Pipeline Alignment

Soil Name and Type	SCS Symbol	Slope %	Shrink-Swell Potential	Erosion Hazard	Reactivity (steel/concrete)
Reach xx: to CSA 22					
Conception loam	120	2–5	Low–High	Slight	High/Low
Cropley clay	127	0–2	High	Slight–Moderate	High/Low
Cropley clay	128	2–9	High	Slight–Moderate	High/Low
Tierra sandy loam	216	2–9	High	Slight–Moderate	High/Moderate

5.2.2.1 Public Resources Code, Section 2621, et seq.

The Alquist-Priolo Special Studies Zone Act of 1972 establishes criteria and policies to assist cities, counties, and state agencies in the exercise of their responsibility to prohibit the location of development and structures for human occupancy across the trace of active faults as defined by the State Mining and Geology Board.

5.2.2.2 Title 22 of the San Luis Obispo County Code

The Land Use Ordinance (LUO) (Section 22.07.080) sets forth the Combining Designation Standards for Geologic Study Areas. These are areas where "geologic and soil conditions could present new developments and their users with potential hazards to life and property." The standards require preparation of a report on geologic hazards and appropriate mitigation measures. Structures must be designed to overcome these hazards. Sedimentation and erosion control plans are required under the LUO for land-disturbing activities that occur under certain conditions.

5.2.3 Significance Criteria

The threshold of a significant geologic or seismic impact is that which could "expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map .... or based on other substantial evidence of a known fault." (CEQA Guidelines, Appendix G, item VIa).

In applying this definition, potentially adverse effects on a water supply pipeline are considered adverse effects on the environment because: 1) the failure of the pipeline or other associated facility may result in substantial secondary effects such as local flooding, erosion and sedimentation, etc., that would be impacts on the CEQA environment; and 2), failure of a major public water-supply facility could result in substantial adverse effects on the public.

5.2.4 Proposed Project Impacts and Mitigation Measures

5.2.4.1 Treated Water Option

Impact	Impact Description	Residual Impact
GS.1	Ground rupture along the Rinconada fault could damage project facilities.	Class II

The CGS has designated the Rinconada as a B-fault, and mitigation of potential, future earthquake shaking resulting from movement on this fault will be taken into account in design of the proposed project under the 1997 Uniform Building Code. However, there is now no substantial evidence to indicate that this fault has ruptured the ground surface in the last 11,000 years, and the CGS has not zoned the fault under the Alquist-Priolo Act. Therefore the need to mitigate for potential ground rupture is uncertain in the absence of further investigation of site-specific conditions. While the potential for surface rupture and damage to project facilities is highly unlikely, potential damage to facilities in the event of an earthquake on this fault could be substantial should surface rupturing occur.

Mitigation Measure

GS-1 The Applicant shall conduct investigations to further clarify the ground-rupture potential and location of fault trace(s) of the Rinconada fault in the project area. Implement recommendations of the reports of these investigations in the design of the project.

Residual Impacts

Implementation of the measure recommended above would reduce the potential impacts of surface rupture on the Rinconada fault to *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
GS.2	Locating the Rocky Canyon Water Storage Tank and Happy Valley Pump Station near the Rinconada fault zone may result in poor foundation conditions.	Class II

The Rocky Canyon Storage Tank and Happy Valley Pump Station are proposed to be located near the Rinconada fault zone (see Figure 5.2-5 for the preliminary location), and the potential for poor foundation conditions may pose significant impacts at this location.

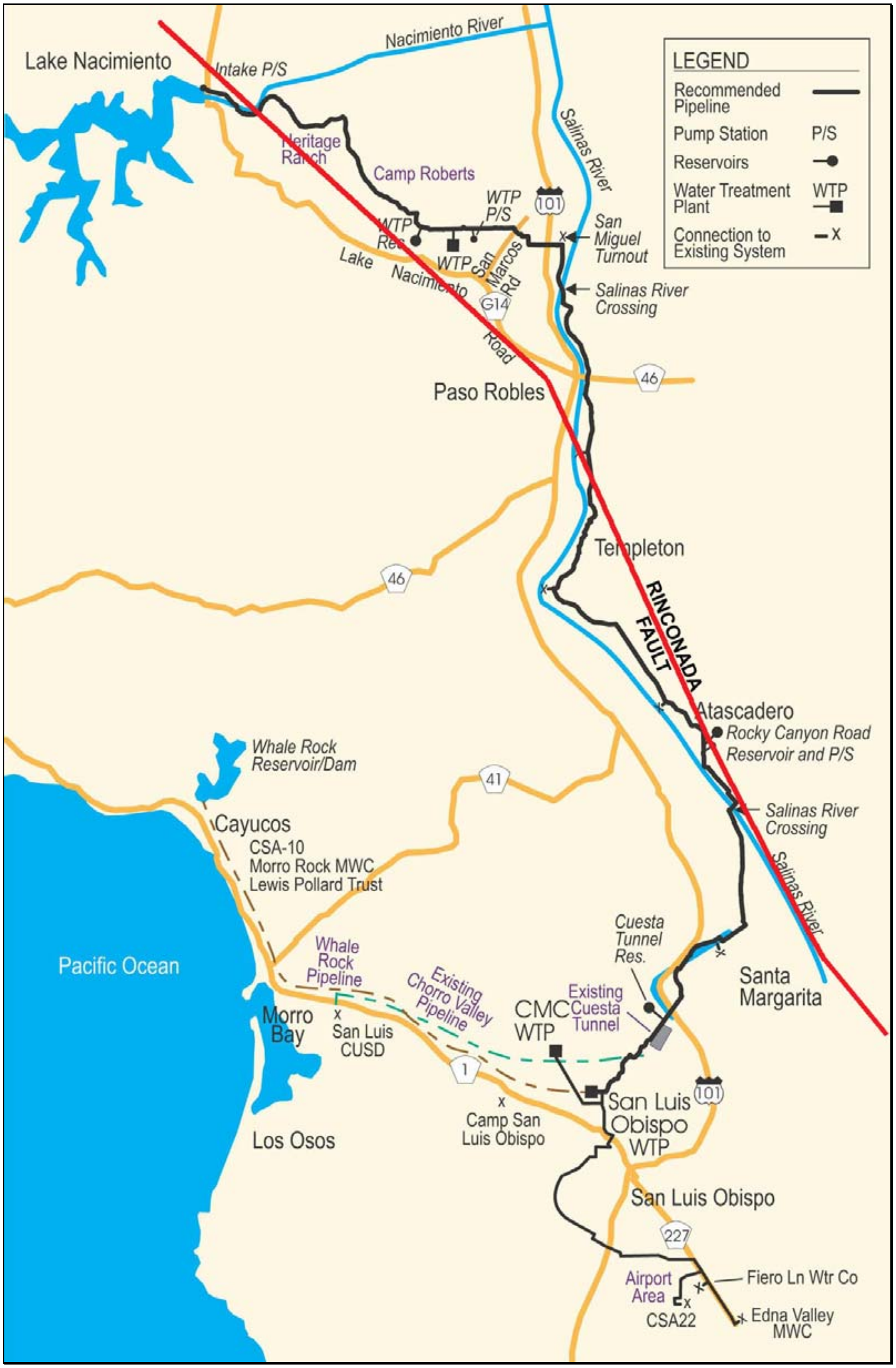
Mitigation Measure

GS-2 Prior to final design, conduct investigations as listed in GS-1. In addition, to provide a method of secondary containment for the stored water Rocky Canyon Storage Tank shall be constructed as a buried, concrete tank.

Residual Impacts

Implementation of measure GS-2 would reduce the potential impacts of facilities being located near the Rinconada fault zone to not significant with mitigation (Class II).

Figure 5.2-5 Location of Rinconada Fault in Relation to Project Facilities



Impact	Impact Description	Residual Impact
GS.3	Excavation in rock or soils containing asbestos may cause risk to human health.	Class II

Serpentine-rich rock (serpentinite) and soil units constitute a significant impact where they contain a magnesium-silicate mineral called chrysotile, an important source of commercial asbestos. Airborne asbestos fibers are known to cause risk to human health, and the potential exists for human exposure during excavation of serpentine-rich rock and soil units.

Mitigation Measure

GS-3 *Prior to construction, an evaluation of areas of serpentinite outcrops or serpentine-rich soils shall be made by a qualified professional such as a Certified Industrial Hygienist (CIH) as to whether such conditions represent a threat to human health. If so, a safety program shall be initiated and shall include providing personal protective equipment to workers and a worker education program.*

In addition to the dust reduction measures described in Air Quality, Section 5.4.4, (Mitigation Measure AQ-1), all applicable dust reduction measures outlined in the following document shall be implemented: 17 CCR Section 93105. Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations.

The Naturally Occurring Asbestos (NOA) ATCM requirements may include but are not limited to 1) an Asbestos Dust Mitigation Plan which must be approved by the APCD before construction begins, and 2) an Asbestos Health and Safety Program will also be required for some projects (http://www.slocleanair.org/business/asbestos.asp)

Residual Impacts

Implementation of the measure recommended above would reduce the potential impacts of excavation in serpentine or serpentine-rich soils to *not significant with mitigation* (Class II).

5.2.4.2 Raw Water Option

Geologic impacts of the raw water option are expected to be essentially the same as those of the treated water option. All the proposed mitigation measures would apply, however, the extent and cost of mitigation of the raw water option would probably be less because the treatment plant would not be constructed as a part of the proposed project.

5.2.5 Alternative Impacts and Mitigation Measures

5.2.5.1 No Project Alternative

Implementation of the No Project Alternative would avoid the Class II impacts of the proposed project related to geology and soils.

5.2.5.2 NWP 1997 EIR Alternative

The impacts of the project as defined in the NWP 1997 EIR would be essentially the same as those of the co-equal alternatives except that the impacts associated with locating major project facilities directly astride the Rinconada fault (Impacts GS.1 and GS.2) would be lessened.

5.2.5.3 Phased Raw and Treated Water Alternative

While phasing of the proposed project may result in differences in the timing of the onset of some potential impacts, phasing the project would not significantly affect the eventual occurrence of potential impacts due to geologic hazards of the various project alternatives.

5.2.6 Cumulative Impacts

The potential impacts of geology and soils are site-specific, and no cumulative effects of the project in these topics are expected.

5.2.7 Mitigation Monitoring Plan

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
GS-1	The Applicant shall conduct investigations to further clarify the ground-rupture potential and location of fault trace(s) of the Rinconada fault in the project area. Implement recommendations of the reports of these investigations in the design of the project.	County PW Dept or contracted geologist shall submit the investigations report to the lead agency prior to final design phase	Dept of P&B	Review the investigations report and the documentation of the final design; verify that the results of the investigations are incorporated in the final project design	Prior to Board of Supervisors approval to advertise for construction bids.
GS-2	Prior to final design, conduct investigations as listed in GS-1. In addition, to provide a method of secondary containment for the stored water Rocky Canyon Storage Tank shall be constructed as a buried, concrete tank.	County PW Dept or contracted engineer Before final design to submit considerations for the alternative location or considerations against the new location	Dept of P&B	Review the submitted documentation and make a determination on the design change if appropriate	Prior to Board of Supervisors approval to advertise for construction bids.
GS-3	Prior to construction, an evaluation of areas of serpentinite outcrops or serpentine-rich soils shall be made by a qualified professional such as a Certified Industrial Hygienist (CIH) as to whether such conditions represent a threat to human health. If so, a safety program shall be initiated and shall include providing personal protective equipment to workers and a worker education program. In addition to the dust reduction measures described in Air Quality, Section 5.4.4, (Mitigation Measure AQ-1), all applicable dust reduction measures outlined in the following document shall be implemented: 17 CCR Section 93105. Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations. The Naturally Occurring Asbestos (NOA) ATCM requirements may include but are not limited to 1) an Asbestos Dust Mitigation Plan which must be approved by the APCD before construction begins, and 2) an Asbestos Health and Safety Program will also be required for some projects (http://www.slocleanair.org/business/asbestos.asp)	County PW Dept or contracted CIH to submit the results of the evaluation to the lead agency. Develop and submit a Safety Program to the lead agency for review and approval	Dept of P&B	Review the submitted report and Safety Program, ensure that all required parts are included in the Program (e.g., worker education program), review compliance with the 17 CCR Section 93105	Prior to Board of Supervisors approval to advertise for construction bids.

Note: County PW Dept=Department of Public Works at the SLO County (The Applicant); Dept of P&B=Department of Planning and Building of the SLO County

5.3 Drainage, Erosion and Sedimentation

In this section, existing conditions were characterized based on available studies, interviews, and field reconnaissance. Potential project impacts and cumulative impacts have been determined based on an evaluation of construction and restoration techniques. Mitigation measures have been identified along with a plan for implementation of the mitigation measures. Mitigation measures have been developed to the maximum extent necessary to reduce potential project impacts to a level of insignificance, where feasible. These measures may result in changes to construction techniques, slight changes to the pipeline route or measures to reduce post construction erosion. Mitigation measures will be coordinated with the biological resources section to include the benefit of revegetation efforts on potential impacts to drainage, erosion and sedimentation.

5.3.1 Environmental Setting

The pipeline alignment has been reviewed to identify areas of high erosion potential due to soil type, slope, and/or presence of a watercourse. The alignment was examined using topographic maps, aerial photos, and a detailed field reconnaissance. Data on soil types, landslides, and erodible soils from the Geohazards Study, Nacimiento Water Supply Project Alternative Alignment Evaluation, SLO County, California, by Fugro West, 2000, and the Soil Survey of San Luis Obispo were utilized. Streams and watersheds crossed by the pipeline alignment have been documented. Boundaries of all FEMA 100-year flood zones along the pipeline alignments and other observed flood hazard areas were identified. Peak discharge and base discharge at stream crossings were determined from records of the nearest USGS operated stream gauges, Flood Insurance Study (FIS) for SLO County, California, Unincorporated Areas (FEMA 1985a), and from the Salinas Valley Water Project EIR/EIS, June 2001.

The environmental setting was examined and referenced according to stationing that was established by Carollo Engineers for the proposed pipeline alignment. The alignment stationing is shown on the Aerial Photographs (Figures 2-3 through 2-24). Stream crossings, ground surfaces, slope conditions, possible flood hazard areas, and landslide areas are depicted relative to stationing listed in Table 5.3.1. Soil types, as mapped on the Soil Survey for SLO County/Paso Robles Area (1983) and the Survey for San Luis Obispo County Coastal Part (1984), are listed relative to stationing listed in Table 5.3.2. Flood Zones from the FEMA Flood Insurance Rate Map of SLO County (various panels) are shown relative to stationing listed in Table 5.3.3. The following descriptions identify the environmental conditions encountered in reaches of the pipeline alignment.

5.3.1.1 Drainages and Slope Conditions Along the Pipeline Route

Reach 1, Sta. 0+00 to 560+00, Nacimiento Dam to Nacimiento WTP
The pipeline alignment crosses the Nacimiento River at station 110+00, and Dry Creek at stations 257+00 and again at 293+00. Most of the alignment is along paved surfaces with shorter stretches along dirt roads. Slopes along or adjacent to the alignment range from flat to greater than 30%. FEMA Flood Insurance Rate Maps do not include Camp Roberts.

Table 5.3.1a Environmental Setting Relative to Pipeline Stationing

Alignment Stationing	Stream Crossings (below grade)	Stream Crossings (above grade)	Paved surfaces	Unimproved roads	off road slopes 0–5%	off road slopes 5–30%	off road slopes >30%	Flood hazard area	Landslides	Field-road bed
Reach 1: Lake Nacimiento Intake to Nacimiento WTP										
0+00–58+00			x	x			x	x		
58+00–106+00				x		x				
106+00–113+00	x							x		
113+00–145+00				x		x				
145+00–203+00			x				x		x	
203+00–227+00			x			x				
227+00–245+00			x		x					
245+00–257+00			x				x		x	
257+00–275+00	x		x		x			x		
275+00–296+00	x		x		x			x		
296+00–303+00			x			x				
303+00–353+00			x				x		x	
353+00–495+00			x			x				
495+00–516+00				x		x				
516+00–533+00				x	x					
533+00–560+00				x		x				
Reach 2: Nacimiento WTP										
Reach 3: Nacimiento WTP to Monterey Rd./Wellsona										
560+00–565+00				x		x				
565+00–585+00						x				x
585+00–592+00	x						x	x		x
592+00–608+00				x			x			
608+00–673+00				x		x				
673+00–684+00				x			x			
684+00–693+00	x		x	x		x				
693+00–699+00				x			x			
699+00–728+00				x		x				
728+00–767+00				x	x					
767+00–771+00			x		x					
771+00–775+00			x		x					
Reach 3a: Monterey Rd./Wellsona to Charolais Rd./So. River Rd.										
775+00–819+00			x		x					
819+00–825+00			x				x			
825+00–875+00			x			x				
875+00–880+00							x			x
880+00–893+00		x		x				x		x
893+00–1087+00			x				x	x	x	

Table 5.3.1b Environmental Setting Relative to Pipeline Stationing

Alignment Stationing	Stream Crossings (below grade)	Stream Crossings (above grade)	Paved surfaces	Unimproved roads	off road slopes 0–5%	off road slopes 5–30%	off road slopes >30%	Flood hazard area	Landslides	Field-road bed
1087+00–1122+00			x			x				
1122+00–1130+00			x		x					
Reach 4: Charolais Rd./So. River Rd. to Vineyard Dr./Templeton Rd.										
1130+00–1138+00			x		x					
1138+00–1150+00			x				x			
1150+00–1183+00			x			x				
1183+00–1225+00					x			x		x
1225+00–1260+00							x	x		x
1260+00–1299+00					x			x		x
1299+00–1303+00						x				x
1303+00–1324+00			x		x					
1324+00–1354+00			x				x			
1354+00–1392+00			x			x				
1392+00–1409+00			x				x			
1409+00–1415+00			x		x					
Reach 5: Vineyard Dr./Templeton Rd. to Templeton Rd./New Hwy. 41										
1415+00–1437+00			x		x					
1437+00–1480+00			x			x				
1480+00–1517+00			x		x					
1517+00–1530+00			x			x				
1530+00–1540+00			x		x					
1540+00–1574+00					x					x
1574+00–1614+00				x		x				x
1614+00–1635+00			x		x					
Reach 6: Templeton Rd./New Hwy. 41 to Happy Valley Pump Station										
1635+00–1658+00			x		x					
1658+00–1670+00			x				x	x		
1670+00–1692+00			x		x			x		
1692+00–1715+00			x				x	x		
1715+00–1752+00			x		x					
1752+00–1787+00			x				x			
1787+00–1807+00			x		x					
1807+00–1825+00			x			x				
1825+00–1830+00			x		x			x		
Reach 7: Happy Valley Pump Station to Santa Margarita/CSA Turnout										
1830+00–1834+00			x		x					
1834+00–1926+00	x				x			x		x
1926+00–1938+00				x		x				

Table 5.3.1c Environmental Setting Relative to Pipeline Stationing

Alignment Stationing	Stream Crossings (below grade)	Stream Crossings (above grade)	Paved surfaces	Unimproved roads	off road slopes 0–5%	off road slopes 5–30%	off road slopes >30%	Flood hazard area	Landslides	Field-road bed
1938+00–1954+00					x					x
1954+00–1956+00			x				x	x		
1956+00–1995+00	x	x		x			x			
1995+00–1996+00						x				x
1996+00–2035+00					x					x
2035+00–2047+00				x			x			
2047+00–2055+00				x		x				
2055+00–2058+00				x			x			
2058+00–2059+00							x			x
2059+00–2077+00							x			x
2077+00–2078+00							x			x
2078+00–2112+00				x		x				
2112+00–2115+00				x			x			
2115+00–2117+00							x			x
2117+00–2150+00			x		x					
Reach 7a: Santa Margarita/CSA Turnout to Cuesta Tunnel Connection										
2150+00–2168+00			x		x					
2168+00–2176+00					x					x
2176+00–2200+00							x			x
2200+00–2222+00			x				x			
2222+00–2229+00			x			x				
2229+00–2254+00			x				x			
2254+00–2257+00			x				x			
2257+00–2305+00							x			x
2305+00–2320+00				x			x			
Reach 8: Cuesta Tunnel										
Reach 8a: Cuesta Tunnel to San Luis Obispo WTP										
2378+00–2520+00	x			x			x	x	x	x
Reach 9: Branch from Station 2524+00 to San Luis Obispo WTP to CMC										
0+00–100+00				x			x			
Reach 10: San Luis Obispo WTP to Edna Valley										
2520+00–2535+00			x				x			
2535+00–2560+00			x		x					
2560+00–2562+00	x		x			x		x		
2562+00–2573+00					x					x
2573+00–2590+00							x			x
2590+00–2592+00			x				x			
2592+00–2605+00				x			x			

Table 5.3.1c Environmental Setting Relative to Pipeline Stationing

Alignment Stationing	Stream Crossings (below grade)	Stream Crossings (above grade)	Paved surfaces	Unimproved roads	off road slopes 0–5%	off road slopes 5–30%	off road slopes >30%	Flood hazard area	Landslides	Field-road bed
2605+00–2610+00			x			x				
2610+00–2665+00			x		x					
2665+00–2669+00			x			x				
2669+00–2730+00						x				x
2730+00–2802+00					x					x
2802+00–2818+00			x		x					
2818+00–2824+00					x					x
2824+00–2826+00			x		x					
2826+00–2878+00	x		x		x					
2878+00–2905+00				x		x				
2905+00–2917+00	x			x			x			
2917+00–2928+00							x			x
2928+00–2978+00						x				x
2978+00–3037+00	x				x					x

Source: from field reconnaissance, Cleath & Associates, 2002/3.

Table 5.3.2 Soil Types Relative to Pipeline Alignment Stationing

Pipeline Stationing	Soil Name and Type	SCS Symbol	Erosion Hazard
Reach 1: Lake Nacimiento Intake to Nacimiento WTP			
0+00–25+00	Balcom-Calleguas complex	113	Very High
25+00–65+00	Dibble clay loam	134	Moderate
65+00–70+00	Balcom-Calleguas complex	113	Very High
70+00–90+00	Metz-Tujunga complex	167	Slight
90+00–106+00	Metz loamy sand	166	Slight
106+00–113+00	Xerofluviants-Riverwash assoc.	212	Very High
113+00–118+00	Metz loamy sand	166	Slight
118+00–138+00	Arbuckle-San Ysidro complex	106	Moderate
138+00–170+00	Arbuckle-Positas complex	103	High
170+00–185+00	Arbuckle-San Ysidro complex	106	Moderate
185+00–227+00	Linne-Calodo complex	154	High
227+00–245+00	Hanford and Greenfield soils	147	Slight
245+00–260+00	Nacimiento-Los Osos complex	180	High
260+00–267+00	Xerofluviants-Riverwash assoc.	212	Very High
267+00–269+00	Arbuckle-Positas complex	103	High
269+00–287+00	Arbuckle fine sandy loam	100	Low
287+00–292+00	Arbuckle-Positas complex	103	High

Table 5.3.2 Soil Types Relative to Pipeline Alignment Stationing

Pipeline Stationing	Soil Name and Type	SCS Symbol	Erosion Hazard
292+00–303+00	Xerofluviants-Riverwash assoc.	212	Very High
303+00–319+00	Arbuckle fine sandy loam	101	Moderate
319+00–375+00	Nacimiento-Los Osos complex	180	High
375+00–378+00	Balcom-Nacimiento assoc.	115	High
378+00–390+00	Nacimiento-Los Osos complex	180	High
390+00–402+00	Hanford and Greenfield soils	148	Moderate
402+00–495+00	Arbuckle-Positas complex	103	High
495+00–510+00	Nacimiento-Los Osos complex	179	High
510+00–533+00	Arbuckle-San Ysidro complex	106	Moderate
533+00–560+00	Nacimiento-Los Osos complex	179	High
Reach 2: Nacimiento WTP			
Reach 3: Nacimiento WTP to Monterey Rd./Wellsona			
560+00–585+00	Nacimiento-Los Osos complex	179	High
585+00–597+00	Arbuckle-Positas complex	105	Very High
597+00–600+00	San Ysidro loam	197	Slight
600+00–602+00	Arbuckle-Positas complex	105	Very High
602+00–607+00	Arbuckle-San Ysidro complex	106	Moderate
607+00–610+00	Arbuckle-Positas complex	105	Very High
610+00–617+00	Arbuckle-San Ysidro complex	106	Moderate
617+00–620+00	Rincon clay loam	188	Moderate
620+00–642+00	Nacimiento-Los Osos complex	179	High
642+00–645+00	Arbuckle-Positas complex	105	Very High
645+00–655+00	Nacimiento-Los Osos complex	179	High
655+00–657+00	Arbuckle-Positas complex	105	Very High
657+00–664+00	Nacimiento-Los Osos complex	179	High
664+00–666+00	Arbuckle-Positas complex	105	Very High
666+00–673+00	Nacimiento-Los Osos complex	179	High
673+00–684+00	Arbuckle-Positas complex	105	Very High
684+00–686+00	Hanford and Greenfield loams	150	Moderate
686+00–698+00	San Emigdio fine sandy loam	194	Slight
698+00–705+00	Arbuckle-Positas complex	102	Moderate
705+00–710+00	Arbuckle-San Ysidro complex	106	Moderate
710+00–720+00	Arbuckle-Positas complex	102	Moderate
720+00–725+00	Nacimiento-Los Osos complex	179	High
725+00–743+00	Arbuckle-Positas complex	103	High
743+00–753+00	Arbuckle-Positas complex	102	Moderate
753+00–765+00	Arbuckle-fine sandy loam	100	Low
765+00–775+00	Hanford and Greenfield loams	149	Slight
Reach 3a: Monterey Rd./Wellsona to Charolais Rd./So. River Rd.			
775+00–785+00	Hanford and Greenfield loams	149	Slight
785+00–790+00	Hanford and Greenfield soils	147	Slight
790+00–792+00	Arbuckle-Positas complex	105	Very High
792+00–820+00	Hanford and Greenfield loams	150	Moderate
820+00–825+00	Arbuckle fine sandy loam	100	Low
825+00–862+00	Elder loam (flooded)	140	Slight

Table 5.3.2 Soil Types Relative to Pipeline Alignment Stationing

Pipeline Stationing	Soil Name and Type	SCS Symbol	Erosion Hazard
862+00–867+00	Arbuckle-Positas complex	105	Very High
867+00–875+00	Hanford and Greenfield loams	149	Slight
875+00–877+00	Arbuckle-Positas complex	105	Very High
877+00–885+00	Xerofluviants-Riverwash assoc.	212	Very High
885+00–887+00	Mocho clay loam	173	Slight
887+00–893+00	Pico fine sandy loam	184	Moderate
893+00–990+00	Arbuckle-Positas complex	104	High
990+00–1037+00	Balcom-Calleguas complex	113	Very High
1037+00–1054+00	Linne-Calodo complex	152	High
1054+00–1082+00	Balcom-Calleguas complex	113	Very High
1082+00–1088+00	Metz loamy sand	166	Slight
1088+00–1098+00	Arbuckle fine sandy loam	100	Low
1098+00–1105+00	Still clay loam	209	Moderate
1105+00–1130+00	Pico fine sandy loam	184	Moderate
Reach 4: Charolais Rd./So. River Rd. to Vineyard Dr./Templeton Rd.			
1130+00–1152+00	Pico fine sandy loam	184	Moderate
1152+00–1168+00	Linne-Calodo complex	152	High
1168+00–1195+00	Mocho clay loam	173	Slight
1195+00–1207+00	Pico fine sandy loam	184	Moderate
1207+00–1215+00	Linne-Calodo complex	152	High
1215+00–1225+00	Lockwood shaly loam	158	Moderate
1225+00–1227+00	Arbuckle-Positas complex	105	Very High
1227+00–1231+00	Linne-Calodo complex	154	High
1231+00–1236+00	Linne-Calodo complex	152	High
1236+00–1300+00	Linne-Calodo complex	154	High
1300+00–1303+00	Lockwood shaly loam	158	Moderate
1303+00–1305+00	Lockwood-Conception complex	160	Moderate
1305+00–1324+00	Lockwood-Conception complex	159	Moderate
1324+00–1335+00	Arbuckle-Positas complex	103	High
1335+00–1350+00	Linne-Calodo complex	152	High
1350+00–1380+00	Pico fine sandy loam	183	Low
1380+00–1390+00	Metz loamy sand	166	Slight
1390+00–1405+00	Linne-Calodo complex	154	High
1405+00–1409+00	Arbuckle-Positas complex	102	Moderate
1409+00–1415+00	Arbuckle-San Ysidro complex	106	Moderate
Reach 5: Vineyard Dr./Templeton Rd. to Templeton rd./New Hwy. 41			
1415+00–1430+00	Arbuckle-San Ysidro complex	106	Moderate
1430+00–1437+00	Lockwood-Conception complex	160	Moderate
1437+00–1440+00	Lockwood-Conception complex	159	Moderate
1440+00–1442+00	Linne-Calodo complex	154	High
1442+00–1446+00	Lockwood-Conception complex	160	Moderate
1446+00–1449+00	Lockwood-Conception complex	159	Moderate
1449+00–1452+00	Linne-Calodo complex	154	High
1452+00–1467+00	Lockwood-Conception complex	160	Moderate
1467+00–1471+00	Lockwood-Conception complex	159	Moderate

Table 5.3.2 Soil Types Relative to Pipeline Alignment Stationing

Pipeline Stationing	Soil Name and Type	SCS Symbol	Erosion Hazard
1471+00–1480+00	Arbuckle-Positas complex	103	High
1480+00–1505+00	Hanford and Greenfield loams	150	Moderate
1505+00–1537+00	Elder loam (flooded)	140	Slight
1537+00–1540+00	Lockwood-Conception complex	160	Moderate
1540+00–1550+00	Hanford and Greenfield loams	150	Moderate
1550+00–1553+00	Arbuckle-Positas complex	103	High
1553+00–1574+00	Still gravelly loam	207	Slight
1574+00–1578+00	Arbuckle-Positas complex	104	High
1578+00–1585+00	Arbuckle-Positas complex	102	Moderate
1585+00–1589+00	Arbuckle-San Ysidro complex	106	Moderate
1589+00–1594+00	Arbuckle-Positas complex	103	High
1594+00–1604+00	Arbuckle-Positas complex	102	Moderate
1604+00–1610+00	Still gravelly loam	207	Slight
1610+00–1618+00	Arbuckle-Positas complex	102	Moderate
1618+00–1622+00	Hanford and Greenfield soils	148	Moderate
1622+00–1627+00	Hanford and Greenfield loams	150	Moderate
1627+00–1631+00	Hanford and Greenfield soils	148	Moderate
1631+00–1633+00	Elder loam (flooded)	140	Slight
1633+00–1635+00	Handford and Greenfield soils	148	Moderate
Reach 6: Templeton Rd./New Hwy. 41 to Happy Valley Pump Station			
1635+00–1653+00	Handford and Greenfield soils	148	Moderate
1653+00–1655+00	Elder loam (flooded)	140	Slight
1655+00–1658+00	Arbuckle-Positas complex	102	Moderate
1658+00–1681+00	Handford and Greenfield soils	147	Slight
1681+00–1698+00	Handford and Greenfield loams	150	Moderate
1698+00–1701+00	Arbuckle-Positas complex	103	High
1701+00–1703+00	Lockwood shaly loam	158	Moderate
1703+00–1706+00	Linne-Calodo complex	152	High
1706+00–1750+00	Lockwood shaly loam	158	Moderate
1750+00–1755+00	Arbuckle-Positas complex	102	Moderate
1755+00–1758+00	Elder loam (flooded)	140	Slight
1758+00–1767+00	Arbuckle-Positas complex	103	High
1767+00–1769+00	Lockwood shaly loam	158	Moderate
1769+00–1772+00	Lockwood-Conception complex	160	Moderate
1772+00–1780+00	Arbuckle-Positas complex	103	High
1780+00–1781+00	Lockwood shaly loam	158	Moderate
1781+00–1786+00	Arbuckle-Positas complex	103	High
1786+00–1810+00	Lockwood shaly loam	158	Moderate
1810+00–1823+00	Arbuckle-Positas complex	102	Moderate
1823+00–1830+00	Handford and Greenfield soils	148	Moderate
Reach 7: Happy Valley Pump Station to Santa Margarita/CSA Turnout			
1830+00–1834+00	Handford and Greenfield soils	148	Moderate
1834+00–1860+00	Metz loamy sand	166	Slight
1860+00–1871+00	Handford and Greenfield soils	148	Moderate
1871+00–1917+00	Metz loamy sand	166	Slight

Table 5.3.2 Soil Types Relative to Pipeline Alignment Stationing

Pipeline Stationing	Soil Name and Type	SCS Symbol	Erosion Hazard
1917+00–1918+00	Xerofluviants-Riverwash assoc.	212	Very High
1918+00–1920+00	Metz loamy sand	166	Slight
1920+00–1928+00	Handford and Greenfield soils	148	Moderate
1928+00–1935+00	Arbuckle-Positas complex	102	Moderate
1935+00–2045+00	Still clay loam	208	Slight
2045+00–2085+00	San Andrew-Arujo complex	193	Moderate
2085+00–2089+00	Botella sandy loam	116	Moderate
2089+00–2094+00	San Andrew-Arujo complex	193	Moderate
2094+00–2131+00	Still clay loam	208	Slight
2131+00–2148+00	Clear Lake clay, drained	130	Low
2148+00–2150+00	Still clay loam	208	Slight
Reach 7a: Santa Margarita/CSA Turnout to Cuesta Tunnel Entrance Connection			
2150+00–2180+00	Still clay loam	208	Slight
2180+00–2192+00	Millsholm-Dibble clay loam	169	High
2192+00–2195+00	Still clay loam	209	Moderate
2195+00–2215+00	Shimmon-Dibble assoc., steep	203	High
2215+00–2222+00	Still clay loam	209	Moderate
2222+00–2228+00	Dibble clay loam	134	Moderate
2228+00–2239+00	Shimmon-Dibble assoc., steep	203	High
2239+00–2245+00	Arbuckle-fine sandy loam	101	Moderate
2245+00–2254+00	Arbuckle-Positas complex	103	High
2254+00–2265+00	Lompico-McMullin complex	162	Very High
2265+00–2280+00	Shimmon-Dibble assoc., steep	203	High
2280+00–2320+00	National Forest		
Reach 8: Cuesta Tunnel			
Reach 8a: Cuesta Tunnel to San Luis Obispo WTP			
2378+00–2398+00	Los Osos-Diablo complex	165	High
2398+00–2408+00	Gazos-Lodo clay loam	144	High
2408+00–2457+00	Diablo and Cibo clays	131	Moderate
2457+00–2477+00	Diablo and Cibo clays	130	Moderate
2477+00–2500+00	Obispo-rock outcrop complex	183	High-Very High
2500+00–2520+00	Riverwash	194	variable
Reach 9: San Luis Obispo WTP to CMC			
0+00–3+00	Riverwash	194	variable
3+00–15+00	Lockwood-Conception complex	160	High
15+00–20+00	Hanford and Greenfield soils	148	Moderate
20+00–34+00	Los Osos-Diablo complex	163	Moderate
34+00–42+00	Diablo-Lodo complex	133	Moderate/High
42+00–75+00	Lockwood-Conception complex	160	High
75+00–85+00	Diablo-Lodo complex	133	Moderate/High
85+00–89+00	Obispo-rock outcrop complex	183	High-Very High
89+00–99+00	Riverwash	194	variable
99+00–100+00	Rock outcrop-Lithic Haploxerolls	195	variable
Reach 10: San Luis Obispo WTP to Edna Valley			
2520+00–2530+00	Riverwash	194	variable

Table 5.3.2 Soil Types Relative to Pipeline Alignment Stationing

Pipeline Stationing	Soil Name and Type	SCS Symbol	Erosion Hazard
2530+00–2535+00	Conception loam	123	Moderate-High
2535+00–2560+00	Conception loam	121	Moderate
2560+00–2564+00	Salinas silty clay loam	197	Slight
2564+00–2579+00	Los Osos Variant clay loam	168	Moderate-High
2579+00–2610+00	Los Osos-Diablo complex	163	Moderate
2610+00–2665+00	Cropley clay	128	Slight-Moderate
2665+00–2668+00	Los Osos-Diablo complex	163	Moderate
2668+00–2722+00	Los Osos-Diablo complex	162	High
2722+00–2728+00	Cropley clay	128	Slight-Moderate
2728+00–2740+00	Obispo-rock outcrop complex	183	High-Very High
2740+00–2744+00	Cropley clay	128	Slight-Moderate
2744+00–2754+00	Los Osos-Diablo complex	164	High
2754+00–2760+00	Cropley clay	128	Slight-Moderate
2760+00–2765+00	Diablo clay	129	Slight-Moderate
2765+00–2770+00	Cropley clay	128	Slight-Moderate
2770+00–2774+00	Diablo clay	129	Slight-Moderate
2774+00–2805+00	Cropley clay	128	Slight-Moderate
2805+00–2824+00	Cropley clay	127	Slight-Moderate
2824+00–2846+00	Salinas silty clay loam	197	Slight
2846+00–2855+00	Cropley clay	127	Slight-Moderate
2855+00–2861+00	Marimel sandy clay loam	169	Slight
2861+00–2878+00	Xererts-Xerolls-Urban land complex	221	Not indicated
2878+00–2885+00	Cropley clay	128	Slight-Moderate
2885+00–2890+00	Lodo clay loam	147	Moderate
2890+00–2901+00	Cropley clay	128	Slight-Moderate
2901+00–2903+00	Diablo clay	129	Slight-Moderate
2903+00–2908+00	Cropley clay	128	Slight-Moderate
2908+00–2911+00	Obispo-rock outcrop complex	183	High-Very High
2911+00–2921+00	Cropley clay	127	Slight-Moderate
2921+00–2928+00	Conception loam	120	Slight
2928+00–2934+00	Cropley clay	127	Slight-Moderate
2934+00–2940+00	Conception loam	120	Slight
2940+00–2945+00	Cropley clay	127	Slight-Moderate
2945+00–2970+00	Salinas silty clay loam	197	Slight
2970+00–2988+00	Cropley clay	128	Slight-Moderate
2988+00–2998+00	Tierra sandy loam	216	Slight-Moderate
2998+00–3000+00	Conception loam	120	Slight
3000+00–3002+00	Salinas silty clay loam	197	Slight
3002+00–3008+00	Cropley clay	128	Slight-Moderate
3008+00–3030+00	Diablo clay	129	Slight-Moderate
3030+00–3037+25	Cropley clay	128	Slight-Moderate

Source: from Soil Survey, SLO County, Paso Robles Area and Coastal Part.

Table 5.3.3 Flood Zones from the FEMA Flood Insurance Rate Map of SLO County

Alignment Stationing	Areas of 100-year flood (Zone A)	Areas between limits of 100-year and 500-year flood (Zone B)	Areas of minimal flooding (Zone C)
0+00–90+00			x
90+00–563+00	Camp Roberts		
563+00–684+00			x
684+00–686+00	x		
686+00–880+00			x
880+00–890+00	x		
890+00–980+00			x
980+00–1025+00	x		
1025+00–1038+00		x	
1038+00–1043+00	x		
1043+00–1109+00	City of Paso Robles		
1109+00–1110+00			x
1110+00–1112+00	x		
1112+00–1150+00			x
1150+00–1153+00	x		
1153+00–1250+00			x
1250+00–1292+00	x		
1292+00–1328+00			x
1328+00–1347+00	x		
1347+00–1526+00			x
1526+00–1530+00	x		
1530+00–1658+00			x
1658+00–1675+00		x	
1675+00–1832+00			x
1832+00–1835+00	x		
1835+00–1912+00			x
1912+00–1915+00		x	
1915+00–1920+00	x		
1920+00–1926+00		x	
1970+00–1971+00	x		
1971+00–1972+00		x	
1972+00–2000+00			x
2000+00–2020+00	x		
2020+00–2117+00			x
2117+00–2120+00	x		
2120+00–2125+00		x	
2125+00–2130+00	x		
2130+00–2180+00		x	
2180+00–2280+00			x
2280+00–2380+00	National Forest		
2380+00–2560+00			x
2560+00–2562+00	x		
2562+00–2605+00			x
2605+00–2660+00			x
2660+00–2752+00	not mapped		
2752+00–2802+00			x
2802+00–2824+00	not mapped		
2824+00–2826+00			x
2826+00–2841+00		x	
2841+00–2842+00	x		
2842+00–2858+00			x
2858+00–3037+00	not mapped		

No FEMA 100-year flood zones outside of Camp Roberts are present in this reach. Two landslides were observed in the Nacimiento River canyon and one near Dry Creek. A detailed investigation of these landslide features would be required to evaluate the risk to the proposed project. The erosion hazard for soils based on the Soil Survey ranges from slight to very high.

Reach 2, Sta. 560+00, Nacimiento WTP
A WTP and pump station is proposed for this location. The current land use is undeveloped. The slopes are shallow, and the soil erosion hazard is high.

Reach 3, Sta. 560+00 to 775+00, Nacimiento WTP to Monterey Rd./Wellsona
The pipeline crosses an unnamed creek at station 586+00 and San Marcos Creek at 688+00. Most of the alignment is along unimproved surfaces with paved surfaces beginning at station 767+00. Slopes along the route between stations 560+00 and 728+00 range from 5% to greater than 30%. From station 728+00 to the end of the reach, slopes range from 0 to 5%. A FEMA 100-year flood zone is crossed by the alignment from station 684+00 to 686+00. Landslide features were not observed within this reach. The erosion hazard for soils ranges from slight to very high and is typically moderate to very high.

Reach 3a, Sta. 775+00 to 1130+00
The pipeline alignment crosses the Salinas River at station 880+00. The alignment is along paved surfaces except for relatively short lengths beneath unimproved surfaces located near the Salinas River crossing. Slopes along the alignment range from 0 to greater than 30%. Four FEMA 100-year flood zones including the area of the Salinas River crossing are located within this reach on the east side of the Salinas River. The soil erosion hazard ranges between slight to very high.

Reach 4, Sta. 1130+00 to 1415+00
The pipeline does not cross any significant streams within this reach. The alignment is along paved surfaces to station 1183+00 and crosses unimproved land to station 1303+00 and is located along paved surfaces through the end of the reach and into reach 5. Micro tunnels will be constructed beginning at station 1240+00. Slopes along the alignment range between 0 and greater than 30%. The alignment passes below the steeper slopes adjacent to the river near the proposed micro tunnel locations. The alignment passes through three FEMA 100-year flood zones within the reach. The soil erosion hazard ranges between slight and very high including one very high erosion hazard soil located between stations 1225+00 and 1227+00. Piping to the Paso Robles River Discharge Area branches off the main alignment at station 1156+00. The discharge area is designed as a 300 feet by 500 feet percolation area within the active channel of the Salinas River. Piping would be routed over a steep, 26 foot-high slope descending to the river channel and be subject to flooding within the channel. Piping to the Templeton Community Services District (TCSD) River Discharge Area branches off the main alignment at station 1386+00, and terminates in a discharge area to be located on a stream terrace adjacent to an actively eroding stream bank.

Reach 5, Sta. 1415+00 to 1635+00
The main pipeline does not cross any significant streams within this reach. The alignment is located mostly along paved surfaces with areas of unimproved land between stations 1540+00

and 1614+00. Slopes are gentle to moderate and range between 0 and 30%. The alignment passes through one FEMA 100-year flood zone from station 1526+00 to 1530+00. The soil erosion hazard along this alignment ranges between slight to high. The Atascadero River Discharge Branch Line branches off the main alignment at station 1473+00 and crosses the Salinas River to a 400 by 800 foot discharge area located on the stream terrace above the southwest bank of the river.

Reach 6, Sta. 1635+00 to 1830+00, Templeton Rd. to Rocky Canyon Road
The pipeline does not cross any significant streams within this reach. The alignment passes entirely along paved surfaces. Slopes are mostly very gentle with three intervals in which slopes are greater than 30%. The alignment does not pass through any FEMA 100-year flood zones within this reach. The soil erosion hazard along this alignment ranges between slight to high.

Reach 6a, 6b, Sta. 1785+00, Rocky Canyon Storage Tank, Happy Valley Pump Station
Slopes at the Rocky Canyon Storage Tank location are greater than 30%. The site is not located within a FEMA 100-year flood zone. The soil erosion hazard is high.

Reach 7, Sta. 1830+00 to 2150+00, Rocky Canyon Road to Santa Margarita Turnout
The pipeline alignment crosses Rocky Canyon Creek at station 1834+00, Salinas River from station 1915+00 to 1920+00, and Santa Margarita Creek at station 1964+00. The alignment passes mostly on unimproved surfaces or just off a paved road within the graded right-of-way. Slopes range from very gentle to greater than 30%, with the steeper slopes generally lying adjacent to the pipeline alignment. The alignment passes through FEMA 100-year flood zones from stations 1832+00 to 1835+00, 2000+00 to 2020+00, 2117+00 to 2120+00, and 2125+00 to 2130+00. The soil erosion hazard along this alignment ranges from slight to moderate with a very high erosion hazard at station 1917+00 to 1918+00 where the alignment crosses the Salinas River.

Reach 7a, Sta. 2150+00 to 2320+00, Santa Margarita Turnout to Cuesta Tunnel
The pipeline does not cross any significant streams within this reach. The alignment passes mostly along paved surfaces or adjacent to paved surfaces on either the road shoulder or the slopes of the graded roadbed. Slopes along the alignment are mostly gentle, however, the alignment typically passes adjacent to slopes greater than 30%. The alignment does not pass through any FEMA 100-year flood zones within this reach. The soil erosion hazard along this alignment ranges between slight to very high, with the very high hazard area located between station 2254+00 and 2265+00.

Reach 8, Sta. 23320+00 to 2370+00, Cuesta Tunnel
The pipeline is located in the existing Cuesta Tunnel within this reach and does not affect drainages or slopes.

Reach 8a, Sta. 2370+00 to 2520+00, Cuesta Tunnel to San Luis Obispo WTP
The pipeline alignment crosses Stenner Creek at approximately station 2500+00. The alignment passes along unimproved roads, open fields or is adjacent to paved surfaces. Slopes adjacent to the alignment are typically greater than 30%. The alignment does not pass through any FEMA 100-year flood zones within the reach. Landslides were observed in the area south of Cuesta

Tunnel. A detailed investigation of the landslide features would be required to evaluate the risk to the proposed project. The soil erosion hazard ranges from moderate to very high.

Reach 9, at Sta. 2524+00, Branch Alignment Station 0+00 to 100+00, SLO WTP to CMC
The pipeline does not cross any significant streams within this reach under the treated water option, but crosses Chorro Creek at P109b (see Figure 2-19) under the raw water option. The alignment passes along or adjacent to unimproved roads and railroad beds. Slopes are gentle parallel to the alignment, and are generally greater than 30% adjacent to the alignment. The alignment does not pass through any FEMA 100-year flood zones within the reach. The soil erosion hazard ranges from moderate to very high.

Reach 10, Sta. 2520+00 to 3037+00, SLO WTP to Edna Valley
The pipeline alignment crosses Stenner Creek at station 2560+00, and San Luis Obispo Creek at station 2841+00. It crosses less significant creeks at stations 2913+00 and 3005+00. The alignment passes along paved surfaces, open fields, and unimproved roads. Slopes range from gentle to greater than 30%, but are mostly gentle from station 2605+00 to station 3037+00. FEMA has mapped one 100-year flood zone within this reach in the vicinity of San Luis Obispo Creek, from station 2841+00 to station 2842+00. The soil erosion hazard is generally slight to moderate, however, there are very high erosion hazard zones located between stations 2728+00 and 2740+00; and between stations 2908+00 and 2911+00.

5.3.1.2 Flooding in the Area

Many streams within the county have been studied by FEMA for flood insurance purposes in the FIS for San Luis Obispo County (FEMA 1985a). The FIS notes that runoff from all the streams in the county is very small, with appreciable flows occurring only during and immediately after precipitation. However, during large storms, streamflow increases rapidly, and floodwaters can contain high amounts of debris, causing major flood damage (FEMA 1985a). Stream flow in the Nacimiento River is regulated by releases from the Nacimiento Dam, with appreciable flows occurring throughout the dry season.

The climate of SLO County is characterized by warm, dry summers and cool, wet winters. The northern portion of the county experiences heavier rainfall than in the south. Annual precipitation is nearly 50 inches along the crest of the Santa Lucia Range; south of these mountains the annual precipitation along the coast decreases to an average of 14 to 16 inches. Average annual rainfall in the inland areas of the county ranges from 18 to 20 inches just east of the mountain ranges to less than 10 inches thirty miles inland from the coast (FEMA 1985a).

The proposed pipeline alignments cross many small drainages and several larger streams. At several locations, the pipeline would be within the Flood Hazard (FH) Combining Designation of area plans. A Flood Hazard Combining Designation is an area in which flooding potential is significant enough to warrant additional regulation of any proposed facilities. In general, this means the proposed project must be designed and built such that it will not:

- adversely increase the height or duration of flood water in or along a designated stream course beyond county engineering standards, or cause danger to life or property;

- result in incompatible land uses, nor be detrimental to the protection of surface and groundwater supplies; and
- increase the county financial burdens through increasing the floods and overflows of water along the designated stream courses.

Investigation of flooding for the FIS for SLO County (FEMA 1985a) indicates that flood conditions and flood damage occurred in portions of the county from 1911 through 1978. A high flow of 16,600 cubic feet per second (cfs) was measured at the USGS stream gage on the Salinas River, two miles downstream of Santa Margarita Lake, on January 25, 1969. The year of 1969 was the most severe flood year in SLO County. The flood in January, which was estimated to be of a magnitude that would occur once every 50 to 75 years, damaged homes, eroded prime farmland, destroyed bridges, caused mudslides, and spread debris. Flow at a USGS gage on the Salinas River at Paso Robles was estimated from high water marks to be approximately 28,000 cfs during this flood. Flow at a USGS operated gage on the Nacimiento River approximately 2 miles from Nacimiento Dam was recorded at 6,770 cfs on February 26, 1969. The historical record of flooding in the county indicates high flows typically result from winter storms. USGS stream gages on the Salinas River indicate there are many days and sometimes months when there is no flow in the river. Flow in the river can be interrupted in the summer months by control of the Salinas Dam (DWR 1991).

Santa Margarita Lake has a maximum capacity of 44,500 af to the dam crest which is too small to have any but minor effects on the 100-year and 500-year flood elevations at the downstream reaches of the river that were studied in the FIS (FEMA 1985a). This lake captures runoff from a drainage area of approximately 112 square miles (FEMA 1985a).

In the FIS (FEMA 1985a), peak discharges for the 10-, 50-, 100-, and 500-year floods were estimated for some of the drainages the proposed pipeline would cross, including several locations along the Salinas River. These flow rates, shown in Table 5.3.4, and the historical flood record indicate that although the streams may be dry much of the time, they are capable of carrying high flows which could cause severe damage.

Table 5.3.4 Summary of Peak Flows in Streams Crossed by Proposed Pipelines

Flooding Source and Location	Drainage Area (square miles)	Peak Discharges (cfs)			
		10-Year	50-Year	100-Year	500-Year
Salinas River					
Below Confluence with Santa Margarita Creek	200	7,800	14,500	21,000	31,000
Below Confluence with Paso Robles Creek	331	15,500	32,000	42,000	62,500
At U.S.G.S. Gage at Paso Robles	387	16,000	33,000	43,000	66,000
Santa Margarita Creek					
Near El Camino Real 400 feet Southwest of Wilhelmina Ave.	11.2	2,130	4,580	5,400	7,040
At Confluence with Yerba Buena Creek	19.4	3,390	7,510	8,220	8,500
At El Camino Real	22.4	3,450	7,850	9,435	12,300
At Confluence with Trout Creek	23.2	4,800	11,300	13,800	18,100

Source: FEMA Flood Insurance Study, San Luis Obispo County, California, Unincorporated Areas, July 1985a.

The proposed pipeline would lie in the Flood Hazard Combining Designation for the Salinas River Planning Area near Santa Margarita (Yerba Buena Creek), Garden Farms (Santa Margarita Creek), and Templeton (Salinas River). According to the Flood Insurance Rate Maps for the unincorporated areas of the county (FEMA 1982 and 1985b), the pipeline would generally be outside of the Salinas River 100-year flood plain east of the river, except at the river crossings or where other flood plains result from incoming tributaries, such as Rocky Canyon.

5.3.2 Regulatory Setting

5.3.2.1 Federal Policies and Regulations

Discharges to public waterways are under the purview of the U.S. Army Corps of Engineers per Clean Water Act regulations, while the Federal Emergency Management Agency (FEMA) is responsible for identifying flood hazards, coordinating flood plain management and regulating the placement of structures in flood plains. At locations of pipeline stream crossings, regulations of the Army Corps of Engineers would apply. In areas where the proposed project would not impact streams, FEMA would be the federal agency with the primary responsibility to regulate the project. The minimum flood plain management requirements for participation in the National Flood Insurance Program are set forth in the Code of Federal Regulations 44 CFR 60.3.

Rules and regulations of Camp Roberts Military Reservation and the U.S. Forest Service would apply where the pipeline alignment passes through their respective lands. Regulations of the Federal Railroad Administration would apply where the proposed project is located within railroad right-of-way, and an encroachment permit would be obtained from the Southern Pacific Railroad. At all stream and wetland crossings, permits would be issued by the California Department of Fish and Game.

Water quality protection is regulated by the Federal National Pollutant Discharge Elimination System (NPDES) Program (established by the Clean Water Act. The U.S. Environmental Protection Agency (EPA) established storm water permit requirements based on compliance with a NPDES permit. Discharges of storm water associated with construction activity that results in a disturbance of five acres or more of total land area requires a NPDES General Permit for Discharges of Storm Water Associated with Construction Activity. Permits are required for all storm water discharges associated with a construction activity where clearing, grading, and excavation occurs. This permit requires developers to implement Best Management Practices (BMPs) to prevent the discharge of sediment-laden water offsite. The site-specific plan to implement BMPs is called the Storm Water Pollution Prevention Plan (SWPPP). The plan must include a description of soil stabilization and sediment load control methods that would be implemented to minimize erosion and sediment loading during construction of the project. The SWPPP also includes descriptions of post-construction BMPs. The State of California administers the storm water permits through the State Water Resources Control Board and its local Regional Water Quality Control Board (Central Coast Region).

5.3.2.2 State Policies and Regulations

The State of California administers Storm Water Regulations according to the California Water Code Section 13399. The State Water Resources Control Board issues the NPDES General Construction Activity Storm Water Permit. The Regional Water Quality Control Board monitors the provisions of this general permit.

The State Department of Water Resources is responsible for coordinating flood-fighting activities and is authorized to receive requests from public agencies for assistance during floods. Should flooding occur, these agencies would have policies and regulations with respect to how flooding hazards related to the NWP would need to be handled.

Regulations of the California Department of Transportation (Caltrans) apply where the pipeline alignment is located within Caltrans right-of-way.

5.3.2.3 Local Policies and Regulations

The County of San Luis Obispo Safety Element contains Policy S-7, Flood Hazards: "Strictly enforce flood hazard regulations both current and revised. FEMA regulations and other requirements for the placement of structures in flood plains shall be followed. Maintain standards for development in flood-prone and poorly drained areas."

The SLO County Department of Planning and Building requires an approved erosion control plan to be submitted and implemented if construction occurs between October 15 and April 15. A list of Grading and Erosion Control Notes are available at the Department of Planning and Building office.

The City of Atascadero would require grading permits for pipeline installation outside of the public road right-of-way, unless the pipelines are considered exempt per California Government Code Section (G.C.) 53091. Permits may also be required where the pipeline is installed within other cities along the alignment.

5.3.3 Significance Criteria

5.3.3.1 Criteria for Construction

Short-term surface water resources impacts due to construction would be significant if:

- Temporary changes in stream flow patterns to accommodate construction activities resulted in downstream erosion and/or backwater effects/flooding.
- Damage to construction sites occurs during flood flows while a pipeline is being installed in a streambed.
- An increase in turbidity and sedimentation occurs in streams crossed and/or paralleled due to clearing, grading, trenching, and backfilling operations.

Short-term groundwater impacts due to construction would be significant if:

- Impairment of groundwater recharge occurs from sedimentation in streams caused by clearing, grading, trenching, and backfilling operations.

5.3.3.2 Criteria for Operation

Adverse impacts due to operation of the proposed project would be significant if:

- Erosion and downstream sedimentation occurred due to a water supply pipeline rupture.
- Scouring occurred in stream channels exposing buried pipeline or undermined suspended pipe crossing abutments or cable anchors.
- Increased or concentrated runoff from impervious surfaces leads to increased erosion.
- High river flow or bank erosion caused damage to branch pipelines and discharge piping in the three proposed discharge areas (raw water option).

5.3.4 Proposed Project Impacts and Mitigation Measures

Both options, treated and raw water options, of the proposed project will require installation of more than 60 miles of pipeline, primarily within and along roadsides. Portions of the route traverse steep terrain and multiple streams will be crossed. Construction activities along the co-equal options pipeline corridor could result in erosion of disturbed areas and potential sedimentation in streams and creeks. In addition, installation of a pipeline within floodways and across streams will require considerations of potential flooding and scouring effects.

Construction and operational drainage, erosion and sedimentation impacts were evaluated for the treated water and raw water options of the proposed project.

5.3.4.1 Treated Water Option

Impacts from Construction

The erosion potential associated with trenching, cut slopes, stream crossings, cut-and-fill activities, and other earth moving activities associated with the installation of the pipeline and construction of the treatment plant(s) have been evaluated. Areas with a high potential for erosion and sedimentation due to construction activities have been identified. Specific erosion control methods are proposed for these areas, such as use of water bars on steep slopes, revegetation methods, jute netting, straw bales, silt fences, waddles, etc. The results of the erosion control methods used along the State Water Project Coastal Branch, Central Coast Water Authority (CCWA), and Chorro Valley pipelines will be reviewed through site visits and interviews with the Department of Water Resources (DWR), CCWA, and County construction monitors to identify effective techniques to control erosion along a recently constructed pipeline corridor.

The severity of flooding and erosion impacts for a particular location is dependent on the need for stream diversions during construction, the amount of activity planned to occur within the stream channel or flood plain, and the construction schedule. Based on the planned alignment of the proposed pipeline, construction activities are possible in or near the following streams:

- Nacimiento River, San Marcos Creek, Salinas River, Santa Margarita Creek, and several tributaries (Reaches 1 through 7).
- Stenner Creek, San Luis Obispo Creek, and Santa Fe Creek, and several tributaries (Reaches 8 through 10).

Hydrologic information on county streams indicates runoff generally occurs only during and immediately after precipitation, but streamflow can rise rapidly and carry large amounts of debris during storms. Flow in the Salinas River is impounded by control at Salinas Dam only when a live stream exists from the dam to the confluence of the Salinas River (flows are typically only diverted during winter months when there are excess flows downstream of the dam). Based on historical floods in the Salinas River system, the greatest possibility of flooding within the county occurs from December to March. Therefore, if all construction near streams is limited to summer months, the probability of severe flooding impacts would be low. If stream crossings are not constructed during the dry season, potential impacts from construction near the streams could be significant. If excavated soils or stockpiled soils and backfill material were not protected from erosive factors such as wind and rain, construction of the pipeline could significantly contribute to sedimentation problems downstream. Potential adverse impacts to surface water, stream channel, and soil resources during construction are significant due to flooding, erosion, and downstream sedimentation.

Impact	Impact Description	Residual Impact
DE.1	Potentially significant impact of changes to surface water flow patterns during construction.	Class II

If during construction stream flow patterns are changed (diverted), and high stream flows occur, areas normally not subjected to water flow could be inundated or eroded. If the stream channel was constricted, higher velocity flows and/or flooding could be created, resulting in a significant erosion impacts.

Mitigation Measures

DE-1 *An Erosion Control Plan shall be prepared in conjunction with the required Storm Water Pollution Prevention Plan (SWPPP) to devise specific soil erosion control measures. The plan would include but not be limited to the following measures:*

- Construction activities through areas of concern (i.e., rivers, streams, large drainages) shall be scheduled during the dry season (April 15 to October 15) to reduce erosion, or shall implement measure DE-2 to minimize potential impacts.

- Revegetation of areas disturbed or cleared during construction shall occur after construction is completed and before the rainy season.

DE-2 Direct any diverted flows to in-channel sedimentation basins that will trap fine soil materials before diverted flows are released downstream. If the cross-section of the channel is narrowed by the diversion, provide erosion protection measures at the downstream outlet point. Plan diversion structures to be in service for the shortest possible time, and remove them as soon as construction is completed. Have all diversion facilities designed by a qualified civil engineer and base the design on the best available streamflow information. Before designing in-channel sedimentation basins, consult with a qualified biologist to identify, and avoid to the degree feasible, sensitive biological resources such as wetlands and sensitive wildlife habitat (i.e., steelhead trout, California red-legged frog, southwestern pond turtle, and breeding riparian bird habitat). If wetland areas are impacted by these erosion control measures, mitigation will be required by the regulatory agencies.

DE-3 Inspect diversion facilities daily and repair all damage immediately.

Residual Impacts
Implementation of the proposed mitigation measures would reduce the identified significant impacts to *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
DE.2	Potentially significant impact of damage to construction sites if flood flows occur while a pipeline is being installed in a streambed.	Class II

During construction in streambeds, equipment, materials, and the pipeline trench could be damaged if high flows occurred in a streambed and the equipment could not be secured in time.

Mitigation Measures
The proposed mitigation measures are considered necessary whenever a chance of rain, however slight, is forecast by the National Weather Service or local news media.

DE-4 Prepare in advance and have construction crews ready to implement an emergency construction site securing procedure, which shall include personnel and equipment evacuation, trench closure, and materials removal procedures.

DE-5 Heavy equipment and construction activities shall be restricted to the defined construction ROW. Equipment access and construction through drainages should be conducted from the banks rather than within the drainage.

DE-6 Do not store construction materials or spoils within the channel or overbanks.

DE-7 Obtain weather updates on a daily basis, or more frequently if inclement conditions are threatening.

Residual Impacts
Implementation of the proposed mitigation measures would reduce the identified significant impacts to *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
DE.3	Potentially significant impacts to surface waters of increased turbidity and sedimentation, and to groundwater recharge in streams crossed and paralleled due to clearing, grading, trenching, and backfilling activities.	Class II

Once an area is cleared of protective vegetation, or loose material is created from trenching operations, the potential for erosion increases. Soil materials eroded or excavated from the site or imported fill brought into the area could be carried into wetland areas or into streams and passed downstream into critical areas creating a significant impact.

Mitigation Measures

DE-8 Erosion and sedimentation impacts shall be mitigated by employing standard erosion control procedures such as use of silt fencing, sandbagging, straw bales, waddles, water bars, diversion ditches, and stream bank stabilization procedures. In addition, drainages shall be spanned to the maximum degree feasible, subject to engineering or other concerns, in an attempt to avoid direct and indirect impacts.

DE-9 Provide in-channel sedimentation basins when constructing in a stream bed as previously directed. Monitor water leaving the sedimentation basin to satisfy the requirements of the RWQCB. If standards are exceeded, cease all construction activities in the stream bed and do not resume activities until the problem is corrected to the satisfaction of the RWQCB representative. Following construction activities, the stream channel will be restored to near its original condition.

DE-10 A vegetation restoration plan shall be prepared and implemented by a qualified restoration biologist and native plant horticulturist for the various vegetation communities and habitats that would be temporarily disturbed during project construction but could be restored onsite.

DE-11 Store excavated soil and stockpiles of imported fill outside of the channel and setback at least 20 feet from the active channel banks. Protect stockpiles of loose material with secured tarps and provide silt fencing or straw bales down gradient of the stockpiles.

Residual Impacts

Implementation of the proposed mitigation measures would reduce the identified significant impacts to *not significant with mitigation* (Class II).

Impacts from Operations

Impact	Impact Description	Residual Impact
DE.4	Potentially significant impact of erosion and downstream sedimentation from a pipeline rupture.	Class II

In the unlikely event of a total pipeline rupture, a large volume of released water could cause a great amount of localized erosion because water is discharged under high pressure onto the ground surface. As eroded sediments move downstream, sedimentation within stream channels would also result, creating a significant impact to surface waters.

Mitigation Measures

DE-12 The Lead or Responsible Agency shall develop and implement a plan providing the emergency response and repair procedures for an accidental rupture. The plan shall include remedial erosion control measures for areas downstream of the rupture.

DE-13 The Lead or Responsible Agency shall implement a regular inspection and maintenance program to detect possible problems with pipeline integrity.

DE-14 The Lead or Responsible Agency shall provide thorough inspection of the pipeline materials and construction techniques while the pipelines are being installed. The County shall specify the use of materials with proven reliability only.

DE-15 The Lead or Responsible Agency shall design checkpoints and shut-off valves for incorporation into the pipelines such that critical reaches which may be subject to damage (e.g. a suspended crossing) can be isolated.

Residual Impacts

Implementation of the proposed mitigation measures would reduce the identified significant impacts to *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
DE.5	Potentially significant impact of scouring occurring in stream channels that expose buried pipeline or undermine suspended pipe crossing abutments or cable caissons.	Class II

At the pipeline stream crossings, deep scouring in channels that expose the buried pipe could result in pipe rupture. Suspended pipe crossing abutments and anchor cables supporting suspended pipe crossings may be susceptible to stream scouring at high flows. Scour that washes out the abutments or cable anchors could result in the suspended crossing failure and pipe rupture. These events would represent significant impacts.

Mitigation Measures

DE-16 The final engineering design shall determine the pipeline depth below the maximum scour depth at underground stream crossings of major streams. The pipe shall be reinforced beneath the active stream channel. The pipeline depth, at underground crossings of seasonal creeks, shall be a minimum of 2 feet below the maximum scour depth.

DE-17 Suspended pipe crossing abutments and cable caissons shall be installed outside of stream channels.

Residual Impacts

Implementation of the proposed mitigation measures would reduce the identified significant impacts to *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
DE.6	Potentially significant impact of increased or concentrated storm runoff flowing onto erodible soils from impervious surfaces.	Class II

Various impervious to water surfaces would be created at the NWP facilities. These are concrete equipment pads, tanks, paved roads, parking lots, and buildings. Erosion of surface materials is likely to occur if concentrated storm runoff is allowed to flow onto erodible soil from impervious surfaces, resulting in a significant impact.

Mitigation Measures

DE-18 *Impervious surfaces should be either designed to dissipate runoff uniformly, or drainage measures should be designed to convey runoff from impervious surfaces so that concentrated flows do not discharge onto unprotected slopes.*

DE-19 *Areas disturbed during construction should be revegetated, as soon as is practical, prior to the beginning of the rainy season.*

Residual Impacts

Implementation of the proposed mitigation measures would reduce the identified significant impacts to *not significant with mitigation* (Class II).

5.3.4.2 Raw Water Option

Impacts DE.1 through DE.6 would be the same for the Treated Water Option. The Raw Water Option could have the following additional operational impact.

Impact	Impact Description	Residual Impact
DE.7	Potentially significant impact of high river flow or bank erosion resulting in damage to branch pipelines or discharge piping in the three discharge areas.	Class II

The three raw water discharge areas are located adjacent to or within the active channel of the Salinas River. In the event of high flow damage to the piping either by stream bank erosion or by high stream flow could cause discharge to occur outside of the designed discharge area. In the event of high stream flow on the Salinas River, the discharge facilities at Paso Robles would be destroyed and would have to be rebuilt, thereby requiring additional construction in order to maintain the facilities in an operable condition. It should be anticipated that such construction would be required periodically during the entire life of the proposed project. Increased bank erosion rates and downstream sedimentation may occur where discharge is located on stream terraces. This would represent a significant impact.

Mitigation Measures

DE-20 *The Lead or Responsible Agency shall implement a regular inspection and maintenance program to detect and repair damaged discharge piping, and to monitor bank erosion. Annual repairs or repairs following high stream flows should be anticipated as long as the system is in place.*

DE-21 Design discharge piping in river channel to be flexible or to have flexible couplings between pipe joints.

DE-22 Discharge system shall be designed so that concentrated flows do not discharge onto an unprotected river bank.

Residual Impacts
Implementation of the proposed mitigation measures would reduce the identified significant impacts to *not significant with mitigation* (Class II).

5.3.5 Alternatives Impacts and Mitigation Measures

5.3.5.1 No Project Alternative

Under this alternative no construction of the pipeline or operation of the NWP would occur. The no-project alternative would not have the associated drainage, erosion, and sedimentation impacts of the proposed project or other project alternatives.

5.3.5.2 NWP 1997 EIR Alternative

This alternative to the proposed project has been evaluated in the 1997 Nacimiento Water Project ED-92-271 Draft Environmental Report. In this alternative, the proposed pipeline was routed down Nacimiento Lake Drive, through Vine Street in Paso Robles, and down Main Street in Templeton. Because this route was located along the west side of the Salinas River, a larger number of stream crossings were required compared to the number of crossings for the proposed alignment east of the Salinas River. Because of the additional stream crossings required in this alternative, drainage, erosion, and sedimentation impacts would be greater than those of the proposed project described in this EIR.

5.3.5.3 Phased Raw and Treated Water Alternative

Under this alternative the same impacts would occur (Impacts DE.1 through DE.7), however, as the WTP would be constructed later, and the water discharge areas would not be operational after that event, Impact DE.7 would no longer be of consequence. All proposed mitigation measures would need to be implemented to reduce the respective impacts to below significant levels.

5.3.6 Cumulative Impacts

Salinas Valley Water Project (SVWP). Cumulative effects of the NWP with the SVWP relating to drainage, erosion, and sedimentation were evaluated. The SVWP would include modifying the existing spillway by replacing a section with an inflatable rubber dam or radial gates that are capable of passing the probable maximum flood event (PMF). This modification will increase the spillway capacity and allow the reservoir to store a higher volume of water throughout the wet season. The surface elevation would not change. The modifications would result in the excavation and removal of approximately 700 to 1,000 cubic yards of concrete.

Construction would occur during periods of minimal or no flow in the Nacimiento River (May 1 to November 15). The spillway is located on the north side of the Nacimiento Dam and the proposed intake pump station for the NWP would be located approximately 600 feet away, on the northeast shore of the lake. The proposed pipeline alignment of the NWP would pass approximately 100 feet north of the Nacimiento Dam spillway. Because of the distance separating the two anticipated project activities, cumulative effects relating to drainage, erosion, and sedimentation are not anticipated.

5.3.7 Mitigation Monitoring Plan

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
DE-1	An Erosion Control Plan shall be prepared in conjunction with the required Storm Water Pollution Prevention Plan (SWPPP) to devise specific soil erosion control measures. The plan would include but not be limited to the following measures: - Construction activities through areas of concern (i.e., rivers, streams, large drainages) shall be scheduled during the dry season (April 15 to October 15) to reduce erosion, or shall implement measure DE-2 to minimize potential impacts. - Revegetation of areas disturbed or cleared during construction shall occur after construction is completed and before the rainy season.	Prior to final design approval, SLO County to include schedule for specific construction areas in SWPPP. Designated representative present at construction site.	County P&B Dept	SWPPP approval and on-site monitoring.	During Construction.
DE-2	Direct any diverted flows to in-channel sedimentation basins that will trap fine soil materials before diverted flows are released downstream. If the cross-section of the channel is narrowed by the diversion, provide erosion protection measures at the downstream outlet point. Plan diversion structures to be in service for the shortest possible time, and remove them as soon as construction is completed. Have all diversion facilities designed by a qualified civil engineer and base the design on the best available streamflow information. Before designing in-channel sedimentation basins, consult with a qualified biologist to identify, and avoid to the degree feasible, sensitive biological resources such as wetlands and sensitive wildlife habitat (i.e., steelhead trout, California red-legged frog, southwestern pond turtle, and breeding riparian bird habitat). If wetland areas are impacted by these erosion	Prior to final design approval County/U.S. Army Corps of Engineers to indicate in construction plans, and implement. On-site field supervisor to inspect daily.	County P&B Dept	On-site monitoring	During Construction.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	control measures, mitigation will be required by the regulatory agencies.				
DE-3	Inspect diversion facilities daily and repair all damage immediately.	During construction County/U.S. Army Corps of Engineers to include inspection schedule in construction plans, make repairs as necessary On-site field supervisor to inspect daily.	County P&B Dept	On-site monitoring	During Construction.
DE-4	Prepare in advance and have construction crews ready to implement an emergency construction site securing procedure, which shall include personnel and equipment evacuation, trench closure, and materials removal procedures.	County PW Dept to indicate in construction plans and discuss at daily field meetings. During construction implement plan and report to on-site field supervisor.	County P&B Dept	Approval of construction plans.	During Construction.
DE-5	Heavy equipment and construction activities shall be restricted to the defined construction ROW. Equipment access and construction through drainages should be conducted from the banks rather than within the drainage.	County PW Dept contractor to visually inspect in field. On-site monitor present at all construction sites during construction.	County P&B Dept	On-site monitoring and reporting.	During construction.
DE-6	Do not store construction materials or spoils within the channel or overbanks.	County PW Dept / RWQCB to include in SWPPP. Environmental Specialist shall be present at construction site during construction.	County P&B Dept	SWPPP approval and on-site monitoring.	During construction.
DE-7	Obtain weather updates on a daily basis, or more frequently if inclement conditions are threatening.	County PW Dept to indicate in construction plans and implement. Monitor and report to on-site field supervisor during construction.	County P&B Dept	Maintain daily weather log	During construction.
DE-8	Erosion and sedimentation impacts shall be mitigated by employing standard erosion control procedures such as use of silt fencing, sandbagging, straw bales, waddles, water bars, diversion ditches, and stream bank stabilization procedures. In addition, drainages shall be spanned to the maximum degree feasible, subject to engineering or other concerns, in an attempt to avoid direct and indirect impacts.	Prior to construction County PW Dept to include in SWPPP. Designated representative present at construction site during construction.	County P&B Dept	SWPPP approval and on-site monitoring.	During construction.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
DE-9	Provide in-channel sedimentation basins when constructing in a stream bed as previously directed. Monitor water leaving the sedimentation basin to satisfy the requirements of the RWQCB. If standards are exceeded, cease all construction activities in the stream bed and do not resume activities until the problem is corrected to the satisfaction of the RWQCB representative. Following construction activities, the stream channel will be restored to near its original condition.	County PW Dept/ U.S. Army Corps of Engineers to indicate in construction plans, and implement. On-site monitor present at construction sites during construction.	County P&B Dept	On-site monitoring.	During and after construction.
DE-10	A vegetation restoration plan shall be prepared and implemented by a qualified restoration biologist and native plant horticulturist for the various vegetation communities and habitats that would be temporarily disturbed during project construction but could be restored onsite.	Prior to final design approval County PW Dept to submit plan and implement. Inspect based on restoration plan.	County P&B Dept	Approval of plan, and on-site monitoring.	After construction.
DE-11	Store excavated soil and stockpiles of imported fill outside of the channel and setback at least 20 feet from the active channel banks. Protect stockpiles of loose material with secured tarps and provide silt fencing or straw bales down gradient of the stockpiles.	County PW Dept / RWQCB to include in SWPPP. Environmental Specialist present at construction site during construction.	County P&B Dept	SWPPP approval and on-site monitoring.	During construction.
DE-12	The Lead or Responsible Agency shall develop and implement a plan providing the emergency response and repair procedures for an accidental rupture. The plan shall include remedial erosion control measures for areas downstream of the rupture.	Prior to final design approval County PW Dept to submit plan and implement. On-site monitoring and report to Lead Agency.	County P&B Dept	Approval of plan, and on-site monitoring.	After construction.
DE-13	The Lead or Responsible Agency shall implement a regular inspection and maintenance program to detect possible problems with pipeline integrity.	Prior to final design approval County PW Dept to submit plan and implement. On-site monitoring and report to Lead Agency.	County P&B Dept	Approval of plan, and on-site monitoring.	During and after construction.
DE-14	The Lead or Responsible Agency shall provide thorough inspection of the pipeline materials and construction techniques while the pipelines are being installed. The County shall specify the use of materials with proven reliability only.	Prior to final design approval County PW Dept to submit plan and implement. On-site monitoring and report to Lead Agency.	County P&B Dept	Approval of plan, and on-site monitoring.	Prior to Board of Supervisors approval to advertise for construction bids, and during construction.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
DE-15	The Lead or Responsible Agency shall design checkpoints and shut-off valves for incorporation into the pipelines such that critical reaches which may be subject to damage (e.g. a suspended crossing) can be isolated.	Prior to final design approval County PW Dept to indicate on construction plans. On-site monitoring.	County P&B Dept	Approval of plan and on-site monitoring.	Prior to Board of Supervisors approval to advertise for construction bids, and during construction.
DE-16	The final engineering design shall determine the pipeline depth below the maximum scour depth at underground stream crossings of major streams. The pipe shall be reinforced beneath the active stream channel. The pipeline depth, at underground crossings of seasonal creeks, shall be a minimum of 2 feet below the maximum scour depth.	Prior to final design approval County PW Dept to indicate on construction plans. On-site monitoring.	County P&B Dept	Approval of plan and on-site monitoring.	Prior to Board of Supervisors approval to advertise for construction bids, and during construction.
DE-17	Suspended pipe crossing abutments and cable caissons shall be installed outside of stream channels.	Prior to final design approval County PW Dept to indicate on construction plans. On-site monitoring.	County P&B Dept	Approval of plan and on-site monitoring.	Prior to Board of Supervisors approval to advertise for construction bids, and during construction.
DE-18	Impervious surfaces should be either designed to dissipate runoff uniformly, or drainage measures should be designed to convey runoff from impervious surfaces so that concentrated flows do not discharge onto unprotected slopes.	Prior to construction County PW Dept / RWQCB to include in SWPPP. Environmental Specialist present at construction site.	County P&B Dept	SWPPP approval and on-site monitoring.	During and after construction.
DE-19	Areas disturbed during construction should be revegetated, as soon as is practical, prior to the beginning of the rainy season.	During and after construction County PW Dept to implement vegetation restoration plan. Inspect based on restoration plan.	County P&B Dept	On-site monitoring.	During and after construction.
DE-20	The Lead or Responsible Agency shall implement a regular inspection and maintenance program to detect and repair damaged discharge piping, and to monitor bank erosion. Annual repairs or repairs following high stream flows should be anticipated as long as the system is in place.	During construction and ongoing - City of Paso Robles; TCSC; AMWC; U.S. Army Corps of Engineers to implement inspection and maintenance program. Periodic inspection and maintenance based on program	City of Paso Robles; TCSC; AMWC	On-site monitoring.	During construction and ongoing.
DE-21	Design discharge piping in river channel to be flexible or to have flexible couplings between pipe joints.	Prior to construction County PW Dept to indicate in construction plans and implement. On-site monitoring.	County P&B Dept	On-site monitoring.	Prior to and during construction.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
DE-22	Discharge system shall be designed so that concentrated flows do not discharge onto an unprotected river bank.	Prior to construction City of Paso Robles; TCSC; AMWC; RWQCB to include in SWPPP. Environmental Specialist present at construction site during construction.	City of Paso Robles; TCSC; AMWC	SWPPP approval and on-site monitoring.	Prior to and during construction.

Note: County PW Dept=Department of Public Works at the SLO County (The Applicant); Dept of P&B=Department of Planning and Building of the SLO County

5.4 Air Quality

This section describes environmental and regulatory settings related to air quality in the project area, identifies air quality impacts of the proposed project, the alternatives, and the cumulative impacts in the area, and lists potential mitigation measures.

5.4.1 Environmental Setting

Environmental setting outlines air quality baseline conditions for the proposed project.

5.4.1.1 Regional Overview

The proposed project would be located in central and western part of San Luis Obispo County. SLO County is located within the Air Resource Board designated South Central Coast Air Basin. Three distinct air basins exist in SLO County: the Coastal Plateau, Upper Salinas River Valley and the East County Plain. Air quality characteristics differ among these regions, though the geography which separates them only marginally limits the transport of pollutants between them. The Coastal Plateau contains 75% of the county's population and commercial and industrial facilities.

SLO County has a Mediterranean climate characterized by mild winters, when most rainfall occurs and warm, dry summers. The influence of the Pacific Ocean causes mild temperatures year-round along the coast, while inland areas experience a wider range of temperatures. The mean maximum temperatures between 1971 and 2001 at the San Luis Obispo (Cal Poly) Weather Station varied from 65°F to 82°F; the mean minimum was from 42° to 53°F. Precipitation is confined primarily to the winter months. Occasionally, tropical air masses result in rainfall during summer months. At the San Luis Obispo (Cal Poly) Weather Station mean precipitation for the same years ranged from 0.03 inches in July to 5.41 inches in February, with an average annual precipitation of 24.4 inches. Annual precipitation in the region varies widely over relatively short distances mainly because of topographical effects. The long-term average annual total precipitation at Paso Robles is approximately 13 inches, but at Santa Margarita average totals exceed 32 inches.

The regional climate is dominated by a strong and persistent high-pressure system, which frequently lies off the Pacific Coast (generally referred to as the Pacific High). The Pacific High shifts northward or southward in response to seasonal changes or the presence of cyclonic storms. In its usual position to the west, the high produces an elevated temperature inversion. An inversion is characterized by a layer of warmer air above cooler air near the ground surface. Normally, air temperature decreases with altitude. In an inversion, the temperature of a layer of air increases with altitude. The inversion acts like a lid on the cooler air mass near the ground, preventing pollutants in the lower air mass from dispersing upward beyond the inversion "lid", which results in higher concentrations of pollutants trapped below the inversion.

Atmospheric stability is a primary factor that affects air quality in the study region. Atmospheric stability regulates the amount of air exchange (referred to as mixing) both horizontally and vertically. Restricted mixing (that is, a high degree of stability) and low wind speeds are generally associated with higher pollutant concentrations. These conditions are typically related to temperature inversions that cap the pollutants emitted below or within them.

The airflow plays an important role in the movement of pollutants. Local winds are normally controlled by the location of the Pacific High. Wind speeds typical of the region are generally light, another factor that contributes to higher levels of pollution because low wind speeds minimize dispersion of pollutants. The sea breeze is typically northwesterly throughout the year; however, local topography causes variations. During summer months, these northwesterly winds are stronger and persist later into the night. When the Pacific High weakens, a Santa Ana condition can develop with warm air traveling westward into the county from the east, and could even bring pollutants from the adjacent South Coast Air Basin. Stagnant air often occurs at the end of a Santa Ana condition, causing a buildup of pollutants.

Several types of inversions are common to the area. In winter, weak surface inversions occur, caused by radiation cooling of air in contact with the cold surface of the earth. During the spring and summer, marine inversions occur when cool air from over the ocean intrudes under the warmer air that lies over the land. During the summer, the Pacific High can cause the air mass to sink, creating a subsidence inversion.

Topography plays a significant role in affecting the direction and speed of winds. During the months of May to October, it is common in the project area for an inversion layer to form. Year round, light onshore winds hamper the dispersion of primary pollutants and the orientation of the inland mountain ranges interrupt air circulation patterns. Pollutants become trapped, creating ideal conditions for the production of secondary pollutants.

5.4.1.2 Air Quality

Air quality is determined by measuring ambient concentrations of air pollutants that are known to have adverse health effects. For regulatory purposes, there are several air pollutants for which standards have been set. These pollutants are generally recognized as “criteria pollutants.” For most criteria pollutants, regulations and standards have been in effect, in varying degrees, for more than 25 years, and control strategies are designed to ensure that the ambient concentrations do not exceed certain thresholds. Another class of air pollutants that are subject to regulatory requirements is called hazardous air pollutants (HAPs) or air toxics. Substances that are especially harmful to health, such as those considered under U.S. EPA’s hazardous air pollutant program or California’s AB 1807 and/or AB 2588 air toxics programs, are considered to be air toxics. Regulatory air quality standards are based on scientific and medical research. These standards establish minimum concentration of an air pollutant in the ambient air that could start to cause adverse health effects.

For air toxics emissions, however, the regulatory process usually assesses the potential impacts to public health in terms of “risk” (such as the Air Toxics “Hot Spots” Program in California), or the emissions may be controlled by prescribed technologies (as in the new Federal approach for controlling hazardous air pollutants).

The degree of air quality degradation for criteria pollutants is determined by comparing the ambient pollutant concentrations to health-based standards developed by government agencies. The current National Ambient Air Quality Standards (NAAQS) and California Ambient Air

Quality Standards (CAAQS) for "criteria pollutants" are listed in Table 5.4.1. Ambient air quality monitoring for criteria pollutants is conducted at numerous sites throughout the state. Table 5.4.2 presents relevant data from several monitoring stations located in the proposed project area. A summary of the attainment status for SLO County is provided in Table 5.4.3. Attainment status of the Federal 8-hour ozone standard is not included. While the ARB has submitted recommended designations to EPA in which SLO County is classified as in attainment for the Federal 8-hour standard, EPA has yet to make any official designations. Ambient air quality in the county is generally good (i.e., within applicable ambient air quality standards), with the exception of particulate matter with an aerodynamic diameter of ten microns or less (PM_{10}), and ozone (O_3).

Criteria pollutants are also categorized as inert or photochemically reactive, depending on their subsequent behavior in the atmosphere. By definition, inert pollutants are relatively stable and their chemical composition remains stable as they move and diffuse through the atmosphere. However, the primary photochemical pollutants may react to form secondary pollutants. For these pollutants, adverse health effects may be caused directly by the emitted pollutant or by the secondary pollutants.

Inert Pollutants

Criteria pollutants that are considered to be inert include carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), PM_{10}, lead, sulfates and hydrogen sulfide (H_2S).

Carbon monoxide is formed primarily by the incomplete combustion of organic fuels. SLO County is in attainment of the California and National 1-hour and 8-hour CO standards.

Nitric oxide (NO) is a colorless gas formed during combustion processes which rapidly oxidizes to form NO_2, a brownish gas. The highest nitrogen dioxide values are generally measured in urbanized areas with heavy traffic. SLO County is in attainment for all the California and National nitrogen dioxide standards.

Sulfur dioxide is a gas produced primarily from the combustion of sulfurous fuels by stationary sources and by mobile sources. SLO County has been in attainment of the California and National sulfur dioxide standards over the past ten years.

The two classes of particulate matter (PM) are PM_{10} (coarse particulate matter less than 10 microns in aerodynamic diameter), and $PM_{2.5}$ (fine particulate matter 2.5 microns or less in aerodynamic diameter). Both consist of many different types of particles that vary in their chemical activity and toxicity. $PM_{2.5}$ tends to be a greater health risk because it cannot be removed from the lungs once it is deeply inhaled. The largest PM emissions appear to originate from soils (via roads, construction, agriculture, and natural windblown dust). Other sources of PM include sea salt, particulate matter released during combustion processes, such as those in gasoline and diesel vehicles, and wood burning. Also, nitrogen oxides (NO_x) and sulfur oxides (SO_x) are precursors in the formation of secondary PM. SLO County is designated as non-attainment of the California 24-hour PM_{10} standard.

Table 5.4.1 National and California Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California [c] Standards [a]	National Standards [b]	
			Primary [d]	Secondary [c,e]
Ozone (O_3)	1 hour 8 hour	0.09 ppm (180 μg/m^3) 0.08 ppm	0.12 ppm (235 μg/m^3) 0.08 ppm	0.12 ppm (235 μg/m^3) 0.08 ppm
Carbon Monoxide (CO)	8 hour 1 hour	9.0 ppm (10 mg/m^3) 20.0 ppm (23 mg/m)	9.0 ppm (10 mg/m^3) 35 ppm (40 mg/m^3)	NS[6] NS
Nitrogen Dioxide (NO_2)	Annual Avg. 1 hour	NS 0.25 ppm (470 μg/m^3)	0.053 ppm (100 μg/m^3) NS	0.053 ppm (100 μg/m^3) NS
Sulfur Dioxide (SO_2)	Annual Avg. 24 hour 3 hour 1 hour	NS 0.05 ppm [f] (131 μg/m^3) NS 0.25 ppm (655 μg/m^3)	80 μg/m^3 (0.03 ppm) 365 μg/m^3 (0.14 ppm) NS NS	NS NS 1300 μg/m^3 (0.5 ppm) NS
Suspended Particulate Matter – PM_{10}	Ann.Geo.Mean Ann.Arith.Mean 24 hour	30 μg/m^3 NS 50 μg/m^3	NS 50 μg/m^3 150 μg/m^3	NS 50 μg/m^3 150 μg/m^3
Suspended Particulate Matter – $PM_{2.5}$	Ann.Arith.Mean 24 hour	12 μg/m^3 NS	15 μg/m^3 65 μg/m^3	15 μg/m^3 65 μg/m^3
Sulfates (SO_4^{-2})	24 hour	25 μg/m^3	NS	NS
Lead (Pb)	30-day Avg. Calendar Qtr.	1.5 μg/m^3 NS	NS 1.5 μg/m^3	NS 1.5 μg/m^3
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm (42 μg/m^3)	NS	NS
Vinyl Chloride	24 hour	0.010 ppm (26 μg/m^3)	NS	NS
Visibility Reducing Particles	1 Observation	Insufficient amount to reduce the prevailing visibility [g] to less than 10 miles when the relative humidity is less than 70% (CA only).		

Note: μg/m^3=microgram/cubic meter; ppm=parts per million by volume; NS=No Standard.

[a] California standards for O_3, CO, SO_2 (l-hour), NO_2, $PM_{2.5}$ and PM_{10} are values that are not to be exceeded. SO_4^{-2}, Pb, H_2S, Vinyl Chloride, and visibility-reducing particles standards are not to be equaled or exceeded. Sulfates are pollutants that include SO_4^{-2} ion in their molecule.

[b] National Standards, other than ozone and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The O_3 Standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one. For $PM_{2.5}$, the 24 hour standard is attained when 98 % of the daily concentrations, averaged over three years, are equal to or less than the standard.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon reference temperature of 25°C and a reference pressure of 760 mm of mercury. All measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury (1,013.2 millibar); ppm in this table refers to ppm by volume or micromoles of pollutant per mole of gas.

[d] Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health. Each state must attain the primary standards no later than three years after that state's implementation plan is approved by the EPA.

[e] Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Each state must attain the secondary standards within a "reasonable time" after the implementation plan is approved by the EPA.

[f] At locations where the State standards for ozone and/or PM_{10} are violated. National standards apply elsewhere.

[g] Prevailing visibility is defined as the greatest visibility, which is attained or surpassed around at least half of the horizon circle, but not necessarily in continuous sectors.

Table 5.4.2 Ambient Air Quality Summary for Project Area – 1999 to 2001

Averaging Time	Year	Maximum Observed Concentration (Number of Standard Exceedances)*			
		Atascadero	Paso Robles	San Luis Obispo	Morro Bay
Ozone, ppm					
1-hour 8-hour	1999	0.093 (0) 0.081 (0)	0.099 (1 day) 0.069 (0)	0.089 (0) 0.083 (0)	0.096 (1 day) 0.071 (0)
1-hour 8-hour	2000	0.084 (0) 0.080 (0)	0.083 (0) 0.069 (0)	0.075 (0) 0.076 (0)	0.063 (0) 0.056 (0)
1-hour 8-hour	2001	0.094 (0) 0.075 (0)	0.091 (0) 0.068 (0)	0.078 (0) 0.081 (0)	0.064 (0) 0.057 (0)
CO, ppm					
8-hour	1999	NA	NA	3.31 (0)	NA
8-hour	2000	2.36 (0)	NA	2.25 (0)	NA
8-hour	2001	1.97 (0)	NA	2.01 (0)	NA
NO_2, ppm					
1-hour Annual Avg.	1999	0.070 (0) 0.014	NA	0.064 (0) 0.013	NA
1-hour Annual Avg.	2000	0.059 (0) 0.012	NA	0.051 (0) NA	NA
1-hour Annual Avg.	2001	0.050 (0) NA	NA	0.054 (0) NA	NA
$PM_{2.5}$, µg/m^3					
24-hour Annual Avg	1999	27.2 (0) 9.6	NA	20.0 (0) 8.2	NA
24-hour Annual Avg	2000	50.9 (0) 10.3	NA	28.2 (0) 8.3	NA
24-hour Annual Avg.	2001	57.6 (0) 10.1	NA	25.5 (0) 9.3	NA
PM_{10}, µg/m^3					
24-hour State MG Federal MA	1999	43 (0) 16 19	56 (1 day) 20 22	42 (0) 15 17	39 (0) 14 15
24-hour State MG Federal MA	2000	67 (2 days) 17 19	74 (2 days) 17 20	44 (0) 17 19	47 (0) 18 21
24-hour State MG Federal MA	2001	61 (2 days) 16 18	65 (2 days) 18 20	39 (0) 17 18	43 (0) 17 19

Note: * Number or percent of exceedances of the most restrictive standard (usually, the State Standard)

NA=No data available; State MG=State Annual Mean Geometrical; National MA=National Mean Arithmetic

Source: Air Resources Board Air Quality Data Annual Summaries 1999–2001 (Internet web site) www.arb.ca.gov.

Table 5.4.3 Attainment Status of San Luis Obispo County, All Monitoring Stations

Air Basin	O_3		CO		NO_2		SO_2		$PM_{2.5}$		PM_{10}	
	State	*Fed*	*State*	*Fed*	*State*	*Fed*	*State*	*Fed*	*State*	*Fed*	*State*	*Fed*
SLO County	N	A	A	A	A	U/A	A	U/A	U/A	U/A	N	U

Note: A=Attainment of Standards; N=Non-Attainment; U=Unclassified; U/A=Unclassified/Attainment.

Attainment status of the Federal 8-hour ozone standard is not included here. ARB has submitted recommended designations to EPA in which San Luis Obispo County is classified as in attainment for the Federal 8-hour standard. However, EPA has yet to make any official designations.

Source: ARB, http://www.arb.ca.gov/desig/adm/adm.htm , page last updated February 15, 2001.

In 1997, the EPA added two new $PM_{2.5}$ standards, set at 15 micrograms per cubic meter ($\mu g/m^3$) and 65 $\mu g/m^3$, respectively, for the annual and 24-hour standards. In addition, the form of the 24-hour standard for PM-10 was changed. EPA is just beginning to collect data on $PM_{2.5}$ concentrations. Beginning in 2002, based on 3 years of monitor data, EPA will start issuing designations for areas as nonattainment that do not meet the new $PM_{2.5}$ standards. The SLO County has two air monitoring stations that monitor for $PM_{2.5}$. The results for the last four years at these two stations indicate that the County's $PM_{2.5}$ levels are below the national and the station standards for this pollutant.

Lead is a heavy metal that in ambient air occurs as a lead oxide aerosol or dust. Because lead is no longer added to gasoline or paint products, lead emissions have reduced significantly in recent years. SLO County is in attainment with the NAAQS and the CAAQS for lead.

Sulfates are aerosols (i.e., wet particulate) that are formed by sulfur oxides in moist environments. They exist in the atmosphere as sulfuric acid and sulfate salts. The primary source of sulfate is from the combustion of sulfurous fuels. SLO County is in attainment for the California sulfate standard.

Hydrogen sulfide is an odorous, toxic, gaseous compound that can be detected by humans at very low concentrations. The gas is produced during the decay of organic material and is also found naturally in petroleum. SLO County is in attainment of the H_2S standard.

Photochemical Pollutants

Ozone is formed in the atmosphere through a series of complex photochemical reactions involving NO_x, reactive organic compounds (ROC), and sunlight occurring over a period of several hours. Because ozone is not emitted directly into the atmosphere, but formed as a result of photochemical reactions, it is classified as a secondary or regional pollutant. Because these ozone-forming reactions take time, peak ozone levels are often found downwind of major source areas.

SLO County is designated non-attainment for the State 1-hour ozone standard. Attainment status of the Federal 8-hour ozone standard is not included here. ARB has submitted recommended *designations* to EPA in which SLO County is classified as in attainment for the Federal 8-hour standard. However, the EPA has yet to make any official designations.

Toxic Air Contaminants

Toxic Air Contaminants (TACs) are hazardous air pollutants that are known or suspected to cause cancer, genetic mutations, birth defects, or other serious illnesses to people. TACs may be emitted from three main source categories: (1) industrial facilities; (2) internal combustion engines (stationary and mobile); and (3) small "area sources" (such as solvent use). The California Air Resources Board (CARB) publishes lists of Volatile Organic Compound species Profiles for many industrial applications and substances.

Generally, TACs behave in the atmosphere in the same general way as inert pollutants (those that do not react chemically but preserve the same chemical composition from point of emission to point of impact). The concentrations of toxic pollutants are therefore determined by the quantity and concentration emitted at the source and the meteorological conditions encountered as the pollutants are transported away from the source. Thus, impacts from toxic pollutant emissions tend to be site-specific and their intensity is subject to constantly changing meteorological conditions.

5.4.1.3 Regional Air Emissions

Emissions within SLO County are estimated annually by the SLO Air Pollution Control District (SLOAPCD). These estimates are used to address Federal and State clear air mandates. Table 5.4.4 lists the estimated emissions for SLO County by source category.

Table 5.4.4 Regional Emissions Inventory (Tons Per Year) for San Luis Obispo County

Emission Sources	ROC	CO	NO_x	SO_2	PM_{10}
Stationary Sources	1,566	3,399	2,169	2,977	422
Area-Wide Sources	2,720	14,978	277	13	9,897
Mobile Sources	4,716	44,455	9,927	242	410
Natural Sources (Non-Anthropogenic)	422	7,888	118	0	1,113
County Total	**9,424**	**70,720**	**12,491**	**3,232**	**11,842**

Source: SLOAPCD 2000 Emissions Inventory.

In SLO County, the highest contributors to the ROC, CO and NO_x emissions are mobile sources, primarily light duty trucks and passenger cars. Wild fires also heavily contribute to CO emissions. The majority of SO_x emissions come from petroleum refining. PM_{10} emissions are mostly due to road dust and various farming operations.

Asbestos has been identified by the State Air Resources Board as a toxic air contaminant. Serpentine is a very common rock type in the state and was identified by the Board as having the potential to contain naturally occurring asbestos. Under the State Air Resources Board Air Toxics Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, prior to any grading activities at the site, a geologic analysis will be necessary to determine if serpentine rock is present. If naturally occurring asbestos is found at the site an Asbestos Health and Safety Program and an Asbestos Dust Mitigation Plan is required to be approved by the District before construction begins.

Serpentine-rich rock (serpentinite) and soil units constitute a significant impact where they contain a magnesium-silicate mineral called chrysotile. Chrysotile typically occurs in veins of silky fibers and is an important source of commercial asbestos. Airborne asbestos fibers are known to cause risk to human health, and the potential exists for human exposure during excavation of serpentine-rich rock and soil units. Outcrops of serpentine or serpentine-rich soils occur in the vicinity of Lake Nacimiento, along the pipeline route from Lake Nacimiento to Paso Robles, and in the vicinity of Cuesta Tunnel and along the pipeline route from Cuesta Tunnel to, and including the City of San Luis Obispo.

5.4.2 Regulatory Setting

Federal, State, and local agencies have established standards and regulations that will affect the proposed project. A summary of the regulatory setting for air quality is provided below.

5.4.2.1 Federal Regulations

The Federal Clean Air Act of 1970 directs the attainment and maintenance of the NAAQS. The 1990 Amendments to this Act included new provisions that address air emissions that affect local, regional and global air quality. The main elements of the 1990 Clean Air Act Amendments are summarized below:

- Title I Attainment and maintenance of NAAQS
- Title II Motor vehicles and fuel reformulation
- Title III Hazardous air pollutants
- Title IV Acid deposition
- Title V Facility operating permits
- Title VI Stratospheric ozone protection
- Title VII Enforcement

The EPA is responsible for implementing the Federal Clean Air Act and establishing the NAAQS for criteria pollutants. In 1997, the EPA adopted revisions to the Ozone and Particulate Matter Standards contained in the Clean Air Act. These revisions included a new 8-hour ozone standard and a new particulate matter standard for particles below 2.5 micron in diameter. These standards were suspended, however, when in May 1999 the U.S. Court of Appeals for District of Columbia remanded the new ozone standard. In January 2001, the EPA issued a Proposed Response to Remand, where it stated that the revised ozone standard should remain at 0.08 ppm. In February 2001, the U.S. Supreme Court upheld the constitutionality of the Clean Air Act as the EPA had interpreted it in setting health-protective air quality standards for ground-level ozone and particulate matter.

5.4.2.2 State Regulations

California Air Resources Board (CARB).
CARB established the CAAQS. Comparison of the criteria pollutant concentrations in ambient air to the CAAQS determines State attainment status for criteria pollutants. CARB has jurisdiction over all air pollutant sources in the State; it has delegated to local air districts the responsibility for stationary sources and has retained authority for emissions from mobile sources. CARB in partnership with the local air quality management districts within California

has developed a pollutant monitoring network to aid attainment of CAAQS. The network consists of numerous monitoring stations located throughout the State, which monitor and report various pollutants concentrations in ambient air.

CARB revised the PM standard in 2002, pursuant to the Children's Environmental Health Protection Act. The revised PM_{10} standard is 20 $\mu g/m^3$ for an annual average. In addition, CARB adopted a fine PM ($PM_{2.5}$) standard (particles with a mean aerodynamic diameter of 2.5 microns or less), set at 12 $\mu g/m^3$ for an annual average. CARB staff is currently reviewing the 24-hour standard for PM_{10}, and considering the adoption of a new 24-hour standard for $PM_{2.5}$.

California Clean Air Act (CCAA) (California Health and Safety Code, Division 26).
This act went into effect on January 1, 1989, and was amended in 1992. CCAA mandates achieving the health-based CAAQS at the earliest practical date.

Air Toxics "Hot Spots" Information and Assessment Act of 1987 (California Health & Safety Code, Division 26, Part 6).
The Hot Spots Act requires an inventory of air toxics emissions from individual facilities, an assessment of health risk, and notification of potential significant health risk.

The Calderon Bill (SB 1889), (California Health & Safety Code Sections 25531-25543).
This bill, signed by Governor Pete Wilson in September 1996, sets forth changes in the following four areas: provides guidelines to identify a more realistic health risk; requires high risk facilities to submit an air toxic emission reduction plan; holds air pollution control districts accountable for ensuring that the plans will achieve their objectives; and requires high risk facilities to achieve their planned emissions reduction.

5.4.2.3 Local Rules and Regulations

Local APCDs in California have jurisdiction over stationary sources in their respective areas and must adopt plans and regulations necessary to demonstrate attainment of Federal and State air quality standards. As directed by the Federal and State Clean Air Acts, local air districts are required to prepare plans with strategies for attaining and maintaining State and Federal ozone standards. In the project area, air quality rules and regulations are promulgated by the SLOAPCD. In order to ultimately achieve the air quality standards, the rules and regulations limit emissions and permissible impacts from proposed projects. Some rules also specify emission controls and control technologies for each type of emitting source. The regulations also include requirements for obtaining an ATC permit and a PTO.

The SLOAPCD has jurisdiction over air quality attainment in the SLO County portion of the SCCAB in accordance with the SLOAPCD 2001 Clean Air Plan. All aspects of the proposed project and alternatives occurring in SLO County must obtain a SLOAPCD permit, if applicable.

5.4.3 Significance Criteria

SLOAPCD has developed guidelines for evaluating the significance of air quality impacts for proposed projects undergoing CEQA review, which are outlined in the SLOAPCD CEQA Air

Quality Handbook (SLOAPCD 1997). Any project would be considered to have a potential significant air quality impact if the emission levels from the proposed project were to equal or exceed any of the significance criteria set fourth in this handbook.

5.4.3.1 Significance Criteria for Construction

The SLOAPCD has established "mitigation thresholds" that apply to air emissions from construction projects. These thresholds, which are included in the SLOAPCD CEQA Air Quality Handbook (SLOAPCD 1997), are listed in Table 5.4.5.

Table 5.4.5 San Luis Obispo County APCD Significance Thresholds for Construction

Mitigation Required	ROC Mitigation Threshold	NO_x Mitigation Threshold	PM_{10} Mitigation Threshold
Best Available Control Technology for Construction Equipment (CBACT)	>185 lbs/day or 2.5 to 6.0 tons/qtr or >247,000 yd^3 of material/qtr or >9,100 yd^3 of material/day	>185 lbs/day or 2.5 to 6.0 tons/qtr or >53,500 yd^3 of material/qtr or >2,000 yd^3 of material/day	>2.5 tons/qtr or > 4.0 acres grading area
CBACT plus further mitigation, including offsets	>6.0 tons/qtr. Or >593,000 yd^3 of material/qtr	>6.0 tons/qtr. or >129,000 yd^3 of material/qtr	-

5.4.3.2 Significance Criteria for Operations

SLO County has four separate significance criteria for assessing air quality impacts from project operations: (1) comparison to APCD emission significance thresholds; (2) consistency with the district Clean Air Plan; (3) comparison to standards; and (4) special conditions. Table 5.4.6 provides general guidelines for determining the significance of impacts and type of environmental analysis recommended in relation to total emissions expected from project operations.

There are no significant air quality impacts associated with a project if emissions of any of the criteria pollutant are less than 10 lbs/day (50 lbs/day for CO). Thus, mitigation measures are not required. Any project which has the potential to generate 10 to 24 lbs/day of these pollutants has the potential to cause significant air quality impacts, and should be submitted to the District for review. On-site mitigation measures, following the guidelines in Section 5 of the CEQA Handbook (SLOCAPCD 1997), are recommended to reduce air quality impacts to a level of insignificance.

If all feasible mitigation measures are incorporated into the project, and emissions are still greater than 25 lbs/day, then additional mitigation measures, including offsets, may be required depending on the level and scope of air quality impacts identified in the EIR. For carbon monoxide, emission levels equal to or exceeding 550 lbs/day should be modeled to determine their significance. If emissions are 25 tons per year or more, in addition to the above measures, offsets or offsite mitigation may be required.

Table 5.4.6 San Luis Obispo County APCD Significance Thresholds for Operations

Pollutant	Threshold	Tier 1	Tier 2	Tier 3
ROC NO_x, SO_2, PM_{10}	< 10 lbs/day	10 lbs/day	25 lbs/day	25 tons/yr
CO	< 550 lbs/day		550 lbs/day	
Significance	Insignificant	Significant	Significant	Significant
Mitigation	Not Required	Onsite required	Onsite and offsite required (if needed)	Onsite and offsite (if needed) required
Comments	ND should be prepared	Mitigated ND should be prepared	Modeling of CO emissions, mitigated ND or EIR	EIR should be prepared

Note: ND=Negative Declaration

Significance of CO emissions from vehicles is based on whether traffic associated with the proposed project would change the level-of-service (LOS[1]) of an intersection, thereby having the potential to generate CO "hot spots". If the LOS is unaffected, vehicle emissions are assumed not to contribute to CO hot spots. A significant impact would occur if: 1) project generated traffic would degrade the LOS at intersections to level D or worse, and; 2) sensitive receptors were located nearby, and; 3) CO hot spot modeling indicates thresholds would be exceeded.

5.4.3.3 Significance Criteria for Health Risks

The SLOAPCD has established criteria for determining the significance of potential health risks associated with toxic emissions from a project. These criteria have been developed for both carcinogenic and non-carcinogenic compounds, as well as for acute and chronic exposure as follows:

Potential Health Risk	Criterion
Cancer Risk	10 in one million (1×10^{-5})
Health Hazard Index	1.0

A cancer risk of 10 in one million represents the number of potential excess cancer cases (10) per million individuals exposed, or an individual's chance for contracting cancer of 1 in 100,000. The health hazard index is the cumulative ratio of the estimated exposure level to a chemical-specific health threshold. The health hazard index is the sum of the ratios for all chemicals present. Therefore, potential health hazards can be significant even if the threshold for a single chemical is not exceeded, but the sum of the exposure ratios exceeds one.

5.4.4 Proposed Project Impacts and Mitigation Measures

The majority of the proposed project air quality impacts will be from construction activities, however, the operational air quality impacts also need to be evaluated. Detailed calculations of project emissions are presented in Appendix C.

[1] See Transportation/Circulation Section for definition of LOS.

Encountering serpentinite and serpentine-rich soils during construction constitute a potentially significant impact to human health. However, through implementation of mitigation measures, significant impacts associated with serpentine-rich rock and soil are typically mitigated to a level of insignificance. These impacts are discussed in Section 5.2, Geology, Seismicity and Soils, Impact GS.3. Mitigation Measure GS-3 shall be implemented to mitigate this impact to insignificance level. This measure is directly linked to the dust Mitigation Measure AQ-1 described below for Impact AQ.1.

In addition to the impacts discussed in this section, indirect air quality impacts could occur if the additional water brought into the identified areas was used to increase residential, commercial, or industrial capacity above that anticipated in each area's General Plan. This is discussed further in Section 7.0, Growth Inducement.

All project traffic impacts (except for impacts related to maintenance and repair) would be mitigated to insignificance by scheduling truck trips during non-peak hours and avoiding busy streets. The project does not change the LOS of any of the affected streets to D level (although some of the streets' LOS is already at D level), therefore it is assumed that the project would not contribute to the CO "hot spots" and thus CO "hot spots" have not been modeled.

The SLOAPCD requires a consistency analysis of projects with the APCD's Clean Air Plan (CAP). The consistency analysis should demonstrate that the project would not contribute to the population growth beyond what was projected in the most recent CAP (2001) for the same area; and that the rate of increase in vehicle trips and miles traveled is less than or equal to the rate of population growth for the same area (SLOAPCD, 2001).

5.4.4.1 Treated Water Option

Impact	Impact Description	Residual Impact
AQ.1	Construction activities would generate air emissions that would impact air quality in the area.	Class I

Air emissions of CO, ROC, NOx, SO_2 and PM_{10} during construction would arise from construction equipment with internal combustion engines (e.g., backhoes, bulldozers, cranes) and from offsite vehicles (e.g., construction employees commute vehicles and trucks which deliver equipment and materials). During construction along roadways with two lanes, only one lane would be available for traffic, the other lane would be closed, and traffic would be regulated according to a proposed Traffic Control Plan (see Section 5.11, Transportation/Circulation). Additional emissions would be produced by vehicles idling on roads with lane closures.

Air emissions from construction and offsite equipment were estimated using the emission factors from the EPA's AP-42 Compilation of Pollutants Emission Factors (EPA 1985). The list of construction equipment and periods of operation for each piece are summarized in Project Description, Section 2, Tables 2.7 and 2.8.

A large portion of PM_{10} emissions during construction (fugitive dust) would arise from large pieces of equipment traveling on disturbed soil, unpaved surfaces, and various earth-moving activities, such as trenching, grading, clearing, etc. These emissions would mostly depend on the size of graded area, volume of moved soil, number of the construction machinery and employees, and the duration of construction. Dust control measures would be employed during construction activities and would include spraying water from tank trucks over exposed areas at least twice daily. A control efficiency of 38% was assumed to be achieved by these measures. More specific assumptions are contained in Appendix C where all the calculations are presented.

Construction of several parts of the project could overlap. The longest construction period would be construction of the pipeline and could take as long as three years. The worst case scenario from the air emissions stand point would occur when several project parts are constructed within the same time frame. It was assumed that construction of the WTP would be the last project phase and will not overlap with any other project parts except for the pipeline. Construction of the pipeline however could overlap with construction of smaller facilities (e.g., pump stations, water storage facilities). Construction air quality impacts for the Treated Water Option are summarized in Table 5.4.7.

Table 5.4.7 Summary of Construction Emissions – Treated Water Option

Construction Phase	Peak Daily Emission (lbs/day)					Quarterly Emissions (tons)				
	CO	ROC	NOx	SO_2	PM_{10}	CO	ROC	NOx	SO_2	PM_{10}
Water Intake[a]	**86.9**	**16.8**	**179.2**	**18.2**	**17.2**	**2.91**	**0.57**	**5.41**	**0.55**	**0.45**
WTP	94.3	19.2	187.0	18.1	29.5	3.30	0.68	6.04	0.58	0.87
Pump Station[a]	**61.4**	**11.2**	**138.9**	**14.8**	**11.6**	**1.47**	**0.29**	**3.22**	**0.33**	**0.25**
Pipeline[b]	**417.8**	**80.0**	**872.4**	**89.2**	**118.4**	**18.21**	**3.67**	**31.22**	**2.92**	**2.96**
Water Storage Facility[a]	**57.5**	**10.8**	**120.7**	**13.0**	**16.8**	**1.46**	**0.29**	**2.83**	**0.30**	**0.30**
Worst Case Total[a]	**623.6**	**118.8**	**1,311.2**	**135.2**	**164.0**	**24.03**	**4.83**	**42.68**	**4.09**	**3.96**
Significance Criteria	**-**	**185**	**185**	**-**	**-**	**-**	**2.5-6**	**2.5-6**	**-**	**2.5**
Requires Mitigation?		**No**	**Yes**				**Yes**	**Yes**		**Yes**

Note:

[a] The worst case emissions total is when construction of pipeline overlaps with construction of two or three other facilities (e.g., water intake, water storage tank and a pump station). WTP would not be constructed simultaneously with the pipeline.

[b] Pipeline would be constructed in four (4) construction spreads simultaneously; a sum of emissions from all four construction spreads is given in the table.

Construction emissions would cease after construction is completed in 3–3.5 years; also, worst case emissions would only occur during the first year of construction when several overlapping construction activities would take place. NOx emissions are significantly above the significance criteria, therefore these impacts are considered to be significant. Some of these emissions could be mitigated with the standard APCD mitigation measures presented below. Worst case scenario quarterly emissions are significantly higher for NOx, and would require implementation of Best Available Control Technologies (BACT). Quarterly ROC and PM_{10} emissions are within the range that requires mitigation as well.

Mitigation Measures

AQ-1 In coordination with the SLOAPCD, the Applicant shall implement the following APCD standard dust reduction measures during construction. All PM_{10} mitigation measures required shall be shown on the contractor's grading and building plans and specifications.

a. Reduce the amount of the disturbed area where possible.

b. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible.

c. All dirt stockpile areas shall be sprayed daily as needed.

d. Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible following completion of any soil disturbing activities.

e. Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast-germinating native grass seed and watered until vegetation is established.

f. All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the SLOAPCD.

g. All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.

h. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.

i. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code Section 23114. This measure has the potential to reduce PM_{10} emissions by 7–14%.

j. Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site. This measure has the potential to reduce PM_{10} emissions by 40–70%.

k. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible. This measure has the potential to reduce PM_{10} emissions by 25–60%.

l. The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD prior to any site disturbance.

AQ-2 The Applicant shall implement activity management techniques as feasible taking into account other mitigation measures that affect scheduling (e.g., Biology, Transportation/Circulation and Noise mitigation measures) during construction, as presented below:

a. Development of a comprehensive construction activity management plan designed to minimize the amount of large construction equipment operating during any given time period;

b. Scheduling of construction truck trips during non-peak hours to reduce peak hour emissions;

c. Limiting the length of the construction work-day period, if necessary, during periods with high air pollutant levels;

d. Phasing of construction activities, if appropriate.

AQ-3 The Applicant shall implement the following standard NOx and ROC reduction measures to the maximum extent feasible:

a. Use of Caterpillar pre-chamber diesel engines (or equivalent) together with proper maintenance and operation to reduce emissions of NOx.

b. Electrify equipment where feasible.

c. Maintain all fossil-fuelled equipment in tune per manufacturer's specifications, except as otherwise required above.

d. Encourage use of catalytic converters on gasoline-powered equipment.

e. Substitute gasoline-powered for diesel-powered equipment, where feasible.

f. Implement activity management techniques as described in AQ-2.

g. Use compressed natural gas (CNG) or propane powered portable equipment (e.g., compressors, generators, etc.) onsite instead of diesel-powered equipment, where feasible.

h. All off-road and portable diesel powered equipment, including but not limited to bulldozers, graders, cranes, loaders, scrapers, backhoes, generator sets, compressors, auxiliary power units, shall be fuelled exclusively with CARB certified motor vehicle diesel fuel. Off-road equipment may use tax exempt motor vehicle fuel if not operated on public roads.

i. Maximize to the extent feasible, the use of diesel construction equipment meeting the CARB's 1996 or newer certification standard for off-road heavy-duty diesel engines.

AQ-4 Because NOx emissions are above the threshold, Best Available Control Technology for Construction Equipment (CBACT) shall be used to mitigate combustion emissions from heavy-duty construction equipment such as but not limited to the following:

- Install diesel oxidation catalysts (DOC), catalyzed diesel particulate filters (CDPF) or other District-approved emission reduction retrofit devices. In particular, the Applicant shall ensure installation of CDPFs on 6 (six) pieces of construction equipment involved in the primary earthmoving and construction activities and projected to generate the greatest emissions (if DOCs are used, installing of five (5) DOCs would be an equivalent of installing of one CDPF). The SLO APCD staff shall be included in the selection of candidate equipment along with a representative of the contractor (or subcontractor).

(This measure shall be included and clearly identified in the project bid specifications so that contractors bidding in the project can include the purchase, proper installation and maintenance costs in their bids.), and

- Emission control device installation, use, and maintenance records shall be maintained by the contractor that operates the controlled construction equipment suing forms provided by the APCD. The APCD or lead agency representatives shall be allowed to review this documentation and the controlled equipment as needed to ensure that mitigation requirements are being met.

Residual Impacts
After implementation of the mitigation measures the proposed project construction air quality impacts could still remain *significant* (Class I) due to potentially high emissions of NOx that is significantly over the SLOAPCD threshold.

Impact	Impact Description	Residual Impact
AQ.2	Operation of the project facilities would generate air emissions that could impact air quality in the area.	Class II

The WTP and other facilities (e.g., pump stations) would require electrical power (electrical pumps, lighting, etc.). Air emissions associated with generation of electrical power would either occur outside of the air basin or be offset through the use of pollution mitigations or credits required for operation of electrical plants. There would be one small power generator at each of the pump stations, the WTP would have 100 hp emergency power generator fuelled by diesel or propane. The generators would be used for emergency lighting and controls only, and not for operation. The worst case scenario for emergency generator operation is assumed to be – power outage at one facility in one given day for 8 hours per day maximum.

Impacts from releases of hazardous chemicals (such as water treatment compounds like chlorine or ammonia) are discussed in Section 5.6, Hazards and Hazardous Materials.

The following operational activities would generate air emissions:

- Commuter (WTP employees) vehicles;
- Trucks servicing WTP (e.g., deliveries of chemicals);
- Testing of the diesel emergency power generators or emergency power generation (typically, emergency generators are permitted at 600 hours per year);
- Heating and other uses of the commercial building (office) within the WTP.

Table 5.4.8 summarizes the proposed project operational emissions.

Table 5.4.8 Summary of the Proposed Project Operations Emissions

Emissions Source	Peak Daily Emission (lbs/day)					Quarterly Emissions (tons/qtr)				
	CO	ROC	NOx	SO_2	PM_{10}	CO	ROC	NOx	SO_2	PM_{10}
Commuter vehicles	5.02	1.23	0.48	0.04	0.01	0.229	0.056	0.022	0.007	0.002
Trucks	1.84	0.40	1.73	0.01	0.13	0.084	0.018	0.079	0.000	0.006
Power Generators [a]	3.87	0.70	6.34	0.70	0.35	0.145	0.026	0.238	0.026	0.013
Total [b]	**10.73**	**2.33**	**8.55**	**0.75**	**0.49**	**0.46**	**0.10**	**0.34**	**0.03**	**0.02**
Significance Criteria	**50**	**10**	**10**	**10**	**10**	**-**	**-**	**-**	**-**	**-**
Significant?	**No**	**No**	**No**	**No**	**No**					

Note:

[a] Assumption: diesel power generator use is at one location, maximum 8 hours per day.

[b] Totals may not add up due to rounding.

There would be permanent nine employees operating the WTP during the day shift (with 2–3 employees during the evening and night shifts), and 2–3 employees servicing all other water pipeline facilities. Combined commuter and truck trips to service the WTP would result in insignificant increase of emissions. The project operation is expected to generate fewer vehicle trips than the trigger for CO "hot spot" modeling, thus modeling is not required.

It can be seen that the proposed project operational estimated emissions are lower than the significance triggers, therefore, operational emissions of criteria pollutants are considered not significant. If, however, due to power outages, the power generators would be used at more than one location at a time, or for more than eight hours per day, the NOx peak daily emissions could be over the significance level. To mitigate this unlikely scenario a mitigation measure is proposed.

Mitigation Measures

AQ-5 The Applicant shall procure propane-powered, or low-NOx emergency generators to lower potential NOx emissions.

AQ-6 Should the Applicant utilize diesel-powered generators, the Applicant shall install diesel oxidation catalysts (DOC), catalyzed diesel particulate filters (CDPF) or other District-approved emission reduction retrofit devices.

Residual Impacts

Residual impact from operational emissions is adverse but *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
AQ.3	Increased emissions of toxic compounds due to the project could result in increased health risks.	Class III

Health risk to the public could arise from prolonged exposure to several EPA-regulated toxic compounds. Health risks from a release and exposure to the water treatment chemicals are discussed in Section 5.6, Hazards and Hazardous Materials, of this EIR. The regulated compounds that could be emitted due to the proposed project are mostly emissions from gasoline and diesel internal combustion engines.

The pipeline system would have only one element, operation of which could result in a release of hazardous air pollutants—the WTP and pump stations. Operation of the plant involves water treatment and disinfection chemicals that if released could cause public health or even public safety hazards. Impacts to public health or safety from a release of a hazardous chemical at the WTP are discussed in Section 5.6, Hazards and Hazardous Materials. Other operational emissions are mostly due to nine gasoline powered commuter vehicles of the WTP employees and are not expected to create health risks. Emergency generators will only be large enough to provide backup power for facility instrumentation and will not be capable of powering the pumps. Therefore, generator size, and thus potential emissions, will be small.

During construction, various diesel- and gasoline-powered equipment pieces with internal combustion engines would be operating along the proposed pipeline route. Some byproducts of diesel combustion are hazardous to human health. Benzene, for instance, is a known human carcinogen, while formaldehyde, acetaldehyde, 1,3-butadiene and diesel particulate matter are probable human carcinogens. However, the hazardous effect would only occur if exposure is prolonged (over several years) and the distance to the pollutant source is small and therefore concentrations of the pollutants would be high (within several hundred feet from the pollutant source).

Although construction of the pipeline would take 3–3.5 years, the construction equipment would be moving along the pipeline route at an average rate of 200–500 feet per day. Exposure to exhaust of the construction equipment and machinery therefore would only be for short periods (2–3 days) at any one particular location or receptor. The longest construction period at one location would be construction of the WTP, which would be located in an area that is far from residences and public receptors. Because no one particular public receptor would be exposed to hazardous pollutants for prolonged periods of time during construction, this impact would be not significant. To ensure that risk impacts are below significance, SLOAPCD standard mitigation measures would need to be implemented.

SLOAPCD requires implementation of BACT for mitigation of the emissions that could cause health risks; BACT will be implemented during construction according to the mitigation measures listed for Impact AQ.1, therefore the required mitigations for health risks that would reduce this impact to insignificance are already in place, and therefore the impact is insignificant.

Mitigation Measures

All emission reduction measures for Impact AQ.1 (Measures AQ-1 through AQ-4) would apply. No additional mitigation measures have been identified. Mitigation Measure AQ-5 would also minimize reliance on diesel powered generators, Measure AQ-6 would reduce diesel engine emissions.

Residual Impacts

The residual health risk impact is considered *adverse but not significant* (Class III).

Impact	Impact Description	Residual Impact
AQ.4	Project Conformity with the Clean Air Act.	Class III

The Federal Clean Air Act (CAA) and the Clean Air Act Amendments of 1990 (CAAA) require that any State which is out of compliance with any of the NAAQS, prepare and submit to the EPA a State Implementation Plan (SIP). The SIP presents a detailed outline of the means by which the State will meet and maintain the Federal health based air quality standards over a given period of time. Included in the SIP is a budget of expected emissions of the pollutants which have warranted the SIP. The CAA further requires that any Federal agency, department, or instrumentality of the Federal government taking an action or taking part in an action which will effect the environment must make its own determination of conformity with the local SIP.

A conformity determination involves comparing the total direct and non-direct emissions expected from the action to the budgeted levels listed in the SIP. Should the levels expected from the action be lower than those listed in the SIP, a Record of Non-Applicability may be filed with the EPA. If the expected emissions are higher than those listed in the SIP, a full conformity analysis is required. This generally involves modeling of the pollutants, and mitigation of the air quality impacts.

Analyses show that there are no current violations of the NAAQS in the areas which are substantially affected by the proposed project. Therefore, this project is expected to be in conformance with the SIP according to the Conformity section of the CAAA, therefore this impact is insignificant.

Mitigation Measures
Mitigation measures are not required.

Residual Impacts
Residual impact is *adverse but not significant* (Class III).

Impact	Impact Description	Residual Impact
AQ.5	Project Consistency with the County Clean Air Plan.	Class III

Indirect air quality impacts could occur because additional water brought into the area could be used to increase residential, commercial or industrial capacity above that anticipated in each area's General Plan. The growth projections were derived from land density assumptions contained in the General Plans existing throughout SLO County at the time the CAP was being prepared. The CAP assumed that overall population projections by planning area would be met through the availability of adequate water resources. The SLO County Flood Control and Water Conservation District has a 17,500 afy entitlement from Lake Nacimiento per an agreement executed in 1959 with Monterey County. Of the 17,500 afy, 16,200 acre-feet is slated for the proposed project. The provision of NWP supplies to a participating purveyor would not necessarily result in air quality impacts. Because the 17,500 acre-foot per year entitlement was assumed in the County's growth projections forecast, the proposed project would be consistent with assumptions in the CAP.

Mitigation Measures
Mitigation measures are not required.

Residual Impacts
Residual impact is *adverse but not significant* (Class III).

5.4.4.2 Raw Water Option

Operational Impact AQ.2 would be lower in magnitude because this option does not involve operation (or construction) of the WTP; the operational part of Impact AQ.3 would also be lower for the same reason. Pumping of the groundwater that is being replenished from the water discharge facilities in this option would not contribute to the air emissions, because the pumps are electric, and in the short term there would be no net increase in pumping since the NWP water would replace groundwater that is currently being pumped. Impacts AQ.4 and AQ.5 would be the same as in the Treated Water Option. Air quality impacts from construction (Impact AQ.1) would occur as described below.

Impact AQ.1
Construction air emissions for Raw Water Option are given in Table 5.4.9.

This impact would be significant because construction emissions of NOx would be above the significance limit of 185 lbs/day. Mitigation Measures AQ-1 through AQ-4 would be applicable, but even with the application of these mitigation measures, the emissions of NOx could still be above significance level. Therefore, this impact is expected to be *significant* (Class I).

Table 5.4.9 Summary of Construction Emissions – Raw Water Option

	Peak Daily Emission (lbs/day)					Quarterly Emissions (tons/qtr)				
Construction Phase	CO	ROC	NOx	SO_2	PM_{10}	CO	ROC	NOx	SO_2	PM_{10}
Water Intake*	**86.9**	**16.8**	**179.2**	**18.2**	**17.2**	**2.91**	**0.57**	**5.41**	**0.55**	**0.45**
Pump Station*	**61.4**	**11.2**	**138.9**	**14.8**	**11.6**	**1.47**	**0.29**	**3.22**	**0.33**	**0.25**
Pipeline*	**417.8**	**80.0**	**872.4**	**89.2**	**118.4**	**18.21**	**3.67**	**31.22**	**2.92**	**2.96**
Discharge Area	36.9	5.9	81.3	9.5	17.6	1.16	0.18	2.61	0.31	0.32
Water Storage Facility	**57.5**	**10.8**	**120.7**	**13.0**	**16.8**	**1.46**	**0.29**	**2.83**	**0.30**	**0.30**
Worst Case Total*	**623.6**	**118.8**	**1,311.2**	**135.2**	**164.0**	**24.03**	**4.83**	**42.68**	**4.09**	**3.96**
Significance Criteria	**-**	**185**	**185**	**-**	**185**	**-**	**2-6**	**2-6**	**-**	**2-6**
Significant?		**No**	**Yes**		**No**		**Yes**	**Yes**		**Yes**

Note: * The worst case emissions total is when construction of pipeline overlaps with construction of three other facilities (e.g., water intake, storage tank and a pump station).

5.4.5 Alternative Impacts and Mitigation Measures

The different proposed alternatives would generate different levels of air emissions. Impacts from different alternatives are described on the following page.

5.4.5.1 No Project Alternative

Under this alternative no construction would occur, and thus, air emissions due to construction or operation of the water pipeline project parts would not occur. Therefore there would be no impacts to air quality.

5.4.5.2 NWP 1997 EIR Alternative

Under this alternative, the pipeline would have a different route, and the pipeline system parts would be located in different locations compared to the proposed project. The different route of the pipeline would not result in considerably different construction air emissions, because all of the same project parts would be constructed and operated, construction would last approximately the same period of time, similar construction machinery would be used. Increased construction emissions however could be expected from vehicles idling due to lane closures. It is because a significantly longer portion of Nacimiento Lake Drive would be affected by lane closures under this alternative as compared to the proposed project.

This alternative involves construction of two WTPs, as opposed to one in the proposed project, which would result in higher total air emissions during construction phase but probably similar annual construction emissions because these two plants would be constructed during different times. Therefore more adverse air impacts would occur under this alternative as compared to the proposed project. The same mitigation measures as in the proposed project would apply (i.e., Measures AQ-1 through AQ-4). The residual AQ.1 impact could still be s*ignificant* (Class I). Impacts AQ.2 and AQ.3 would be the same as in the proposed project, AQ.2 – *adverse but not significant with mitigation* (Class II), AQ.3 - *adverse but not significant* (Class III), the same discussions apply as for the proposed project.

5.4.5.3 Phased Raw and Treated Water Alternative

This alternative would be very similar to the proposed project, however various parts of the project would take place over a longer period of time. Impact AQ.1 (air quality impact due to construction) could be reduced in its severity because fewer project construction phases would overlap therefore peak day emissions would be reduced, however the class of this impact would still remain *significant* (Class I), and all the above listed mitigation measures for this impact would be applicable here as well (Measures AQ-1 through AQ-4). Impacts AQ.2 (air emissions due to operations) and AQ.3 (increased health risks due to air emissions) would be the same as for the proposed project, AQ.2 – *adverse but not significant with mitigation* (Class II), AQ.3 - *adverse but not significant* (Class III), these operational impacts could be in effect at a later date however.

5.4.6 Cumulative Impacts

5.4.6.1 Salinas Valley Water (SVWP)

It has been identified through the CEQA process (Monterey County Water Resources Agency, 2001) that SVWP would have significant unavoidable air quality impacts from construction, as would the proposed project. Therefore, if construction of these two projects occurs within the same timeframe, there would be significant cumulative air quality impacts. However, construction of these two projects is not expected to overlap. Emissions from the operation of both projects are low, thus impacts would be cumulatively insignificant.

5.4.6.2 Other Development Projects

Section 4.0 identified a variety of projects that would result in air pollutant emissions. Most of these projects would be completed prior to construction of the NWP, thus no cumulative air quality impacts would occur. Because impacts associated with the proposed project construction are considered significant, cumulative impacts would also be considered significant for those projects that are constructed during the same time period and in close proximity to NWP pipeline construction. To avoid potential cumulative significant impacts, concurrent construction should be avoided wherever feasible.

Most of the projects identified in Section 4.0 would not result in operational emissions, or would serve to reduce current emission levels. Operational impacts associated with the proposed project and all projects identified in Section 4.0 would be small, and considered less than significant.

5.4.7 Mitigation Monitoring Plan

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
AQ-1	In coordination with the SLOAPCD, the Applicant shall implement the following APCD standard dust reduction measures during construction. All PM10 mitigation measures required shall be shown on the contractor's grading and building plans and specifications. a. Reduce the amount of the disturbed area where possible. b. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible. c. All dirt stockpile areas shall be sprayed daily as needed. d. Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible following completion of any soil disturbing activities. e. Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast-germinating native grass seed and watered until vegetation is established. f. All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the SLOAPCD. g. All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used. h. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.	The County PW Dept shall submit the Dust Control and Reduction Plan to the APCD prior to land use clearance.	APCD	APCD to review and approve the Dust Reduction Plan prior to start of the project. The APCD representative visits to construction sites to verify compliance	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	i. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code Section 23114. This measure has the potential to reduce PM10 emissions by 7–14%. j. Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site. This measure has the potential to reduce PM10 emissions by 40–70%. k. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible. This measure has the potential to reduce PM10 emissions by 25–60%. l. The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD prior to any site disturbance.				
AQ-2	The Applicant shall implement activity management techniques as feasible taking into account other mitigation measures that affect scheduling (e.g., Biology, Transportation/Circulation and Noise mitigation measures) during construction, as presented below: a. Development of a comprehensive construction activity management plan designed to minimize the amount of large construction equipment operating during any given time period; b. Scheduling of construction truck trips during non-peak hours to reduce peak hour emissions; c. Limiting the length of the construction work-day period, if necessary, during periods with high air pollutant levels; d. Phasing of construction activities, if appropriate.	Documentation supporting the available emission mitigations shall be submitted to the APCD.	APCD	Review and approval of the supporting documentation for the mitigations. Site visits	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
AQ-3	The Applicant shall implement the following standard NOx and ROC reduction measures to the maximum extent feasible: a. Use of Caterpillar pre-chamber diesel engines (or equivalent) together with proper maintenance and operation to reduce emissions of NOx. b. Electrify equipment where feasible. c. Maintain all fossil-fuelled equipment in tune per manufacturer's specifications, except as otherwise required above. d. Encourage use of catalytic converters on gasoline-powered equipment. e. Substitute gasoline-powered for diesel-powered equipment, where feasible. f. Implement activity management techniques as described in AQ-2. g. Use compressed natural gas (CNG) or propane powered portable equipment (e.g., compressors, generators, etc.) onsite instead of diesel-powered equipment, where feasible. h. All off-road and portable diesel powered equipment, including but not limited to bulldozers, graders, cranes, loaders, scrapers, backhoes, generator sets, compressors, auxiliary power units, shall be fuelled exclusively with CARB certified motor vehicle diesel fuel. Off-road equipment may use tax exempt motor vehicle fuel if not operated on public roads. i. Maximize to the extent feasible, the use of diesel construction equipment meeting the CARB's 1996 or newer certification standard for off-road heavy-duty diesel engines.	County PW Dept shall submit to the APCD documentation supporting the available NOx and ROC reduction measures.	APCD	Review and approval of the documentation Verified by construction site visits	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
AQ-4	Because NOx emissions are above the threshold, Best Available Control Technology for Construction Equipment (CBACT) shall be used to mitigate combustion emissions from heavy-duty construction equipment such as but not limited to the following: - Install diesel oxidation catalysts (DOC), catalyzed diesel particulate filters (CDPF) or other District-approved emission reduction retrofit devices. In particular, the Applicant shall ensure installation of CDPFs on 6 (six) pieces of construction equipment involved in the primary earthmoving and construction activities and projected to generate the greatest emissions (if DOCs are used, installing of five (5) DOCs would be an equivalent of installing of one CDPF). The SLO APCD staff shall be included in the selection of candidate equipment along with a representative of the contractor (or subcontractor). (This measure shall be included and clearly identified in the project bid specifications so that contractors bidding in the project can include the purchase, proper installation and maintenance costs in their bids.), and - Emission control device installation, use, and maintenance records shall be maintained by the contractor that operates the controlled construction equipment suing forms provided by the APCD. The APCD or lead agency representatives shall be allowed to review this documentation and the controlled equipment as needed to ensure that mitigation requirements are being met.	County PW Dept shall submit to the APCD Documentation supporting the implementation of BACT.	APCD	Review and approval of the documentation Verified by construction site visits	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction
AQ-5	The Applicant shall procure propane-powered, or low-NOx emergency generators to lower potential NOx emissions.	Present the procurement documentation to the APCD	APCD	Verification that the procured equipment meets the requirements	Prior to operations
AQ-6	Should the Applicant utilize diesel powered generators, the Applicant shall install diesel oxidation catalysts (DOC), catalyzed diesel particulate filters (CDPF) or other District-approved emission reduction retrofit devices.	Present the procurement documentation to the APCD	APCD	Verification that the procured equipment meets the requirements	Prior to operations

Note: County PW Dept=Department of Public Works at the SLO County (The Applicant); Dept of P&B=Department of Planning and Building of the SLO County.

5.5 Noise

This section describes the noise currently in the vicinity of the proposed project and the potential impacts associated with this project. The analysis is based on field surveys; a review of local and regional noise contours; and discussions with appropriate agencies.

5.5.1 Environmental Setting

5.5.1.1 Definition

Noise is defined as unwanted sound that is heard by people or wildlife and that interferes with normal activities or otherwise diminishes the quality of the environment. Sources of noise may be transient (e.g., the passing of a train or aircraft through the area) or continuous (e.g., the hum of distant traffic or the operation of air conditioning equipment). Sources of noise may have a broad range of sounds and be generally nondescript or have a specific, readily identifiable sound, such as a car horn. The sources of noise may also be steady or impulsive. These characteristics all bear on the perception of the acoustic environment.

Noise is usually measured as sound level on a logarithmic decibel (dB) scale, with the frequency spectrum adjusted by the A-weighting network. The dB is a unit division on a logarithmic scale that represents the intensity of sound relative to the reference intensity near the threshold of normal human hearing. The A-weighting network is a filter that approximates the response of the human ear at moderate sound levels. The resulting unit of measure is the A-weighted decibel (dBA).

To analyze the overall noisiness of an area, noise events are combined for an instantaneous value or averaged over a specific time period (e.g., one hour, multiple hours, and 24 hours). The time-weighted measure is referred to as Equivalent Sound Level (L_{eq}). The equivalent sound level is defined as the same amount of sound energy averaged over a given time period. The percentage of time that a given sound level is exceeded can also be represented. For example, L_{10} is a sound level that is exceeded 10% of the time over a specified period.

5.5.1.2 Effects on Wildlife

Wildlife response to noise is dependent not only on the magnitude but also the characteristic of the sound, or the sound frequency distribution. Wildlife is affected by a broader range of sound frequencies than humans. Noise is known to affect an animal's physiology and behavior, and chronic noise-induced stress is deleterious to an animal's energy budget, reproductive success, and long-term survival (Radle 2001).

5.5.1.3 Effects on Humans

Human response to noise is dependent not only on the magnitude but also on the characteristic of the sound, or the sound frequency distribution. Generally, the human ear is more susceptible to higher frequency sounds than lower frequency sounds. This is reflected in the A-weighting which essentially assigns a weighting of zero to sounds with a frequency below 10 cycles per second and has a maximum weighting for sounds with a frequency in the 2,000 to 5,000 cycles-per-second range.

Human response to noise is also dependent on the time of day and expectations based on location and other factors. For example, a person sleeping at home might react differently to the sound of a car horn than to the same sound while driving during the day. The regulatory process has attempted to account for these factors by developing overall noise ratings such as Community Noise Equivalent Level (CNEL) and the Day-Night Average Noise Level (L_{dn}) which incorporate penalties for noise occurring at night. The L_{dn} rating is an average of noise over a 24-hour period in which noises occurring between 10:00 p.m. and 7:00 a.m. are increased by 10 dBA. The CNEL is similar but also adds a weighting of 3 dBA to noises that occur between 7:00 p.m. and 10:00 p.m. Average noise levels over daytime hours (7:00 a.m. to 7:00 p.m.) are represented as L_d and nighttime noises as L_n. Figure 5.5-1 is a scale showing typical noise levels encountered in common daily activities.

The effects of noise are considered in two ways: how a proposed project may increase existing noise levels and affect surrounding land uses; and how a proposed land use may be affected by existing surrounding land uses. The SLO County General Plan Noise Element focuses on particular types of land uses when measuring the effects of noise. These “sensitive receptors” include residences, transient lodging (e.g., hotels, motels), hospitals, nursing homes, convalescent hospitals, schools, libraries, offices, churches, public assembly places, and outdoor sports and recreation facilities.

The proposed project consists of several separate construction and operational elements. Some of these elements have a potential to impact sensitive resources in the area and are discussed below.

5.5.1.4 Background Noise Sources

The proposed delivery pipelines would total approximately 66 miles in length. The pipelines would traverse agricultural, residential and commercial land uses. The majority of the pipeline, however, would be located in rural areas. The pipeline would pass within the city limits of Paso Robles, Atascadero, and San Luis Obispo and within the limits of the communities of Templeton, and Santa Margarita. In general, the ambient noise level in the project area would be typical of an agricultural community with sound levels ranging between 35 and 55 dBA L_{eq}. Although the pipeline would be located primarily in rural areas with few noise sources, the pipeline route would experience noise from vehicular traffic on state highways and other major roadways, trains from Southern Pacific Railroad, agricultural machinery, isolated industrial sources, and military training activities at Camp Roberts.

Baseline noise levels were measured during the day, in the evening, and at night at four locations in the study area. Table 5.5.1 identifies noise-sensitive receptors in the project area and shows the baseline noise levels at each site. Noise data were collected under cloudless conditions during the evening and night of June 11, 2002 and the daytime of June 12, 2002. The primary sources of noise at each source were passing vehicles, distant highway traffic, or insects (in the cases of rural nighttime data). No trains were detected during the noise monitoring periods. (Noise monitoring data are presented in Appendix A.) The data collected included L_{eq}, maximum levels, and minimum levels. Noise sources associated with the maximum reading were generally produced by traffic on nearby roads. Figure 5.5-2 shows the locations of background noise monitoring.

Figure 5.5-1 Common Environmental Noise Levels

Common Outdoor Noise Levels	Noise Level DBA)	Common Indoor Noise Levels
	110	Rock Band
Jet Flyover at 1,000 feet		
	100	
		Inside Subway Train (New York)
Gas Lawnmower at 3 feet		
	90	
Diesel Truck at 50 feet		
Noisy Urban Daytime		Food Blender at 3 feet
		Garbage Disposal at 3 feet
	80	
		Shouting at 3 feet
Gas Lawnmower at 100 feet		
	70	Vacuum Cleaner at 10 feet
Commercial Area		
Heavy Traffic at 300 feet		Normal Speech at 3 feet
	60	
		Large Business Office
Quiet Urban Daytime		
	50	Dishwasher Next Room
Quiet Urban Nighttime		Small Theater, Large Conference
	40	Room (Background)
Quiet Suburban Nighttime		
		Library
	30	Bedroom at Night
Quiet Rural Nighttime		Concert Hall (Background)
	20	
		Broadcast and Recording Studio
	10	
		Threshold of Hearing
	0	

Source: Aspen 1996

Figure 5.5-2 Baseline Noise Monitoring Locations

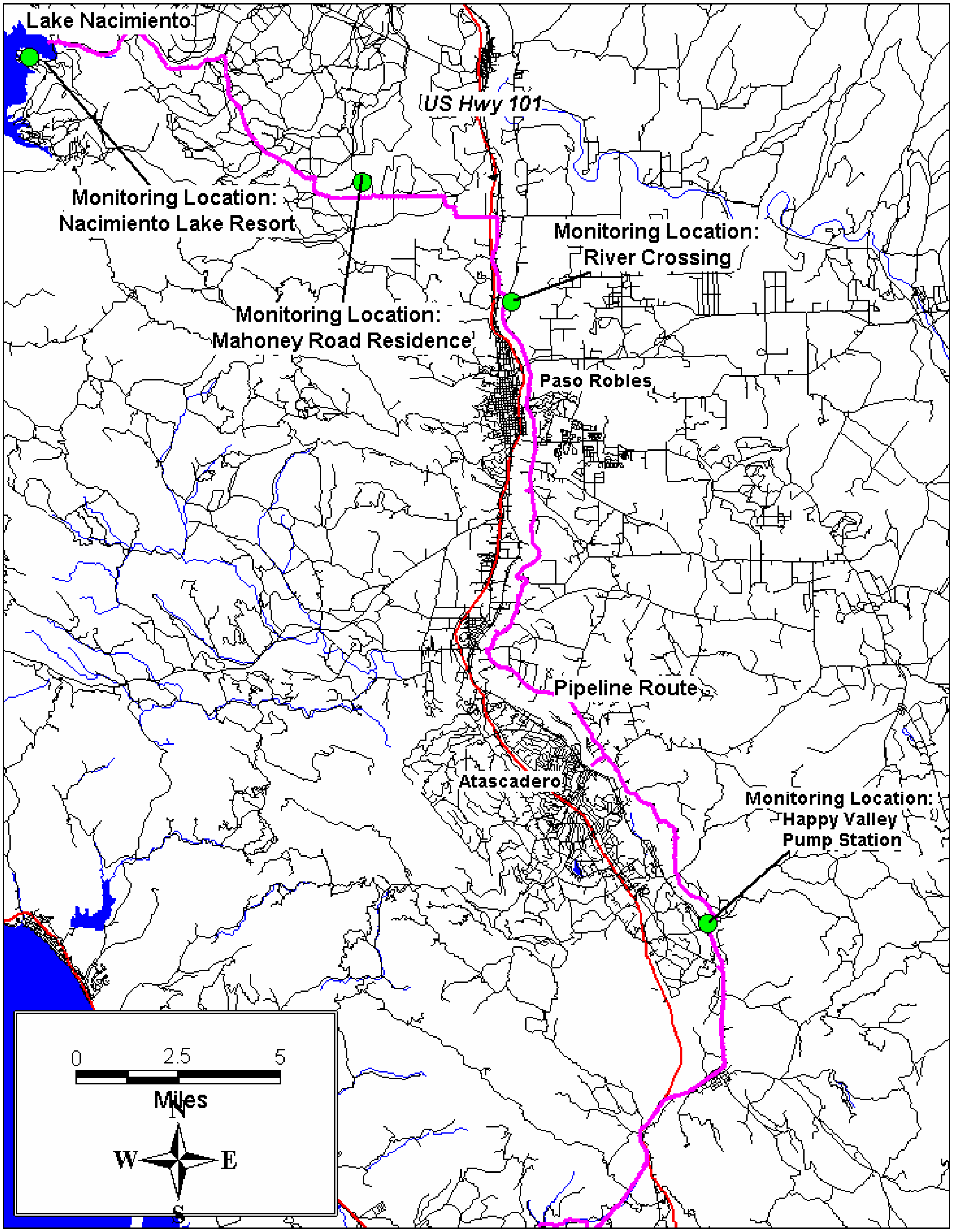


Table 5.5.1 Noise-Sensitive Receptors and Baseline Noise Levels

Sensitive Receptor	Nearest Project Site	Distance from Project*	L_{eq}, dbA				
			Day	Eve.	Night	CNEL	Average
Lake Nacimiento Resort campground	Water Intake	3,200 feet	41.2	38.0	37.0	44.4	39.7
Mahoney Road residence	Water Treatment Plant	3,500 feet	34.7	37.1	46.3	51.7	42.6
Residence near River Crossing	River Crossing	700 feet	58.2	54.4	51.6	60.0	56.2
House at Rocky Canyon Road	Pump Station	600 feet	55.3	52.1	45.0	55.9	53.0

Note:

* Distance from the project is defined as the shortest distance from the nearest project site to the sensitive receptor.

Day is between 7 a.m. and 5 p.m., evening is between 5 p.m. and 10 p.m., and night is between 10 p.m. and 7 a.m.

Field data and background noises are detailed in Appendix A.

Pipeline Construction Alignment

Existing Vehicular Traffic Noise Levels

Existing roadway noise contours were estimated using the data from the NWP 1997 EIR, which was based on CalTrans Sound-32 Traffic Noise prediction model based on the Federal Highway Administrations FHWA-RD-77-108 report and using California Noise Emission Factors. The results are shown below in Table 5.5.2. Current existing traffic data for the major roads servicing the project area was provided for the model. The roads selected were those identified in Section 5.11, Transportation/Circulation. The posted vehicle speed was used for the various roadway alternatives. No topographic considerations were taken (i.e., interference from buildings, hills, etc.) and hard site attenuation (or 3.0 dBA loss per doubling of distance from source to receiver which is typically applied to hard packed or paved areas) was assumed. It is noted however, that a 4.5 dBA loss per doubling of distance which is typically applied to loosely packed or grassy areas may apply for some roadway alternatives which makes this a worst-case scenario analysis. Traffic volumes less than 2,000 ADT typically do not generate a 60 dBA CNEL contour under normal traffic conditions.

Table 5.5.2 Existing Roadway Noise Contours Along the Project Alignment (in dBA)

Roadway Alternative	ADT[a]	Average Vehicle Speed	Level at 50-feet[b]	Perpendicular Distance from Roadway Centerline to Contour in feet[c]			
				75 CNEL	70 CNEL	65 CNEL	60 CNEL
Intake Pump Station to WTP							
Nacimiento Lake Drive	5,17	45	66	–	–	53	95
24th Street	15,57	30	68	–	–	67	119
WTP to Charolais Road/South River Road							
San Marcos Road	491	35	<60	–	–	–	–
Wellsona Road	208	15	<60	–	–	–	–
North River Road	1,658	45	61	–	–	–	53

Table 5.5.2 Existing Roadway Noise Contours Along the Project Alignment (in dBA)

Roadway Alternative	ADT[a]	Average Vehicle Speed	Level at 50-feet[b]	Perpendicular Distance from Roadway Centerline to Contour in feet[c]			
				75 CNEL	70 CNEL	65 CNEL	60 CNEL
Union Road/Hwy 41	19,710	45	72	–	60	106	188
Creston Road	14,830	35	69	–	–	75	134
South River Road	8,610	45	68	–	–	67	119
Niblick Road	7,362	35	66	–	–	53	95
Charolais Road	3,710	35	63	–	–	–	67
Charolais Road to Vineyard Street Bridge							
Santa Ysabel Road	3,804	25	61	–	–	–	53
Vaquero Drive	172	25	<60	–	–	–	–
El Pomar Drive	649	25	<60	–	–	–	–
Templeton Road	1,576	45	61	–	–	–	53
Vineyard Drive	4,781	35	64	–	–	–	75
Vineyard Street Bridge to New Hwy 41							
Templeton Road	1,576	45	61	–	–	–	53
Hwy 41–Salinas River Bridge	5,500	35	65	–	–	–	84
New Hwy 41 to Happy Valley Pump Station							
No data available							
Rocky Canyon Road to Santa Margarita							
El Camino Real	5,786	35	64	–	–	–	75
Wilhelmina Avenue	605	35	<60	–	–	–	–
Santa Margarita to the Cuesta Tunnel							
Tassajara Creek Road	326	35	<60	–	–	–	–
Cuesta Tunnel to San Luis Obispo WTP							
No data available							
San Luis Obispo WTP to Hwy 227/Santa Fe Road							
Highland Drive	8,900	35	67	–	–	60	105
Patricia Drive	3,900	25	61	–	–	–	53
Foothill Blvd	6,453	35	65	–	–	–	84
Madonna Road	34,000	35	85	150	266	473	840
Dalidio Drive	9,000	25	65	–	–	–	84
Prado Road	9,000	25	65	–	–	–	84
Hwy 227	19,000	35	70	–	–	84	150
Santa Fe Road	1,529	25	<60	–	–	–	–
Buckley Road	3,108	25	61	–	–	–	53

Note:
[a] *Source*: SLO County Department of Public Works Traffic Division
[b] *Source*: NWP 1997 EIR
[c] Assumed to be line-of-sight distance.
– = Noise contour is coincident with traffic right-of-way taken at 50-feet from the centerline.
Calculated using a vehicle mix of 95% Cars, 2.5% Med. Trucks, and 2.5% Heavy Trucks.
Attenuation rate of 3.0 dBA loss per doubling of distance was used.

Existing Rail Traffic Noise Levels

Existing rail service noise levels were calculated based upon prior field work done by Ogden on similar rail links (Ogden 1997). The values shown below in Table 5.5.3 are derived from a hybrid acoustical model of a commuter rail system similar to Amtrak. The model incorporates a 15 decibel penalty to include noise effects from freight train activity. The model is derived from Single Event Noise Levels (SELs) which is equivalent acoustical energy exposure of an average train event released over a time interval of one second (instead of some arbitrary train pass-by time). The use of SEL data allows the model to be independent of the length and/or passage time of the train.

The level below assumes a daily rail activity scenario of six daytime/evening trips (i.e., trips between the hours of 7 a.m. and 10 p.m.) and three nighttime (i.e., between the hours of 10 p.m. and 7 a.m.) trips. The model assumes that only one trip occurs in any given hour.

As can be seen from the data, the noise exposure is a direct function of the pass-by train speed. The maximum predicted hourly sound level would be 64.3 dBA L_{eq} at a distance of 50-feet from the tracks. This would equate to a community sound level of 66.0 dBA L_{dn} using the assumed operations levels stated above. This places the 60 dBA L_{dn} contour at a distance of approximately 200-feet from the tracks.

Table 5.5.3 Average Existing Rail Service Noise Levels

Pass-by Speed (Mi/Hr)	SEL @ 50-feet (in dBA)	L_{eq}-h @ 50-feet (in dBA)	L_{dn} @ 50-feet (in dBA)	L_{dn} Design Levels Distance to Contour in Feet			
				75 dBA	70 dBA	65 dBA	60 dBA
20.0	95.4	59.8	61.6	–	–	–	71
25.0	96.1	60.6	62.3	–	–	–	85
30.0	96.2	60.7	62.4	–	–	–	88
35.0	96.9	61.3	63.0	–	–	–	101
40.0	97.6	62.0	63.8	–	–	–	119
45.0	97.7	62.1	63.9	–	–	–	122
50.0	97.5	62.0	63.7	–	–	–	118
55.0	99.8	64.3	66.0	–	–	63	200

Note: Fifth order hybrid model commuter rail with 15 dB addition for freight traffic.

Hourly L_{eq} levels (L_{eq}-h) calculated by energy summation of SEL levels.

Calculated as 6 daytime trips, 3 nighttime trips.

Dashed entries indicate that design contour is less than 50-feet.

Source: Ogden Field Data 1996 and NWP1997 EIR.

Intake and Pump Station Locations

One intake structure and three pump stations would be built. The intake structure would be constructed in conjunction with the Intake Pump Station, located near the upstream face of the dam on the northern side. The intake and Intake Pump Station site is undeveloped and has no onsite noise sources. In general, the ambient sound level is less than 50 dBA for most of the year, reflecting the relatively undeveloped character of the area. During the summer, however, recreational lake uses and vehicular traffic increase substantially, thereby increasing the ambient noise level for the entire lake area. Hourly sound up to 65 dBA would not be uncommon due to water-oriented activities. However, it should be noted that boating activities would not come within 500-feet of the proposed intake/pump station site, because a log boom on the lake would separate lake users from the existing dam and the proposed project facilities. Noise levels along the adjoining Nacimiento Lake Drive would be at levels identified in Table 5.5.2. The principal noise source is from vehicles driving to the lake and from boat motors on the water.

WTP Pump Station would be located at the presently undeveloped site of the WTP near Mahoney Road southeast of Lake Nacimiento and within the property boundary of the U.S. Army's Camp Roberts. Although the area is rural, surrounding land uses include residential development, vineyards, and wineries to the east and north. The ambient sound level would be expected to range from 35 to 46 dBA L_{eq} in rural areas with levels approaching those shown in Table 5.5.2 for areas adjacent to roadways.

Happy Valley Pump Station would be located on Rocky Canyon Road adjacent to the proposed storage tank to the southeast of Atascadero in a rural area. The major source of noise at this site is roadway traffic. Noise levels are expected to range from 40 to 55 dBA L_{eq}.

Water Storage Tank Locations
Three water storage tank sites are proposed. The first would be adjacent to the WTP site on Camp Roberts property. The second site is adjacent to the Happy Valley Pump Station. The third site is near the entrance to the Cuesta Tunnel. These sites are undeveloped and located in remote areas with no onsite noise sources. Ambient sound levels for the first two sites are shown in Table 5.5.1.

Water Discharge Facilities
Three water discharge facilities would be constructed under the raw water option. These discharge areas would be located between the Salinas River and its eastern frontage road at sites south of Paso Robles, south of Templeton, and south of Atascadero. These sites are undeveloped and subject to noise from Highway 101 and the Union Pacific Railroad to the west and the frontage road to the east. Ambient noise levels are likely to be similar to those at the river crossing site in Table 5.5.1.

Water Treatment Plant Locations
The treated water option for the proposed project would include the construction and operation of a WTP on Camp Roberts property near Mahoney Road and San Marcos Road. This WTP would be accessed by Camp Roberts's Gate 10. The site would occupy an area measuring 1000 feet by 1200 feet. The site is currently undeveloped and has ambient noise levels ranging between 35 dBA and 46 dBA.

The raw water option would require a WTP upgrade at the California Men's Colony. The CMC currently has a WTP, but would require a major upgrade to accommodate the water from this project. This upgrade would serve the participating water districts at Camp San Luis, the SLCUSD, and the SLO Airport area participants. The CMC WTP is located in the hills to the north of the CMC penitentiary, at approximately 400-feet asl. The site is located in a remote area and has no other onsite noise sources. Sound levels would be expected to range from 45 to 55 dBA L_{eq} hourly with distant traffic noise and activities at the CMC.

5.5.2 Regulatory Setting

Noise is regulated at the Federal, State, and local levels through regulations, policies, and/or local ordinances. Local policies are commonly adaptations of Federal and State guidelines, based on prevailing local conditions or special requirements. These guidelines have been developed at the federal level by the EPA, the Federal Highway Administration and Department of Transportation; and at the State level by the now defunct California Office of Noise Control and by CalTrans.

Fixed noise sources, including the pump stations and the WTP, would be present in areas governed by SLO County. Pipeline construction noise would occur in SLO County and the Cities of El Paso de los Robles (Paso Robles), Atascadero, and San Luis Obispo. In addition, Atascadero State Hospital is a state-run facility and is therefore subject to the State of California Land Use Compatibility Standards for Community Noise Environments.

5.5.2.1 Federal Jurisdiction

Noise

The Federal Highway Administration (FHWA) has established traffic noise design levels for use in the planning and design of federally funded highway projects (Program Manual, Volume 7, Chapter 7). These are based on hourly L_{eq} or hourly L_{10} levels for interior and exterior exposure of surrounding land uses. These levels are based on the category of activity through which the freeway passes. These categories range from A, for areas of extraordinary significance, to E for interior noise impacts as described below. Category D is applicable to undeveloped lands and has no specific L_{eq} or L_{10} value.

Category	Category Description	L_{eq}	L_{10}
A	Tracts of land in which serenity and quiet are of extraordinary significance. May include parks, open spaces, or historic districts.	57	60
B	Picnic areas, recreation areas, playgrounds, and other parks. Also, residences, hotels/motels, churches, libraries, and hospitals.	67	70
C	Developed lands.	72	75
E	Residences, hotels/motels, churches, libraries, and hospitals (interior noise)	52	55

Under the authority of the Noise Control Act of 1972, the EPA has established noise emission criteria and testing methods (40 CFR Chapter 1, Subpart Q). These criteria apply to interstate rail carriers, and a limited number of construction and transportation equipment.

The DOT has established allowable noise levels for motor vehicles (49 CFR Chapter III, Part 325). These standards address measurement protocols for measuring highway noise, instrumentation and stationary testing procedures. In addition, the Department of Defense has established noise compliance requirements.

Vibration

As a point of reference, the U.S. Bureau of Mines has identified acceptable maximum transverse ground velocity levels. This criterion sets the maximum peak particle velocity as a function of frequency. The Bureau of Mines recommends a “safe blasting limit” of 2.0 inches per second as a damage threshold. At this level, the probability of damage was seen to less than 5%. A recommended annoyance peak velocity threshold of 0.4 inches per second was seen to cause complaints by roughly 8% of the affected population.

5.5.2.2 State Jurisdiction

The California Administrative Code, Title 4, which applies to airports operating under permit from the CalTrans Division of Aeronautics, defines a noise-impacted zone as any residential or other noise-sensitive use with CNEL 65 and above. The California Administrative Code, Title 2, establishes CNEL 45 as the maximum allowable indoor noise level resulting from exterior noise sources for multi-family residences.

The California Streets and Highways Code, Section 216 (Control of Freeway Noise in School Classrooms) requires, in general, that CalTrans abate noise to 55 dBA, L_{10}, or 52 dBA, L_{eq} or less. CalTrans Policy and Procedure Memorandum P74-47 (Freeway Traffic Noise Reduction, September 24, 1974) outlines the CalTrans policy and responsibilities related to transportation noise. In the California Government Code, Section 65302, CalTrans is also required to provide cities and counties with a noise contour map along state highways. The State Motor Vehicle Code includes regulation(s) related to the selling and use of vehicles that do not meet specified noise limits.

5.5.2.3 Local Jurisdiction

Noise

San Luis Obispo County

SLO County has established that noise from construction activity may only occur between the hours of 7 a.m. and 9 p.m. weekdays, or 8 a.m. and 5 p.m. on weekends. The ordinance does not define acceptable sound level limits.

SLO County, through its noise ordinance (Section 22.06.040), has established property line sound level standards for fixed noise sources as shown below in Table 5.5.4. The maximum permitted hourly sound level is a function of the land use and the time of day. According to SLO County Land Use Ordinance section 22.06.042d, construction activities are exempt from noise standards between 7:00 a.m. and 9:00 p.m. on weekdays and between 8:00 a.m. and 5:00 p.m. on Saturdays and Sundays.

Table 5.5.4 San Luis Obispo County Fixed Hourly Noise Standards (in dBA)

Land Use Category	Applicable Compliance Times	
	7 a.m.–10 p.m.	10 p.m.–7 a.m.
Residential, SF or MF Office & Professional	65	50
Residential Suburban, Recreation	65	55
Commercial Retail	75*	75*
Commercial Service, Industrial	80*	80*

Note: * Except where a noise-generating use is located adjacent to a residential category; see Subsection 22.06.040b, above.
Source: SLO County Noise Ordinance Section 22.06.040.

The Noise Element of the General Plan establishes the following guideline:

> *"The existing or projected future noise exposure at the exterior of buildings which will contain noise-sensitive uses or within proposed outdoor activity areas (other than outdoor sports and recreation uses) does not exceed 65 dB L_{dn} (or CNEL) prior to mitigation. For outdoor sports and recreation uses, the existing or projected future noise exposure may not exceed 75 dB L_{dn} (or CNEL) prior to mitigation."*

Policy No. 3.3.3 of the Noise Element states:

> *"Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so as not to exceed the levels specified in [Table 5.5.5] within outdoor activity areas and interior spaces of existing noise-sensitive uses."*

Table 5.5.5 Maximum Allowable Noise Exposure–Transportation Noise Sources

Land Use	Outdoor Activity Areas[a] L_{dn}/CNEL (dB)	Interior Spaces L_{dn}/CNEL (dB)	Interior Spaces L_{eq} (dB)[b]
Residential (except temporary dwellings and residential accessory uses)	60[c]	45	–
Bed and Breakfast Facilities, Hotels and Motels	60[c]	45	–
Hospitals, Nursing and Personal Care	60[c]	45	–
Public Assembly and Entertainment (except Meeting Halls)	–	–	35
Offices	60[c]	–	45
Churches, Meeting Halls	–	–	45
Schools-Preschool to Secondary, College and University, Specialized Education and Training Libraries and Museums	–	–	45
Outdoor Sports and Recreation	70	–	–

Note:

[a] Where the location of outdoor activities is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.

[b] As determined for a typical worst-case hour during periods of use

[c] For other than residential uses, where an outdoor activity area is not proposed, the standard shall not apply. Where it is not possible to reduce noise in outdoor activity areas to 60 dB L_{dn}/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB L_{dn}/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

Source: SLO County Noise Element I, 1992.

Policy No. 3.3.5 of the Noise Element states:

> *"Noise created by new proposed stationary noise sources or existing stationary noise sources which undergo modifications that may increase noise levels shall be made as follows and shall be the responsibility of the developer or the stationary noise source:*

"…b) Noise levels shall be reduced to or below the noise level standards in [Table 5.5.6] where the stationary noise source will expose an existing noise-sensitive use… to noise levels which exceed the standards in [Table 5.5.6]. When the affected noise-sensitive land use is Outdoor Sports and Recreation, the noise level standards in [Table 5.5.6] shall be increased by 10 dB."

Table 5.5.6 Maximum Allowable Noise Exposure–Stationary Noise Sources[a]

	Daytime (7 a.m.–10 p.m.)	Nighttime[b] (10 p.m.–7 a.m.)
Hourly Leq, dB	50	45
Maximum level, dB	70	65
Maximum level, dB-Impulsive Noise	65	60

Note:

[a] As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers or other property line noise mitigation measures.

[b] Applies only where the receiving land use operates or is occupied during nighttime hours.

Source: SLO County Noise Element I, 1992.

City of Paso Robles

The City of Paso Robles through its Municipal Code (Chapter 9.07.030-j) regulates noise from construction equipment such as pile drivers, hammers, steam shovels, and various types of construction equipment. Construction activity is permitted between the hours of 7:00 a.m. and 7:00 p.m. The ordinance does not define acceptable sound level limits.

City of Atascadero

The City of Atascadero through its noise ordinance (Section 9-14.03) regulates noise from construction activity. Construction activity is permitted between 7:00 a.m. and 9:00 p.m. The ordinance does not define acceptable sound level limits.

City of San Luis Obispo

The City of SLO through its noise ordinance (Section 9.12 of the Municipal Code) regulates construction noise from mobile and stationary sources. The ordinance specifies a maximum hourly noise level limit of 85 dBA for mobile sources between the hours of 7 a.m. and 7 p.m. and 75 dBA for stationary sources. No construction activity is allowed on Sundays and holidays. The noise levels are measured at the property boundaries where the activity is taking place.

Vibration

San Luis Obispo County Land Use Ordinance 23.06.060 establishes vibration standards. It states that any land use conducted in or within one-half mile of an urban or village reserve line is to be operated to not produce detrimental earth-borne vibrations perceptible at the lot line for a residential or office source or the boundary of the industrial category for an industrial source.

Currently there are no regulations regarding vibration exceedance criteria for the Cities of El Paso de Robles (Paso Robles), Atascadero, SLO, and Morro Bay. Typically, a specific structural design is based upon prudent engineering judgment, analytical verification, and coherence with a uniform building code. For this project, vibratory impacts would have the potential to occur only in areas were blasting or tunneling are proposed (i.e., tunnel alternative, intake facility) during construction.

5.5.3 Significance Criteria

There are two criteria for judging noise impacts. First, noise levels for the proposed project must comply with relevant Federal, State, or local standards or regulations. Noise impacts to the surrounding community are enforced through the local noise ordinance and supported by nuisance complaints and subsequent investigation. They provide a basis for defining potential significant impacts, which would be caused by one of the following:

- Construction. Within the limits of the City of San Luis Obispo, mobile construction noise sources exceed an hourly limit of 85 dBA and/or stationary sources exceed an hourly limit of 75 dBA.
- Operations. If noise levels from stationary sources produced by a project and experienced by sensitive receptors exceed the levels in Tables 5.5.4 (SLO County 1992). For residential areas, the hourly thresholds are 65 dBA during the day and 50/55 dBA (Office and Professional/Suburban and Recreation) during the night. For commercial retail areas, the hourly threshold is 75 dBA during both day and night. For commercial service and industrial areas, the hourly threshold is 80 dBA for both day and night. Transportation noise sources are summarized in Table 5.5.5. These thresholds include outdoor L_{dn}/CNEL of 60 dB for residential, lodging, hospital, and offices and 70 dB for outdoor sport and recreation. The indoor noise threshold for the residential, transient lodging, and hospitals is 45 dB
- Adopted noise element policies, standards, or ordinances would be exceeded in magnitude, timing, or duration.

The second criterion for measuring project impact is the increase in noise level above the existing ambient level as a result of a new noise source. The degree of impact is hard to assess because of the highly subjective character of individuals' reactions to changes in noise. Most people begin to notice changes in environmental noise levels at approximately 5 dBA. Typically, changes in noise level less than 5 dBA cannot be definitely considered an adverse impact. For noise changes greater than 5 dBA, it is difficult to quantify the impact beyond recognizing that greater noise changes would result in the greater impacts.

In community noise impact analysis, long-term noise increases of 5 to 10 dBA are considered to have "some impact." Noise level increases of more than 10 dBA are generally considered severe. In the case of short term noise increases, such as those from construction activities, the 10 dBA threshold between "some" and "severe" is replaced with a criterion of 15 dBA. These noise-averaged thresholds should be lowered when the noise level fluctuates, when the noise has an irritating character such as considerable high frequency energy, or if it is accompanied by subsonic vibration. In these cases, the impact must be individually estimated.

5.5.4 Proposed Project Impacts and Mitigation Measures

This section characterizes the noise impacts generated by the NWP for both the treated water and raw water options.

5.5.4.1 Treated Water Option

Noise calculations are based on the following assumptions. First, noise from construction machinery and equipment is considered a single point source rather than spread over the construction zone. Second, the fraction of the day when peak noise is being generated is assumed to be 50% for the worst case wherein all machinery is creating peak noise during half the day. Third, all machinery and equipment used during the course of construction are considered to be operating at the same time.

Impact	Impact Description	Residual Impact
N.1	Construction noise would temporarily increase ambient daytime noise levels along the pipeline route and near the pump station and WTP sites.	Class II

Intake and Intake Pump Station

Noise generated by construction of the intake facility and Intake Pump Station would result in increased ambient noise levels. This increase would be limited to the daytime hours and would be limited to the duration of the construction phase of the project. Construction for the intake would be extensive and would include fabrication of a multi-level intake structure comprised of drilling a single 20 to 30-foot diameter concrete lined shaft vertically into the ground for approximately 170-feet deep near the shore of the reservoir and connecting it to three horizontal intake tunnels located at elevations of 670, 720, and 770 feet. An estimated workforce of 25 to 30 people would be utilized for nine to ten hours per day for a period of 4 months. Preparation and close out time would take place one month prior and one month after, which would have a reduced crew and fewer hours per day.

Short-term noise associated with construction of the intake would generate daytime levels of 60 dBA at the nearest sensitive receptor, the campground 3,200 feet away. This would increase the noise level by 18 dBA over the existing ambient daytime level. Considering the relatively undeveloped character of the region and the extent of construction necessary, noise from intake facility construction would be disruptive to the quiet enjoyment of this recreational area. Because it is only temporary, however, the impact would be considered adverse but not significant.

Water Treatment Plant and Pump Station

Noise generated by construction of the WTP and Pump Station would result in increased ambient noise levels. This increase would be limited to the daytime hours and would be limited to the duration of the construction phase of the project. Equipment typically used for this type of construction includes rock drills, generators, and various earthmoving equipment and trucks. Construction noise would generate noise levels of 57 dBA at the nearest sensitive receptor; a residence located 3,500 feet away. This represents a 22 dBA increase over the daytime ambient noise level of 35 dBA.

Water Storage Tanks
Noise generated by construction of the water storage tanks would result in increased ambient noise levels. This increase would be limited to the daytime hours and would be limited to the duration of the construction phase of the project. Construction at the WTP storage tank would increase noise levels by 22 dBA to a level of 57 dBA at a distance of 3,500 feet from the nearest sensitive receptor.

Happy Valley Pump Station and Water Storage Tank
Noise generated by construction of the Pump Station and Water Storage Tank on Rocky Canyon Road would increase ambient noise levels during the daytime hours of the construction phase of the project. Equipment typically used for this type of construction includes rock drills, generators, and various earthmoving equipment and trucks. Construction noise would generate noise levels of 72 dBA at the nearest sensitive receptor; a residence located 600 feet away. This represents a 17 dBA increase over the daytime ambient noise level of 55 dBA. In addition, the Atascadero State Hospital is located approximately 4,000 feet from the site. Assuming the ambient noise at the hospital is the same as at the pump station site, the construction noise would result in an increase in noise of 3 dBA, which would be imperceptible. (Noise measurements were taken at the corner of Halcon and Rocky Canyon Roads. Noise levels may be lower at this site, however, because it is located further away from truck traffic to the rock quarry.)

Other Water Treatment Plant
In addition to the central WTP, the CMC would require upgrades to expand its WTP capacity. The noise generated by this construction project would be similar to the central WTP.

Pipeline
Noise generated by construction of the 66-mile pipeline would result in increased ambient noise levels. This increase would be limited to the daytime hours and would be limited to the duration of the construction phase of the project. Within 500 feet of the pipeline alignment, construction noise levels would measure approximately 75 dBA in areas where the ambient daytime noise level is less than 70 dBA, which is most of the pipeline route. These increases in most areas would result in a change of at least 20 dBA over the baseline noise levels. Primary short-term impacts to sensitive receptors would occur in the more densely populated areas along the pipeline alignment in the vicinity of Paso Robles, Atascadero, Templeton, Santa Margarita, and SLO. In the City of San Luis Obispo, any sensitive receptors within 170 feet of the construction would be exposed to the noise limit of 85 dBA.

A detailed description and tabular description of the locations of noise sensitive receptors that may be affected by the pipeline construction is given below. Noise sensitive receptors along the majority of the pipeline route are presently exposed to noise from vehicle and/or railroad traffic. Water distribution pipelines and facilities are shown on Figures 2-3 through 2-24 in Section 2.0, Project Description, of this EIR. Pipeline segments are discussed by “reach” in order to correspond accurately with the figures depicting pipeline orientation. Table 5.5.7 lists noise-sensitive land uses along the pipeline route and total distances of pipeline within noise-sensitive land uses.

Table 5.5.7 Noise-Sensitive Land Uses along Pipeline Route

Milepost	Length (feet)	Land Use
600+00–640+00	4000	Rural Residential
640+00–675+00	3500	Rural Residential
690+00–755+00	6500	Rural Residential
755+00–880+00	12500	Rural Residential/Commercial/Industrial
890+00–950+00	6000	Rural Residential
985+00–1020+00	6500	Rural Residential
1020+00–1050+00	3000	Residential/Commercial/Industrial
1050+00–1090+00	4000	Residential
1090+00–1110+00	2000	Commercial/Industrial
1110+00–1130+00	2000	Residential
1130+00–1180+00	5000	Rural Residential
1300+00–1310+00	1000	Rural Residential
1320+00–1390+00	7000	Rural Residential
1400+00–1410+00	1000	Rural Residential
1475+00–1540+00	6500	Rural Residential
1585+00–1830+00	22000	Rural Residential/Sensitive Animals
1855+00–1860+00	500	Rural Residential
1915+00–2050+00	13500	Rural Residential
2060+00–2080+00	2000	Industrial
2120+00–2170+00	5000	Residential/Commercial/Industrial
2500+00–2530+00	3000	Rural Residential/Commercial
30+00–35+00 CMC	500	Rural Residential
2590+00–2665+00	7500	Residential
2790+00–2860+00	7000	Commercial/Industrial
2870+00–2890+00	2000	Rural Residential/Industrial
2915+00–3000+00	8500	Residential/Commercial/Industrial
3020+00–3037+25	1725	Rural Residential
	28.5 miles	Total pipeline distance adjacent to developed areas or sensitive receptors
	16.3 miles	Rural residential
	4.5 miles	Residential/Industrial/Commercial
	2.6 miles	Residential
	2.4 miles	Rural Residential/Commercial/Industrial
	1.7 miles	Commercial/Industrial
	0.6 miles	Rural Residential/Commercial
	0.4 miles	Rural Residential/Industrial
	0.4 miles	Industrial

Note: The pipeline totals in this table include noise-sensitive land uses only. The remainder of the 66-mile pipeline route runs through undeveloped or agricultural land that is not considered noise-sensitive.

Intake Pump Station to Camp Roberts
The campground at Lake Nacimiento is located 3,200 feet from the site of the intake, the Intake Pump Station, and the start of the pipeline. It would be considered an outdoor recreational sensitive receptor as discussed above. The pipeline construction would increase noise by approximately 19 dBA to a level of 60 dBA.

Camp Roberts to the Water Treatment Plant
This segment of the pipeline would run along existing graded fire trails and the paved West Perimeter Road within Camp Roberts property. The surrounding land is largely undeveloped and lies on the Camp Roberts military reservation with no noise-sensitive receptors. Noise levels within 500 feet of the construction would be increased as much as 39 dBA to a level of 74 dBA.

Water Treatment Plant to Charolais Road/South River Road
This segment would begin at the WTP and run eastward along Mahoney and Texas Roads. The area is rural residential and agricultural. The pipeline would pass within 500 feet of seven residences along Mahoney and Texas Roads, eight residences and a gas station along Wellsona Road, and several residences and light industrial and commercial properties along Monterey Road.

After the pipeline crosses the Salinas River, it runs south along North River Road, passing within 500 feet of 43 residences. As the route crosses a more densely populated area, it passes approximately 60 residences along South River Road before Charolais Road.

Charolais Road to Vineyard Drive Bridge
The land uses along this segment include agricultural and residential. The pipeline route travels south on South River and Santa Ysabel Roads, passing within 500 feet of approximately 20 residences. It passes through undeveloped land along the east side of the Salinas River. The route rejoins Vaquero Drive and El Pomar Drive, passing within 500 feet of 12 residences.

Vineyard Drive Bridge to New Hwy 41
Southeast of the Vineyard Street Bridge, the route passes six residences and the Eureka School on or adjacent to Templeton Road and through open farmland.

New Hwy 41 to Happy Valley Pump Station
South of Highway 41, the route follows Templeton Road, which becomes the paved Rocky Canyon Road, to the site of the proposed Happy Valley Pump Station. This segment passes within 500 feet of approximately 26 residences. In addition, it passes within 2,500 feet of Atascadero State Hospital grounds, a maximum security forensic psychiatric facility.

Rocky Canyon Road to Santa Margarita
Land uses along this segment include agriculture, open space, residential, light commercial, and light industrial. The pipeline route extends from the Happy Valley Pump Station across the Happy Valley and Taft Ranches. It then turns west and crosses the Salinas River and follows Santa Clara Road. The route then follows the Union Pacific Railroad southward, joining El

Camino Real for 2.8 miles through Santa Margarita. It passes within 500 feet of approximately 130 residences and several commercial and industrial businesses

Santa Margarita to the Cuesta Tunnel
Approximately 20 residences lie along Highway 58 on the outskirts of Santa Margarita. Outside of Santa Margarita, the land uses include agriculture and open space.

Cuesta Tunnel to San Luis Obispo Water Treatment Plant
This mountainous area is mostly undeveloped. There is one residence located within 300 feet of the pipeline along this segment.

San Luis Obispo WTP to Hwy 227/Santa Fe Road
Land uses include agriculture, residential, and commercial. The route follows Stenner Creek Road from the SLO WTP to Highway 1, passing within 500 feet of three rural residences. The pipeline would then would turn west and follow Highland Drive to Patricia Drive. At Patricia Drive, the route would head west on West Foothill Boulevard for approximately 0.3 mile, where it would gradually turn south in a sweeping semi-circle across open land behind Madonna Farms to a power line corridor. Single-family residences are located throughout the area from Highland Drive to West Foothill Boulevard. Residences are located on both sides of the road but become fewer in number as the road heads west towards the city limits boundary; a church is located on the south side of West Foothill Boulevard adjacent to the SLO city limits. Past the city limits the land is utilized for agriculture (grazing). Madonna Farms, which is considered a noise sensitive receptor, is located within this area along the south side of West Foothill. Between Highway 1 and Foothill Road, the pipeline route passes within 500 feet of more than 100 residences in a suburban neighborhood. The route is 570 feet from Teach School on Felton Way, 440 feet from Nativity School on Patricia Drive, and 460 feet from Quintana School on Taycee Drive, 1,000 feet from Throot Park on Cerro Romualdo, and 2,600 feet from the Sierra Vista Medical Center.

The route would then follow the power line corridor through Laguna Park to Madonna Road. Laguna Park is considered a noise sensitive receptor. Both of these areas would incur short term noise impacts. The route would turn south on Madonna Road and east on Dalidio Drive, to the east side of Highway 101 across from Prado Road, passing through a commercial area, the Madonna Plaza, and across an open field.

A hotel is located northeast of Dalidio Drive, within 500-feet of the road ROW. The alignment would then cross under Highway 101 and head east on Prado Road, where a mobile home park is located. From the present end of Prado Road to Highway 227 the land is undeveloped; therefore, no noise sensitive receptors are located along this section. Highway 227 south is primarily industrial; however, scattered rural residences are located along Highway 227 to the Los Ranchos Road turnoff. A church is located along Highway 227 south of the Tank Farm Road intersection. Land use south of McChesney Airfield gradually becomes less industrial and more residential towards Los Ranchos Road. Los Ranchos Elementary School is located 1,940 feet from the main line termination point at Glenview Drive. Smith School on Balboa Street would also be 2,000 feet from the pipeline.

The CSA 22 spur would connect to the main pipeline at the intersection of Highway 227 and Tank Farm Road. The spur would head west to Santa Fe Road, then turn south on Santa Fe Road, past the SLO Airport to Buckley Road. This spur pipeline would then head east on Buckley Road, terminating at the intersection of Davenport Creek Road and Buckley Road.

As land use along this alternative is primarily rural industrial, there are few noise sensitive receptors in this area. Existing noise sensitive receptors include a mobile home park located on the north side of Tank Farm Road near the intersection with Santa Fe Road, and several homes set back from the roadway along Santa Fe Road. East Santa Fe School on Buckley Road at Davenport Creek Road would be immediately adjacent to the pipeline construction. No other noise sensitive receptors lie along the proposed spur line until the intersection of Buckley and Davenport Creek Road, where several large-lot single-family residences lie adjacent to the roadway.

While noise increases for construction may be substantial, construction activities are exempted from noise standards during designated time periods in County regulated areas. Within the limits of San Luis Obispo City, noise calculations suggest that any receptor within 160 feet of the pipeline could be subjected to noise exceeding 85 dBA, the legislated limit. This would include the East Santa Fe School and many residences. As noted above, however, the construction noise would not occur as a single point source as assumed in the calculations; equipment would be spread out, and the total noise would therefore be less than projected. Construction noise would be audible at sensitive receptors and would exceed noise thresholds for construction within city of limits of San Luis Obispo. Therefore, this impact would be considered potentially significant.

Mitigation Measures

N-1 *Equipment enclosures/noise barriers shall be used in the vicinity of sensitive receptors (per station numbers in Table 5.5.7) to reduce the noise generated by stationary equipment (i.e., generators, pumps, and other stationary construction equipment) during daytime hours.*

N-2 *Construction activities shall be limited to 7:00 a.m. and 7:00 p.m. on weekdays and between 8:00 a.m. and 5:00 p.m. on Saturdays except when local governments want pipeline construction through nonresidential commercial areas to occur at night to avoid disrupting daytime commerce and traffic. Construction equipment maintenance shall be limited to the same hours. Non-noise generating construction activities such as interior painting are not subject to these restrictions. Signs stating these restrictions shall be provided by the Applicant and posted onsite. Signs shall be in place prior to issuance of Land Use Permit and throughout grading and construction activities. Directional drilling shall be exempt from this mitigation measure only if a drilling event is predicted to take more than 12 hours and is begun promptly at the beginning of the work day.*

N-3 *Provide two-week advance notice to sensitive receptors in Paso Robles, Templeton, Atascadero, Santa Margarita, and San Luis Obispo by mail and newspaper. The announcements shall state where and when construction will be scheduled. It shall also provide tips on reducing noise intrusion, e.g. closing windows facing the construction area.*

N-4 *Maintain proper mufflers on all internal combustion and vehicle engines to reduce noise to the maximum extent feasible.*

Residual Impact
These mitigation measures would limit noise impacts experienced by sensitive receptors to levels below the significance criterion. Therefore, the impact would be considered *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
N.2	Operations noise from pumps would increase long-term ambient noise levels.	Class III

The Water Intake at Nacimiento Dam would have five vertical turbine pumps in a sound-proofed building (four for operation and one for standby). The WTP Pump Station would contain four 400 hp pumps in a sound-proofed building. The Happy Valley Pump Station, located on Rocky Canyon Road north of Halcon Road, would contain three 550 hp pumps (two for operation and one for standby) in a sound-proofed building.

The proposed noise-attenuating buildings would reduce the noise generated by the pump operation. The amount of attenuation afforded by a building would depend on the material used to construct the building as well as the interior wall coverings. Construction of a modern residential-type building with closed windows could reduce noise by 20 dBA (Presidio Trust 2002). Given the daytime, evening, and nighttime ambient noise levels of 55, 52, and 45 dBA, noise attenuation measures resulting in reductions of 20 dBA or more would render the noise increases imperceptible to the nearest sensitive receptors and would remain below the County's threshold of 45 dBA. Therefore, the proposed noise-attenuating buildings would render the impact insignificant.

Mitigation Measures

N-5 *Noise-generating equipment associated with operation of pump stations shall be enclosed to reduce noise levels to near ambient conditions. At the 60% design phase for each pump station, plans shall be reviewed by a qualified acoustical engineer to assure that noise levels meet the standards of the County Noise Element.*

N-6 *If necessary to achieve the noise attenuation levels specified in N-5, pumps shall be set below grade, i.e. in a basement in the noise-attenuating building, to further reduce noise impacts.*

Residual Impact
Pump operation noise would exceed noise thresholds by a small amount, so sound-attenuating buildings would reduce noise levels below the significance criteria. Therefore, the impact would be *adverse but not significant* (Class III).

Impact	Impact Description	Residual Impact
N.3	Periodic testing and emergency use of generators would increase short-term ambient noise levels near the pump stations.	Class II

Generators to operate security lighting and controls at each of the three pump stations would be periodically tested and also used during emergencies. These small generators, which can produce noise levels as high as 71 dBA at a distance of 50 feet, would increase noise levels at the Nacimiento Campground by 1, 2, and 2 dBA during the day, evening, and night to levels of 42, 40, and 39 dBA, which would all be within the allowable noise limits. At Pump Station 2, the day, evening, and night noise levels of 35, 37, and 46 dBA would increase by 3, 2, and 0 dBA, which would all be within the allowable noise limits. At Pump Station 3, the day, evening, and night noise levels would be increased by 1, 2, and 6 dBA to 56, 54, and 51 dBA. The resulting nighttime hourly noise levels of 51 dBA could exceed the hourly significance criterion for stationary noise sources.

Mitigation Measures

N-7 Periodic testing of generators shall be performed during daylight hours only.

Residual Impact

Generator operation would not exceed the daytime significance criteria. Nighttime operation would occur only in emergency situations. Therefore, the impact would be *insignificant with mitigation* (Class II).

5.5.4.2 Raw Water Option

Impact N.1 – Construction Noise: Construction noise would be similar to the treated water option except there would be less noise near Texas and Mahoney Roads in Nacimiento due to the absence of WTP construction and traffic. Noise generated by construction of three surge ponds would result in increased ambient noise levels. This increase would be limited to the daytime hours and would be limited to the duration of the construction phase of the project. Construction for each pond system is estimated between two to four weeks. The equipment required for the ponds would consist primarily of a bulldozer and truck for hauling pipe and valve equipment. Of the three ponds, the Paso Robles River Discharge Area is nearest to a sensitive receptor, 250 feet from a residence. Noise levels are estimated to increase by 18 dBA to a level of 76 dBA. (No noise measurements were taken at any of the water discharge areas, so these baseline noise levels are assumed to be the same as at the North River Road pipeline river crossing, which is a comparable distance from Highway 101 and a collector road).

The same mitigation measures would apply, and the impact would be *not significant with mitigation* (Class II).

Impact N.2 – Operations Noise**:** Noise would be the same as the treated water option except near the Texas Road and Mahoney Road because the water treatment plant would not be built. The same mitigation measures would apply, and the impact would be *not significant* (Class III).

Impact N.3 – Testing of Generators: Noise would have similar impact to the treated water option at the pump station locations. There would not be a WPT and no generators at the WTP location.

5.5.5 Alternatives Impacts and Mitigation Measures

Detailed descriptions of the various alternatives have been provided in Section 3. This section provides a discussion of the transportation impacts of the various alternatives.

5.5.5.1 No Project Alternative

There would be no new noise impacts associated with the No Project Alternative.

5.5.5.2 NWP 1997 EIR Alternative

Impact N.1 – Construction Noise: Construction noise would be similar to the proposed project, but the 1997 pipeline alignment would affect a slightly different area. Noise-sensitive land uses adjacent to this alternative pipeline route are compared with the proposed project below in Table 5.5.8. With the same mitigation measures as the proposed project, the impacts would be *not significant with mitigation* (Class II).

Table 5.5.8 Noise-Sensitive Land Use Comparison between Proposed Pipeline Route and Alternative Pipeline Route

Proposed Route	Alternative Route	Land Use
28.5 miles	21.8 miles	Total pipeline distance adjacent to developed areas or sensitive receptors
16.1 miles	10.1 miles	Rural residential
4.5 miles	1.9 miles	Residential/Industrial/Commercial
2.6 miles	2.1 miles	Residential
2.4 miles	0.0 miles	Rural Residential/Commercial/Industrial
1.7 miles	0.0 miles	Commercial/Industrial
0.6 miles	3.0 miles	Rural Residential/Commercial
0.4 miles	1.7 miles	Rural Residential/Industrial
0.4 miles	1.0 miles	Industrial
0.0 miles	1.9 miles	Natural Preserve

Note: The pipeline totals in this table include noise-sensitive land uses only. The remainder of the 66-mile pipeline route runs through undeveloped or agricultural land that is not considered noise-sensitive.

Intake and Pump Station #1
The impact would be the same as the proposed project: *adverse but not significant* (Class III).

Water Storage Tanks
Noise generated by construction of the water storage tanks would result in increased ambient noise levels. The increase would be limited to the daytime hours and would be limited to the duration of the construction phase of the project. Short-term noise associated with construction of the tanks may be as high as 102 dBA at 50-feet and be associated with the driving of support

pilings and/or concrete pouring activities. Noise from water storage tank construction would not exceed the significance threshold at the nearest sensitive receptors, so the impact would therefore be considered *adverse but not significant* (Class III).

Water Treatment Plants
Construction activity would result in increased ambient noise levels. The increase would be limited to the daytime hours and would be limited to the duration of construction. Equipment typically used for construction of projects similar to this includes rock drills, generators, and various earthmoving equipment and trucks. Short term sound levels could be as high as 61 dBA at the nearest sensitive receptor to the Templeton WTP and 57 dBA at the nearest sensitive receptor to the Santa Margarita Plant, which is 3,500 feet from the nearest house. The noise level projected for the construction of the WTP would represent a short term increase of more than 15 dBA over ambient levels and would therefore be considered *significant* (Class I).

Pump Station #2
Noise generated by construction of Pump Station #2 would result in increased ambient noise levels. The increase would be limited to the daytime hours and would be limited to the duration of the construction phase of the project. However, the noise level would reach 75 dBA at the nearest sensitive receptor (300 ft.), an increase of more than 15 dBA. This level would exceed the significance threshold for short term construction and would therefore be *significant* (Class I).

River Discharge Facility Impacts
Noise generated at the river discharge facilities would result in increased ambient noise levels. The increase would be limited to the daytime hours and would be limited to the duration of the construction phase of the project estimated between two to four weeks each. The equipment required for the ponds would consist primarily of a bulldozer and truck for hauling piping and valving equipment. At a distance of 250 feet from the construction, noise levels could reach 70 dBA, an increase of 15 dBA, which would be considered a *significant* (Class I) *short term impact.*

Pump Station #3
Pump Station #3 would be located on the site of the existing CMC WTP in an area visually and physically removed from the public. Two active and one standby pumps are proposed to be located in the open on a concrete foundation. It is proposed that when the plant is upgraded, the pump station electrical controls and generator capacity would be included within the WTP facilities. Although the site is undeveloped and has no noise sensitive receptors within the vicinity of the proposed pump station location, the site is located on land owned by the State of California and is, therefore, required to conform to the State of California Land Use Compatibility Guidelines.

Pipeline Reach A
No noise sensitive receptors are situated within 500-feet of the proposed pipeline location for the majority of Reach A; surrounding land use is primarily undeveloped or agricultural (grazing). Although Lake Nacimiento, where the pipeline begins, would be considered a noise sensitive receptor, for this project the lake is not depicted on a figure as a noise sensitive receptor because

a log boom on the lake separates recreational users from the existing dam and the proposed project by a distance of approximately 500-feet. Noise sensitive receptors along Reach A begin before San Marcos Road, where several rural ranchettes are located within 500-feet of the south side of Nacimiento Lake Drive. From San Marcos Road to Mustard Creek Road, several rural ranchettes are located within 500-feet of both sides of Nacimiento Lake Drive. From Mustard Creek Road to Paso Robles city limits (located immediately past the turnoff for Mustang Springs Road), the density of homes increases as the pipeline gets closer to the city limits of Paso Robles. Fairview Cemetery (a place of public assembly), located on the right side of Nacimiento Lake Drive at the city limits boundary, is adjacent to the road ROW.

Vine Street, located within the city limits of Paso Robles, contains many noise sensitive receptors. At the northern edge of Vine Street, the pipeline would come within 500-feet of the property boundary of Flamson Middle School, which is located one block east on 24th and Oak streets. The pipeline would then turn onto Vine Street and come within approximately 1/2 block from a Boys Scout Center/Playground located at the intersection of Oak and 23rd. Mixed residential/business noise sensitive receptors are located along Vine Street all the way to Kiler Canyon, where residences are scattered and located farther from the roadway. Specific noise sensitive receptors other than residences along Vine Street include the Bauer-Speck Elementary School, located on the block of 18th and Vine; Marie Bauer Primary School, located on the block of 17th and Vine; a church, located approximately 1/2 block east of Vine on 15th Street; a church, located on the corner of 13th and Vine; a church, located on the block of 10th and Vine; and a daycare facility and a church, located on the block of 9th and Vine. Several other churches, a post office, city park and a library are located more than 500-feet from the proposed pipeline and are therefore not considered noise sensitive receptors for the proposed project.

Past Kiler Canyon, South Vine parallels Highway 101 to a point where the pipeline would cross over at Cuerno Largo Way. Although there are scattered residences located on the west side of South Vine Street, the residences are located more than 500-feet away from the roadway, and therefore would not be considered noise sensitive receptors.

Construction of the 2,500-foot long tunnel section of Reach A could have the potential to create ground-borne vibration impacts to utility lines or oil and gas pipelines in the vicinity should tunneling or blasting associated with pipeline construction occur. A Phase III Engineering Evaluation prepared for this project identified no existing oil or gas pipelines within Reach A (Boyle Engineering Corporation 1994). A high-pressure gas utility line runs along Nacimiento Lake Drive, but its exact location could not be determined for this report (Underground Service Alert 1997). The Engineering Report prepared for this project proposed that the tunnel be constructed more than 100-feet from Nacimiento Lake Drive; therefore, approval of this alternative of the proposed project would not be expected to impact gas utility lines. Yet if explosives are used for tunneling, a licensed blasting contractor would be used. Additionally, identification of all utility locations and construction notification to the appropriate utility owner/operator is standard practice during both the design and construction phases of a project.

Pipeline Reach B

Reach B would begin where the pipeline crosses Highway 101 opposite Cuerno Largo Way at Circle Drive, and would run southward parallel to Highway 101. The area is rural industrial, although several residences are located to the east of Ramada Drive. These residences are located at least 500-feet from Ramada Drive and therefore would not be considered noise sensitive receptors. Adjacent to the SLO County Fire Station 30, north of Marquita Avenue, a residence is located close to Ramada Drive. There are no other noise sensitive receptors along Reach B.

Pipeline Reach C

North of Templeton along Main Street the route would pass by several rural residences located along both sides of the road. Near Templeton, the route would pass numerous noise sensitive receptors along Main Street including several offices; a bed and breakfast facility located near 1st and Main; the Templeton Historical Museum near 3rd and Main; the Templeton Community Center and Women's Civic Center near 6th and Main; a church near 7th and Main; American Legion Hall near 8th and Main; and the Templeton Middle and Elementary Schools past 8th and Main. Templeton Park is located away from the proposed pipeline route on Crocker Street. At the southwestern edge of Templeton, the pipeline would come within 500-feet of several residences and Templeton High School.

Pipeline Reach D

Reach D would continue south from the end of Reach C at the outskirts of Templeton and would run along the SPRR railroad tracks, passing by several single-family homes. San Benito Elementary School is located between San Benito and Potrero Road; the school property line is located adjacent to the proposed pipeline. From here the pipeline would continue south along the railroad track alignment and would pass through suburban neighborhoods in the vicinity of Sycamore Road and Traffic Way. The pipeline would pass within 100- to 300-feet of the single-family homes in this neighborhood. South of Traffic Way is located Atascadero Pine Mountain Cemetery and a regional park; however, both are located at least 500-feet from the proposed alignment and therefore would not be considered noise sensitive receptors. Just south of the City of Atascadero the proposed pipeline would pass directly through Atascadero State Hospital boundaries, a maximum-security forensic psychiatric facility. However, the pipeline would be located approximately 800-feet from residential facilities. South of Atascadero State Hospital, the pipeline would progress southward following the alignment of the railroad tracks and would pass within 100- to 500-feet of many more large-lot single-family homes. At the point where the railroad tracks and El Camino Real diverge, County Care Convalescent Hospital is located adjacent to El Camino Real.

Pipeline Reach E

Reach E would follow the alignment of the railroad tracks and would pass within 100- to 500-feet of several large-lot single-family homes in the Garden Farms area. There are no other noise sensitive receptors along the southern portion of Reach E.

Pipeline Reach F

Reach F would begin at the intersection of El Camino Real and Estrada Avenue. At this intersection, the pipeline would turn onto Estrada Avenue, and run east along the road ROW to the existing Department of Water Resources (DWR) pipeline alignment. Noise sensitive receptors along Estrada Avenue include Santa Margarita Community Park, and many large-lot single-family homes. A mobile home park is also located on Estrada Avenue, between I and K streets. The Santa Margarita Elementary School is located east of Santa Margarita on H Street; however, the school is located at least 500-feet from the proposed pipeline alignment. Other noise sensitive receptors located more than 500-feet from the proposed alignment include a library and several churches located in the downtown portion of Santa Margarita.

Reach F would join the DWR pipeline alignment east of K Street. At this point it would turn south and run parallel to the DWR pipeline to the connection point of the Cuesta Tunnel. The selected alignment south of Santa Margarita would parallel the State Water Project, Coastal Branch Phase II pipeline. There are no noise sensitive receptors in this area as it is currently undeveloped land.

Pipeline Reach G

There are no noise sensitive receptors along the major portion of Reach G because the alignment passes through remote and undeveloped land. Reach G would pass within 500-feet of the back side of CMC, which is considered a sensitive noise receptor because it contains residential facilities. Because this portion of Reach G would cross through CMC property, which is remote as well as inaccessible to the general public, it would not impact noise sensitive receptors.

From the CMC the pipeline would continue east to the south side of the railroad alignment. It would follow the railroad for approximately 0.6 mile then continue across open fields southeast to Stenner Creek Road and then turn south on Stenner Creek Road to Highway 1. Cal Poly State University lands are located to the east of Stenner Creek Road; however, as no classrooms are located within this area (the land is utilized for grazing), it would not be considered a noise sensitive receptor. At the southern end of Reach G, noise sensitive receptors include several multi-family and single-family residences, located on the west side of Highway 1 near Westmont Avenue.

Pipeline Reach H

Reach H would begin at Santa Rosa Street, where it would cross to Chorro Street and turn south to the intersection of Highland Drive. From Santa Rosa Street to Highland Drive, several single- and multi-family residences are located along both sides of the road. In addition to residential noise sensitive receptors, several other noise sensitive receptors are located along this alternative: Charles Teach Elementary School, Nativity School, Quintana Elementary School, and Throop Park. The pipeline would then would turn west and follow Highland Drive to Patricia Drive. At Patricia Drive, the route would head west on West Foothill Boulevard for approximately 0.3 mile, where it would gradually turn south in a sweeping semi-circle across open land behind Madonna Farms to a power line corridor. Single-family residences are located throughout the area from Highland Drive to West Foothill Boulevard. Residences are located on both sides of the road but become fewer in number as the road heads west towards the city limits boundary; a church is located on the south side of West Foothill Boulevard adjacent to the SLO city limits. Past the city limits the land is utilized for agriculture (grazing). Madonna Farms, which is considered a noise sensitive receptor, is located within this area along the south side of West Foothill. The route would then follow the power line corridor through Laguna Park to Madonna Road. Laguna Park is considered a noise sensitive receptor. Both of these areas would incur short term noise impacts. The route would turn south on Madonna Road and east on Dalido Drive, to the east side of Highway 101 across from Prado Road.

Pipeline Reach K
Land use along Reach K is primarily industrial and/or residential rural; therefore, there are few noise sensitive receptors located along this alternative of the route. Reach K would continue east from the end of Reach H, on Dalidio Drive. A hotel is located northeast of Dalidio Drive, within 500-feet of the road ROW. The alignment would then cross under Highway 101 and head east on Prado Road, where a mobile home park is located. From the present end of Prado Road to Highway 227 the land is undeveloped; therefore, no noise sensitive receptors are located along this section. Highway 227 south is primarily industrial; however, scattered rural residences are located along Highway 227 to the Los Ranchos Road turnoff. A church is located along Highway 227 south of the Tank Farm Road intersection. Land use south of McChesney Airfield gradually becomes less industrial and more residential towards Los Ranchos Road. Los Ranchos Elementary School is located near the main line termination point at Glenview Drive.

The CSA 22 spur would connect to Reach K at the intersection of Highway 227 and Tank Farm Road. The spur would head west to Santa Fe Road, then turn south on Santa Fe Road, past the SLO Airport to Buckley Road. This spur pipeline would then head east on Buckley Road, terminating at the intersection of Davenport Creek Road and Buckley Road.

As land use along this alternative is primarily rural industrial, the CSA–Airport spur includes few noise sensitive receptors. They include a mobile home park located on the north side of Tank Farm Road near the intersection with Santa Fe Road, and several homes set back from the roadway along Santa Fe Road. No other noise sensitive receptors lie along the proposed spur line until the intersection of Buckley and Davenport Creek Road, where several large-lot single-family residences lie adjacent to the roadway.

The Afuero de Chorro spur would be constructed from Reach K at the intersection of Highway 227 and Tank Farm Road to serve the Afuero de Chorro Water Company. It would proceed east to Orcutt Road, turning north to follow Orcutt Road to its termination at Calle Crotalo Road.

The Afuero de Chorro spur includes a single-family housing development is located along Tank Farm Road east of Highway 227; noise sensitive receptors lie along both sides of the road along this portion of the alignment. After approximately 1/4 mile, single-family homes lie only to the south side of Tank Farm Road. The north side of Tank Farm Road is currently utilized for agriculture (grazing). As the alignment heads east towards Orcutt Road, fewer homes currently exist; land use is residential-rural. At the intersection of Tank Farm Road and Orcutt Road, the Afuero de Chorro spur would turn north to follow Orcutt road to its termination at Calle Crotalo Road. A park is located adjacent to the Tank Farm Road and Orcutt Road intersection on the south side. Scattered large-lot single-family residences lie along both sides of Orcutt Road.

Impact N.2 – Operations Noise: Noise impacts from operations would be the same as the proposed project with the mitigation implemented. Pump Station 2, which would also be enclosed in a building, would be situated at the corner of Santa Clara and Sandoval Roads and would be 400 feet from the nearest house. Assuming similar baseline ambient noise levels as the intersection of Halcon and Rocky Canyon Roads (55, 52, and 45 dBA during the day, evening, and night), this alternative would result in no increase in background noise and therefore not exceed the significance criteria. With mitigation measures N-5 and N-6, the pump noise would be further reduced and the impact rendered *not significant with mitigation* (Class II).

Impact N.3 – Generator Noise: Periodic testing and emergency use of generators would be greater than the proposed project. Because of the proximity of Pump Station 2 to houses in a rural area, ambient noise levels could be increased by 9, 12, and 19 dBA to levels of 54, 64, and 64 dBA. The nighttime increase could exceed the hourly significance threshold for stationary sources if operated for more than one half hour. The implementation of N-6, however, would render the impact *insignificant with mitigation (Class II).*

5.5.5.3 Phased Raw and Treated Water Alternative

Impact N.1 – Construction Noise: Construction noise would be the same as the proposed project.

Impact N.2 – Operations Noise: Operations noise would be the same as the proposed project except that noise from water treatment facilities would not be generated until after the facilities were constructed.

Impact N.3 – Generator Noise: Periodic testing and emergency use of generators would be the same as the proposed project except that noise from generators would not occur until after the facilities were constructed.

5.5.6 Cumulative Impacts

The cumulative noise impacts associated with the projects discussed in Section 4, Cumulative Impacts, could be significant. Simultaneous construction activities near the Nacimiento Dam for the proposed project and the proposed Salinas Valley Water Project would increase noise levels, but short term construction noise is not considered significant. Also, construction activities are not expected to occur simultaneously. Long term operational noise would be potentially significant to sensitive receptors around the dam, including Nacimiento Resort Campgrounds. Implementation of project-specific mitigation measures (e.g., N-2) for both the proposed project and the Salinas Valley Water Project would reduce the cumulative noise impact to *not significant with mitigation* (Class II).

There were also numerous development and maintenance projects identified in Section 4 which would have the potential to result in cumulative noise impacts. However, it is unlikely that these projects will overlap with the proposed project. Should road improvement projects occur at the same time as the proposed project, construction activities would need to be coordinated, thus mitigating cumulative noise impacts.

5.5.7 Mitigation Monitoring Plan

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
N-1	Equipment enclosures/noise barriers shall be used in the vicinity of sensitive receptors (per station numbers in Table 5.5.7) to reduce the noise generated by stationary equipment (i.e., generators, pumps, and other stationary construction equipment) during daytime hours.	Onsite monitor at all construction sites shall visually inspect in field during construction.	Dept of P&B or approved monitor	Onsite monitoring. Inspection and response to complaints.	Periodic.
N-2	Construction activities shall be limited to 7:00 a.m. and 7:00 p.m. on weekdays and between 8:00 a.m. and 5:00 p.m. on Saturdays except when local governments want pipeline construction through nonresidential commercial areas to occur at night to avoid disrupting daytime commerce and traffic. Construction equipment maintenance shall be limited to the same hours. Non-noise generating construction activities such as interior painting are not subject to these restrictions. Signs stating these restrictions shall be provided by the Applicant and posted onsite. Signs shall be in place prior to issuance of Land Use Permit and throughout grading and construction activities. Directional drilling shall be exempt from this mitigation measure only if a drilling event is predicted to take more than 12 hours and is begun promptly at the beginning of the work day.	Onsite monitor at all construction sites shall visually inspect in field during construction.	Dept of P&B or approved monitor	Onsite monitoring. Inspection and response to complaints.	Periodic.
N-3	Provide two-week advance notice to sensitive receptors in Paso Robles, Templeton, Atascadero, Santa Margarita, and San Luis Obispo by mail and newspaper. The announcements shall state where and when construction will be scheduled. It shall also provide tips on reducing noise intrusion, e.g. closing windows facing the construction area.	Prior to construction advertise via mail and newspaper. Environmental Specialist present at construction site.	Dept of P&B	Response to complaints	Response to complaints
N-4	Maintain proper mufflers on all internal combustion and vehicle engines to reduce noise to the maximum extent feasible.	Environmental Specialist present at construction site.	Dept of P&B	Onsite monitoring. Inspection and response to complaints.	Periodic.
N-5	Noise-generating equipment associated with operation of pump stations shall be enclosed to reduce noise levels to near ambient conditions. At the 60% design phase for each pump station, plans shall be reviewed by a qualified acoustical engineer to assure that noise levels meet the standards of the County Noise Element.	Submit design of enclosures to the Lead Agency with the final design of the facilities	Dept of P&B	Review and approve design and plans Measure noise to verify compliance	Prior to Board of Supervisors approval to advertise for construction bids. During pump station operation

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
N-6	If necessary to achieve the noise attenuation levels specified in N-5, pumps shall be set below grade, i.e. in a basement in the noise-attenuating building, to further reduce noise impacts.	Submit design of enclosures to the Lead Agency with the final design of the facilities	Dept of P&B	Review and approve design and plans Measure noise to verify compliance	Prior to Board of Supervisors approval to advertise for construction bids. During pump station operation
N-7	Periodic testing of generators shall be performed during daylight hours only.	During operation of pump stations	Dept of P&B	Response to complaints	Response to complaints

Note: County PW Dept= SLO County Department of Public Works (The Applicant); Dept of P&B= SLO County Department of Planning and Building.

5.6 Hazards and Hazardous Materials

This section describes existing and potential sources of environmental hazards associated with proposed construction and operation of the Nacimiento Water Project, assesses potential impacts from these hazards, and recommends mitigation measures to reduce impacts below a level of significance. As defined in Chapter 6.95 of Division 20 of the California Health and Safety Code, Section 25501(k), a hazardous material is:

> *"…any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. 'Hazardous materials' include, but are not limited to, hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment."*

This section addresses those scenarios that could cause the potential inadvertent release of hazardous materials or wastes into the environment and associated consequences directly resulting from the exposure of these substances to people, wildlife, habitat, water, and other sensitive resources. Indirect impacts resulting from upset conditions may affect growth, land use, and regional socioeconomic activity.

5.6.1 Environmental Setting

For the proposed project, environmental setting or baseline conditions would reflect the baseline hazards associated with the project area.

5.6.1.1 Regional Overview

The proposed pipeline would extend approximately 66 miles through SLO County. The pipeline would run adjacent to a number of areas where soil and ground water have been contaminated with hazardous materials, exposure to which could potentially affect health and welfare of the project workers and the public or the environment.

Primary issues of concern are worker health and safety and potential public exposure to hazardous materials during construction and waste handling. Impacts could also occur if pipeline construction accelerates contaminant migration, restricts access to future investigation or remediation, or trenching breaches a low permeability cover or cap at a remediated site. Where encountered, contaminated soil may qualify as hazardous waste and thus require handling and disposal according to local, State, and Federal regulations.

Land use activities associated with hazardous substances along the pipeline ROW include industrial, oil production, and intensive agriculture. Land uses that could contribute to the soil or groundwater contamination have been identified by the Applicant during the pipeline route surveys, the results of the surveys will be used in preparation of the construction plans and the Hazardous Materials Contingency Plan.

As part of this environmental study, the sites and land uses with potential contamination have been identified along the proposed route by reviewing the NWP 1997 EIR (Ogden 1997) and Environmental Report by Carollo Engineers (2002), consultation with regulatory agency staff, an assessment of the project maps, and visual reconnaissance along the proposed route. The sites with known or suspected contamination were identified along or near the proposed route to better define areas where hazardous waste may impact construction activities. Following is a general discussion of land use concerns along the proposed route.

Railroad and Roadway ROWs

The proposed pipeline would be laid within railroad or roadway ROWs along much of the proposed route. Operation and maintenance of rail lines, rail cars, and locomotives over the years has resulted in varying levels of soil and groundwater contamination (e.g., railroad ties are treated with creosote, a wood preservative that causes soil and groundwater contamination). Finally, despite efforts to restrict access and discourage dumping, roadway and railroad ROWs have occasionally been used for unauthorized disposal, possibly including hazardous substances. Railroads and roadways are used to transport a significant amount of hazardous materials in California. Derailment of rail cars carrying hazardous materials and other accidents can result in contamination of a ROW. Currently, regulations require the reporting of accidental releases of hazardous materials above certain chemical-specific reporting thresholds.

Agricultural Operations

Intensive agricultural use in the central coast of California is characterized by widespread frequent agricultural chemical applications and typically involves row crops, greenhouses, and orchards. Agricultural practices routinely use pesticides and herbicides to increase or protect the productivity of crops. A wide range of pesticides are currently used along the proposed ROW. In addition, a number of agricultural chemicals that once were considered legal and safe to use have changed substantially over the years (e.g., dichlorodiphenyltrichloroethane [DDT] is no longer legal to use in the United States).

Agricultural operations can often cause a build-up of pesticides in the soil. In general, pesticides of the greatest concern are ones that are toxic or carcinogenic and also do not decompose or wash away readily.

Oil and Gas Operations

Oil and gas processing and storage operations in SLO County are generally restricted to the southern coastal areas, with the exception of some pipelines and associated pump stations. Unocal operated an onshore marine terminal and tank farm in Avila Beach that has now been removed and the site remediated, also Unocal operated a major tank farm on Tank Farm Road located west of the airport in SLO. Tosco operates the former Unocal Refinery near Arroyo Grande. Oil and gas pipelines and pump stations (extending northeast near Santa Margarita) are operated by Tosco and support service between these facilities and Kern County. The Chevron USA Estero Bay pipelines extend eastward through Atascadero into Kern County.

Current regulatory requirements mandate that pipelines, pump stations, and storage tanks be routinely inspected for leakage and require remediation when leakage has occurred. Notwithstanding these requirements, it is possible that construction or grading near these facilities or pipelines would have the potential to uncover historic releases or presently unknown releases of petroleum or natural gas.

Past oil drilling activities have often been a source of hydrocarbon and petrochemical contaminants releases, especially drilling that occurred during the first part of the century when environmental regulations have not yet been developed. Contamination may exist at old abandoned wells, tanks, flow lines, or unlined sumps. Oil drilling activities in SLO County have also been generally localized in the southern coastal areas within the northernmost extension of the Santa Maria Basin. Producing fields include Lopez Canyon and Arroyo Grande. The California Division of Oil and Gas and Geothermal Resources (DOGGER) maintains records of past drilling exploration activities which include well location and work performed on wells, from installment to abandonment.

Utilities

The proposed pipeline alignment would cross numerous public utilities. Utility infrastructure is concentrated primarily within urban areas and includes sanitary and storm sewer drains, water lines, and electrical and telephone cables that pose electrocution hazard if accidentally damaged during soil movement operations. Southern California Gas operates facilities and lines across SLO County; a Southern California Gas transmission main extends through Atascadero and Templeton.

Facilities that Handle Hazardous, Toxic, or Flammable Substances

There are various other facilities that handle, manufacture, use, or store toxic and flammable substances in various quantities. If the quantities of the hazardous materials handled are above the specified thresholds (a list of these substances and their thresholds are given in 40 CFR 68.130), these facilities are required to develop and implement a risk management program (RMP) under a rule issued by the EPA. Facilities that handle hazardous materials also are regulated under California Health and Safety Code (Division 20, Chapter 6.95, Article 2) and California Code of Regulations (Title 24, Section 80113, Part 9).

The proposed project area also contains potential risk of contamination from other sources, such as businesses with small quantities of hazardous materials not subject to any regulations and unknown releases associated with the transportation of hazardous materials. Additional potential sources include unknown storage drums, drainage wells and ditches, broken sewer lines or unauthorized industrial wastewater discharges, unknown sumps/pits, and unauthorized or permitted landfills. Further, naturally occurring asbestos identified in the region's serpentine outcrops is also considered a potential contamination source.

The majority of businesses that handle or store hazardous materials and, therefore, have the potential to impact the proposed pipeline project are located within the urban boundaries of Paso Robles, Templeton, Atascadero, Santa Margarita, and SLO. These types of businesses are also scattered between urban boundaries along major highways and frontage roads.

The types of facilities that generally handle hazardous materials are listed in Table 5.6.1 by specific industry classification. Any of these materials could be contained in the soil due to leaks, illegal dumping or other accidental releases.

Table 5.6.1 Classification of Businesses that Handle or Store Hazardous Materials

Industry Classification	Facility Type	Hazardous Materials
Auto Repair/Services	Auto Service Stations Auto Repair Shops Radiator/Battery Service Tires Service	Fuels, solvents, lubricants, corrosive liquids, metals, PCBs
Chemical Services	Photographic Labs Cleaners Chemical Storage	Acids, solvents, Toxic solvents Gases
Industrial Operations	Trucking Equipment Rentals Construction Yards Building Supplies Pest Control	Fuels, lubricants, solvents Metals, corrosion inhibitors Corrosion inhibitors, acids Toxic chemicals, solvents Pesticides, herbicides
Agricultural Operations	Agricultural Storage Agribusiness Fuel and Feed Mills	Fuels, solvents, Pesticides, herbicides, metals, other toxic chemicals
Storage Yards	CalTrans Yards Highway Patrol Yards City or County Yards Rail Road Yards	Fuels, solvents, lubricants PCBs, herbicides, metals, toxic chemicals
Building Operations	Paint Stores Roofing businesses	Solvents, fuels Oils/tar
Medical	Pharmacy Veterinary Hospital/Clinics	Biochemicals, Toxic chemicals, Radioactive materials

Facilities with Leaking Underground Fuel Tanks

As previously discussed, locations of facilities with leaking UFTs are disclosed to State and local governmental agencies under the statutory authority of the Health and Safety Code and the Administrative Code. Unknown leaks of fuels or solvents from an underground storage tank are generally associated with abandoned or closed facilities.

5.6.1.2 Proposed WTP Operational Setting

Hazardous chemicals expected to be used for water treatment include liquid chlorine, anhydrous ammonia, aluminum sulfate, caustic soda, and powdered activated carbon (PAC). The properties and hazards of chemicals expected for use in the water treatment process are discussed below.

Disinfectants

Chlorine (Cl_2) or a chlorine based product (e.g., sodium hypochlorite, chloramines) could be used as the primary disinfectant in treatment of water from Lake Nacimiento. The WTP could also utilize ozone as the plant's primary disinfectant, in which case chlorine would be used in smaller quantities as a secondary or "booster" disinfectant.

***Chlorine* –** Chlorine is a gas at ambient temperature and pressure with a normal boiling point of -29°F. Chlorine is corrosive and reactive and is a strong oxidizing agent which can react violently with many chemicals, and is not likely to be used for the disinfection purposes at the proposed WTP, however its properties are provided here for general information. The observed health effects and exposure limits of chlorine are listed in Table 5.6.2. The National Institute for Safety and Health (NIOSH) defines the gas concentration level at which a person could persist unprotected before suffering impairing or irreversible health effects as IDLH (immediately dangerous to life and health). . In an occupational setting, the term IDLH is used to describe the level at which a person could persist while using a respirator and still be able to escape in case the respirator failed. A chlorine spill at the IDHL level would pose a danger to onsite workers or nearby residents.

Table 5.6.2 Observed Health Effects and Exposure Limits of Chlorine Gas

Health Effect	Exposure Limit, ppm
Permissible Exposure Limit (ceiling) (from OSHA)	0.5
Odor Threshold	3.5
Immediate Throat Irritation	15.0
Immediately Dangerous to Life and Health (IDLH)(from NIOSH)	30.0
Often Fatal	1,000.0

Notes: OSHA=Occupational Safety and Health Administration, ppm=parts of vapor per million parts of air by volume at 25°C and 760 torr (a unit of pressure that is equal to approximately 1.316×10^{-3} atmosphere or 1,333 Pascals), NIOSH=National Institute for Safety and Health, and ACGIH=American Conference of Governmental Industrialist Hygienists

Source: NIOSH 1985 and ACGIH 1984.

Chlorine would be received and handled in standard one-ton cylinders (approximately 250 gallon capacity). Although chlorine is a gas at ambient temperature and pressure, it is stored in the cylinders as a liquid at a pressure of up to 150 pounds per square inch absolute (psia). The chlorine cylinders would be transported from the supplier to the WTP on trucks specifically designed for this use. The cylinders would then be transferred from the truck to specially designed cradles within the chlorine building at the WTP.

The cylinders would be connected to the plant’s chlorine handling system with flexible metal tubes (pigtails) through a series of valves and pressure regulators. The cylinders would remain connected to the plant’s chlorine handling system until the cylinders become depleted. The cylinders, containing only a residual quantity of chlorine, would then be disconnected and returned via truck to the chlorine supplier. The cylinders would be plumbed so that liquid chlorine is withdrawn from them.

The liquid chlorine would be vaporized by heat exchange with ambient air. The chlorine vapor would be aspirated under vacuum into a slipstream of water. The resulting 0.7% chlorine solution would be mixed with the water to be treated.

***Chloramines* –** Chloramines can be formed as a result of the reaction between free chlorine and ammonia. Chloramines are weaker disinfectants, especially weak for inactivating certain viruses. Therefore, typically ammonia is added downstream from initial free chlorine application so that microorganisms, including viruses, are exposed to free chlorine for a short period of time before chloramines are formed. In order to meet drinking water requirements, systems using chloramines must carry considerably higher residuals or provide longer contact time than would be necessary if they were using free chlorine. If raw water contains phenol or phenolic compounds, addition of free chlorine forms chlorophenol that has disagreeable taste and odor. Chloramines do not have this problem and therefore have an advantage over chlorine. The primary advantage for the proposed project is that chloramines reduce the THM (trihalomethanes) levels in water.

Sodium Hypochlorite **–** Sodium Hypochlorite (NaOCl) is a clear, light greenish-yellow liquid commonly used as bleach. In water disinfection solutions of 9 to 15% are typically used. There is no fire hazard in storing solutions of NaOCl, the chemical is however corrosive and irritating if swallowed or ingested, causes severe irritation and burns in contact with skin or eyes. There are no exposure limits available (http://www2.ncsu.edu/ehs/hazcom/Images/bleach.pdf). Transportation and storage should be in high-density polyethylene or glass-fiber-reinforced plastic tanks that conform to AS 2634-1983 or other approved standards. Solutions typically loose 2 to 4% of its available chlorine content per month, therefore storage is typically time-limited.

Anhydrous Ammonia

Anhydrous ammonia (NH_3) could be used in conjunction with chlorine for final disinfection of the treated water. Ammonia and chlorine combine to form chloramines in water, which are effective disinfectants. The ammonia also scavenges or binds the chlorine before it can react with trace organics in the water to form trihalomethanes.

Ammonia is a gas at ambient temperature and pressure. Its normal boiling point is -28°F. It is a colorless material with slight flammability that is highly soluble in water. In the gaseous form, it has explosive limits of 16–25% in air by volume; however, the explosive range is seldom encountered. Mixed with oil or other combustible material, ammonia can increase the fire hazard. As a liquid, it has a specific gravity of 0.64, and, as a gas, a density approximately 0.6 times that of air. It is highly reactive with inorganic and organic acids. Ammonia is considered to be a hazardous material based on its toxicity. Exposure limits and observed health effects are listed in Table 5.6.3.

Like chlorine, ammonia would be received and stored at each plant in one-ton cylinders. The ammonia would be liquid in the cylinders under vapor pressure of 153 psia at 80°F. The ammonia would be fed into the process like chlorine: under vacuum and aspirated by fresh water.

Table 5.6.3 Observed Health Effects and Exposure Limits of Ammonia

Health Effect	Exposure Limit, ppm
Threshold Limit Value (TLV) (from ACGIH)	25
Odor Threshold	1–5
Short Term Exposure Limit	35
Immediately Dangerous to Life and Health (IDLH)	500
Lethal Concentration (Low) by Inhalation	10,000

Note: ppm=parts of vapor per million parts of air by volume at 25°C and 760 torr.

Sources: NIOSH 1985 and ACGIH 1989.

Aluminum Sulfate (Alum)
Liquid alum ($Al_2(SO_4)_3$) would be used as a coagulant to remove small particles (colloids) from the water. It is typically received in tank trucks (4500 gallon capacity) as a 50% solution in water. The alum solution would be stored onsite in an above-ground tank. The hazard associated with alum is that it is an acidic solution (pH less than 4) and therefore could burn skin or mucous membranes if ingested.

Sodium Hydroxide (Caustic Soda)
Caustic soda (NaOH) would be used at the WTP for basification (pH raising) and for control of catastrophic chlorine releases from the storage area. It is assumed that it would be supplied to each plant as an aqueous solution (50% NaOH) in tank trucks. It would be stored onsite in an above-ground tank. The caustic soda would be diluted 1:1 with water, upon receipt. The hazard associated with caustic soda is its strong basicity and corrosivity.

Powdered Activated Carbon (PAC)
PAC would be utilized to filter and adsorb hydrophobic and surface-active species from the water, after coagulation and removal of the colloidal particles and prior to chlorine disinfection. PAC is made through pyrolysis of wood, paper, petroleum residuum, coal, or coconut shells. It is essentially pure carbon, but finely ground. PAC would be received at the plant dry in 20-ton pneumatic tank trucks. The trucks would “blow” (pneumatically convey) the dry PAC into above-ground slurry tanks. The PAC would be mixed with water in the ratio of one pound of PAC per one gallon of fresh water and stored as a PAC-water slurry. PAC is considered hazardous because it is a finely divided combustible solid which can be ignited if suspended in air at the proper concentration (above approximately 10 g/m^3 and below approximately 500 g/m^3).

Ozone
The water treatment plant could use ozone (O_3) for water disinfection instead of, or in addition to, chlorination. Ozone would oxidize the compounds which tend to form trihalomethanes on contact with chlorine in the primary disinfection facility. If, however, drinking water standards for toxic chlorination byproducts are lowered below one-tenth of the present standards, then ozonation plus chloramination would produce unacceptably high levels of toxic byproducts, and granular-activated carbon adsorption would be used to post-treat the water after chlorination. In that case, primary disinfection would be done by chlorination/ chloramination, and ozonation would not be required.

Ozone is a faintly blue gas. Ozone is unstable, decomposing to oxygen with a half-life between 4 to 12 hours. It is therefore generated from oxygen close to the point of use and is normally found in ppm to percent concentrations in oxygen or air. Ozone is a strong oxidant and is toxic at low concentrations. Exposure limits and observed health effects for ozone are listed in Table 5.6.4.

Table 5.6.4 Observed Health Effects and Exposure Limits of Ozone

Health Effect	Exposure Limit, ppm
Threshold Limit Value (TLV)	0.1
National Ambient Air Quality Standard (NAAQS)	0.12
Odor Threshold	0.1
Immediate Throat Irritation	2.0–3.7
Immediately Dangerous to Life and Health (IDLH)	10.0

Sources: NIOSH 1985 and ACGIH 1989.

Ozone, if used, would be generated onsite from either dried air or liquid oxygen. Alternatively, gaseous oxygen could be generated on site as well. Ozone is typically generated at a concentration of 1 to 3% (10,000–30,000 ppm) in air. The ozonated air would be directly diffused into the water (or aspirated like chlorine and ammonia). Ozonated air and water would then travel concurrently or counter currently through a contact column. The air from the top of the column would be ducted to an ozone reducer/scrubber.

If liquid oxygen is chosen as the feed material for ozone generation, then the feed flow would be as follows. Liquid oxygen would be drawn off the storage tank. The storage tank would be an above-ground pressure vessel. The liquid would flow through a heated vaporizer and into the ozone generator.

5.6.1.3 Study Area and Scope

For the hazardous materials analysis, the study area includes regions in the vicinity of the proposed pipeline route and the proposed facilities (such as the water intake, WTP, pump stations, water storage tanks and discharge areas).

There are several risks that could impact public or pipeline construction or operation personnel's safety or health. The risks associated with construction of the water pipeline are as follows:

- Encountering unexploded ordnance during construction on Camp Roberts' property;
- Unearthing of contaminated materials, soils, or water during trenching/excavation;
- Unearthing serpentinite or serpentine-rich rock that contains natural asbestos;
- Damage to hazardous pipelines during trenching/excavation;
- Spill of flammable materials (fuels, lubricants) during construction.

Risks associated with the operation of the water pipeline system are as follows:

- Accidental release of water treatment chemicals, transported to, stored and handled at the WTP (Treated Water Option). The release could happen during transport, unloading, improper storage or use of the hazardous materials described above, or during the system upset or catastrophic events that result in a release.
- Contamination of treated water (e.g., leakage of soil contaminants into the damaged pipeline) could expose water users to contaminants and pose health risks.

There have been instances when releases of chlorinated water from treated water pipelines have harmed sensitive aquatic habitats due to the toxicity of chlorine to aquatic animals or other organisms (Julie Eliason 2003). Therefore, risks associated with a release of chlorinated water have also been evaluated.

5.6.2 Regulatory Setting

The handling, use, storage, treatment, transport, and disposal of hazardous materials, including management of contaminated soils and groundwater, are regulated by local, State, and Federal laws. The agencies responsible for enforcing applicable laws and regulations develop and enforce standards for the handling and cleanup of specific materials determined to pose a risk to human health or the environment. The enforcing agency at the local level for the proposed project area is SLO County Health Agency, Division of Environmental Health. Enforcement agencies at the State level include two branches of the California Environmental Protection Agency (CalEPA), the Department of Toxic Substances Control (DTSC), and the Regional Water Quality Control Board (RWQCB). The Federal enforcement agency is the EPA. A description of agency involvement in management of hazardous materials is provided below.

5.6.2.1 Federal Laws and Regulations

U.S. Environmental Protection Agency (EPA)

The EPA is the Federal agency responsible for enforcement and implementation of Federal laws and regulations pertaining to hazardous materials; in addition, the EPA provides oversight and supervision for some site investigation/remediation projects. For disposal of certain hazardous wastes, the EPA has developed land disposal restrictions and treatment standards. Legislation includes the Resources Conservation and Recovery Act of 1986 (RCRA), the Superfund Amendments and Reauthorization Act of 1986 (SARA), and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). The Federal regulations are primarily codified in Title 40 of the Code of Federal Regulations (40 CFR). These laws and regulations include specific requirements for facilities that handle, generate, use, store, treat, transport, and/or dispose of hazardous materials, as well as for investigation and cleanup of contaminated property.

RCRA provides Federal regulation over facilities which generate, store, transport, treat, or dispose of hazardous waste. Federal, State, and local governmental agencies identify and track hazardous waste from the point of generation to the point of disposal. Facilities that are under permit from the EPA to treat, store, and/or dispose of hazardous waste are tracked in the Resource Conservation and Recovery Information System (RCRIS) database. The California Solid Waste Information System (SWIS) database consists of both open as well as closed and inactive solid waste disposal facilities and transfer stations (including surface impounds) pursuant to the Hazardous Waste Control Law (HWCL) of 1972.

SARA specifically addresses the management of hazardous materials by requiring public disclosure of information relating to the types and quantities of hazardous materials used at various types of facilities. Facilities must immediately report any discharge (leaks or spills) above the reportable quantity of extremely hazardous substances to local agencies in addition to State and district Title III agencies.

CERCLA addresses procedures to identify and clean up sites contaminated by unauthorized releases of hazardous materials. Superfund sets priorities for cleanup in the National Oil and Hazardous Substances Pollution Contingency Plan (National Contingency Plan). The National Contingency Plan includes lists of abandoned and uncontrolled hazardous waste sites in CERCLIS, which the EPA updates annually. Sites which receive the highest ranking under the hazardous ranking system are placed on the National Priorities List (NPL). State Superfund legislation of 1981 provides for funds available to finance cleanup of sites that do not qualify for Federal Superfund.

The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of the Clean Air Act Amendments of 1990. The Amendments required the EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The rule, which built on existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program (known as a "Risk Management Plan" or "RMP"), which includes:

- Hazard assessment that details the potential effects of an accidental release, an accident history of the last 5 years, and an evaluation of worst-case and alternative accidental releases;
- Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and
- Emergency response program that spells out emergency health care, employee training measures, and procedures for informing the public and response agencies (e.g., the fire department) should an accident occur.

According to the RMP Rule every facility that handles hazardous substances exceeding the threshold quantities has to submit a summary of the facility's RMP to the EPA. The RMP must be revised and resubmitted every 5 years.

The RMP is about reducing chemical risk at the local level. This information helps local fire, police, and emergency response personnel (who must prepare for and respond to chemical accidents), and is useful to citizens in understanding the chemical hazards in communities. The EPA anticipates that making the RMPs available to the public stimulates communication between industry and the public to improve accident prevention and emergency response practices at the local level. Drinking Water Treatment Plants that handle hazardous water treatment chemicals are regulated under the RMP Rule.

Federal Occupational Safety and Health Administration (OSHA)
OSHA promulgated a Process Safety Management (PSM) Standard (29 CFR 1910.119) with requirements for preventing or minimizing the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals. Some of the requirements of this standard include: all information pertaining to the hazardous chemicals shall be available to the employees and the employees shall be given training on the operation of equipment with hazardous materials; the employer is required to perform a process hazard analysis.

5.6.2.2 California Laws and Regulations

Central Coast Regional Water Quality Control Board (RWQCB)
The project corridor is located within the jurisdiction of the Central Coast RWQCB. The RWQCB is authorized by the California Porter-Cologne Water Quality Act of 1969 ("the Porter-Cologne Act"), to implement water quality protection laws. For example, under the Porter-Cologne Act, the discharge of waste to any area that could affect waters of the State (which includes both groundwater and surface waters) would require a permit or a waiver of the permit from the RWQCB or its umbrella agency, the State Water Resources Control Board. The RWQCB also implements some Federal water protection laws on behalf of the EPA, including issuing National Pollution Discharge Elimination System (NPDES) permits for discharges to Waters of the U.S. When the quality of the groundwater or the surface waters of the State is threatened, the RWQCB has the authority to require investigations and remedial actions. In addition, the Central Coast RWQCB is the State regulatory agency that oversees the local Leaking Underground Fuel Tank (LUFT) program, which was established to regulate underground fuel tanks (UFTs). Under the LUFT program, local implementing agencies are required to permit, inspect, and oversee monitoring programs to detect leakage of hazardous materials. The RWQCB contracts locally to the SLO County Division of Environmental Health to administer the UFT program outside the City of SLO and LUFT program for the entire county.

CalEPA, Department of Toxic Substances Control (DTSC)
In California, the DTSC, a branch of CalEPA, works in conjunction with or in lieu of the EPA to enforce and implement specific hazardous materials laws and regulations. California has enacted its own legislation pertaining to the management of hazardous materials. The California legislation for which the DTSC has primary enforcement authority are the Hazardous Waste Control Act, a statute that primarily regulates the management of hazardous waste, and the Hazardous Substance Account Act, a statute that governs the cleanup of contaminated property and is modeled after CERCLA. Title 22 of the CCR, enacted pursuant to the Hazardous Waste Control Act, establishes criteria for identifying hazardous wastes and presents hazardous waste management requirements. These regulations are reprinted in Title 26, Toxics, of the CCR. The DTSC acts as the Lead Agency for some soil and groundwater cleanup projects. For sites where water quality is potentially endangered, the DTSC consults with the RWQCB on technical and regulatory issues.

California Occupational Safety and Health Agency
Worker health and safety in California is regulated by the Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA). Cal/OSHA standards and practices for workers dealing with hazardous materials are contained in Title 8 of the CCR, and include Division 1, Chapter 4, Subchapter 7 (General Industry Safety Orders) and Section 5192 (Hazardous Waste Operations and Emergency Response). General construction regulations are found in Division 1, Chapter 4, Subchapter 4 (Construction Safety Orders). Cal/OSHA offers onsite evaluations and issues notices of violation to enforce necessary improvements to onsite health and safety practices to achieve compliance with regulations.

Cal/OSHA has a more stringent PSM requirement (Title 8 CCR, §5189) than Federal OSHA. Cal/OSHA specifies lower quantities of hazardous materials handled that would trigger the PSM requirements at a facility.

5.6.2.3 County Regulations

San Luis Obispo County Health Agency

Pursuant to State law and local ordinance, the Division of Environmental Health of the SLO County Health Agency conducts inspections to ensure proper handling, storage, and disposal of hazardous materials and proper remediation of contaminated sites. In addition, the Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act, [i.e., Chapter 6.95 of Division 20 of the California Health and Safety Code]) requires that any business that handles or stores hazardous materials prepare a Hazardous Materials Business Plan (HMBP). Under this law, businesses are required to submit inventories of onsite hazardous materials and wastes and the locations where these materials are stored and handled. This information is collected and certified by SLO County Environmental Health Department for emergency response purposes.

No cities in SLO County have adopted and implemented their own hazardous materials programs in lieu of the County program; however, the City of SLO Fire Department is a participating agency with SLO County. The City of SLO Fire Department is responsible as a participating agency with the county for administrating the UFT program within the city.

These environmental programs are collectively responsible for identification and management of facilities or sites that are known or suspected to be contaminated and/or have the potential for unauthorized releases of hazardous materials into the environment. Notwithstanding, there is the potential risk for unknown sites to exist where unauthorized releases of hazardous materials have occurred (i.e., illegal dumping). The severity and locations of these activities generally remains unknown until effects are detected through public health or environmental emergencies.

There is also a potential risk for naturally occurring sources of hazardous substances (i.e., radon, lead, asbestos, and methane and hydrogen sulfide gases) in certain geologic formations. These occurrences are not required to be reported or managed under CERCLA or SARA III unless there is a known or suspected threat on public health or the environment. In recent years, Federal, State, and local governmental agencies have responded to such threats through initiating environmental programs including geologic mapping of potential sources of naturally occurring hazardous substances for property development planning and zoning, improved construction standards protective of public health, and air toxic monitoring at known source areas.

5.6.3 Significance Criteria

As defined in CEQA Appendix G (v) (the Environmental Checklist Form), a significant safety effect is one in which the project *"create[s] a potential health hazard or involve[s] the use, production or disposal of materials which pose a hazard to people, animal or plant populations in the area affected."*

In addition to this, the criteria that are more specific to the NWP have been developed. These are listed below.

- The presence of contaminated soils or groundwater within the proposed project area would be considered significant if workers and/or the public would be exposed to contaminated or hazardous materials during pipeline construction activities and such exposure exceeds permissible exposure levels set by Cal/OSHA in CCR Title B and the Federal OSHA in Title 29 CFR Part 1910.
- Impacts of the proposed project on the environment would be considered significant if:
  - Pipeline construction resulted in soil contamination, including flammable or toxic gases, at levels exceeding Federal, State and local hazardous waste limits established by 40 CFR Part 261 and Title 22 CCR 66261.21, 66261.22, 66261.23, and 66261.24.
  - Construction activities could result in mobilizing contaminants, creating potential pathways of exposure to humans or wildlife.

For the risk of treated water pipeline rupture and chlorinated water release into sensitive aquatic habitats it is assumed that the risk impact is significant if:

- the frequency of occurrence of a full transmission water line rupture in an area of sensitive biological species is more than the life term of the proposed pipeline.

5.6.4 Proposed Project Impacts and Mitigation Measure

This section presents the project impacts and proposed mitigation measures.

5.6.4.1 Treated Water Option

Impact	Impact Description	Residual Impact
HM.1	During construction of the proposed pipeline on the Camp Roberts property, unexploded military ordnance could be encountered, which could expose construction workers to explosion hazards.	Class III

Camp Roberts is a U.S. military facility where military training with live ammunition is conducted on the regular basis. Some areas in Camp Roberts may contain unexploded ordnance. If such ordnance is disturbed by construction workers or machinery there is a potential for explosion. However, ordinance is fired into the dedicated impact area north of the Nacimiento River, while construction of the water pipeline will enter the Camp at the west central portion and proceed towards the south-eastern boundary. In addition, the specific area where unexploded ordnance could be found is off limits to the public, and the Camp's administration will provide training to the workers on the hazards of conducting work at Camp Roberts. The workers would be required to report any suspected ordnance (pieces or complete units) to the supervisor who will be required to notify the Camp Roberts Control officer. All work would be required to be halted until it is determined that the suspect item is harmless, is removed or made harmless by detonation in place. Therefore, impact from encountering of unexploded ordnance at the Camp Roberts property is highly unlikely, and the proposed project is considered to have insignificant safety impacts related to unexploded ordnance on Camp Roberts' property.

Mitigation Measures
No mitigation measures are required.

Residual Impacts
The residual impact is considered to be *adverse but not significant* (Class III).

Impact	Impact Description	Residual Impact
HM.2	Earth-moving operations during construction could uncover contaminated soils and other hazardous materials, including naturally occurring asbestos, creating health risks to construction workers and public.	Class II

During earth-moving operations (grading, trenching, boring, etc.) there is a possibility that hazardous materials would be unearthed. The likelihood of this is higher in locations close to landfills, underground storage tanks, gasoline stations, and businesses that store and use chemicals. Hazardous materials in the construction area could create a risk to workers and the general public during excavation and transport.

Contaminated soil exceeding regulatory limits for trench backfilling would require onsite treatment or transport to offsite processing facilities. Contaminated soil removed from the construction area must be transported according to State and Federal regulations and be replaced with imported soil approved for backfilling. Similar issues pertain to contaminated groundwater which could be encountered at bored stream crossings but is not anticipated at the proposed excavation depth. In these cases, the Applicant proposed to comply with all the applicable regulations.

The pipeline route is not close to any Federal designated Superfund site. The 100-foot environmental corridor of the pipeline has been surveyed, and places with potential contamination have been identified by the project engineer companies (Boyle Engineers and Carollo Engineers). The pipeline ROW is located close to several sites that have a potential for ground contamination, such as the Tosco (formerly Unocal Oil) petroleum pumping facility near Santa Margarita; other sites with potentially contaminated soil are given in Table 5.6.5. At any location, however, there is a potential that soil was contaminated with unknown/unreported spills or illegal dumping.

Table 5.6.5 Project Locations with Potential Soil Contamination

Project Part, Pipeline Reach	Location	Type of area	Possible Contamination and Sources
Water Intake and PS	Nacimiento Dam	Open space, rural area	Not expected/not known
Reach 1	Lake Nacimiento to WTP	Open space, rural area	Serpentine rock, other contamination is not expected
WTP, PS, Water Storage Facility (Reach 2)	Near Camp Roberts	Open space, rural area	Serpentine rock, other contamination is not expected
Reach 3	WTP to Wellsona Rd. to San Miguel turnout	Open space, rural area, rural roads along agricultural areas, railroad	Gas station, truck yard/service station, agricultural machinery storage in the vicinity of Hwy 101,

Table 5.6.5 Project Locations with Potential Soil Contamination

Project Part, Pipeline Reach	Location	Type of area	Possible Contamination and Sources
		and Hwy 101	unknown contamination from railroad, serpentine rock
Reach 3A	Wellsona Rd. to Charolais Rd., S. River Rd., Paso Robles turnout	Open space, rural area, rural roads along agricultural, residential areas, and Hwy 101	Truck yard, agricultural machinery storage, serpentine rock
Reach 4	Charolais Rd. to Vineyard Dr. bridge, Templeton turnout	Open space, rural area, rural roads along agricultural areas and along Salinas River	Not expected/not known
Reach 5	Vineyard Dr. bridge to New Hwy 41, Atascadero MWC Turnout	Open space, rural area, rural roads along agricultural areas	Not expected/not known
Reach 6	New Hwy 41 to Happy Valley Pump Station	Open space, rural area, rural roads along agricultural areas and along Salinas River	Not expected/not known
Rocky Canyon Storage Tank	Happy Valley Rd.	Open space, rural area, rural road near agricultural areas	Not expected/not known
Happy Valley Pump Station	Happy Valley Rd	Open space, rural area, rural road	Not expected/not known
Reach 7	Happy Valley Pump Station to Santa Margarita/CSA Turnout	Open space, rural, agricultural and residential areas, Union Pacific Railroad, Tosco Oil Pumping Station	Possible contamination from the oil pipeline pumping station, unknown contamination from the railroad
Reach 7A	Santa Margarita, CSA Turnout to Cuesta Tunnel Entrance Connection	Residential areas, Union Pacific Railroad, Hwy 101	Unknown contamination from the railroad or highway
Cuesta Tunnel Storage Tank	Near north entrance to Cuesta Tunnel	Open space near small rural road	Not expected/not known
Reach 8	Cuesta Tunnel	No ground moving operations in the tunnel	None
Reach 8A	Cuesta Tunnel to San Luis Obispo WTP	Open space, agricultural and rural areas, railroad crossing	Serpentine rock, unknown contamination from the railroad
Reach 9	Facilities beyond SLO City WTP to CMC	Open space, agricultural and rural areas	Serpentine rock, other contamination is not expected
Reach 10	Facilities beyond SLO City WTP to Edna Valley	Open space, agricultural, residential and rural areas, Hwy 1, San Luis Obispo city	Serpentine rock, unknown contamination from the railroad, hwy, agricultural area. Possible contamination from the city areas (sewer lines, etc.)

Sources: Pipeline route site reconnaissance (North of Cuesta Grade) and Ogden 1997 (pipeline route south of Cuesta Grade).

Excavations, trenching and other earth moving operations are performed all the time and do not represent any unusually significant risks, if the necessary precautionary measures are used. The mitigation measures given below would ensure that the risks of encountering of hazardous materials during earthmoving operations are insignificant.

Human exposure and possible inhalation of dust during pipeline construction in areas of serpentine rock would potentially result in significant public health impacts to workers onsite. Specific areas of concern are serpentine rock outcrops identified in Reaches 1 through 3A, 8A and 9, and portions of Reach 10. Because asbestos bearing serpentine rock outcrops are easily identifiable, potentially significant public health impacts to workers during construction would be able to be mitigated below the level of significance. This impact is also discussed in Section 5.2, Geology, Seismicity and Soils (Impact GS.3) and in Section 5.4, Air Quality; implementation of Mitigation Measures GS-3 and AQ-1 would reduce this impact to the level of insignificance.

Mitigation Measures

HM-1 *During the design phase of the project corridor, SLO County or a qualified professional retained by the County shall perform a detailed characterization of the nature and extent of hazardous materials contamination in the project corridor for high risk sites identified previously in this report. This investigation, known as Phase I and Phase II hazardous materials site assessments, shall be performed after selection of the preferred alternative, i.e., the alternative to be implemented, and prior to property acquisition or construction activities. The site characterization would be conducted in accordance with CalEPA DTSC standards and guidance, such as the Scientific and Technical Standards for Hazardous Waste Sites (DTSC 1990).*

At any given site, investigation may either reveal that contamination exists and is of concern, that remediation has already occurred, that the extent of contamination is extremely limited, or that no contamination has occurred.

If contamination were identified during the site investigation, SLO County would report the contamination to the appropriate regulatory agencies. The lead or design agency may decide to re-route the pipeline; however, landowners would be responsible to perform additional investigation and mitigation or cleanup under review of responsible regulatory agencies, as necessary. Mitigation and remediation activities shall generally be completed before construction could proceed at any given site. However, for some types of contamination, particularly where fuel has leaked into soil and groundwater, remediation and clean up activities may be ongoing throughout construction due to the lengthy recovery process and difficulty of fully extracting certain pollutants. Within Camp Roberts and Camp San Luis Obispo lands any hazardous materials handling/management shall be done consistent with the Camp's Standard Operating Procedures for Environmental Protection.

HM-2 *A Hazardous Materials (HazMat) Contingency Plan shall be prepared before any excavation or trenching work is commenced. The Plan may contain but may not be limited to the following actions that must be taken by the design or Lead Agency in the case that hazardous materials are encountered:*

- Notify owner, engineer, and other affected persons.

- Notify such agencies as are required to be notified by laws and regulations within the time stipulated by such laws and regulations.

- Designate a certified industrial hygienist to issue pertinent instructions and recommendations for protection of workers and other affected persons' health and safety.

- Identify and contact subcontractors and licensed personnel qualified to undertake storage, removal, transportation, disposal, and other remedial work required by, and in accordance with, laws and regulations.

- Forward to engineer, copies of reports, permits, receipts, and other documentation related to remedial work.

- Assume responsibility for worker health and safety, including health and safety of subcontractors and their workers.

- Instruct workers on recognition and reporting of materials that may be hazardous.

- File requests for adjustments to contract time and contract price due to the finding of hazardous materials in the work site in accordance with conditions of contract.

- Minimize delays by continuing performance of the work in areas not affected by hazardous materials operations.

If contaminated soils or other hazardous materials are encountered during any soil moving operation during construction (e.g., trenching, excavation, grading), construction shall be halted and the HazMat Contingency Plan implemented.

HM-3 *In the event of an accidental release of a hazardous material (including fuel spills) during construction, the lead or design agency shall determine whether the release is reportable pursuant to any local, State, or Federal law, and if so would notify the regulatory agency to which the report should be submitted. The lead or design agency shall adhere to procedures listed below, which describe additional procedures to be followed in the event of an accidental release of a hazardous material. The purpose of the response procedures is to minimize exposure and risk to public health and safety.*

- The lead or design agency would implement and coordinate with local jurisdiction on procedures for immediate evacuation of persons from the vicinity of the spill;

- promptly notify appropriate personnel and responsible agencies of the incident, such as the local fire department;

- terminate NWP operations and shut-off power, if necessary; and

- cooperate with responding agencies.

Releases may not be of a "hazardous waste" and accordingly may not have to be managed as such. However, substances not classified as hazardous wastes may still be subject to restrictive handling requirements and would be managed in accordance with such requirements.

Residual Impacts
The residual impacts are considered *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
HM.3	During construction, hazardous utilities could be damaged by construction equipment. This could expose construction workers and public to hazardous materials transported by the damaged pipelines.	Class II

The proposed water pipeline would parallel or cross several other underground utilities that may include water, sewer, electric, cable, telephone and natural gas utilities, as well as crude oil pipelines. During pipeline construction, potential impacts to these utilities could occur if they are accidentally damaged by the construction equipment. A result of such an accident could be a disruption of a utility service, or in the case of a natural gas pipeline, a fire or explosion. This could result in a potentially significant impact. However, this impact could be produced by any underground construction project, and there are many well-developed and long-proven effective mitigation measures that could be implemented to bring this impact to below significance level.

Also, the pipeline route has been chosen with the goal to avoid conflicts with the existing utilities as much as possible. For instance, when the pipeline passes near the Tosco (formerly Unocal) pumping facility (in Santa Margarita), the route would cross the railroad to be on the opposite side from the facility to avoid several oil pipes and sumps located in the vicinity of the facility (Carollo Engineers 2002).

California State law requires any excavator to contact a regional notification center at least 2 days prior to breaking ground. One such center is Underground Service Alert, a non-profit service organization supported by utility companies. Excavators are required to probe and expose the underground facilities by hand prior to using power equipment.

Mitigation Measures
HM-4 *Prior to final design stage, the lead or design agency shall conduct a detailed utilities survey, including contacting the respective utility representatives, to accurately locate, to the extent possible, Southern California Gas lines, sewage lines and storm drains, as well as buried transmission lines within the corridor of the proposed pipeline route. The lead or design agency shall consult with Tosco and Chevron to confirm the locations of their oil and gas pipelines in the project area.*

Underground Service Alert shall be notified prior to breaking ground for construction of the pipeline so that any existing subsurface structures can be properly identified. The contractor shall be required to keep the notification current.

Residual Impacts
With the application of the mitigation measures, residual impacts are considered *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
HM.4	Releases of hazardous or flammable materials during construction could pose risks of fire or contamination.	Class III

Health risks due to diesel exhaust from construction machinery are addressed in Air Quality Section.

Accidental releases of hazardous materials (i.e., fuels or lubricants) during construction would have the potential to adversely affect onsite workers, public health, and/or the environment. Spillage of fuels or chemicals could result in a threat of fire or explosion or other situations that may pose a threat to human health and/or the environment. Releases could occur as a result of vehicular accidents, equipment malfunction, or improper storage.

Cal/OSHA requires construction projects to implement safe hazardous material handling and storage, transfer (e.g., refueling), and maintenance (e.g., oil changes, washing). Projects are required to have designated staging/maintenance areas, standard operating procedures, and emergency response planning. Several staging areas are planned along the pipeline route, the construction teams are required to use these areas for storage of machinery and fuels and for refueling. Through compliance with Cal/OSHA requirements, any potential adverse impacts from release of hazardous materials would be reduced to a level of insignificance.

Mitigation Measures

In case of an accidental release of a hazardous material during construction, measures HM-2 and HM-4 identified above shall be implemented. The HazMat Contingency Plan mentioned in measure HM-1 shall also contain detailed actions that deal with accidental releases of hazardous materials. Some of these actions are identified below:

HM-5 *The HazMat Contingency Plan shall outline response actions including (at a minimum) clean-up and reporting procedures, clean-up equipment and supplies, and personnel responsibilities. As part of the plan, the Contractor shall be required to store fuels, oils, and other hazardous materials in sealed containers (tanks, cans or drums) located in storage basins within designated staging areas. The storage basins shall be located at a minimum distance of 25 feet from all natural/man-made drainages or surface water bodies and should be lined and surrounded by protective dikes or other types of secondary containment to provide sufficient volume to contain any spills.*

HM-6 *The HazMat Contingency Plan shall state that the Contractor shall provide for the implementation of traffic control and site control (i.e., access, fencing, drainage) to reduce the potential for accidents to occur. Fire extinguishers should be stationed in all vehicles and at strategic locations onsite.*

HM-7 *The HazMat Contingency Plan shall state that the Contractor shall be required to conduct routine inspection and maintenance of construction vehicles and equipment.*

Residual Impacts

With the application of the mitigation measures, risks due to potential releases of hazardous or flammable materials during construction would be *adverse but not significant* (Class III).

Impact	Impact Description	Residual Impact
HM.5	Contaminated materials in the soil could enter into the pipeline expose water users to contamination and pose health risks.	Class III

The pipeline could potentially be crossing areas where contamination occurs in the surrounding soils. If sewer lines or other hazardous materials leak into the ground around the pipeline, it is possible that the contaminants could enter the water pipeline through micro cracks that could develop in the pipeline over time. If this happens, the public that uses the water from the pipeline could potentially be exposed to hazardous materials and create a health risk.

However, the pipeline would be installed in accordance with the State of California Health and Safety Code (CCR Title 22, Section 64630) that mandates minimum distances between potable water and sewer pipelines; it also requires maintaining a minimum pressure in potable water lines; and disinfection of water after loss of pressure in a pipeline. Also, it is a part of the proposed project to install concrete protective casing around the proposed pipeline where it would cross with sewer lines or other significantly contaminated soils.

During the pipeline installation, areas where sewer pipelines are in the vicinity of the pipeline route would be identified in detail. Any encountered contaminated soil would be excavated and disposed of as required in all applicable regulations.

Mitigation Measures

The project has already incorporated measures to appropriately deal with this potential impact, no additional measures have been identified.

Residual Impacts

With the application of the mitigation measure, health risks due to potential water contamination would be considered *adverse but not significant* (Class III).

Impact	Impact Description	Residual Impact
HM.6	During operation of the WTP, the employees and public could be exposed to the hazardous chemicals transported to, used, and stored at the plant.	Class II

The following hazardous materials could be used at the WTP: chlorine, ammonia, ozone, alum, and sodium hydroxide. There are many Federal, State and local requirements and regulations that are designed to minimize risks from accidental releases of hazardous materials (see Section 5.6.2), and the project will be in compliance with all the applicable requirements and regulations.

Hazardous material storage and use areas at the WTP will be built and operated in compliance with the minimum requirements of the Uniform Fire Code (2000 or latest version at the time of construction) and 2001 California Fire Code (CCR Title 24, Part 9). Some of the requirements are secondary containment (separate) for liquids, fire water sprinklers over inside storage/use areas, and non-combustible building construction. Also, all of the buildings would be constructed in compliance with the Uniform Building Code (1997 or the latest version at the time of construction) and California Building Code (Title 24). According to these documents, building design and selection of materials are required to be able to provide a building which is expected to resist the forces generated by a major earthquake with limited architectural or structural damage and to provide adequate fire protection that precludes accidental releases of hazardous chemicals due to a fire.

Accidental Release during Normal Operations

The most likely scenarios for release of hazardous gases from the plant are from damage to a chlorine or ammonia cylinder during hook-up or movement inside the storage building, and leaking fittings. Cylinders are handled frequently, but the likelihood of damage to a cylinder is negligible. In addition, chlorine dispensing (and storage) areas would be vented to a caustic scrubber as a backup measure to control any chlorine releases from those areas. Standard fire sprinklers in the ammonia area would be able to provide the same backup there. Therefore, potential impacts due to accidental release during normal operations would be considered less than significant.

Accidental Release during Plant Upsets

The types of upsets which might result in hazardous gas releases include excess addition of disinfectant (chlorine and ammonia) or, if ozonation is installed, failure of the excess ozone reduction catalyst. The chance of chlorine release due to upsets in the water-to-disinfectant ratio is negligible because chlorine is dissolved in water before addition to the filtered water in the clearwell/disinfectant contact area. The same is true for ammonia. Ammonia is usually added on a certain ratio to chlorine. The aqueous ammonia tends to scavenge the chlorine and form soluble non-volatile chloramines. The release of gases due to overdisinfection is unlikely. Therefore, potential impacts due to excess addition of chlorine and ammonia would be considered less than significant.

Excess air or oxygen from the ozone generator in the ozonation unit (if used) would be ducted through a scrubber to destroy any ozone that did not react with the water in the ozonation column. In case of catalyst failure, excessive ozone might be emitted. To protect against this type of failure, it is common practice to monitor the catalyst bed exhaust for ozone and to monitor the ambient air close to the ozone contactor vent for ozone. High levels at either monitor would cause interruption of the electrical discharge in the ozone generator and immediate cessation of ozone generation. Because this monitoring would take place as part of operation of the WTPs, impacts due to failure of excess ozone reduction catalyst would be considered less than significant.

Accidental Release during Fire or Earthquake

The most plausible and potentially serious catastrophic scenarios would be a fire in a plant which results in rupture of chlorine or ammonia cylinders, or an earthquake which might cause puncture of a chlorine or ammonia cylinder due to heavy beams falling on a cylinder. A fire around the ammonia cylinders or chlorine cylinders could cause the pressure inside the cylinders to rise until the cylinders' rupture disks relieved (approximately 250 psi). After that, more than one cylinder could be emptied quickly. This scenario would be considered unlikely because the ammonia and chlorine facilities would be constructed out of non-combustible materials (steel and concrete), and both facilities would be protected by fire sprinklers. Therefore, potential impacts due to a fire in the WTPs would be considered less than significant.

The State of California can be characterized as seismically active. An earthquake which shakes the ground vigorously could cause structural beams or other heavy items to fall on one or more gas cylinders thereby causing a puncture. In addition, earthquake forces could potentially cause connecting pipes to shear from cylinder connections or produce other breaks in the facility piping of hazardous substances. There would also be the potential for an earthquake to rupture water storage tanks resulting in the release of large volumes of water (the WTPs would store the raw water and the treated water). A catastrophic release of water could send a large quantity flooding down the hillsides into lower lying communities. Impacts due to accidental release of hazardous materials or stored water during an earthquake could be significant; however, design plans for the WTPs and storage tanks would take into account the seismic nature of the area and incorporate specific seismic measures into project design. Potential impacts would therefore be considered less than significant.

Accidents during Transportation

Hazardous materials used at each WTP would be transported by truck. Ammonia and chlorine would be transported in cylinders by flatbed truck. Alum, caustic soda, and liquid oxygen (if elected) would arrive by tank truck. PAC would be shipped by pneumatic tank truck.

The locations of the chemical suppliers and the routes along which the chemicals will be shipped have not been specifically identified. Chlorine is available in Paso Robles; ammonia is available in Ventura, and alum comes from Carson. The source for PAC would be imported, possibly from Pittsburgh, Pennsylvania. Liquid oxygen is known to be available in Colton. No source was identified for caustic soda; however, it is assumed it would come from Allpure Chemical in Tracy, California. It should also be noted that for all chemicals except for chlorine and ammonia, the source is the point of generation of the chemical. The source for chlorine in Paso Robles is a local distribution center for Allpure Chemical, which could ship to Paso Robles by tank truck or rail tankcar, or Allpure Chemical could ship to the WTPs directly. For purposes of this discussion, it is assumed that the WTPs would derive their hazardous chemicals from the above sources.

Based on the locations of the suppliers, it is unlikely that the chemicals would travel north on Highway 101 through the City of SLO. The chemicals, which originate in the Los Angeles area, would likely travel through densely populated areas of greater Los Angeles, and then through lightly inhabited areas north of Sylmar/Valencia on Interstate 5. Trucks would reach Paso Robles via Highway 46.

The risk of a release of the hazardous chemicals during transportation is primarily associated with the possibility of a truck rollover accident. These typically are not the fault of the truck driver and are most likely to occur when the truck has to swerve to avoid a car pulling out of a traffic jam, etc. Thus, commuter rush hours are relatively dangerous times. Trucks traveling Highway 101 might be further exposed to marine fogs. Trucks traveling Highway 5 might be exposed to Tule fogs in the winter. The Federal Emergency Management Agency (FEMA), U.S. DOT, and EPA estimate 2 accidents per million truck-miles for liquid chemical trucks. Of these accidents, 20% result in spills. If rush hours are avoided, the likelihood of an accident would be further reduced.

With chlorination as the primary treatment method, the WTPs would generate numerous truck deliveries of hazardous materials. Larger quantities or frequent delivery would include liquid oxygen (if used), liquid chlorine, and anhydrous ammonia. Comparing travel rates to the expected accidental spill rate (0.4 occurrences per million truck-miles) would indicate that there is a potential for some type of spill to occur during the operational life of the plant. Although a spill could be a potentially significant impact, the chance of such an incident occurring would be minimal and would therefore be considered less than significant.

The second most likely occurrence would consist of a PAC spill, assuming the PAC would be trucked across the country. PAC could be a hazard if it is suspended in air at the right concentration (a relatively high concentration) and exposed to an ignition source; under these conditions it could explode. It is possible that if a truck partially full of PAC turned over and sparks were generated during the rollover, the tank truck could explode, raining burning coal dust over an extended area. In addition, if the truck contents were spilled and the vehicle fuel caught fire, the PAC might also catch fire. Fires with diesel truck overturns are not unheard of, but are uncommon. Many things would have to happen simultaneously for this worst-cast accident to occur. Because this transport class has a relatively good safety record and is a negligible accident hazard, potential impacts due to a PAC spill during transport would be considered less than significant.

In the case of a spill of alum or caustic soda, the material would soak into the soil and flow towards the nearest surface drainage. If it reached a small surface water body, it could be neutralized and vacuumed out by a vacuum truck for proper disposal. In case of a spill, the hazard would be relatively localized to the immediate area of the spill. In addition, these solutions are more easily contained than gases. Therefore, potential impacts due to an alum or caustic soda spill during transport would be considered less than significant.

Accidental Release during Unloading

Unloading of bulk hazardous materials would be an intermittent event, usually performed by the delivery personnel. Its safety or successful performance depends on the in-plant equipment provided, the delivery vehicle, and on the skill of the loading operator.

The most critical chemicals are ammonia and chlorine. Chlorine and ammonia are gases that would pose a danger to nearby residents or workers in case of a spill. Becuase these are gases at room temperature and atmospheric pressure, a spill would result in their becoming airborne, leaving the spill site, being transported with the wind, and becoming an inhalation hazard to the exposed populations. Unloading bulk deliveries consists of handling one-ton cylinders. The trucks are normally equipped with an elevator and a polar crane to move the cylinders. There is the danger of dropping, knocking over, or impacting cylinders together during handling, custody transfer, and management. However, many plants have operated for 40 years or longer and never experienced a ruptured cylinder. Due to the relatively low likelihood of an ammonia or chlorine release during unloading, potential impacts would be considered insignificant.

Spills of caustic soda and alum are less serious or hazardous. Caustic and alum would be unloaded from bulk tank trucks by the drivers. The trucks would have their own pumps. The risk of release comes from the possibility of overfilling, or misloading (putting alum in the caustic tank or caustic in the alum tank), or from leaky loading lines. Potential impacts due to the chance of a caustic soda or alum spill during unloading would be considered less than significant, provided the emergency response action plan was properly implemented.

PAC would be unloaded pneumatically into tanks where it would immediately be slurried with water. The safety risk with PAC is that the dust could explode if the proportions of air and carbon are within a certain range and there is an ignition source. It is incumbent on the driver, who is charged with unloading as part of his job, to avoid the explosive range when he/she blows the carbon into the slurry tanks. Because the chance of an unloading accident with PAC is unlikely, potential impacts would be considered less than significant.

If ozonation is elected, bulk shipments of liquid oxygen would be received, unless pressure swing adsorption or other onsite oxygen generation would be employed. The bulk tank trucks (one every second day) would pump liquid oxygen into the above-ground storage tanks. Proper separation of the loading and storage facilities from combustible buildings is required under the fire code in order to prevent fires. As with the other bulk hazardous liquids, sources of risk include possible overfilling, misloading, or leaky loading equipment. With a properly trained driver, and proper labeling and level indication on the tanks, the probability of mishap during unloading is negligible. Therefore, potential impacts due to liquid oxygen mishaps during unloading would be considered less than significant.

Mitigation Measures

HM-8 *A Process Hazards Analysis (PHA) shall be conducted during the early stage of the final design process for the WTP. This technique focuses on the hazardous materials and the major components and is used to prioritize the systems that require more detailed analysis. The study shall examine the orientation of the facilities with regard to potential residential development nearby, storage, chemical handling and chemical feeding systems, overall system design, safety systems including sensing devices, chemical scrubbing, and air pollution control devices. Transportation of chemicals to the site on a local level shall be addressed. Representative scenarios of accidental chemical releases shall be modeled to determine the extent of offsite impacts. A qualitative estimate of the likelihood of the occurrence of accidents and other events and the potential consequences of these events should be developed to produce a risk estimate. Those events with the highest risks would be analyzed in order to find possible design modifications for risk reduction. The PHA would determine areas where a Hazard and Operability Studies (HAZOP) should be performed. The structures should be consistent with information requirements for the California Accidental Release Program (CalARP) and the EPA Risk Management Program (RMP).*

If deemed necessary as a conclusion in the PHA, a HAZOP would be conducted that identifies the consequences of the engineering design failing to meet performance criteria, such as variations in flows, pressures, and temperatures. For example, if cryogenic oxygen production for ozonation is used, this system would be analyzed.

HM-9 *If ozonation is used as a disinfection method at the WTP, it is recommended that ozone be generated from air which would eliminate the need for liquid oxygen transport, handling and storage. If this disinfection method is used, ambient and in-line ozone monitoring should be incorporated into water treatment system design to determine* *ozone destruct system performance. Line length between generator and contractor should be minimized in order to reduce ozone inventory in the plant. Power shutoff should be incorporated on high ambient ozone, high exhaust ozone, low water flow, or low exhaust backpressure.*

HM-10 A HazMat Delivery and Transportation Plan shall be developed that requires the drivers of the delivery companies to avoid rush traffic hours and congested routes as much as feasible.

Residual Impacts

With the application of the mitigation measures, risks due to the WTP operation would be considered *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
HM.7	Accidental release of large quantities of treated water into a fresh water body could be harmful to the organisms in the water body.	Class III

Treated water would contain residual chlorine (in the form of chlorine or chloramines) as required by the drinking water regulations. However, chlorine could be harmful to many organisms and plants depending on the concentration. If the treated water pipeline ruptures, large quantities of chlorine-containing water could be released into fresh water bodies (e.g., rivers, creeks), where sensitive aquatic organisms and small animals could be harmed. The nature of the receiving environment will also have an influence on the potential impact of a treated water release. Chlorine or any other disinfection chemicals are oxidants and will react very quickly with sunlight, atmosphere, and a range of materials that may be present in soil or a water body, such as organic matter. This means that some bodies of water may show no effect from a spill of treated water because neutralizing materials are present, while release of treated water to another water body may result in an impact. Generally, as the organic content and/or suspended solids content of a water body increases, the ability to neutralize disinfection chemicals also increases. If the treated water is released not directly into a water body, the chlorine residual would be quickly reduced to harmless concentrations that would not impact water organisms.

A release of chlorinated water into Miossi Creek (Camp San Luis Obispo) occurred during the start-up of the Coastal Branch of the State Water Project pipeline. During hydraulic pressure testing of the completed pipeline (prior to startup), a release of chlorinated water occurred through an improperly seated air-vacuum valve. Pressure testing of pipelines is done specifically to reveal such defects so that they can be corrected prior to putting the system into operation. Treated test water was released into Miossi Creek through the valve; fish mortality in the creek was documented and reported to regulators (Christine Ferrara 2003).

Numerous studies of water pipeline failures have been conducted in order to evaluate system reliability, causes of pipeline failures, and the cost/benefit of pipeline replacement. American Water Works Service Company (AWWS 2002) evaluated equipment failure rates within an aging urban water distribution system. While some aspects of this study are useful, the overall results are not applicable to a large-diameter water transmission pipeline.

The Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO) developed a model to predict pipeline failures based on historical failures and pipeline age (CSIRO, 2002). This model is useful for large pipeline distribution networks in urban areas, and yields some useful data on transmission pipeline failure rates and predictive estimates of future failures. The model was developed to evaluate the cost/benefit of an active pipeline maintenance and replacement program.

Perhaps the best comprehensive study available for predictive pipeline failure rates has been prepared by the Alberta (Canada) Energy and Utilities Board (EUB 1998). This study provides detailed information on pipeline failures, including the cause and type (i.e., leak or rupture) of the pipeline failure. While this study was prepared for all types of pipelines in Alberta (crude oil, natural gas, water, etc.), the study provides commodity-specific failures rates for water transmission pipelines. While past performance is no guarantee of future returns, historical pipeline failure rate data tends to yield conservative estimates of failure rates since pipeline materials, design and construction techniques have improved since most of the pipelines in the database were constructed. Based on the EUB historical pipeline failure rates, the probability of a catastrophic pipeline failure has been estimated to be 4.8×10^{-5} per mile annually. For the 64 mile NWP pipeline, this would result in an annual catastrophic spill probability of 3.1×10^{-3}, or approximately 0.31 spills over an assumed 100 year operating period. Therefore, it is likely that the pipeline will not experience a catastrophic spill over the life of the project assuming the pipeline is properly designed, constructed, inspected and maintained. Thus, potential impacts associated with a pipeline failure and spill would be considered adverse but less than significant.

Worst case spill volumes resulting from a rupture of the proposed pipeline operating at full capacity have been estimated at 1.4 million gallons for a spill near the Salinas River, and 1.7 million gallons for the Nacimiento River, assuming a rupture is detected within 1 hour. However, it is likely that the loss of pressure within the pipeline would rapidly reduce internal pressure, resulting in a loss of pressure on the downstream side of the pumps causing the pumps to shut down. Therefore, actual spill volumes would likely be substantially lower than these values. Spills in other locations would also be lower based on the hydraulic gradient and length of pipeline between pumps and/or valves.

Mitigation Measures

Although a release of the treated water is unlikely the following measures is proposed:

HM-11 *The Applicant shall make provisions to test the proposed pipeline with water that has not been disinfected (no chemicals that have a potential to harm aquatic organisms have been added) and to determine a way of safely disposing of the test water.*

Residual Impacts

The impact would be *adverse but not significant* (Class III).

5.6.4.2 Raw Water Option

Impact HM.6 would not occur because no WTP would be constructed. Impact HM.7 also would not occur because a release of raw water would not harm aquatic animals. Impacts HM.1 through HM.4 described for Treated Water Option would be similar for the Raw Water Option. Impact HM.5 would either not occur or be much less severe, because even if hazardous materials leak into the raw water pipeline, the raw water would be treated at a water treatment plant before being distributed to users, therefore concentration of the hazardous materials leaked into the pipeline would be either reduced to zero or significantly reduced.

5.6.5 Alternatives Impacts and Mitigation Measures

Detailed descriptions of the various alternatives have been provided in Section 3, Alternatives. This section provides a discussion of the hazardous materials impacts of the various alternatives.

5.6.5.1 No Project Alternative

Under the No Project Alternative, impacts HM.1 through HM.7 would be eliminated because there will be no construction or operation of the water pipeline or the WTP.

5.6.5.2 NWP 1997 EIR Alternative

Under this alternative the pipeline would have a different route, the one that has been analyzed in the NWP 1997 EIR. Impact HM.1 (risk of encountering live ordnance) would be eliminated because there would be no construction on Camp Robert's land and, therefore, no risks from encountering live ordnance. Impacts HM.2 through HM.5 would be similar as in the proposed project; all identified Mitigation Measures (HM-1 through HM-4) shall be implemented. Impact HM.7 would be similar to the proposed project.

Risks identified in Impact HM.6 (risk from potential exposure of the WTP workers and the surrounding population to a release of chemicals at the WTP) would be higher because the three WTPs proposed under this alternative would be located in the areas that have much denser population than WTP area in the proposed project (in the proposed project the WTP site is far from any populated areas), and, therefore, more members of public could be exposed to releases at the plants. However, because the WTPs would be operated according to all applicable regulations that govern handling, storage and use of hazardous chemicals, fire protection and emergency response, impact HM.6 would still be *adverse but not significant* (Class III).

5.6.5.3 Phased Raw and Treated Water Alternative

This alternative would be very similar to the proposed project, however various parts of the project would take place over a longer period of time. This alternative would not change the risk impacts of the project, however the risks would be introduced over longer time frame because the WTP would be constructed later in the project and all risks associated with the WPT impacts would be therefore delayed. Therefore, Impacts HM.1 (Camp Roberts' hazards), HM.2 (Unearthing hazardous materials during construction), HM.3 (Damage to underground utilities), and HM.4 (Accidental release of hazardous materials during construction) would be the same as for the proposed project. However, Impacts HM.5 (Contamination of Treated water), HM.6 (Releases of hazardous materials at the WTP), and HM.7 (Accidental release of chlorinated water) would be delayed because construction of the WTP would be conducted at a later date under this alternative. All the mitigation measures outlined for the proposed project would be applicable under this alternative (Measures HM-1 through HM-11).

5.6.6 Cumulative Impacts

The Salinas Valley Water Project does not have any risks from operations. Construction risks would be similar to the proposed project; however, they will occur during a different time frame and would not be cumulatively significant. Impacts associated with the other projects listed in Section 4 would also not contribute to the cumulative risk associated with the proposed project. Therefore, cumulative hazards and hazardous material impacts would be considered less than significant.

5.6.7 Mitigation Monitoring Plan

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
HM-1	During the design phase of the project corridor, SLO County or a qualified professional retained by the County shall perform a detailed characterization of the nature and extent of hazardous materials contamination in the project corridor for high risk sites identified previously in this report. This investigation, known as Phase I and Phase II hazardous materials site assessments, shall be performed after selection of the preferred alternative, i.e., the alternative to be implemented, and prior to property acquisition or construction activities. The site characterization would be conducted in accordance with CalEPA DTSC standards and guidance, such as the Scientific and Technical Standards for Hazardous Waste Sites (DTSC 1990). At any given site, investigation may either reveal that contamination exists and is of concern, that remediation has already occurred, that the extent of contamination is extremely limited, or that no contamination has occurred. If contamination were identified during the site investigation, SLO County would report the contamination to the appropriate regulatory agencies. The lead or design agency may decide to re-route the pipeline; however, landowners would be responsible to perform additional investigation and mitigation or cleanup under review of responsible regulatory agencies, as necessary. Mitigation and remediation activities shall generally be completed before construction could proceed at any given site. However, for some types of contamination, particularly where fuel has leaked into soil and groundwater, remediation and clean up activities may be ongoing throughout construction due to the lengthy recovery process and difficulty of fully extracting certain pollutants. Within Camp Roberts and Camp San Luis Obispo lands any hazardous materials handling/management shall be done consistent with the Camp's Standard Operating Procedures for Environmental Protection.	County PW Dept or contracted safety professional shall submit Phase I or Phase II (as necessary) report to the Lead Agency prior to final approval. Report any findings to the appropriate regulatory agencies prior to construction start.	Dept of P&B	Review the report prior to the project approval	Prior to Board of Supervisors approval to advertise for construction bids.
HM-2	A Hazardous Materials (HazMat) Contingency Plan shall be prepared before any excavation or trenching work is	County PW Dept shall submit the HazMat	Dept of P&B	Review and approve the Plan.	Prior to Board of Supervisors

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	commenced. The Plan may contain but may not be limited to the following actions that must be taken by the design or Lead Agency in the case that hazardous materials are encountered: - Notify owner, engineer, and other affected persons. - Notify such agencies as are required to be notified by laws and regulations within the time stipulated by such laws and regulations. - Designate a certified industrial hygienist to issue pertinent instructions and recommendations for protection of workers and other affected persons' health and safety. - Identify and contact subcontractors and licensed personnel qualified to undertake storage, removal, transportation, disposal, and other remedial work required by, and in accordance with, laws and regulations. - Forward to engineer, copies of reports, permits, receipts, and other documentation related to remedial work. - Assume responsibility for worker health and safety, including health and safety of subcontractors and their workers. - Instruct workers on recognition and reporting of materials that may be hazardous. - File requests for adjustments to contract time and contract price due to the finding of hazardous materials in the work site in accordance with conditions of contract. - Minimize delays by continuing performance of the work in areas not affected by hazardous materials operations. If contaminated soils or other hazardous materials are encountered during any soil moving operation during construction (e.g., trenching, excavation, grading), construction shall be halted and the HazMat Contingency Plan implemented.	Contingency Plan to the Lead Agency prior to construction start		Periodic site visits to assure compliance with the Plan	approval to advertise for construction bids. Periodically during construction

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
HM-3	In the event of an accidental release of a hazardous material (including fuel spills) during construction, the lead or design agency shall determine whether the release is reportable pursuant to any local, State, or Federal law, and if so would notify the regulatory agency to which the report should be submitted. The lead or design agency shall adhere to procedures listed below, which describe additional procedures to be followed in the event of an accidental release of a hazardous material. The purpose of the response procedures is to minimize exposure and risk to public health and safety. - The lead or design agency would implement and coordinate with local jurisdiction on procedures for immediate evacuation of persons from the vicinity of the spill; - promptly notify appropriate personnel and responsible agencies of the incident, such as the local fire department; - terminate NWP operations and shut-off power, if necessary; and - cooperate with responding agencies. Releases may not be of a "hazardous waste" and accordingly may not have to be managed as such. However, substances not classified as hazardous wastes may still be subject to restrictive handling requirements and would be managed in accordance with such requirements.	County PW Dept to follow measures and actions outlined in the HazMat Plan.	Dept of P&B	Periodic visits to the site during handling of encountered hazardous materials to verify compliance with the HazMat Plan.	During handling of the materials
HM-4	Prior to final design stage, the lead or design agency shall conduct a detailed utilities survey, including contacting the respective utility representatives, to accurately locate, to the extent possible, Southern California Gas lines, sewage lines and storm drains, as well as buried transmission lines within the corridor of the proposed pipeline route. The lead or design agency shall consult with Tosco and Chevron to confirm the locations of their oil and gas pipelines in the project area. Underground Service Alert shall be notified prior to breaking ground for construction of the pipeline so that any existing subsurface structures can be properly identified. The contractor shall be required to keep the notification current.	County PW Dept to submit the survey results to the Dept of P&B prior to start of project construction	Dept of P&B	Review the submitted survey and verify that communications between the necessary parties are established	Prior to Board of Supervisors approval to advertise for construction bids.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
HM-5	The HazMat Contingency Plan shall outline response actions including (at a minimum) clean up and reporting procedures, clean up equipment and supplies, and personnel responsibilities. As part of the plan, the Contractor shall be required to store fuels, oils, and other hazardous materials in sealed containers (tanks, cans or drums) located in storage basins within designated staging areas. The storage basins shall be located at a minimum distance of 25 feet from all natural/man made drainages or surface water bodies and should be lined and surrounded by protective dikes or other types of secondary containment to provide sufficient volume to contain any spills.	County PW Dept shall submit the HazMat Contingency Plan to the Lead Agency prior to construction start	Dept of P&B	Review and approve the Plan. Periodic site visits to assure compliance with the Plan	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction
HM-6	The HazMat Contingency Plan shall state that the Contractor shall provide for the implementation of traffic control and site control (i.e., access, fencing, drainage) to reduce the potential for accidents to occur. Fire extinguishers should be stationed in all vehicles and at strategic locations onsite.	County PW Dept shall submit the HazMat Contingency Plan to the Lead Agency prior to construction start	Dept of P&B	Review and approve the Plan. Periodic site visits to assure compliance with the Plan	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction
HM-7	The HazMat Contingency Plan shall state that the Contractor shall be required to conduct routine inspection and maintenance of construction vehicles and equipment.	County PW Dept shall submit the HazMat Contingency Plan to the Lead Agency prior to construction start	Dept of P&B	Review and approve the Plan. Periodic site visits to assure compliance with the Plan	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction
HM-8	A Process Hazards Analysis (PHA) shall be conducted during the early stage of the final design process for the WTP. This technique focuses on the hazardous materials and the major components and is used to prioritize the systems that require more detailed analysis. The study shall examine the orientation of the facilities with regard to potential residential development nearby, storage, chemical handling and chemical feeding systems, overall system design, safety systems including sensing devices, chemical scrubbing, and air pollution control devices. Transportation of chemicals to the site on a local level shall be addressed. Representative scenarios of accidental chemical releases shall be modeled to	County PW Dept shall submit the PHA report to the Lead Agency prior to approval	Dept of P&B	Review the PHA.	Prior to Board of Supervisors approval to advertise for construction bids.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	determine the extent of offsite impacts. A qualitative estimate of the likelihood of the occurrence of accidents and other events and the potential consequences of these events should be developed to produce a risk estimate. Those events with the highest risks would be analyzed in order to find possible design modifications for risk reduction. The PHA would determine areas where a Hazard and Operability Studies (HAZOP) should be performed. The structures should be consistent with information requirements for the California Accidental Release Program (CalARP) and the EPA Risk Management Program (RMP). If deemed necessary as a conclusion in the PHA, a HAZOP would be conducted that identifies the consequences of the engineering design failing to meet performance criteria, such as variations in flows, pressures, and temperatures. For example, if cryogenic oxygen production for ozonation is used, this system would be analyzed.				
HM-9	If ozonation is used as a disinfection method at the WTP, it is recommended that ozone be generated from air which would eliminate the need for liquid oxygen transport, handling and storage. If this disinfection method is used, ambient and in line ozone monitoring should be incorporated into water treatment system design to determine ozone destruct system performance. Line length between generator and contractor should be minimized in order to reduce ozone inventory in the plant. Power shutoff should be incorporated on high ambient ozone, high exhaust ozone, low water flow, or low exhaust backpressure.	County PW Dept shall submit the considerations in regards to the disinfectant method to be used to the Lead Agency prior to approval	Dept of P&B	Review the presented documentation.	Prior to Board of Supervisors approval to advertise for construction bids.
HM-10	A HazMat Delivery and Transportation Plan shall be developed that requires the drivers of the delivery companies to avoid rush traffic hours and congested routes as much as feasible.	County PW Dept shall submit the HazMat Contingency Plan to the Lead Agency prior to construction start	Dept of P&B	Review and approve the Plan. Periodic site visits to assure compliance with the Plan	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
HM-11	The Applicant shall make provisions to test the proposed pipeline with water that has not been disinfected (no chemicals that have a potential to harm aquatic organisms have been added) and to determine a way of safely disposing of the test water.	Submit plans of the test and water disposal to the Lead Agency for review shortly before construction completion.	Dept of P&B	Review and approve the plans	Prior to Board of Supervisors approval to advertise for construction bids.

Notes: County PW Dept=SLO County Department of Public Works (The Applicant); Dept of P&B=SLO County Department of Planning and Building (Lead Agency).

5.7 Biological Resources

Biological resources include the native and naturalized plants and animals at and in the vicinity of the proposed project site, or in the project area. The project area is defined as the region where biological resources could be physically affected by project activities (construction or operation), such as the pipeline corridor where trenching would occur, all the project facilities including staging areas, and any other areas that can be affected by the project activities (e.g., travel routes used for equipment/materials deliveries, areas where biology could be affected in case of accidental releases, areas where noise from the project construction or operation could affect any noise-sensitive species).

For discussion purposes, the biological resources are divided into vegetation, wildlife, threatened and endangered species, and sensitive habitats. *Vegetation* discusses plants and plant communities within the project area. *Wildlife* includes all terrestrial and aquatic animals that occupy or potentially occupy the project area. *Threatened and Endangered Species* presents information on species occurring or potentially occurring in the project area that are afforded protection under State or Federal law or that are being considered for such protection. *Sensitive Habitats* includes wetlands, plant communities that are unusual or of limited distribution, and important seasonal wildlife use areas (e.g., migration routes, breeding areas, or crucial seasonal habitat).

The descriptions of natural communities, wildlife, threatened and endangered species and sensitive habitats provided below are the result of site visits, published and unpublished reports, the California Natural Diversity Data Base (CNDDB), and contact with resources agencies.

5.7.1 Environmental Setting

5.7.1.1 Vegetation

A total of 13 native and six nonnative vegetative communities are present along the proposed project pipeline alignment. The communities are categorized based on the classification system defined in *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986). Appendix B contains maps of the project area where locations of these vegetation communities are depicted. A full list of the vegetative species observed during site surveys of the pipeline ROW is also contained in Appendix B, Table B.1. Identification and location of sensitive vegetative species occurring on the project site are defined in Section 5.7.1.3, Sensitive Species and Habitats, of this document.

Wetlands

The wetland communities found along the project area are composed of native emergent perennials (e.g., bulrushes or cattails) and perennial herbs (e.g., Mexican rush [*Juncus mexicanus*], nodding needlegrass [*Nassella Cernua*], long-beak filaree [*Erodium botrys*], and soft chess [*Bromus hordeaceus*]). The disturbed wetland communities are generally dominated by invasive exotic species.

Vernal Pools/Seasonal Wetlands
Vernal pools are temporary/seasonal wetlands with abrupt boundaries that form on relatively level sites underlain by an impervious hardpan soil layer. The impermeable soil layer allows the pools to retain water much longer then the surrounding uplands; nonetheless, the pools are shallow enough to dry up each season. Vernal pools often fill and empty several times during the rainy season. Only plants and animals that are adapted to this cycle of wetting and drying can survive in vernal pools over time.

These specialized plants and animals are what make vernal pools unique. As winter rains fill the pools, freshwater invertebrates, crustaceans, and amphibians emerge. Vernal pool plants sprout underwater, some using special floating leaves and air-filled stems to stay afloat. Some of these plants even flower underwater.

In spring, flowering plants produce the brightly-colored concentric rings of flowers that vernal pools are famous for. Native bees nest in vernal pools and pollinate pool flowers. Insects and crustaceans produce cysts and eggs, and plants produce seeds that are buried in the muddy pool bottom. At the end of the summer season vernal pools completely dry out and most of the plant and animal species either disappear into the soils or set seed and die. In this phase, vernal pools are really “banks” full of resting seeds, cysts, and eggs that can survive through summer, and even extended droughts, until the onset of the rains begin the life cycle anew.

Riparian Forest
Riparian forests occur along channels or other hydrologic features. Typical riparian understories onsite consist of coyote bush (*Baccharis pilularis*), blue elderberry (*Sambucus mexicana*), California rose (*Rosa californica*), mule fat (*Baccharis salicifolia*), California blackberry (*Rubus ursinus*), mugwort (*Artemesia douglasiana*), and poison oak (*Toxicondendron diversilobum*). Riparian scrub communities also occur within the project area.

Uplands
Upland plant communities occurring within the project area include central coast scrub, northern mixed chaparral, valley needle grassland, serpentine bunchgrass, valley oak woodland, blue oak woodland, and coast live oak woodland, as well as nonnative grassland, eucalyptus woodland, ruderal or weedy vegetation, general agriculture, and developed lands. A brief description of these upland communities is provided below.

Central coast scrub – This community occurs on exposed often south-facing slopes near the coast and is distributed between Monterey County and Point Conception. Characteristic plant species include black sage (*Salvia mellifera*), sticky monkeyflower (*Mimulus aurantiacus*), California sagebrush (*Artemisia californica*), poison oak, coyote bush, mock heather (*Ericameria ericoides*), and California coffeeberry (*Rhamnus californicus*).

Northern mixed chaparral – This community tends to occur on north-facing slopes. Typical species include chamise (*Adenostoma fasciculatum*), scrub oak (*Quercus dumosa*), several species of manzanita (*Arctostaphylos* spp.), and wild lilac (*Ceanothus* spp.). The understory component may include species such as mariposa lily (*Calochortus* spp.) and soap plant (*Chlorogalum* spp.), among others.

Native grasslands – The grasslands in the study area include valley needlegrass grassland and serpentine bunchgrass. Valley needlegrass grassland is dominated by the perennial species purple needlegrass (*Nassella pulchra*). Characteristic associates include several species of brodiaea (*Brodiaea* spp.), soap plant, mariposa lily, and blue-eyed grass (*Sisyrinchium* spp.). Serpentine bunchgrass is a native grassland community that is restricted to serpentine outcrops. Common species include needlegrass (*Nasella lepida* and *N. cernua*), wavy soap plant (*Chlorogalum pomeridianum*), California poppy (*Escholtzia californica* var. *peninsularis*), wild onion (*Allium lacunosum* var. *lacunosum*), spineflowers (*Chorizanthe* spp.), live forevers (*Dudleya* spp.), and mariposa lilies.

Valley oak woodland – This community is an open-canopied woodland dominated by valley oak (*Quercus lobata*) with a grassy understory. The habitat type occurs below 2,000 feet elevation in the Sacramento and San Joaquin valleys along the foothills of the Sierra Nevada, and the valleys of the Coast Ranges from Lake to Los Angeles counties. The resulting mixed forest may include valley oak and blue oak (*Quercus douglasii*) with an understory of creeping wild rye (*Elymus triticoides*) and poison oak.

Blue oak woodland – This community is typically found in the valleys and foothills of the southern and interior North Coast Ranges, in the South Coast ranges, and the western foothills of the Sierra Nevada (Holland 1986). Characteristic species of this community include blue oak, valley oak, California buckeye (*Aesculus californicus*), digger pine (*Pinus sabiniana*), scrub oak, California coffeeberry, and buckbrush (*Ceanothus cuneatus*).

Coast Live Oak Woodland – This community consists of an open or closed canopy of large evergreen trees, mostly coast live oak (*Quercus agrifolia*) and occurs on slopes and in shaded ravines. The understory is often dominated by nonnative, weedy species, particularly ripgut grass (*Bromus diandrus*).

Nonnative grassland – These grasslands are dominated by nonnative grasses and weedy annual and perennial forbs (non-grasses). Typical species include wild oat (*Avena fatua*), soft chess, red brome (*Bromus rubens*), long-beak filaree, red-stem filaree (*Eriogonum cicutarium*), bur clover (*Medicago hispida*), and Italian rye grass (*Lolium multiflorum*).

Eucalyptus woodland – This community typically consists of dense stands eucalyptus trees (*Eucalyptus* spp.). Very few native plant species are compatible with eucalyptus.

Ruderal or weedy vegetation – This community consists of any lands on which the native vegetation has been significantly altered by grading, plowing, or land-clearing activities and the species composition and site conditions are not characteristic of the disturbed phase of one of the plant communities within the study region. Typical plant species include Russian-thistle (*Salsola iberica*), short-pod mustard (*Hirschfeldia incana*), sweet fennel (*Foeniculum vulgare*), and wild oats (*Avena* spp.), among others. Nonnative and ornamental trees, such as eucalyptus, pepper-trees (*Schinus* spp.), and Russian olive (*Olea europea*) can also occur in this community.

Agricultural – This component includes actively cultivated lands or lands that support nursery operations. These may include vineyards and hay production.

Developed areas – These areas support no native vegetation and may be additionally characterized by the presence of man-made structures such as roads or buildings. The level of soil disturbance is such that only the most ruderal plant species would be expected.

5.7.1.2 Wildlife Species and Associated Habitats

A full list of the wildlife species observed during site surveys of the pipeline ROW is contained in Appendix B, Table B.2. These species have established themselves successfully due to the presence of suitable wildlife habitat throughout the project area. Wetland, terrestrial, and aquatic habitat types occur within the proposed project area. Prey availability, water, topography, vegetative cover and protection, and soil composition are important in determining the value of a habitat to wildlife. Descriptions of wildlife habitat types found within the project site are listed below. Identification and location of sensitive wildlife species occurring on the project site are defined in Section 5.7.1.3, Sensitive Species and Habitats, of this document.

Wetlands
Wetlands generally have high wildlife habitat value because of the presence of a complex vegetative overstory and understory, and water. Riparian habitat provides a protective cover and nesting locations for many bird species, such as Cooper's hawk (*Accipiter cooperii*), black phoebe (*Sayornis nigricans*), yellow warbler (*Dendroica petechia*), and red-winged blackbird (*Agelaius phoeniceus*). Wetland habitat types can also support various aquatic, crustacean, and amphibian species, such as the California red-legged frog (*Rana aurora draytoni*), and California tiger salamander (*Ambystoma californiense*). Seasonal wetlands (vernal pools) can support the vernal pool fairy shrimp (*Branchinecta lynchi*) and the western spadefoot toad (*Scaphiopus hammondii).*

Terrestrial
Terrestrial communities tend to have high wildlife habitat value because the variety of foraging and nesting options leads to a highly diverse wildlife component. Native and nonnative grasslands, native upland areas, and oak woodlands provide high to moderate wildlife habitat quality depending on the amount of cover, prey, and accessibility. These terrestrial habitats can support many bird species, such as the western meadowlark (*Sturnella neglecta*) and the red-tailed hawk (*Buteo jamaicensis*), as well as mammal species, such as the black-tailed jackrabbit (*Lepus californicus*), mule deer (*Odocoileus hemionus*), San Joaquin kit fox (*Vulpes macrotis mutica*), and the California ground squirrel (*Spermophilis beechyii*).

Aquatic Habitats
Areas of open water provide breeding habitat for amphibians and aquatic birds, as well as a source of drinking water for birds and mammals. Water bodies also provide fish habitat, the quality of which is often dependent on water quality, quantity, and seasonality. The aquatic habitats present on-site are briefly described below.

Lake Nacimiento is an impoundment of the Nacimiento River operated by the MCWRA. The lake was filled in 1958 and designed to provide water for irrigation, human consumption, prevention of saltwater intrusion, and recreation. The lake is 5,370 acres at a maximum pool elevation of 800 feet above msl, with a maximum capacity of 377,900 af. Water levels within the lake fluctuate frequently (up to 130 feet). The Nacimiento River flows throughout the year. The Nacimiento Dam, located upstream, regulates the flow of the Nacimiento River. Typical fish species found within Lake Nacimiento include largemouth bass (*Micropterus salmoides*), smallmouth bass (*Micropterus dolomieui*), white bass (*Roccus chrysops*), rainbow trout (*Oncorhynchus mykis*), black crappie (*Pomoxis nigromaculatus*), spotted bass (*Micropterus* *punctulatus*), white catfish (*Ictalurus catus*), channel catfish (*Ictalurus punctatus*), bluegill (*Lepomis macrochirus*), threadfin shad (*Dorosoma petenense*), common carp (*Cyprinus carpio*), Sacramento sucker (*Catostomus occidentalis*), brown bullhead (*Ictalurus nebulosus*), and green sunfish (*Lepomis cyanellus*).

Typical fish species found within the Nacimiento River on Camp Roberts include Pacific lamprey (*Lampetra tridentate*), Sacramento sucker (*Catostomus occidentalis*), Sacramento squawfish (*Ptychocheilus grandis*), speckled dace (*Rhinichthys osculus*), unarmored threespine stickleback (*Gasterosteus aculeatus microcephalus*), coastal rainbow trout (*Oncorhynchus mykiss irideus*), prickly sculpin (*Cottus asper*), goldfish (*Carassius auratus*), and western mosquitofish (*Gambusia affinis*) (California Army National Guard [CANG] 2001). Crayfish (*Cambaridae*), molluscs, amphipods, and insects are also found in the river.

The Salinas River has flow throughout the majority of the year with the flow regulated by Santa Margarita Lake, located upstream. The river channel is wide (ranging from 150 to 1,000 feet) with several smaller channels carrying water through the larger channel. Perennial streams and intermittent creeks present within the project site include Trout Creek, Yerba Buena Creek, and Chorro Creek. Trout and Yerba Buena creeks are heavily damaged by cattle activity. Chorro Creek supports predominantly weedy species in and along the creek bed (DWR 1993).

5.7.1.3 Sensitive Species and Habitats

Sensitive species are listed as threatened, endangered, or species of special concern by the U.S. Fish and Wildlife Service (USFWS) and CDFG based on their overall rarity, endangerment, unique habitat requirements, and/or restricted distribution. The potential presence of sensitive species in the project area was identified using a combination of CNDDB, the California Native Plant Society (CNPS) plant listing, and the results of site surveys. The CNDDB lists locales of sensitive biological resources in California identified during routine site investigations and from historic records. The compiled data contained in the CNDDB are the result of the voluntary submission of records by field investigators. In addition, local regulations apply when it comes to oak woodland sensitivity. In SLO County, oaks maintain a protected status; therefore, efforts must be made to avoid the trees, according to County guidance documents and Assembly Bill No. 242[1] to add Article 3.5 to Chapter 4 of Division 2 of the CDFG Code. The CNPS listing is used because it lists those plants believed or known to be rare and those that are considered candidate species for the CDFG (Skinner and Pavlik 1994). A search of the pertinent 7.5-minute USGS map quadrangles revealed the presence of sensitive biological resources in the project vicinity.

The USFWS has recently changed how they list species and candidate species under the Endangered Species Act (Federal Register, February 28, 1996). The USFWS has eliminated Category 2 and 3 candidate species and will no longer maintain a list of these species. Some of the species have been designated Category 1 candidate species and retain USFWS protection, while other species no longer receive USFWS protection. Species may be also protected by CDFG or local ordinances.

[1] AB 242 creates the Oak Woodlands Conservation Act and establishes the Oak Woodlands Conservation Fund to provide grants for conservation easements, incentive programs, public education and outreach related to conservation of oak woodlands.

Table 5.7.1 lists sensitive species, including protected species, known or suspected to occur in the NWP area. The table summarizes the status and habitat preferences of each of these species.

5.7.2 Regulatory Setting

Natural resources are protected by State and Federal legislation intended to conserve and promote their recovery. Generally, these laws can be grouped into the following three categories:

- Laws intended to protect individual species and their habitat, such as state and Federal endangered species acts;
- Laws intended to protect taxa (groups), such as the Federal Migratory Bird Treaty Act; and
- Laws that protect habitats or natural communities critical to the maintenance of other vital resources, such as portions of the Federal Clean Water Act and California Fish and Game (CFG) Code that protect wetlands and streambeds, respectively.

Endangered Species Acts
The Federal Endangered Species Act (FESA) of 1973 (as amended) provides for the conservation of ecosystems upon which threatened and endangered species of fish, wildlife, and plants depend, both through Federal action and by encouraging the establishment of State programs. FESA authorizes USFWS with the determination and listing of species as endangered and threatened. FESA prohibits unauthorized take, possession, sale, and transport of endangered species. Section 7 of FESA requires Federal agencies to ensure that any action authorized, funded or carried out by them, is not likely to jeopardize the continued existence of listed species or modify their critical habitat. Furthermore, it encourages agencies to consult with the USFWS prior to undertaking any such action.

The FESA requires obtaining an Incidental Take Permit (ITP) when non-federal activities may result in an incidental "take" of federally-listed species. "Take" is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect any threatened or endangered species. Harm may include significant habitat modification where it actually kills or injures a listed species through impairment of essential behavior (e.g., nesting or reproduction). In relation to the proposed project, the ITP would be required if federally-listed species would be relocated from construction areas.

The California Endangered Species Act (CESA) (CFG Code Sections 2050 *et seq*.) is administered by CDFG. CESA requires CDFG to maintain a list of threatened and endangered species. CDFG also maintains a list of candidates for listing under CESA and of species of special concern (or watch list species). CESA prohibits the "taking" of listed species except as otherwise provided in State law. Section 86 of CFG Code defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Under certain circumstances, CESA applies these take prohibitions to species petitioned for listing (State candidates).

Table 5.7.1 Sensitive Species Known or Have a Potential to Occur in the Project Area

Sensitive Species	Status*	Habitat
Non-vascular Plants		
Moss (=cylindrical trichodon) *Trichodon cylindricus*	USFWS: None CDFG: CSC/None CNPS: List 2, 2-2-1	Habitat: broad-leafed upland forest, upper montane coniferous forest, sandy, exposed soil, roadbanks. Reported on Camp Roberts (CANG 2001).
Vascular Plants		
Blochman's Dudleya *Dudleya blochmaniae* (Eastw.) Moran ssp. *blochmaniae*	USFWS: SC CDFG: S2.2 CNPS: List 1B, 2-2-2	This tiny corm-like sprouting perennial grows in sandy openings in Diegan Sage Scrub near the coast. Proximity to the coast, or to areas with a strong coastal influence, seems to be a requirement for this species. Reported near Chorro Creek (CNDDB 1999).
Dwarf Calycadenia *Calycadenia villosa*	USFWS: SC CDFG: CSC CNPS: List 1B, 2-3-3	Habitat: dry meadows, hillsides, and gravelly washes in chaparral, cismontane woodlands, valley and foothill grasslands of the inner slopes of the outer South Coast Range (City of Paso Robles 2003), blooming – May-October. Reported on Camp Roberts (CANG 2001).
Club-haired Mariposa lily *Calochortus clavatus* ssp. *clavatus*	USFWS: None CDFG: None CNPS: List 4, 1-1-3	Most occurrences are on serpentine or serpentine derived soils. In SLO County, it occurs from Cypress Mountain (east of Cambria) to Cuesta Grade and the serpentine ridges of the San Luis Range around San Luis Obispo. Reported on Camp San Luis Obispo (CANG 2001a).
Lemmon's Jewelflower *Caulanthus coulteri* var. *lemmonii*	USFWS: SLC CDFG: None CNPS: List 1B, 2-2-3	Habitat: pine woodland, grassland. Reported on Camp Roberts (CANG 2001).
Obispo Indian Paintbrush *Castilleja densiflora* ssp. *obispoensis*	USFWS: None CDFG: None CNPS: List 1B, 2-2-3	Habitat: valley and foothill grassland, blooms in April. Reported on Camp San Luis Obispo (CANG 2001a).
Palmer's Spineflower *Chorizanthe palmeri*	USFWS: None CDFG: None CNPS: List 4, 1-2-3	Habitat: Chaparral cismontane woodland, valley and foothill grassland, rocky, serpentinite soils. Blooms in May-August. Reported on Camp San Luis Obispo (CANG 2001a).
Dwarf Soaproot *Chlorogalum pomeridianum* var. *minus*	USFWS: SLC CDFG: None CNPS: List 1B, 2-2-3	Habitat: chaparral, serpentinite soils; blooms in May-August. Reported on Camp San Luis Obispo (CANG 2001a).
San Benito spineflower *Chorizanthe biloba* var. *immemora*	USFWS: SC CDFG: None CNPS: List 1B, 3-2-3	Habitat: chaparral, cismontane woodland. Blooms May-September. Reported on Camp Roberts (CANG 2001).

Table 5.7.1 Sensitive Species Known or Have a Potential to Occur in the Project Area

Sensitive Species	Status*	Habitat
Rattan's Cryptantha *Cryptantha decipiens (=C. rattani)*	USFWS: None CDFG: None CNPS: List 4, 1-1-3	Cismontane woodland, riparian woodland, and valley and foothill grassland. Blooms in April-July. Reported on Camp Roberts (CANG 2001).
Small-flowered Gypsum-loving Larkspur *Delphinium gypsophilium ssp. parviflorum*	USFWS: None CDFG: None CNPS: List 4, 1-1-3	Valley and foothill grasslands. Reported on Camp Roberts (CANG 2001).
San Benito Poppy *Eschscholzia hypecoides*	USFWS: None CDFG: None CNPS: List 4, 1-1-3	Chaparral, cismontane woodland, valley and foothill grassland on serpentinite clay substrates, blooming in March-June. Reported on Camp Roberts (CANG 2001).
Hesperevax, Hogwallow Starfish (=dwarf dwarf cudweed) *Hesperevax caulescens*	USFWS: None CDFG: None CNPS: List 4, 1-2-3	An annual herb. Hogwallow starfish grows flats on clay soils, in drying beds of vernal pools and in valley and foothill grassland. It blooms March through June. Reported on Camp Roberts (CANG 2001).
Jones Layia *Layia jonesii*	USFWS: SC CDFG: None CNPS: List 1B, 3-2-3	Valley and foothill grasslands, blooming – March-June. Reported on Camp San Luis Obispo (CANG 2001a).
Jones Bush Mallow *Malacothamnus jonesii*	USFWS: None CDFG: None CNPS: List 4, 1-1-3	Jones Bush Mallow is five foot tall gray evergreen shrub with fuzzy leaves. Habitat – Chaparral, and Cismontane woodland, blooming in May-July. Reported on Camp Roberts (CANG 2001).
Mt. Diablo Cottonweed *Micropus Amphibolus*	USFWS: None CDFG: None CNPS: List 3, ~~2~~1-2-3	Habitat: broad-leafed upland forest, chaparral, cismontane woodland, valley and foothill grassland. Reported on Camp Roberts (CANG 2001).
One-sided Monkeyflower *Mimulus Subsecundus*	USFWS: None CDFG: None CNPS: List 4, 1-1-3	Habitat: Lower montane coniferous forest, blooms in May-July. Reported on Camp Roberts (CANG 2001).
California Spineflower *Mucronea californica*	USFWS: None CDFG: None CNPS: List 4, 1-2-3	Habitat: chaparral, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland, blooming in March-August. Reported on Camp Roberts (CANG 2001).
Prostrate Navarretia *Navarretia prostrate*	USFWS: SC CDFG: None CNPS: List 1B, 2-3-3	Habitat: coastal scrub, valley and foothill grassland, vernal pools; blooms – April-July. Reported on Camp Roberts (CANG 2001).

Table 5.7.1 Sensitive Species Known or Have a Potential to Occur in the Project Area

Sensitive Species	Status*	Habitat
Paso Robles Navarretia *Navarretia jaredii*	USFWS: None CDFG: None CNPS: List 4, 1-1-3	Habitat: chaparral, cismontane woodland, valley and foothill grassland, serpentinite; blooms April-July. Reported on Camp Roberts (CANG 2001).
Most Beautiful Jewel-flower, *Streptanthus albidus* ssp. *peramoenus*	USFWS: SC CDFG: None CNPS: List 1B, 2-2-3	Habitat: chaparral, cismontane woodland, valley and foothill grassland, serpentinite; blooms April-June. Reported on Camp San Luis Obispo (CANG 2001a).
San Luis Mariposa Lily *Calochortus obispoensis*	USFWS: None CDFG: None CNPS: List 1B, 2-2-3	Found on dry stony hills or canyons in chaparral, coastal scrub, or grassland habitats, and can occur on ultramafic material (Munz 1959; Skinner and Pavlik 1994).
Cambria Morning-Glory *Calystegia subacaulis* ssp. *episcopalis*	USFWS: SC CDFG: None CNPS: List 1B, 3-2-3	Occurs in chaparral and cismontane woodland.
Straight-awned spineflower *Chorizanthe rectispina*	USFWS: SC CDFG: None CNPS: List 1B, 3-1-3	Chaparral, cismontane woodland, and coastal scrub. Records exist for both Monterey and San Luis Obispo counties.
Chorro Creek Bog Thistle *Cirsium fontinale* var. *obispoense*	USFWS: E CDFG: E CNPS: List 1B, 3-2-3	Restricted to open seep areas on serpentine soil outcrops, known from only 9 locations; 8 are to the south and west of the City of San Luis Obispo, and one is 48 kilometers (30 miles) to the northwest near San Simeon (USFWS 1994). Observed on Camp San Luis Obispo (Julie Eliason 2003).
Shining Navarretia *Navarretia nigelliformis* ssp. *radians*	USFWS: None CDFG: None CNPS: List 1B, 2-2-3	Found in cismontane woodland, grassland, and vernal pools. Found on Camp Roberts near the proposed WTP site.
San Luis Obispo Sedge *Carex obispoensis*	USFWS: None CDFG: None CNPS: List 1B, 2-2-3	Is listed by the CNDDB to occur near Stenner Creek.
Purple Amole *Chlorogalum purpureum var. purpureum*	USFWS: T CDFG: None CNPS: List 1B, 3-3-3	Occurs at one location on the western portion of Camp Roberts in annual grasslands north of the Nacimiento River (USFWS 2001b).
Brewer's Spineflower *Chorizanthe breweri*	USFWS: None CDFG: None CNPS: List 1B, 3-1-3	Is possibly threatened by road and other infrastructure development. Occurrences in the project area between Cuesta Tunnel and the San Luis Obispo City WTP are recorded in the CNDDB.
Cuesta Pass Checkerbloom *Sidalcea hickmanii* ssp. *anomala*	USFWS: SC CDFG: Rare CNPS: List 1B, 3-2-3	Found in closed-cone conifer forests, sometimes on serpentine and is known from three reported CNDDB occurrences on Cuesta Ridge in the Los Padres National Forest.

Table 5.7.1 Sensitive Species Known or Have a Potential to Occur in the Project Area

Sensitive Species	Status*	Habitat
Snails		
Morro Shoulderband Snail (=Banded dune) *Helminthoglypta walkeriana*	USFWS: E CDFG: None	Inhabits the plant litter and undersides of low shrub branches in coastal dune scrub vegetation, woody debris and in decaying vegetation, seem to prefer shrubs that exhibit dense, low growth with ample contact to the ground. Sightings at Camp San Luis Obispo (Bryceson, Douglas 2003).
Crustaceans		
Vernal Pool Fairy Shrimp Branchinecta lynchi	USFWS: T CDFG: None	Occur in seasonally inundated wetlands, primarily in vernal pools; have been known to occur in roadside ditches and bulldozer scrapes; have been identified at 61 sites within the Camp Roberts boundary; additionally, unidentified immature shrimp were found in 119 pools (Jones & Stokes Associates 1997). Potential habitat was identified in several Training Areas on Camp Roberts (CANG 2001).
Fish		
Tidewater Goby *Eucyclogobius newberryi*	USFWS: E CDFG: CSC	Is restricted to brackish water lagoons or estuaries in coastal California; found in water with salinities less than 10 parts per thousand (ppt), and appear to require unconsolidated sand for their reproductive burrows. Within the project area, have been reported to occur in Chorro Creek. However, this species has not been detected in Chorro Creek since 1984 (Swift et al. 1990). This is a potentially occurring species, although unlikely to occur.
Steelhead Trout *Oncorhynchus mykiss*	USFWS: T CDFG: CSC	Steelhead is an anadromous rainbow trout that returns to spawn in freshwater streams during the spring; it will often move up major coastal rivers in the fall and wait until spring to spawn (McGinnis 1984). After spawning, juveniles typically move upstream to deep pools and remain in freshwater for 2–3 years before returning to the sea (Carlander 1969); have been reported in the Salinas River, Santa Margarita Creek, San Luis Obispo Creek, and Chorro Creek.
Arroyo Chub *Gila orcutti*	USFWS: None CDFG: CSC	Occupies weedy shallows of lakes and ponds; quiet waters of slow moving rivers; native to the Los Angeles, San Gabriel, Santa Ana, Santa Margarita and San Luis Rey rivers and Malibu and San Juan creeks (Moyle et. al. 1989). The introduced population in Chorro Creek is the northern limit of the arroyo chub’s distribution.
Amphibians		
Arroyo Toad *Bufo californicus*	USFWS: E CDFG: CSC	Inhabits slow moving streams and rivers in southern California and northwestern Baja California, Mexico; forages on the banks and upland sections of riparian areas. Slow-flowing rivers and streams with sandy bottom pools provide essential breeding habitat (USFWS 2001a). Has potential to occur north of the city of Paso Robles where the proposed pipeline alignment would cross the Salinas River.

Table 5.7.1 Sensitive Species Known or Have a Potential to Occur in the Project Area

Sensitive Species	Status*	Habitat
California Tiger Salamander *Ambystoma californiense*	USFWS: E (Santa Barbara and Sonoma Counties only) CDFG: CSC	Open woodlands, grasslands, and ponds. Within the proposed alignment, this species has the potential to occur in sewer and cattle ponds adjacent to agricultural areas (Alden et. al. 1998); not a known to occur species, but potentially occurring.
California Red-legged Frog *Rana aurora draytonii*	USFWS: T CDFG: CSC	Frequents marshes, slow moving water sections of streams, lakes, reservoirs, ponds, and other usually permanent water sources; occurs primarily in wooded areas in lowlands and foothills, although it can also be found in grassland; considered a pond frog (Stebbins 1966) and is typically associated with deep water pools (at least 1.6 feet in depth) that are fringed by thick vegetation, particularly arroyo willow or cattails (Zweifel 1955; Hayes 1991).
Coast Range newt *Taricha torosa torosa*	USFWS: None CDFG: CSC	Species are found along coastal ranges from northwestern to southwestern California. Northern populations inhabit mesic forests or mountainous terrain, and further south, populations may inhabit drier oak forests, rolling grasslands, and chaparral. *T. t. torosa* typically breed in slow-moving or still ponds and ditches. Reported on Camp San Luis Obispo (CANG 2001a).
Western Spadefoot Toad *Scaphiopus hammondii*	USFWS: SC CDFG: CSC	Primarily a lowland species, frequenting washes and floodplains of rivers; prefer areas of open vegetation and short grass, where the soil is sandy of gravelly. Its range can extend into the foothills and mountain valleys. Occurs in seasonal wetlands/vernal pools.
Reptiles		
San Joaquin Whipsnake *Masticophis flagellum ruddocki*	USFWS: None CDFG: CSC	Rock outcrops, open hillsides, dry sand, prairies, oak and pine woodlands, grassy areas, dunes, and scrub. Reported on Camp Roberts (CANG 2001)
Silvery Legless Lizard *Anniella pulchra pulchra*	USFWS: None CDFG: CSC	Mountains and foothills, the Central Coast dunes provides favorable habitat, especially in stabilized dune areas where native coastal shrubs occur, such as bush lupine and mock heather. Reported on Camp Roberts (CANG 2001).
California Horned Lizard *Phrynosoma coronatum frontale*	USFWS: None CDFG: CSC	Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects. Reported on Camp Roberts (CANG 2001).
Southwestern Pond Turtle *Clemmys marmorata pallida*	USFWS: SC CDFG: CSC	An aquatic reptile restricted to permanent water with mud or rocky bottoms; were observed at the proposed Nacimiento River crossing on Camp Roberts. Known to occur in the Salinas River where there are pools and suitable basking sites.

Table 5.7.1 Sensitive Species Known or Have a Potential to Occur in the Project Area

Sensitive Species	Status*	Habitat
Birds		
California Condor *Gymnogyps californianus*	USFWS: E CDFG: E	Is the largest flying bird in North America; has been observed in the community of Santa Margarita, according to communication with the CDFG; observed at Camp San Luis Obispo and possibly Camp Roberts.
Cooper's Hawk *Accipiter cooperii*	USFWS: None CDFG: CSC	Often perches on telephone poles and preys largely on songbirds and small mammals. Within the proposed alignment, has high potential to occur in areas with oaks or riparian woodland during winter; has been reported on Camp Roberts and Camp San Luis Obispo.
Ferruginous Hawk *Buteo regalis*	USFWS: SC CDFG: CSC	The ferruginous hawk inhabits the dry western plains and the intermountain regions. Reported on Camp Roberts (CANG 2001) and Camp San Luis Obispo (CANG 2001a).
Merlin *Falco columbarius*	USFWS: None CDFG: CSC	Breeds in open coniferous woodland, prairie and winters in open woodland, grasslands, cultivated fields, marshes, estuaries and sea coasts; frequents coastlines, open grasslands, savannahs, woodlands, lakes, and wetlands. Dense tree stands may be used for cover and frequently are close to bodies of water. Reported on Camp Roberts (CANG 2001).
Long-billed Curlew *Numenius americanus*	USFWS: None CDFG: CSC	Breeds in short-grass communities, preferring native prairies but also occupying grazed mixed-grass communities and scrub prairie. After the breeding season is over, species migrate to coastal habitats, mostly from California into Mexico. Most often encountered on tidal flats and other coastal habitats, wintering curlews also occur on inland grassland and agricultural habitats such as those found in the Central Valley of California Reported on Camp Roberts (CANG 2001).
Sharp-shinned Hawk *Accipiter striatus velox*	USFWS: None CDFG: CSC	Is fairly common over much of its range and prefers mixed woodlands; preys mainly on smaller birds and migrates singly or in loose groups (National Geographic 1999). Within the proposed alignment, has high potential to occur in areas with oaks or riparian woodland during winter; has been reported to occur on Camp Roberts.
Tricolored Blackbird *Agelaius tricolor*	USFWS: None CDFG: CSC	Lives in open valleys and foothills, streamside timber, tules and cattails in marshes, and edges of reservoirs; according to the CNDBB, is listed to occur within the Chorro Creek area.
Great Blue Heron *Ardea herodias*	USFWS: None CDFG: None	Commonly found in fresh and saltwater emergent wetlands and estuaries and is less common along rivers, in croplands, pastures, and foothill ponds (Zeiner *et al.* 1990); were observed along the Nacimiento River below the dam; on Salinas River on Camp Roberts.
Burrowing Owl *Athene cunicularia hypugea*	USFWS: SC CDFG: CSC	Is a ground dweller and occupies open country, golf courses, and airports. Within the proposed alignment, has high potential to occur in all nonnative grasslands and habitats that fringe agriculture (National Geographic Society 1999); has been reported on Camp Roberts and Camp San Luis Obispo.

Table 5.7.1 Sensitive Species Known or Have a Potential to Occur in the Project Area

Sensitive Species	Status*	Habitat
Long-eared Owl *Asio otus*	USFWS: None CDFG: CSC	Uses wooded areas for daytime roosting with adjacent open areas to forage; uses forest edges or patches of conifers adjacent to grasslands, agricultural lands, or riparian habitat. In the west and south-west they are also found in deciduous woods near lakes and streams where growth of climbing vines provide dense roosting cover during winter. Sightings reported at Camp Roberts (Bryceson, Douglas 2003).
Swainson's Hawk *Buteo swainsoni*	USFWS: SC CDFG: T	Usually migrates in large flocks and winters chiefly in South America; prefers grassland, open plains, and prairie habitat (National Geographic Society 1999); has been reported on Camp Roberts.
Mountain Plover *Charadrius montanus*	USFWS: PT CDFG: CSC	Inhabit plains and grassy or bare dirt fields. Within the proposed alignment, has high potential to occur in agricultural fields and grasslands during winter (National Geographic Society 1999); not a known to occur species, but potentially occurring.
Northern Harrier *Circus cyaneus*	USFWS: None CDFG: CSC	Forages and nests in grasslands and marshes (City of Paso Robles 2003). Reported on Camp Roberts (CANG 2001) and Camp San Luis Obispo (CANG 2001a).
Yellow Warbler *Dendroica petechia brewsteri*	USFWS: None CDFG: CSC	A summer visitor to California and nests only in mature riparian woodland; were observed along the Nacimiento River below the Nacimiento Dam.
Yellow-breasted Chat *Icteria virens*	USFWS: None CDFG: CSC	Inhabits willow cottonwood riparian areas. Nests in dense riparian habitats dominated by willows, tall weeds, blackberry vines, and grapevines, uncommon migrant in California, sightings in Camp Roberts (Bryceson, Douglas 2003).
Common loon *Gavia immer*	USFWS: None CDFG: CSC	Shallow, marshy areas, habitat is largely chosen based on how appropriate the environment is for building a nest as well as the abundance of food. Loons live on the banks of freshwater rivers or lakes, although food for young can only come from freshwater lakes. Sightings at Camp San Luis Obispo (Bryceson, Douglas 2003).
Double-crested Cormorant *Phalarocorax auritus*	USFWS: None CDFG: CSC	Frequents coasts and large rivers, does not spend a lot of time in the water, except for feeding. Sightings at Camp San Luis Obispo (Bryceson, Douglas 2003).
Southwestern Willow Flycatcher *Empidonax traillii extimus*	USFWS: E CDFG: None	Occurs in riparian habitats along rivers, streams, or other wetlands in dense growths of willow, often with a scattered overstory of Fremont cottonwood; suitable habitat occurs along the Salinas River; not known to occur species but potentially occurring.
California Horned Lark *Eremophila alpestris actia*	USFWS: None CDFG: CSC	Prefers dirt fields, gravel ridges, and shores; have high potential to occur in disturbed areas and grasslands within the proposed alignment; has also been reported on Camp Roberts.
Loggerhead Shrike *Lanius ludovicianus*	USFWS: SC CDFG: CSC	Prefers open fields with scattered trees, open woodland habitat, and scrub habitat. Reported on Camp Roberts (Julie Eliason 2003).

Table 5.7.1 Sensitive Species Known or Have a Potential to Occur in the Project Area

Sensitive Species	Status*	Habitat
Bald Eagle *Haliaeetus leucocephalus*	USFWS: T CDFG: E	Sightings along Nacimiento River during winter months. In February-March 2003 a pair of eagles unsuccessfully nested along the river, later abandoning the nest (Julie Eliason 2003).
Golden Eagle *Aquila chrysaetos*	USFWS: None CDFG: CSC	Frequent sightings at many locations on Camp Roberts (Julie Eliason 2003).
Osprey *Pandion haliaetus*	USFWS: None CDFG: CSC	Sightings along Nacimiento River at Camp Roberts (Julie Eliason 2003).
Prairie Falcon *Falco mexicanus*	USFWS: None CDFG: CSC	Nest in cliffs overlooking large areas, forages in open ground in grasslands (City of Paso Robles 2003). Reported on Camp Roberts (CANG 2001) and Camp San Luis Obispo (CANG 2001a).
Least Bell's Vireo *Vireo bellii pusillus*	USFWS: E CDFG: E	Inhabit riparian forests of southern California. Essential elements of the habitat are dense, low-growing, generally impenetrable, thickets of willows, mulefat, California blackberry, mugwort, and other similar species. Observed in SLO County but no nesting behavior was evident.
White-tailed Kite *Elanus leucurus*	USFWS: None CDFG: SA	Open country, grasslands and marshes; nests in trees (City of Paso Robles 2003). Reported on Camp Roberts (CANG 2001) and Camp San Luis Obispo (CANG 2001a).
Mammals		
San Joaquin Pocket Mouse *Chaetodipus inornatus inornatus*	USFWS: SC CDFG: None	Sightings at Camp Roberts (Julie Eliason 2003).
Salinas Pocket Mouse *Chaetodipus (=Perognathus) inornatus psammophilus*	USFWS: None CDFG: CSC	Grasslands with fine textured soils. Sightings at Camp Roberts (Bryceson, Douglas 2003).
San Joaquin Kit Fox *Vulpes macrotis mutica*	USFWS: E CDFG: T	Found in grasslands and other sparsely vegetated, shrubby habitats. The availability of suitable den sites throughout the year is crucial. The den is dug in friable soils and in hard clay, the kit fox will enlarge holes started by ground squirrels or badgers. Marked and potential burrows were observed along proposed pipeline alignment on Camp Roberts and immediately south of Paso Robles.
Greater Western (=California) Mastiff Bat, *Eumops perotis californicus*	USFWS: SC CDFG: CSC	Rock crevices, forage over chaparral, scrub, oaks (Ogden 1997), reported on Camp Roberts (Bryceson, Douglas 2003).
Pallid Bat, *Antrozous pallidus pacificus*	USFWS: None CDFG: CSC	Coastal and lower montane, grasslands (Ogden 1997), reported on Camp Roberts and Camp San Luis Obispo (Bryceson, Douglas 2003).

Table 5.7.1 Sensitive Species Known or Have a Potential to Occur in the Project Area

Sensitive Species	Status*	Habitat
Townsends's Western Big-eared bat, *Corynorhinus townsendii townsendii*	USFWS: SC CDFG: CSC	Coastal and lower montane, oak and conifer woodlands, arid grasslands and deserts, and high-elevation forests and meadows (Ogden 1997), reported on Camp Roberts and Camp San Luis Obispo (Bryceson, Douglas 2003).
Long-legged Myotis *Myotis volans*	USFWS: SC CDFG: None	Species forage near trees and cliffs, over water, and in wooded openings, at ten to 15 feet (3 to 5 m) from the ground. Roosting sites can be found in rock crevices, buildings, under bark, in snags, and caves, reported on Camp Roberts (Bryceson, Douglas 2003).
Northern Long-eared Myotis *Myotis evotis evotis*	USFWS: SC CDFG: None	Found in woodlands, reported on Camp Roberts (Bryceson, Douglas 2003).
Yuma Myotis *Myotis yumanensis saturatus*	USFWS: SC CDFG: CSC	Roosts colonially in a variety of natural and human- made sites including caves, mines, buildings, bridges, and trees; in northern California, maternity colonies are usually in fire-scarred redwoods, pines and oaks; forages for insects over water bodies Reported on Camp Roberts (CANG 2001) and Camp San Luis Obispo (CANG 2001a).
Western small-footed Myotis, *Myotis ciliolabrum melanorhinus*	USFWS: SC CDFG: None	Found in open stands in forests and woodlands, as well as shrublands; uses caves, crevices, and abandoned buildings, reported on Camp Roberts (Bryceson, Douglas 2003).

Table 5.7.1 Sensitive Species Known or Have a Potential to Occur in the Project Area

Sensitive Species	Status*	Habitat

Note: * status of the species varies depending on the database and date of its latest update. Plant species federal status source: USFG, Sacramento Office, updated September 2003. Plant Species California Status source: California Department of Fish and Game Natural Diversity Database, July 2003.

Federal (USFWS – US Fish and Wildlife Service)
E Endangered: Afforded protection under the Federal Endangered Species Act as an endangered species.
T Threatened: Afforded protection under the Federal Endangered Species Act as a threatened species.
PT Proposed Threatened: Candidate for listing under the Federal Endangered Species Act.
SC Species of Concern: Species for which insufficient information exists to warrant listing.
SLC Species of Local Concern or conservation importance.
MC Species of management concern due to declining populations.

State (CDFG – California Department of Fish and Game)
E Endangered: Afforded protection under the state Endangered Species Act as an endangered species.
T Threatened: Afforded protection under the state Endangered Species Act as a threatened species.
CSC California Species of Concern: An administrative designation given to vertebrate species that appear to be vulnerable to extinction because of declining populations, limited ranges, and/or continuing threats.
SA Special Animal: of concern to the Natural Diversity Data Base regardless of protection status
S2 6-20 EOs or 1000-3000 individuals or 2000-10000 acres
- S2.1 = very threatened
- S2.2 = threatened

CNPS (California Native Plant Society)
List 1A - Plants believed extinct.
List 1B - Plants rare, threatened, or endangered in California and elsewhere.
List 2 - Plants rare, threatened, or endangered in California, but more numerous elsewhere.
List 3 - A review list of plants for which the CNPS requires more information.
List 4 - Plants of limited distribution (watch list).

Pursuant to the requirements of CESA, State lead agencies (as defined under CEQA Pub. Res. Code Section 21067) are required to consult with CDFG to ensure that any action or project is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat. Additionally, CDFG encourages informal consultation on any proposed project that may impact a candidate species.

CEQA Guidelines (Section 15380[b]) also afford species not listed under FESA or CESA special consideration if a species can be shown to meet certain specified criteria. Intended primarily to deal with situations in which, for example, an action affects a species not yet afforded protection under State or Federal law, this section of the CEQA Guidelines affords species protection until legal designation is warranted.

CNPS maintains a list of plants believed or known to be rare. This list includes species that are not afforded protection under Federal or state endangered species legislation. The major categories of plants under the CNPS scheme are:

- List 1A – Plants believed extinct.
- List 1B – Plants rare, threatened, or endangered in California and elsewhere.
- List 2 – Plants rare, threatened, or endangered in California, but more numerous elsewhere.
- List 3 – A review list of plants for which the CNPS requires more information.
- List 4 – A watch list of plants of limited distribution.

CNPS List 1 or 2 are generally considered to meet CEQA Section 15380 criteria.

Protected Wildlife
The vegetation along much of the pipeline route provides nesting habitat for bird species protected under the Migratory Bird Treaty Act. The Migratory Bird Treaty Act (16 U.S. Code 703-712), enacted in 1918, prohibits the pursuit, hunting, take, capture, possession, or killing of all native birds, and the destruction of their eggs or nests, except where exempted by local game laws. Although depredation permits are issued under this Act for the purpose of controlling bird populations under certain conditions, permits are not normally issued for projects that harm protected species through construction or similar activities. Compliance with this act is normally achieved through project planning and impact avoidance.

Under CEQA Guidelines Section 15206, a project may be deemed to be of statewide, regional, or area-wide significance if it substantially affects sensitive wildlife habitat. The definition of sensitive wildlife habitats includes, but is not limited to, riparian lands, wetlands, bays, estuaries, marshes, and habitats for rare and endangered species as defined by CFG Code Section 903.

Protected Habitats
The multiple streams crossed by the proposed project qualify as Waters of the United States under the Federal Clean Water Act. The Federal Clean Water Act limits Federal jurisdiction to "navigable waters," which it defines as "waters of the United States." Waters of the United States are further subdivided into seven categories, two of which are wetlands and adjacent wetlands (33 CFR Sections 328.3[a] and [a][7]). Portions of the alignment bisect areas with

facultative hydrophytes (plants that normally grow in water) that may indicate the presence of jurisdictional wetlands subject to the above sections of the Clean Water Act.

Wetlands are defined under 33 CFR Part 328.3 (b) as "[T]hose areas that are inundated or saturated by surface or groundwater at a frequency or duration sufficient to support, and that under normal circumstances do support, prevalence of vegetation typically adapted for life in saturated soil conditions." ACOE is charged, in cooperation with the EPA, with the responsibility for issuing permits under Section 404 of the Clean Water Act (CWA). ACOE has developed a multiple parameter test for determining the presence and extent of wetlands in a given area. In essence, the test relies on the characterization of soils and vegetation, and the readily identifiable presence of water. When it is determined that an area meets these criteria, it is subject to the restrictions and prohibitions of the CWA as it applies to wetlands.

Section 404 of the CWA imposes restrictions on and requires permits for any action that involves the placement of fill material, dredges material from, or results in flooding of wetlands or other Waters of the United States. In accordance with EPA regulations issued under Section 404(b)(1), the permitting of fill will not be approved unless the following conditions are met: no practicable, less environmentally damaging alternative to the action exists; the activity does not cause or contribute to violations of state water quality standards (as described under Section 401 of the CWA); the activity does not jeopardize federally listed threatened or endangered species or sensitive cultural resources (as required by 33 CFR Part 320.3e and g); the activity does not contribute to significant degradation of waters of the United States; and all practicable and appropriate steps have been taken to minimize potential adverse impacts to the aquatic ecosystem (40 CFR Part 230.10).

Streams may also be afforded protection as streambed impacts are subject to the limitations of CFG Code Sections 1600–1607. Under this regulation, CDFG is authorized to recommend mitigation for projects that obstruct the flow or that otherwise result in the alteration of the bed, channel, or bank of a stream or river possessing fish and wildlife resources. The law extends CDFG's jurisdiction to permanent, ephemeral (non-permanent), and intermittent streams. Applicants whose projects are likely to affect these resources are required to enter into a Streambed Alteration Agreement with the CDFG.

5.7.3 Significance Criteria

Sensitivity ratings assigned to certain biological resources by Federal and State resource agencies (e.g., ACOE, USFWS, CDFG), the regional sensitivity of the resource, local significance criteria, and the degree to which the resource may be affected are used in evaluating the significance of an impact. More specifically, Appendix G of the CEQA Guidelines provides the criteria for determining the significance of an impact to natural resources.

In general, an impact is deemed significant if:

- It conflicts with local, State and Federal environmental plans and policies, especially those aimed at protecting sensitive biological resources.
- It has a substantial effect on species listed as endangered or threatened and their habitat, or species that are recognized as rare by State, Federal, or scientific agencies and institutions (as defined in CEQA Guidelines) and their habitat.

- It causes a substantial interference with the movement of any migratory fish or wildlife species.
- It results in substantial loss of habitat for fish, wildlife, or plant species.
- It involves the use, production, or disposal of materials which pose a hazard to animal or plant populations in the area affected.

Substantial impacts are those of sufficient magnitude or duration that they affect abundance and distribution of a resource or significantly alter its viability.

For the purposes of analysis, impacts to biological resources are evaluated by assessing the proposed action's effect on a resource while considering that resource's status. Generally, impacts on sensitive resources afforded specific legislative protection (i.e., wetlands, federally and State listed species, and coastal habitat) are considered significant. Determination of significance for impacts on resources afforded minimal or no protection (e.g., non-sensitive natural habitats, State species of concern, and locally sensitive species) is more dependent on the specific factors listed in the CEQA Guidelines.

5.7.4 Proposed Project Impacts and Mitigation Measures

As proposed, the project would result in both direct and indirect impacts to natural resources. These impacts can be permanent or temporary in nature. Direct impacts occur when biological resources are altered, disturbed, destroyed, or removed during the course of project implementation.

5.7.4.1 Treated Water Option

Direct Impacts

Impact	Impact Description	Residual Impact
BR.1	Potentially significant impacts to terrestrial biological resources from heavy construction machinery and various construction activities.	Class II

Construction activities such as trenching, clearing, grading, brushing of vegetation, and felling trees could result in loss of individual species from habitat clearing, damage to tree roots structure, construction-related mortality; loss of foraging, nesting, or burrowing habitats for wildlife species; and habitat disturbance which results in loss of prey, or unfavorable substrate conditions (i.e., compacting of soil) which may prevent vegetation regeneration or destroy favorable locations for borrow construction.

Several locations in the project area have been identified as having a large number of sensitive plant and wildlife species, and therefore potentially having significant impacts to terrestrial biological resources from the proposed project. These areas are Camp Roberts, an area south of Paso Robles, the vicinity of the City of San Luis Obispo and most of the rivers, creeks, and smaller drainages to be crossed by the proposed pipeline (impacts to the aquatic and riparian biological resources are discussed under Impact BR.2).

Specifically, San Joaquin kit fox (which is predominantly found on Camp Roberts, also see maps in Appendix B for specific locations) may be significantly impacted due to potential mortality from a construction vehicle strike, compaction of burrows by construction machinery, reduction in prey amounts, noise, and other disturbances due to heavy machinery in the habitat. In addition, construction of the Water Treatment Plant (WTP) would permanently eliminate habitat potentially suitable for kit fox habitation.

It is required that the applicant obtains an Incidental Take Permit if there is a possibility that a "take" of federally listed species could occur (see Section 5.7.2 for definitions). Federal Endangered Species Act, Section 7 requires Federal agencies to have a formal consultation with the USFWS to ensure that actions they fund, authorize, permit, or otherwise carry out will not jeopardize the continued existence of any federally listed species or adversely modify designated critical habitats. If the project is conducted within a federal property (e.g., Camp Roberts), a formal consultation as per the Endangered Species Act may be required (e.g., for the endangered species on Camp Roberts lands such as vernal pool fairy shrimp and San Joaquin kit fox, and others).

The following special status plant species may be directly impacted by the proposed project due to trenching, clearing, staging areas, equipment movement, etc.: Chorro Creek bog thistle, Cuesta Pass checkerbloom, Brewer's spineflower, Blochman's dudleya, San Luis mariposa lily, Cambria morning glory, shinning navarretia, straight-awned spineflower, and potentially San Luis Obispo sedge.

Individual oak trees and oak woodlands could be affected due to improper pruning, trenching, or soil storage that affects oak root system, and tree removal. During the biological field surveys it has been determined that approximately 1,000 individual oak trees (i.e., trees outside of oak woodlands) would be within the 200-foot wide project corridor. Because a 30-foot wide construction corridor can be maintained in sensitive areas, it is conservatively estimated that out of the 1,000 trees, only approximately 100 trees would need to be removed, and potentially roots and drip lines of another 200 trees would be affected. The pipeline route would also go through oak woodlands, and could affect oaks within these woodlands. It has been estimated that approximately 74 additional oak trees (3.7 acres of woodlands, 20 trees per acre) could be affected within these woodlands.

The City of San Luis Obispo, in the Salinas Dam EIR (1997), has suggested the establishment of an oak restoration research program in the Stenner Creek area as mitigation for the loss of oaks in the proposed reservoir. The purpose of this research program is to provide data and refine oak establishment and management methods for more self-sustaining and less intensive management oak woodland habitats. This program may be used by the County as part of its offsite oak woodland replacement mitigation for the proposed project.

Mitigation Measures

Table 5.7.2 contains sensitive species or protected habitats that occur in the project area, locations as related to the project stationing, project activities associated with the project areas and mitigation measures proposed. These mitigation measures are outlined below. Mitigation measures BR-1 through BR-8 shall be implemented for all areas. Other mitigation measures are listed in Table 5.7.2 for specific species or habitats. See also Impact BR.2.

Table 5.7.2 Project Area Locations Where Major Sensitive Habitats Could Be Impacted

Alignment Stationing *	Construction Method	Location/Project Activity	Potentially Impacted Species or Habitats **	Mitigation Measures
0+00–58+00	Boring of tunnel(s)	Lake Nacimiento, Intake construction	Lake water habitat – fish.	BR-17 through BR-19, BR-21.
106+00–113+00	BG, open cut/trench	Nacimiento River crossing	Riparian habitat. Least Bell's Vireo; Southwestern Willow Flycatcher; Yellow Warbler; California Red-legged Frog; Southwestern Pond Turtle; Sensitive Plants (Purple Amole)	BR-13 through BR-15, BR-16, BR-17 through BR-22, BR-24, BR-25.
140+00–145+00		Staging area at Nacimiento River	Vernal pool fairy shrimp Oak Woodland	BR-10, BR-17 through BR-19, BR-22, BR-23.
257+00–275+00	BG	Dry Creek crossing	Oak woodland	BR-10, BR-17 through BR-22.
275+00–296+00	BG	Dry Creek crossing	Oak woodland; San Joaquin Kit Fox	BR-9, BR-10, BR-17 through BR-22.
315+00–420+00	Trench	Stream Confluence and Drainage	Riparian habitat. Oak woodland. Least Bell's Vireo; Southwestern Willow Flycatcher; Yellow Warbler; California Red-legged Frog; Vernal Pool Fairy Shrimp; Sensitive Plants; San Joaquin Kit Fox	BR-9, BR-10, BR-13 through BR-15, BR-16, BR-17 through BR-22, BR-23, BR-24, BR-25.
585+00–592+00	BG	unnamed creek crossing	Oak woodland	BR-10, BR-17 through BR-22.
684+00–693+00	BG	San Marcos Creek crossing	Oak woodland	BR-10, BR-17 through BR-22, BR-24.
880+00–893+00	AG or BG, pipe bridge or directional drilling	Salinas River crossing	Riparian habitat. Least Bell's Vireo; Southwestern Willow Flycatcher; Yellow Warbler; California Red-legged Frog; Arroyo Southwestern Toad	BR-16, BR-17 through BR-22, BR-24, BR-25
893+00–1087+00	Trench	along Salinas River	Riparian habitat. Floodplain. Shining Navarretia	BR-15, BR-17 through BR-19, BR-22.
1183+00–1225+00	Trench; Grading	along Salinas River estuary (location of the Paso Robles Discharge Area)	Riparian habitat. Floodplain. San Joaquin Kit Fox	BR-9, BR-17 through BR-19, BR-22.
1225+00–1299+00	Micro-tunnels	along Salinas River	Riparian. Oak woodland. San Joaquin Kit Fox; Raptors.	BR-9, BR-10, BR-16, BR-17 through BR-22, BR-24.
1325+00–1360+00	Trench	along Salinas River	Riparian. San Joaquin Kit Fox.	BR-9, BR-17, -18, -19, BR-21, BR-22.
1385+00	Trench;	Location of Templeton	Riparian.	BR-17 through

Table 5.7.2 Project Area Locations Where Major Sensitive Habitats Could Be Impacted

Alignment Stationing *	Construction Method	Location/Project Activity	Potentially Impacted Species or Habitats **	Mitigation Measures
	Grading.	Discharge Area		BR-19, BR-21, BR-22.
1470+00–1475+00	Trench; Grading	Location of Atascadero Discharge Area	Riparian.	BR-17 through BR-19, BR-21, BR-22.
1635+00–1640+00	Trench	Atascadero connection, pipe bridge	Riparian.	BR-17 through BR-19, BR-21, BR-22.
1658+00–1670+00	Trench	along Salinas River	Riparian.	BR-17 through BR-19, BR-21, BR-22.
1670+00–1715+00	Trench.	along Salinas River	Riparian.	BR-17 through BR-19, BR-21, BR-22.
1825+00–1835+00	Trench. BG	along Salinas River, Rocky Canyon Creek crossing	Riparian. Oak woodland.	BR-10, BR-17 through BR-22, BR-24.
1915+00–1926+00	BG, boring	Salinas River crossing (Trout Creek)	Riparian. Oak woodland. Southwestern Willow Catcher; Least Bell's Vireo; California Red-legged Frog	BR-10, BR-16, BR-17 through BR-22, BR-24, BR-25
1954+00–1995+00	BG, AG	Trout Creek, riparian area near Trout and Santa Margarita creeks	Riparian. Cooper's Hawk; Sensitive Plants; Western Spadefoot Toad; California Red-legged Frog	BR-16, BR-17 through BR-22, BR-24, BR-25
2165+00–2170+00	Trench	Santa Margarita Creek area; Freshwater seep	Riparian. Oak woodland.	BR-10, BR-17 through BR-22, BR-24.
2378+00–2520+00	BG	Creek crossing; Chorro Creek area	Riparian. Tricolored Blackbird; California Red-legged Frog; Morro shoulderband snail, Cambria morning-glory; San Luis Obispo sedge; San Luis Mariposa Lily; Brewer's Spineflower; Chorro Creek Bog Thistle	BR-13 through BR-15, BR-16, BR-17 through BR-22, BR-24, BR-25
2560+00–2562+00	BG	Stenner Creek; Chorro Creek area	Riparian. Tricolored Blackbird; California Red-legged Frog; Morro shoulderband snail, Cambria morning-glory; San Luis Obispo sedge; San Luis Mariposa Lily; Brewer's Spineflower; Chorro Creek Bog Thistle, Steelhead trout	BR-13 through BR-15, BR-16, BR-17 through BR-22, BR-24, BR-25
2945+00	BG	Creek crossing	Oak woodland	BR-10, BR-17 through BR-22.

Notes: AG = above ground; BG = below ground

* See Figures 2-3 through 2-24 in the Project Description, Section 2.0 for Stations on the pipeline alignment.

** From AMEC Earth & Environmental, *Biological Resources Report to the Proposed Nacimiento Water Project.* November 2001.

Source: Maps from Carollo 2002.

BR-1 *The Lead or Responsible Agency shall retain a qualified biologist(s) (project biologist) to conduct and oversee construction monitoring that pertain to biological resource protection, act as the liaison between the Lead or Responsible Agency and the construction contractor(s), and to ensure compliance with the mitigation program, such as monitoring all construction activities in biologically sensitive areas and scheduling and/or implementing preconstruction surveys, if determined to be necessary by the County Environmental Coordinator. The project biologist shall be selected based on demonstrated knowledge and experience with the species potentially occurring in the project area. The project biologist shall inform the County monitoring representative as soon as possible, and the County representative shall have the authority to stop construction activities if there is eminent threat to the listed species, or to delay construction activities until appropriate mitigation measures can be implemented. In addition, all project personnel who conduct work at Camp Roberts and/or Camp San Luis Obispo must attend an environmental awareness briefing conducted by California Army Reserve National Guard (CARNG) Environmental staff prior to beginning work.*

BR-2 *A Biology Education Program for Contractors shall be implemented to ensure that all construction personnel are fully informed of the biological sensitivities associated with this project. The program shall be conducted by a qualified biologist and shall be a requirement for all construction personnel. This program shall focus on:*

a) the purpose for resource protection;

b) identification of sensitive resources areas in the field (e.g., areas delineated on plans and by flags or fencing);

c) sensitive construction practices;

d) protocol to resolve conflicts that may arise during the construction process;

e) ramifications of noncompliance.

BR-3 *The project biologist and the project engineer shall clearly designate "sensitive resource zones" on the project maps and construction plans. Sensitive resource zones are defined as areas where construction would be limited to a 15- to 30-foot corridor, depending on the particular construction requirements, to avoid impacts to special status biological resources.*

The project biologist shall demark the limits of sensitive populations on the project plans, including as feasible, an adequate buffer area to avoid direct and indirect impacts. If determined necessary by the County Environmental Coordinator, survey work to demark sensitive resource zones shall be conducted during the appropriate survey window to confirm sensitive species (the exact survey timing would be determined appropriately for each specific species, and depending on the rain conditions). During construction, temporary fencing shall be erected under supervision of the project biologist to provide protection within the sensitive resource zones.

BR-4 *Within sensitive resource zones, construction equipment work shall be conducted observing the following procedures:*

- Heavy equipment and construction activities shall be restricted to the defined construction ROW.

- Vehicles and personnel shall use existing access roads to the maximum degree feasible. Any off road travel within Camp Roberts or Camp San Luis Obispo shall be subject for approval by Range Control and the Environmental Directorate. Where additional access is required, all vehicles shall use the same route, even if this requires heavy equipment to back out of such areas (safety permitting). All access routes outside of existing roads or the construction easement shall be clearly marked (i.e., flagged and/or staked) prior to the onset of construction, delineated on the construction plans, and reviewed by the project biologist. Additional access roads shall avoid, to the degree possible, sensitive habitat areas or special status plant populations.

- Topsoil shall be segregated by windrow or stockpiled in disturbed areas without native vegetation, special status plant populations, or special status plant communities. These stockpile areas shall be located in previously disturbed areas, delineated on the construction plans, and reviewed by the project biologist.

- Any expanded work areas requested, such as construction and vehicle access, width of construction corridor exceeding 100-foot width, or storage and staging areas, shall require the following review procedures: the limits of expanded work areas proposed will be depicted on construction drawings and reviewed by the project biologist; if necessary, and as determined by the County Environmental Coordinator, all expanded work areas shall be surveyed by biologists for sensitive resources during the appropriate survey time window (e.g., the month of May for most status special status plant species); the expanded work areas that impact sensitive resources may be altered to the degree feasible to avoid any additional impacts; and sensitive resource zones will be established, as described above.

BR-5 *Final design of the project shall incorporate the following:*

- Staging areas shall be located in disturbed habitat, to the maximum degree feasible. Staging areas are prohibited within sensitive habitat areas. All staging areas shall be delineated on the construction plans and reviewed by the project biologist.

- As feasible and consistent with preliminary project design, plan placement of the proposed pipeline beneath existing roads and ROWs and away from undeveloped and previously undisturbed areas.

BR-6 *The Applicant shall prepare a Vegetation Replacement/Restoration Plan (VRRP) for vegetative communities that are significantly impacted and that are to be permanently removed from project sites. The Plan shall be prepared by the project sponsors for the various vegetative communities and habitats that would be temporarily disturbed during project construction but could be restored onsite. A qualified restoration biologist and native plant horticulturist shall be retained to supervise or participate in the design, site preparation, installation, maintenance, and monitoring of all* *revegetation or site restoration programs. VRRP shall include revegetation success criteria and measures to ensure after revegetation monitoring and replanting in case the revegetation is not successful.*

The part of the VRRP developed for lands within Camp Roberts or Camp San Luis Obispo shall be reviewed and approved by the CARNG Environmental Directorate.

BR-7 *Construction through sensitive areas shall be scheduled to minimize potential impacts to biological resources. A specific schedule shall be developed by the project biologist and changed if necessary. The guidelines for this schedule shall be as follows:*

*- to protect breeding **sensitive bird species** in wetland areas or drainages schedule construction only from mid-September through October, provided that no significant rainfall occurs within this time-frame. However, if breeding bird surveys are conducted from March 15 through June 15, and no breeding birds are detected, then this window could be widened to include July and August.*

*- to protect **Tiger salamander** habitat (i.e., grasslands) avoid construction in March and April.*

*- to protect **Steelhead trout** habitat avoid construction in the habitat from November through May.*

*- to protect **California red-legged frog** habitat (wetlands) avoid construction in wetlands from December to August.*

Mitigation measures to prevent impacts to specific biological resources are given below.

BR-8 *For all the sensitive species listed in Table 5.7.1, preconstruction surveys shall be conducted to verify their presence at known sites and at potential sites where the project could impact these species. If present, impacts are to be avoided or minimized by narrowing the alignment adjacent to potential dens, nests or aquatic areas. If avoidance is not feasible, specific mitigation measures for these species will be determined through consultation with USFWS and CDFG through CESA and FESA. Formal consultation and obtaining of Incidental Take Permits would be required if the federally listed species could be encountered and affected.*

BR-9 *To protect the **San Joaquin Kit Fox** the following measures shall be implemented:*

a) Within 30 days prior to initiation of grading or other construction, the Applicant shall hire a qualified biologist acceptable to the USFWS, CDFG, and the County Environmental Coordinator, to conduct a pre-construction survey for known and potential kit fox dens. A letter shall be submitted to the Dept. of Planning and Building prior to issuance of construction permits confirming the completion of this survey.

b) Before any grading or construction activities commence, all personnel associated with the project shall attend a worker education program regarding the sensitive biological resources potentially occurring in the project area (i.e., San Joaquin kit fox). Specifics of this program shall include kit fox life histories and careful review of the mitigation measures implemented to reduce impacts. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, *and other personnel involved with construction of the project. The Dept. of Planning and Building shall be notified of the time that the applicant intends to hold this meeting.*

c) To prevent entrapment of the kit fox during the construction phase of the project, all excavation, steep-walled holes, or trenches in excess of 2 feet in depth shall be covered at the close of each working day by plywood or similar materials, or filled. Trenches shall also be inspected for entrapped kit fox each morning prior to onset of field activities and immediately prior to covering with plywood at the end of each working day. Before such holes or trenches are filled, they shall be thoroughly inspected for entrapped kit fox. Any kit fox so discovered shall be allowed to escape before field activities resume, or removed from the trench or hole by a qualified biologist and allowed to escape unimpeded.

d) During the construction phase, any pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at the project site for one or more overnight periods shall be thoroughly inspected for trapped San Joaquin kit fox before the subject pipe is subsequently buried, capped, or otherwise used or moved in any way. If during the construction phase a kit fox is discovered inside a pipe, that section of pipe will not be moved, or if necessary will be moved only once to remove it from the path of activity, until the kit fox has escaped.

e) In order not to attract kit fox predators such as red fox, coyotes, or domestic dogs to the area, and in order to not attract kit foxes to the site where they can exposed to increased risk of injury or mortality, all food-related trash items such as food scraps, wrappers, cans, bottles, etc., generated during the construction phase shall be disposed of in closed containers only and regularly removed from the site. No deliberate feeding of wildlife shall be allowed.

f) Any contractor or employee that inadvertently kills or injures a kit fox or who finds any such animal either dead, injured, or entrapped shall be required to report the incident immediately to a supervisor overseeing the project. In the event that such observations are made of an injured or dead kit fox, the Applicant shall immediately notify USFWS and CDFG by telephone, contact information for these agencies shall be included with the project contact list prior to the project commencement. In addition, formal notification shall be provided in writing within three working days of the finding of any such animal(s). Notification shall include the date, time, location, and circumstances of the incident. Any threatened or endangered species found dead or injured shall be turned over immediately to the CDFG for care, analysis, or disposition.

If any potential or known San Joaquin kit fox dens are subsequently observed during the required pre-activity survey, the following mitigation measures shall apply:

g) Fenced sensitive resource zones shall be established by the project biologist around all known or potential kit fox dens that can be avoided but may be inadvertently impacted by project activities. Sensitive resource zone fencing shall consist of either large flagged stakes connected by rope or cord or survey laths or wooden stakes prominently flagged with survey ribbon. Each sensitive resource zone *shall be roughly circular in configuration with a radius of the following distance measured outward from the den or burrow entrances:*

- *Potential kit fox den: 50 feet*
- *Known kit fox den: 100 feet*
- *Kit fox pupping den: 150 feet*

h) If the sensitive resource zone intersects a road, only essential vehicle operation shall be allowed on the road within the sensitive resource zone, and simple foot traffic shall be permitted within these sensitive resource zones. Otherwise, all project activities such as vehicle operation, materials storage, etc., shall be prohibited. Sensitive resource zones shall be maintained until all project-related disturbances have been terminated and then shall be removed. If specified sensitive resource zones cannot be observed for any reason, USFWS and CDFG shall be contacted for guidance prior to ground disturbing activities on or near the subject den or burrow.

If any known San Joaquin kit fox dens are discovered within the project area which shall be unavoidably destroyed by the proposed project, excavation of these kit fox dens shall not proceed without authorization from USFWS and CDFG.

Prior to project construction the Applicant shall consult with USFWS and CDFG to evaluate the appropriate participation in a kit fox conservation program. The Applicant will prepare a Habitat Evaluation Form using a qualified biologist to determine the appropriate level of offsite habitat mitigation necessary to offset any permanent loss of kit fox habitat, especially associated with the WTP. Permanent habitat loss will be offset at the appropriate ratio through either land acquisition, a conservation easement or in-lieu fees.

BR-10 *Construction techniques to be implemented to protect* ***oak trees*** *and* ***oak woodlands*** *(i.e.,* ***blue oak woodland, valley oak woodland, coast live oak woodland, and digger pine-oak woodland****):*

In accordance with the County's guidance on oaks and Assembly Bill No. 242 to add Article 3.5 to Chapter 4 of Division 2 of the CDFG Code relating to oak woodland conservation, and with all local related policies and ordinances (e.g., City of Paso de Robles Oak Tree Preservation Ordinance, Camp Roberts Integrated Natural Resources Management Plan) the final project design shall target maximum avoidance of oak trees. If avoidance is not feasible the Applicant shall prepare an Oak Tree and Woodland Mitigation Plan, which shall be prepared by a certified arborist and shall contain but not be limited to the following measures:

a) The construction ROW easement shall be narrowed to a maximum of 30 feet in width through oak woodland habitat (i.e., areas suitable for the establishment of oak woodlands). During final design, the project biologist and project engineer shall identify the most appropriate location for the narrowed corridor, taking into account the preservation of as many individual oak trees as possible with the engineering requirements of the proposed project. All areas requiring this sensitive resource zone shall be clearly shown on all construction plans, and prior to the onset of construction, flagged by the project biologist/construction monitor. If determined *necessary by the County Environmental Coordinator, a preconstruction survey shall be conducted by the project biologist to accurately map oak woodlands that would be unavoidably impacted.*

b) Construction machinery ingress, egress, and staging areas shall be placed away from woodlands and individual oak trees, and shall not be driven under the canopies of oak trees.

c) Disposal or storage of fill or excavated soil is prohibited within the dripline of all oak trees.

d) During construction near oak trees, no fasteners may be used on the trees.

e) All reasonable measures shall be taken to avoid moving dead and downed oak logs.

f) All oak trees immediately adjacent to construction areas shall be protected by erecting temporary fencing at the drip line of the woodland canopy or around individual trees.

g) Any necessary oak tree pruning shall conform to the standards of the International Society of Arborculture and done under supervision of a certified arborist. Pruning shall be carried out in such a manner as to maintain a natural-looking tree form upon completion of pruning; practices such as stub cuts, topping, flush cuts, and random branch removal shall be avoided. All pruning cuts shall correspond with the branch collar using natural target pruning, and no tree seal shall be used. Pruning or cutting of roots etc. of individual trees shall be quantified during construction and up to one year after construction.

h) Oak monitoring shall be done for one year after construction completion. If any oak trees die either during construction or within one year after construction completion, the trees shall be replaced at a 3:1 ratio[2]*.*

i) Individual oak trees that cannot be avoided and must be removed within habitat types other than oak woodlands shall be replaced at a 4:1 replacement ratio in accordance with the County's mitigation policy for loss of individual oak trees.

j) For every area of oak woodland habitat that is removed, oak woodland habitat shall be restored onsite or replaced offsite at an agreed upon offsite location with an equal area (3:1 replacement ratio).

k) Offsite replacement for oak woodlands shall be at locations that currently support disturbed or nonnative habitats. Each of the four oak woodland habitat types that would be disturbed shall be replaced or restored with a similar density of oak trees by species as found in the impacted habitats. The Flood Control and Water Conservation District (FCWCD) shall prepare a detailed oak woodland restoration plan for this project. The VRRP shall contain detailed information on oak woodland replacement and address any issues of concern. Areas suitable for creation of oak conservation

[2] *Source*: a) California Oaks Foundation, *Oak Woodland Habitat Conservation Ordinance* (http://www.californiaoaks.org/ordinance.html),
b) Julie Eliason, 2003.

areas for replacement offsite shall be evaluated. Feasibility of purchasing land for oak conservation areas shall be evaluated.

l) Specifically on Camp Roberts and Camp San Luis Obispo, compliance with the Camp Roberts Integrated Natural Resources Management Plan (INRMP) is required as follows:

-- hand digging, mechanical digging, and blade work are prohibited under the drip lines of standing live or dead oak trees; if digging under the drip lines of oaks is unavoidable, any damage that ensues will be subject to mitigation (replacement);

-- 3:1 replacement for damaged or removed oaks;

-- collection of acorns from the area of impacted oaks, planting at densities approved by CA ARNG, planting during January-February, watering if necessary;

-- minimum of five (5) years of monitoring, 3:1 survivorship ratio, preparation of annual monitoring reports, and compliance with all other INRMP oak management stipulations.

m) These oak tree avoidance and monitoring procedures shall also be followed for construction in all areas in the vicinity of oak trees along the construction route.

BR-11 *The VRRP shall include details on* ***needlegrass grassland*** *habitats. The restoration of needlegrass grasslands shall include salvaging of topsoil, recontouring the impact area to its original contours, and revegetating this area with* ***purple needlegrass***, ***nodding needlegrass***, *and* ***foothill needlegrass*** *plugs at the appropriate time of year (November-January). This will require onsite seed collection and contract-growing of plugs by a nursery with demonstrated experience in propagating native plants.*

The needlegrass grassland areas in the project corridor also include several highly sensitive sites with serpentine rock outcrops (i.e., serpentine bunchgrass community). Seed and bulbs from native forb and corm species indigenous to the serpentine grassland sites also shall be collected and reseeded or planted into the restoration areas. Forb species found in the impact areas appropriate for reseeding including ***California poppy***, ***morning glory***, ***fascicled tarweed***, ***dot-seed plantain***, ***Canterbury bells***, *and* ***yerba santa***. *Corm-forming species found in the impact areas (e.g.,* ***wild onion***, ***golden bloomeria, soap plant)*** *shall be salvaged en masse with the topsoil and replanted in the impact areas after construction. These measures will ensure that the genetic integrity of the needlegrass, native forb, and corm-forming species that are locally adapted to serpentine soils are preserved. Several special status plant species to be impacted in serpentine bunchgrass habitat shall be salvaged and replanted as described below under special status plants.*

The selected mitigation area shall be monitored by a qualified biologist for needlegrass plug survival at 1 month, 3 months, and 6 months following planting; all plug losses below 80% shall be replaced at the appropriate time of year. The percent cover of native forbs, corm-forming plants, and needlegrass shall be monitored using transects or quadrants and compared with adjacent undisturbed native grassland habitat.

BR-12 As part of the VRRP, ***chaparral, central coastal scrub, and nonnative grassland*** *shall be revegetated and restored using topsoil salvage, recontouring disturbed areas to their original contours, and hydroseeding impacted areas with species characteristic of the impacted vegetative community. Appropriate species for erosion control purposes and eventual native shrub and herb cover shall be used. Because native grassland species are likely to be out-competed by nonnative species, and native bunchgrasses require hand-planting, it is recommended that grassland impact areas be hydroseeded with a ground cover mix. Hydroseeded areas shall be monitored by a qualified biologist for seed viability and overall success. Areas shall be re-hydroseeded after 30 days if germination success is low. Topsoil salvage specifications, hydroseed mixes, and seed proportions for individual sites shall be specified in the detailed mitigation plan for this project.*

BR-13 To protect ***San Luis Mariposa lily, Brewer's spineflower, Cambria morning glory, Chorro Creek bog thistle, Obispo Indian Paintbrush, Jones Layia, Dwarf Soaproot, Most Beautiful Jewel-flower*** *and* ***Blochman's dudleya,*** *the following shall be implemented in the Chorro Creek area. The location of all plant populations in or adjacent to the alignment shall be clearly shown on construction maps and labeled as sensitive areas that shall be avoided. These populations shall be flagged by a qualified biologist and protected with temporary fencing prior to construction. During the final project design phase, slight shifts and narrowing of the proposed construction ROW will be required to avoid all the sensitive plant habitats listed in Table 5.7.1.*

FCWCD shall prepare a detailed mitigation plan for salvage and restoration of these special status plant populations, if complete avoidance is not possible. Those individual plants to be impacted shall be salvaged and transplanted into appropriate habitat within or adjacent to the alignment after project construction is completed. Seed saving and nursery propagation before reintroduction may be necessary for restoration of ***Brewer's spineflower*** *and possibly* ***Blochman's dudleya*** *populations. Any salvaging effort shall be conducted when the plants are dormant (i.e., late July through September), and transplantation or reintroduction shall occur in fall or early winter (September through January). A transplantation plan shall be prepared by the project biologist and submitted for approval to the Lead Agency prior to the onset of construction activities. This plan shall include guidelines for salvage of corms and seed, and salvage and replacement of topsoil and serpentine boulders. The plan shall also address guidelines for storage of plant material in the event that there is a delay between the salvage and transplantation efforts. Plant material storage guidelines shall include, at a minimum, the method(s) of storage and the storage facility (name and address of the institution, etc.). The plan shall also include specific information documenting the suitability of the receiver site (i.e., soils, existing vegetation, etc.), transplantation techniques, and a monitoring program. Transplanted corms and plants shall be marked and subsequently monitored during the blooming period for a minimum of three years. A status report documenting all aspects of the plan shall be submitted to the Lead Agency within one month of the final transplantation effort. Thereafter, yearly monitoring reports shall be submitted in September to the Lead Agency.*

BR-14 *To protect **San Luis Obispo Sedge** and **Cuesta Pass Checkerbloom,** construction ROW shall be narrowed as feasible where these plants occur (see Table 5.7.1). The location of all plants in or adjacent to the alignment shall be clearly shown on construction maps and labeled as sensitive areas that shall be avoided. The limits of the population in or adjacent to the alignment shall be flagged by a qualified biologist prior to construction. A mitigation plan would be required for propagation and reintroduction of the species into appropriate habitat.*

BR-15 *To protect **Shinning Navarretia**, **Straight-Awned Spineflower, Dwarf Calycadenia, Prostrate Navarretia, San Benito spineflower, and Lemmon's Jewelflower,** direct impacts shall be avoided by narrowing the construction ROW in those segments of the proposed alignment where they occur. The location of all plants in or adjacent to the alignment shall be clearly shown on construction maps and labeled as sensitive areas that shall be avoided. The limits of the population in or adjacent to the alignment shall be flagged by a qualified biologist prior to construction. If avoidance is not possible, impacts to these sensitive plant species would be adverse because of the relatively high sensitivity of the species (CNPS List 1B). A mitigation plan would be required for propagation and reintroduction of the species into appropriate habitat.*

BR-16 *Potential impacts to **special status bird species** (in particular the **Bald eagle**, **California condor**, **Yellow Warbler**, **Least Bell's Vireo**, and **Southwestern Willow Flycatcher)** may be mitigated by implementing the general mitigation measures - BR-1 through BR-6. Impacts to avian species shall be avoided by not allowing construction during the breeding season in habitats special status birds are known to be breeding. Preconstruction surveys shall be conducted to assess the presence or absence of special status bird species in their breeding habitats, and areas that are in use will be flagged and avoided until the end of the breeding season.*

*To protect **Bald eagle** during November through March avoid construction at locations in Camp Roberts where bald eagles have been spotted. Prior to beginning any construction activities, a survey for nesting bald eagles shall be performed by a qualified biologist. If a nest is discovered, construction activity shall not occur within 800 meters (2,400 feet) of the nest from 1 January to 31 August, or as stipulated by the U.S. Fish and Wildlife Service.*

*To protect **California condor**, work shall be halted by the environmental monitor if the bird(s) is observed in the vicinity. Work can be resumed only after the project biologist has determined that the bird has moved far enough away that resuming work will not result in disturbance of the bird.*

Residual Impact

Implementation of the measures recommended above would reduce the potential impacts to biological resources to *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
BR.2	Impacts to riparian, water, and wetlands habitats and their biological resources from construction activities.	Class II

The pipeline route crosses riparian habitats in several locations; these are summarized in Table 5.7.2. The most important drainage and riparian areas crossings are as follows: the Nacimiento River at station 110+00, Dry Creek at stations 257+00 and again at 293+00, an unnamed creek at station 586+00, San Marcos Creek at 688+00, the Salinas River at station 880+00, micro tunnels in the Salinas River riparian area that will be constructed beginning at station 1240+00, Rocky Canyon Creek at station 1834+00, Salinas River from station 1915+00 to 1920+00, Santa Margarita Creek at station 1964+00, Chorro Creek crossing area at P109B and Stenner Creek crossing at 2378+00 and 2560+00.

Construction activities in or near the drainages, wetlands, water bodies, and in riparian areas could have significant impacts due to filling wetland habitats, diverting or channelizing surface water flows, and encroaching on wetlands. These impacts would lead to degradation of the wetland, riparian, or water habitats, decreased reproductive functions, and mortality.

Other concerns to biological resources from construction activities are increased soil erosion due to clearing of existing vegetation and the resultant bare soil surface. The exposed soil could result in degradation of offsite (i.e., downstream) riparian/wetland habitat by excessive sedimentation and siltation.

Potentially significant impacts to aquatic life or contamination of drainages could occur because of fuel or other toxic substances spills due to construction machinery presence in the vicinity or within the wet lands or riparian habitats. Spills can result in mortality and degradation of habitat and water quality.

Dewatering of drainages would be a potentially significant impact if it blocks access to spawning areas for sensitive fish (e.g., steelhead trout) or results in the loss or degradation of habitat for amphibians and reptiles.

Table 5.7.2 summarizes specific areas where significant impacts could occur due to the proposed project's implementation within areas known to contain sensitive species and within major drainages, riparian habitats, and wetlands. The pipeline will also cross or transverse near some other smaller drainages (see maps in Appendix B for all USGS Blue Line Stream Crossings.) Mitigation measures that shall be implemented for each specific area are listed below.

Mitigation Measures

Construction techniques and other approaches outlined in Mitigation Measures BR-1 though BR-6 and BR-8 shall be implemented to reduce severity of this impact as well as the following mitigation measures.

BR-17 *Construction activities within and/or immediately adjacent to all creek crossings, wetlands, special status plant species populations, or suitable habitats of special status wildlife of the pipeline shall be limited to a 15- to 30-foot corridor. Specific sites for this limitation would include pipeline crossings at Salinas and Nacimiento Rivers and San Marcos, Santa Margarita, Tassajara, Trout, Yerba Buena, and Chorro Creeks. Other creek crossings may be included as determined by the project biologist.*

BR-18 *The following construction techniques shall be utilized when constructing through drainages or within riparian areas:*

- Equipment access and construction shall be conducted from the banks rather than from within the drainage to the extent feasible. Prohibited activities within drainages or other wetland areas include staging areas and disposal or temporary placement of excess fill.

- Trenching shall be scheduled during periods of minimum flow (i.e., summer through the first significant rain of fall, usually July through October) to avoid erosion and downstream sediment deposition and to avoid impacts to drainage-dependent species such as California red-legged frog or southwestern pond turtle. Construction through riparian or other wetland areas shall also be scheduled to avoid the breeding season (March-September) and potential impacts to sensitive, riparian-obligate bird species such as yellow warbler, southwestern willow flycatcher, and least Bell's vireo.

- To the degree practicable, avoid any activity that places fill in or otherwise affects wetlands and streams.

BR-19 The following shall be observed during the final design of the project:

- Should it be infeasible to avoid any of the sensitive species listed in Table 5.7.2 during creek crossings, the Applicant shall utilize directional drilling or other non-invasive technique to avoid disturbance of sensitive species and/or habitat .

- In planning construction adjacent to streambeds, place pipeline route away from streambed edges.

- If suspended pipe crossings are used, design footings with as small a footprint in streambeds and riparian vegetation as possible.

- Minimize disturbance to riparian woodlands.

To prevent erosion-related impacts to biological resources during construction, construction activities would be accomplished according to an Erosion Control Plan. Erosion and sedimentation impacts shall be mitigated by employing standard erosion control procedures such as use of silt fencing, sandbagging, diversion ditches, and stream bank stabilization procedures. These measures are summarized as DE-1 and DE-2, and DE-8 through DE-11 in Section 5.3, Drainage, Erosion and Sedimentation, and shall be implemented accordingly.

In addition, the following mitigation measure to prevent impacts due to dewatering shall be implemented:

BR-20 If preconstruction surveys indicate that habitat conditions on any drainage within the project area are suitable for a specific sensitive species, then dewatering of that drainage shall be avoided during potential reproduction or movement periods.

Dewatering activities at known sensitive amphibian and reptile habitat, such as Chorro Creek, shall be avoided. If avoidance at potential habitat areas is not possible, preconstruction surveys shall be conducted, as outlined above, and all individual sensitive animals relocated to refugia elsewhere along the same drainage.

In order to prevent impacts from fuels or other hazardous materials getting into riparian or aquatic habitats, "no fueling" zones shall be designated wherein fueling of vehicles or equipment is prohibited within 25 feet of all drainages, therefore measure WQ-1 shall be implemented (see Section 5.1, Hydrology and Water Quality).

In addition, the following mitigation measure shall be implemented:

BR-21 *All equipment used in or near drainages shall be clean and free of leaks and/or grease. Emergency provisions shall be in place at all drainage crossings prior to the onset of construction to deal with accidental spills.*

To protect wetlands, existing canopy and shrub cover and the existing outlook of the streams the following mitigation measures shall be implemented.

BR-22 *The VRRP shall also address wetland replacement. The replacement or restoration plan shall detail all impacts to wetland habitats as a result of the project and will specify in-kind replacement of habitat quality. For riparian woodland and scrub communities, habitat replacement shall be required at 3:1 and 2:1 ratios, respectively, or greater. Mitigation for disturbed wetlands shall be at a 3:1 ratio. Mitigation for all riparian vegetation within Camp Roberts and Camp Luis Obispo shall be at a 3:1 ratio.*

As much as feasibly possible, salvaging and replanting of vegetation shall be done. The original contours of stream beds and ponds shall carefully be restored to their original configuration, including the salvaging and replacement of boulders and cobbles. Container planted shrubs and trees and species to be seeded in the riparian mitigation areas shall be based on the species composition of the impacted wetlands and specified in the riparian mitigation plan. The precise proportions and special arrangement of the plantings also shall be specified in the VRRP. In many cases, it may be necessary to hydroseed native herbaceous species on banks and planting plugs of wetland species in the channel. Mitigation for impacts to disturbed wetlands and unvegetated waters can likely take place within the alignment. Likewise, onsite mitigation for woodland and scrub communities may occur within the alignment, although additional offsite mitigation (i.e., outside the alignment) will likely be required to accommodate required mitigation ratios.

Mitigation measures relating to specific sensitive species are outlined below.

BR-23 *At all wetlands, vernal pools, bulldozer scrapes, low-lying areas that may pond water and roadside ditches where **vernal pool fairy shrimp** could be directly impacted, assume presence of the species if preconstruction surveys for 2 years during wet season can not be conducted to determine presence or absence. If present (or presence is assumed), the alignment shall be shifted to avoid the species, if possible. If impacts to the species are unavoidable the Applicant shall obtain authorization for Incidental Take Permit from the US Fish and Wildlife Service prior to construction (refer to Measure BR-8).*

Relocate staging area that is proposed to be near Nacimiento River (near Sta. 145+00) to be located away from documented vernal pool in the vicinity, and at least 100 feet from the river.

*BR-24 All drainages affected by the project and with known occurrences of **steelhead trout**, **arroyo chub**, and **tidewater goby,** or with the potential to support these species shall be surveyed for presence of these species at the crossing and 500 feet up and down the stream prior to commencement of construction. Preconstruction surveys shall include the Salinas River and major tributaries the proposed pipeline would cross San Marcos, Santa Margarita, Chorro, San Luis Obispo, Trout, and Yerba Buena Creeks. The presence or absence of special status fish species shall be determined and the potential for habitat to support these species shall be reassessed. If a special status fish species is detected, the fish shall be captured and relocated downstream. Relocation of listed species requires a formal consultation for obtaining an ITP (see section 5.7.2), therefore time shall be allowed in the project schedule for the consultation and obtaining of the ITP.*

If relocation is not feasible, construction will avoid the spawning season for those species. If the tidewater goby, arroyo chub, or steelhead trout are found at Chorro Creek, the creek crossing shall be done via directional boring under the creek, relocate pipeline away from the Creek bed as far as feasible, if not feasible and impacts are expected, the Applicant shall consult with the National Marine Fisheries Service and CDFG to obtain an ITP and/or obtain a Streambed Alternation Agreement.

*BR-25 At all drainages affected by the project and with known occurrences of **California red-legged frogs**, **western spadefoot toad**, **southwestern pond turtles**, **California tiger salamander**, and **arroyo southwestern toads** or with the potential to support these species shall be surveyed for presence of these species at the crossing and 500 feet up and down the stream prior to commencement of construction. If present, the alignment shall be shifted to avoid the species, if possible. If this is not feasible, the frogs or turtles shall be captured and relocated to refugia outside the impact area. Appropriate refugia shall be located on the same drainage and shall support high-quality species habitat. In addition, the impact area shall be recontoured subsequent to construction to approximate high-quality habitat. Relocation of the California red-legged frog and arroyo southwestern toad would require approval from USFWS and CDFG. If these agencies do not allow for such a relocation program, Chorro creek crossing shall be done via directional boring under the creek.*

Residual Impact

Implementation of the measures recommended above would reduce the potential impacts to biological resources to *not significant with mitigation* (Class II).

Indirect Impacts

Indirect impacts occur when project-related activities affect biological resources in a manner other than direct (e.g., resulting from elevated noise levels, light, erosion and sedimentation of stream channels, alteration of stream drainage patterns, changes in the amount and quality of surface water, and fugitive dust emissions). Indirect impacts may result from temporarily elevated construction noise levels, increased storm water runoff and soil erosion, dewatering of drainages, toxic spills into drainages, and fugitive dust. These potentially significant impacts could be mitigated, as described below.

Impact	Impact Description	Residual Impact
BR.3	Impacts to wildlife from noise due to the project construction and operation phases.	Class II

Potentially significant indirect noise impacts are a concern around areas supporting breeding bird habitat and San Joaquin kit fox dens during pupping season. Construction equipment typically produces noise levels between 75–102 dB Leq at a distance of 50 feet from the source. Operation of the project facilities (especially pumps) could also produce elevated noise levels (see Section 5.5, Noise). Significant noise impacts are defined as noise levels greater than 60–65 dB Leq at the edge of habitat of concern. To mitigate this potentially significant impact several mitigation measures shall be implemented.

Mitigation Measures

To prevent noise impacts, mitigation measures N-1 through N-7 would be implemented (see Section 5.5, Noise). In addition, the following mitigation measure to prevent impacts due to noise shall be implemented:

BR-26 *Preconstruction surveys shall be conducted in riparian areas for presence of sensitive bird species no earlier than March 15 and at least three visits shall occur between this date and June 15. If no sensitive breeding birds are detected by June 15, it can be assumed that they will not nest in that location for that year and construction can proceed.*

If sensitive breeding birds are detected, construction activities shall be limited to those which will not produce significant noise impacts during the breeding season of the particular bird species (e.g., March 15 to September 15). Exact breeding time interval shall be determined by the qualified biologist.

Preconstruction surveys shall be conducted in San Joaquin kit fox habitats for presence of kit fox dens. No construction shall be conducted near the kit fox dens during pupping season (December – April).

Residual Impacts

Implementation of the listed mitigation measures would reduce the potential impacts to biological resources to *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
BR.4	Impacts to wildlife in drainages due to erosion, sedimentation and dewatering.	Class II

Mitigation Measures

Implementation of the mitigation measures BR-17 through BR-20 that mitigates direct impacts to the wetland, riparian, and aquatic life, would mitigate this impacts as well. No other mitigation measures are necessary.

Residual Impacts
Implementation of the listed mitigation measures would reduce the potential impacts to biological resources to *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
BR.5	Impacts to plants from dust emission due to the project construction phase.	Class II

Little information exists on the effects of dust on plants. However, continual cover of dust could potentially reduce the overall vigor of individual trees and shrubs by reducing their photosynthetic capabilities and increasing their susceptibility to pests or disease. These effects would likely require long-term exposure to dust. Nonetheless, any potential indirect impacts to plants as a result of fugitive dust emissions created by construction activities shall be mitigated by employing standard air quality control procedures such as regularly watering areas of bare ground.

Mitigation Measures
Dust reduction measures described in Section 5.4, Air Quality, subsection 5.4.4, (Mitigation Measure AQ-1) shall be implemented. After implementation of these measures, impacts to biological resources would become insignificant.

Residual Impacts
Implementation of the dust reduction measures would reduce the potential impacts to plants to *not significant with mitigation* (Class II).

Operational Impacts

Impact	Impact Description	Residual Impact
BR.6	Impacts to aquatic life from treated water spills in case the treated water pipeline ruptures during operational phase of the project.	Class III

Impacts to aquatic life and contamination of drainages could result from a pipeline rupture which releases treated water into the stream system, resulting in mortality, degradation of habitat and water quality. Depending on the water treatment method (e.g., chlorination or chloramines) and the aquatic life present in the drainage at the time of the rupture, significant impacts could occur. As stated in the discussion to Impact HM.7 in Section 5.6, Hazards and Hazardous Materials, a treated water pipeline rupture is unlikely. Also, chlorine residual in the treated water is quickly depleted if the treated water is exposed to the atmosphere, sunlight or chemicals contained in soil. If the treated water is released not directly into a water body, the chlorine residual would be quickly reduced to harmless concentration that would not impact water organisms. Therefore, impacts would be insignificant due to the low likelihood of the rupture and fast chlorine residual dissipation.

Mitigation Measures
No mitigation measures are necessary.

Residual Impacts
Residual impacts to biological resources are *adverse but not significant* (Class III).

Impact	Impact Description	Residual Impact
BR.7	Impacts to fish in Lake Nacimiento due to pumping through the water intake during operational phase of the project.	Class III

Impacts to fish during the operational phase of the project would result when water is pumped through the Intake structure at the Nacimiento Dam. Lake Nacimiento serves as habitat to many species of fish. When water would be pumped from the lake into the proposed pipeline, fish may be trapped and destroyed at the water intake.

The Intake structure design, however, incorporates standard design features to prevent fish entrapment (fish screens), therefore this impact would be less than significant.

Mitigation Measures
No measures are proposed.

Residual Impacts
Impacts to fish in Lake Nacimiento would be *adverse but not significant* (Class III).

Impact	Impact Description	Residual Impact
BR.8	Impacts to fisheries during operational phase of the proposed project.	Class III

Adverse impacts to fisheries could occur if the proposed project results in significantly less fish availability or variety in the streams that are usually used by fishermen, such as Nacimiento and Salinas Rivers.

The project would alter hydrologic conditions in the Nacimiento and Salinas Rivers due to annual water intake of 16,200 af by the proposed project. This reduction in water availability, however, would involve relatively minor changes to hydrology downstream of Lake Nacimiento and do not alter the overall pattern of post-dam hydrology. This is because during the wet and average precipitation periods the amount of water taken by the proposed project is relatively small compared to the reservoir stored water amount; during drought periods the Monterey Water District has an agreement with CDFG to provide a minimum flow in the Nacimiento River via releases from Nacimiento dam to support the fisheries.

Steelhead trout has not been found in the Nacimiento River downstream of Lake Nacimiento in recent years, however, Nacimiento River was designated as critical habitat for this sensitive species, and CDFG is conducting studies to determine if the river provides habitat for steelhead (Julie Eliason, 2003).

The anticipated changes due to the project water intake do not appear likely to substantially alter habitat conditions for either native fishes or introduced warm water fishes downstream of the Dam. There should be no change in the availability of the “put in and take out” trout fishery to anglers on Camp Roberts. Consequently, impacts to Nacimiento or Salinas River fisheries would be insignificant.

Mitigation Measures

The Salinas Valley Water Project (SVWP) addressed under cumulative projects would provide mitigation for the reductions in water releases from Nacimiento dam through controlled operation of the dam. The controlled operation of the dam would result in controlled water releases and in turn would allow hydrology downstream from the Nacimiento dam to be less affected by the drought periods or by the water intake by the proposed project. Operation of the Nacimiento dam and controlled water releases would take into consideration the water intake that will be done by the proposed NWP. It has been found in the SVWP EIR that the re-operation of the Nacimiento dam would not significantly impact fisheries downstream from Nacimiento Dam.

Residual Impacts

Impacts to fisheries would be *adverse but not significant* (Class III).

5.7.4.2 Raw Water Option

Impact BR.6 would not occur under this alternative because the water in the pipeline would be untreated. Other biological resources impacts of the raw water option are expected to be essentially the same as those of the treated water option (Impacts BR.1 through BR.5, and BR.7 and BR.8). All the proposed mitigation measures would apply, however, the extent and cost of mitigation of the raw water option would probably be slightly lower because the treatment plant would not be constructed as a part of the proposed project. The Raw Water Option would have an additional impact described below.

Impact	Impact Description	Residual Impact
BR.9	Impacts to riparian habitat due to construction of the water discharge areas in the vicinity of Salinas River.	Class II

Construction of discharge ponds, access roads and other facilities for the raw water discharge areas would require clearing, grading, and heavy machinery movement near or within the riparian habitat of the Salinas River. Although the discharge areas are located in sandy areas, some riparian habitat is present. These activities would permanently remove 7.5 or more acres of the riparian plant life (4.0 acres for Paso Robles, 3.1 acres for Atascadero/Santa Margarita, and 0.3 acre for Templeton). In addition, approximately 15 acres of riparian habitat could be temporarily disturbed to install perforated pipes at a 5-foot depth to allow percolation of raw water into the ground (8 acres for Paso Robles, one acre for Templeton, and 6 acres for Atascadero). The temporary impact during construction and the loss of the riparian habitat would be potentially significant, requiring mitigation.

Mitigation Measures
Avoidance or sensitive species relocation program would be accomplished by implementation of measures BR-23 and BR-25. The VRRP shall also be implemented for the discharge areas construction (measure BR-22).

Residual Impacts
Implementation of these mitigation measures would reduce the potential impacts to Salinas River riparian habitat to *not significant with mitigation* (Class II).

5.7.5 Alternatives Impacts and Mitigation Measures

5.7.5.1 No-Project Alternative

Under the No-Project Alternative, the proposed project would not be implemented and natural habitat along the proposed pipeline alignment would not change from its current condition due to the proposed project's impacts; therefore, no adverse impacts would occur.

5.7.5.2 NWP 1997 EIR Alternative

Under this alternative, similar impacts to biological resources would occur, however, in different areas because the route of the pipeline proposed under this alternative is different from that of the proposed project.

Under this alternative, the pipeline route avoids Camp Roberts property, thus avoiding an area with large numbers of sensitive wildlife species such as the San Joaquin Kit Fox, San Joaquin pocket mouse, Bald eagle, Golden eagle, Osprey, Great blue heron, California Horned Lark, Swainson's Hawk, Burrowing Owl, Sharp-shinned Hawk, Southwestern Pond Turtle, Vernal Pool Fairy Shrimp, and plant sensitive species such as Purple Amole. Instead, the pipeline ROW would go along with the Nacimiento Lake Drive within or near the pavement. Therefore Impact BR-1 would be reduced in its severity under this alternative.

Under this alternative the pipeline would not cross Salinas River, therefore, the river's riparian habitat would not be impacted, and severity of Impact BR.2 would be reduced.

5.7.5.3 Phased Raw and Treated Water Alternative

This alterative would result in similar impacts to biological resources as both the proposed project Raw and Treated Water Options. The same mitigation measures shall be implemented.

For Impact BR.9, an additional mitigation measure is recommended.

BR-27 *After the Treated water phase would start and the raw water discharge facilities at Salinas River would no longer be needed, the Applicant shall remove and restore (e.g., revegetate) riparian habitats as feasible and all the disturbed riparian areas associated with the discharge facilities.*

After implementation of this measure the impact would be further reduced.

5.7.6 Cumulative Impacts and Mitigation Measures

Impacts to biological resources are a local occurrence. Most of the projects that are outlined in Section 4.0, Cumulative Projects, would occur in urban areas without sensitive biological resources, and therefore there would be no cumulative impacts.

SVWP could impact biological resources in the vicinity of Lake Nacimiento; however those direct impacts to biological resources would not be significant. Cumulative impacts to fisheries from the two projects could occur, however, these impacts would be insignificant because there is only a small influence to hydrology from these two projects combined.

5.7.7 Mitigation Monitoring Plan

The final mitigation program would be submitted to the USFWS, CDFG, National Marine Fisheries Service, and the ACOE for review and approval.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
BR-1	The Lead or Responsible Agency shall retain a qualified biologist(s) (project biologist) to conduct and oversee construction monitoring that pertain to biological resource protection, act as the liaison between the Lead or Responsible Agency and the construction contractor(s), and to ensure compliance with the mitigation program, such as monitoring all construction activities in biologically sensitive areas and scheduling and/or implementing preconstruction surveys, if determined to be necessary by the County Environmental Coordinator. The project biologist shall be selected based on demonstrated knowledge and experience with the species potentially occurring in the project area. The project biologist shall inform the County monitoring representative as soon as possible, and the County representative shall have the authority to stop construction activities if there is eminent threat to the listed species, or to delay construction activities until appropriate mitigation measures can be implemented. In addition, all project personnel who conduct work at Camp Roberts and/or Camp San Luis Obispo must attend an environmental awareness briefing conducted by California Army Reserve National Guard (CARNG) Environmental staff prior to beginning work.	Submit documentation for funding of the biologist, and contractual documentation that would also identify the biologist's authority. At the time of permit application.	Dept of P&B	Review of submitted documentation	Prior to Board of Supervisors approval to advertise for construction bids.
BR-2	A Biology Education Program for Contractors shall be implemented to ensure that all construction personnel are fully informed of the biological sensitivities associated with this project. The program shall be conducted by a qualified biologist and shall be a requirement for all construction personnel. This program shall focus on: a) the purpose for resource protection; b) identification of sensitive resources areas in the field (e.g., areas delineated on plans and by flags or fencing); c) sensitive construction practices; d) protocol to resolve conflicts that may arise during the construction process; e) ramifications of noncompliance.	Prepare the program and submit it to the Lead Agency along with other permit application documentation. Conduct the training before and during construction as needed.	Dept of P&B	Review of submitted documentation. Attend a training class.	Prior to Board of Supervisors approval to advertise for construction bids. Before or during construction.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
BR-3	The project biologist and the project engineer shall clearly designate "sensitive resource zones" on the project maps and construction plans. Sensitive resource zones are defined as areas where construction would be limited to a 15- to 30-foot corridor, depending on the particular construction requirements, to avoid impacts to special status biological resources. The project biologist shall demark the limits of sensitive populations on the project plans, including as feasible, an adequate buffer area to avoid direct and indirect impacts. If determined necessary by the County Environmental Coordinator, survey work to demark sensitive resource zones shall be conducted during the appropriate survey window to confirm sensitive species (the exact survey timing would be determined appropriately for each specific species, and depending on the rain conditions). During construction, temporary fencing shall be erected under supervision of the project biologist to provide protection within the sensitive resource zones.	Submit the maps and plans to the Lead Agency along with other permit application documentation.	Dept of P&B	Review of submitted documentation.	Prior to Board of Supervisors approval to advertise for construction bids.
BR-4	Within sensitive resource zones, construction equipment work shall be conducted observing the following procedures: - Heavy equipment and construction activities shall be restricted to the defined construction ROW. - Vehicles and personnel shall use existing access roads to the maximum degree feasible. Any off road travel within Camp Roberts or Camp San Luis Obispo shall be subject for approval by Range Control and the Environmental Directorate. Where additional access is required, all vehicles shall use the same route, even if this requires heavy equipment to back out of such areas (safety permitting). All access routes outside of existing roads or the construction easement shall be clearly marked (i.e., flagged and/or staked) prior to the onset of construction, delineated on the construction plans, and reviewed by the project biologist. Additional access roads shall avoid, to the degree possible, sensitive habitat areas or special status plant populations. - Topsoil shall be segregated by windrow or stockpiled in disturbed areas without native vegetation, special status plant populations, or special status plant communities. These stockpile areas shall be located in previously disturbed areas, delineated on the construction plans, and reviewed by the project biologist. - Any expanded work areas requested, such as construction and vehicle access, width of construction corridor exceeding 100-foot width, or storage and staging areas, shall require the following review procedures: the limits of expanded work areas proposed will be depicted on construction drawings and reviewed by the	Implement during construction.	Dept of P&B	Conduct site visits to verify compliance.	Periodically during construction.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	project biologist; if necessary, and as determined by the County Environmental Coordinator, all expanded work areas shall be surveyed by biologists for sensitive resources during the appropriate survey time window (e.g., the month of May for most status special status plant species); the expanded work areas that impact sensitive resources may be altered to the degree feasible to avoid any additional impacts; and sensitive resource zones will be established, as described above.				
BR-5	Final design of the project shall incorporate the following: - Staging areas shall be located in disturbed habitat, to the maximum degree feasible. Staging areas are prohibited within sensitive habitat areas. All staging areas shall be delineated on the construction plans and reviewed by the project biologist. - As feasible and consistent with preliminary project design, plan placement of the proposed pipeline beneath existing roads and ROWs and away from undeveloped and previously undisturbed areas.	Submit the final design documentation to the Lead Agency along with other permit application documentation.	Dept of P&B	Review of submitted documentation.	Prior to Board of Supervisors approval to advertise for construction bids.
BR-6	The Applicant shall prepare a Vegetation Replacement/Restoration Plan (VRRP) for vegetative communities that are significantly impacted and that are to be permanently removed from project sites. The Plan shall be prepared by the project sponsors for the various vegetative communities and habitats that would be temporarily disturbed during project construction but could be restored onsite. A qualified restoration biologist and native plant horticulturist shall be retained to supervise or participate in the design, site preparation, installation, maintenance, and monitoring of all revegetation or site restoration programs. VRRP shall include revegetation success criteria and measures to ensure after revegetation monitoring and replanting in case the revegetation is not successful. The part of the VRRP developed for lands within Camp Roberts or Camp San Luis Obispo shall be reviewed and approved by the CARNG Environmental Directorate.	Submit the VRRP to the Lead Agency along with other permit application documentation.	Dept of P&B	Review of submitted documentation.	Prior to Board of Supervisors approval to advertise for construction bids.
BR-7	Construction through sensitive areas shall be scheduled to minimize potential impacts to biological resources. A specific schedule shall be developed by the project biologist and changed if necessary. The guidelines for this schedule shall be as follows: - to protect breeding sensitive bird species in wetland areas or drainages schedule construction only from mid September through October, provided that no significant rainfall occurs within this time-frame. However, if breeding bird surveys are conducted from March 15 through June 15, and no breeding birds are detected,	Submit construction schedule to the Lead Agency prior to construction start.	Dept of P&B	Review of submitted documentation.	Prior to Board of Supervisors approval to advertise for construction bids.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	then this window could be widened to include July and August. - to protect Tiger salamander habitat (i.e., grasslands) avoid construction in March and April. - to protect Steelhead trout habitat avoid construction in the habitat from November through May. - to protect California red legged frog habitat (wetlands) avoid construction in wetlands from December to August.				
BR-8	For all the sensitive species listed in Table 5.7.1, preconstruction surveys shall be conducted to verify their presence at known sites and at potential sites where the project could impact these species. If present, impacts are to be avoided or minimized by narrowing the alignment adjacent to potential dens, nests or aquatic areas. If avoidance is not feasible, specific mitigation measures for these species will be determined through consultation with USFWS and CDFG through CESA and FESA. Formal consultation and obtaining of Incidental Take Permits would be required if the federally listed species could be encountered and affected.	Submit the surveys results to the Lead Agency at time of permit application.	Dept of P&B, USFWS and CDFG.	Review of submitted documentation.	Prior to Board of Supervisors approval to advertise for construction bids.
BR-9	To protect the San Joaquin Kit Fox the following measures shall be implemented: a) Within 30 days prior to initiation of grading or other construction, the Applicant shall hire a qualified biologist acceptable to the USFWS, CDFG, and the County Environmental Coordinator, to conduct a pre construction survey for known and potential kit fox dens. A letter shall be submitted to the Dept. of Planning and Building prior to issuance of construction permits confirming the completion of this survey. b) Before any grading or construction activities commence, all personnel associated with the project shall attend a worker education program regarding the sensitive biological resources potentially occurring in the project area (i.e., San Joaquin kit fox). Specifics of this program shall include kit fox life histories and careful review of the mitigation measures implemented to reduce impacts. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the project. The Dept. of Planning and Building shall be notified of the time that the applicant intends to hold this meeting. c) To prevent entrapment of the kit fox during the construction phase of the project, all excavation, steep walled holes, or trenches in excess of 2 feet in depth shall be covered at the close of each working day by plywood or similar materials, or filled. Trenches shall also be inspected for entrapped kit fox each morning prior to onset of	Submit the surveys results to the Lead Agency at time of permit application.	Dept of P&B, USFWS, CDFG	Review of submitted documentation. Verify compliance during site visits	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	field activities and immediately prior to covering with plywood at the end of each working day. Before such holes or trenches are filled, they shall be thoroughly inspected for entrapped kit fox. Any kit fox so discovered shall be allowed to escape before field activities resume, or removed from the trench or hole by a qualified biologist and allowed to escape unimpeded. d) During the construction phase, any pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at the project site for one or more overnight periods shall be thoroughly inspected for trapped San Joaquin kit fox before the subject pipe is subsequently buried, capped, or otherwise used or moved in any way. If during the construction phase a kit fox is discovered inside a pipe, that section of pipe will not be moved, or if necessary will be moved only once to remove it from the path of activity, until the kit fox has escaped. e) In order not to attract kit fox predators such as red fox, coyotes, or domestic dogs to the area, and in order to not attract kit foxes to the site where they can exposed to increased risk of injury or mortality, all food related trash items such as food scraps, wrappers, cans, bottles, etc., generated during the construction phase shall be disposed of in closed containers only and regularly removed from the site. No deliberate feeding of wildlife shall be allowed. f) Any contractor or employee that inadvertently kills or injures a kit fox or who finds any such animal either dead, injured, or entrapped shall be required to report the incident immediately to a supervisor overseeing the project. In the event that such observations are made of an injured or dead kit fox, the Applicant shall immediately notify USFWS and CDFG by telephone, contact information for these agencies shall be included with the project contact list prior to the project commencement. In addition, formal notification shall be provided in writing within three working days of the finding of any such animal(s). Notification shall include the date, time, location, and circumstances of the incident. Any threatened or endangered species found dead or injured shall be turned over immediately to the CDFG for care, analysis, or disposition. If any potential or known San Joaquin kit fox dens are subsequently observed during the required pre-activity survey, the following mitigation measures shall apply: g) Fenced sensitive resource zones shall be established by the project biologist around all known or potential kit fox dens that can be avoided but may be inadvertently impacted by project activities. Sensitive resource zone fencing shall consist of either large flagged stakes connected by rope or cord or survey laths or wooden stakes prominently flagged with survey ribbon. Each sensitive resource				

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	zone shall be roughly circular in configuration with a radius of the following distance measured outward from the den or burrow entrances: • Potential kit fox den: 50 feet • Known kit fox den: 100 feet • Kit fox pupping den: 150 feet h) If the sensitive resource zone intersects a road, only essential vehicle operation shall be allowed on the road within the sensitive resource zone, and simple foot traffic shall be permitted within these sensitive resource zones. Otherwise, all project activities such as vehicle operation, materials storage, etc., shall be prohibited. Sensitive resource zones shall be maintained until all project related disturbances have been terminated and then shall be removed. If specified sensitive resource zones cannot be observed for any reason, USFWS and CDFG shall be contacted for guidance prior to ground disturbing activities on or near the subject den or burrow. If any known San Joaquin kit fox dens are discovered within the project area which shall be unavoidably destroyed by the proposed project, excavation of these kit fox dens shall not proceed without authorization from USFWS and CDFG. Prior to project construction the Applicant shall consult with USFWS and CDFG to evaluate the appropriate participation in a kit fox conservation program. The Applicant will prepare a Habitat Evaluation Form using a qualified biologist to determine the appropriate level of offsite habitat mitigation necessary to offset any permanent loss of kit fox habitat, especially associated with the WTP. Permanent habitat loss will be offset at the appropriate ratio through either land acquisition, a conservation easement or in-lieu fees.				
BR-10	Construction techniques to be implemented to protect oak trees and oak woodlands (i.e., blue oak woodland, valley oak woodland, coast live oak woodland, and digger pine oak woodland): -In accordance with the County's guidance on oaks and Assembly Bill No. 242 to add Article 3.5 to Chapter 4 of Division 2 of the CDFG Code relating to oak woodland conservation, and with all local related policies and ordinances (e.g., City of Paso de Robles Oak Tree Preservation Ordinance, Camp Roberts Integrated Natural Resources Management Plan) the final project design shall target maximum avoidance of oak trees. If avoidance is not feasible the Applicant shall prepare an Oak Tree and Woodland Mitigation Plan, which shall be prepared by a certified	Implement. Submit oak revegetaion program to the Lead Agency.	Dept of P&B, FCWCD	Review of submitted documentation. Verify compliance by site visits.	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	arborist and shall contain but not be limited to the following measures: a) The construction ROW easement shall be narrowed to a maximum of 30 feet in width through oak woodland habitat (i.e., areas suitable for the establishment of oak woodlands). During final design, the project biologist and project engineer shall identify the most appropriate location for the narrowed corridor, taking into account the preservation of as many individual oak trees as possible with the engineering requirements of the proposed project. All areas requiring this sensitive resource zone shall be clearly shown on all construction plans, and prior to the onset of construction, flagged by the project biologist/construction monitor. If determined necessary by the County Environmental Coordinator, a preconstruction survey shall be conducted by the project biologist to accurately map oak woodlands that would be unavoidably impacted. b) Construction machinery ingress, egress, and staging areas shall be placed away from woodlands and individual oak trees, and shall not be driven under the canopies of oak trees. c) Disposal or storage of fill or excavated soil is prohibited within the dripline of all oak trees. d) During construction near oak trees, no fasteners may be used on the trees. e) All reasonable measures shall be taken to avoid moving dead and downed oak logs. f) All oak trees immediately adjacent to construction areas shall be protected by erecting temporary fencing at the drip line of the woodland canopy or around individual trees. g) Any necessary oak tree pruning shall conform to the standards of the International Society of Arborculture and done under supervision of a certified arborist. Pruning shall be carried out in such a manner as to maintain a natural looking tree form upon completion of pruning; practices such as stub cuts, topping, flush cuts, and random branch removal shall be avoided. All pruning cuts shall correspond with the branch collar using natural target pruning, and no tree seal shall be used. Pruning or cutting of roots etc. of individual trees shall be quantified during construction and up to one year after construction. If any oak trees die either during construction or within one year after construction completion, the trees shall be replaced at a 3:1 ratio. h) Oak monitoring shall be done for one year after construction completion.			Visit the affected (e.g., pruned or planted) trees to verify status.	At the end of the year following construction completion.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	Individual oak trees that cannot be avoided and must be removed within habitat types other than oak woodlands shall be replaced at a 4:1 replacement ratio in accordance with the County's mitigation policy for loss of individual oak trees. i) Individual oak trees that cannot be avoided and must be removed within habitat types other than oak woodlands shall be replaced at a 4:1 replacement ratio in accordance with the County's mitigation policy for loss of individual oak trees. j) For every area of oak woodland habitat that is removed, oak woodland habitat shall be restored onsite or replaced offsite at an agreed upon offsite location with an equal area (3:1 replacement ratio). k) Offsite replacement for oak woodlands shall be at locations that currently support disturbed or nonnative habitats. Each of the four oak woodland habitat types that would be disturbed shall be replaced or restored with a similar density of oak trees by species as found in the impacted habitats. The Flood Control and Water Conservation District (FCWCD) shall prepare a detailed oak woodland restoration plan for this project. The VRRP shall contain detailed information on oak woodland replacement and address any issues of concern. Areas suitable for creation of oak conservation areas for replacement offsite shall be evaluated. Feasibility of purchasing land for oak conservation areas shall be evaluated. l) Specifically on Camp Roberts and Camp San Luis Obispo, compliance with the Camp Roberts Integrated Natural Resources Management Plan (INRMP) is required as follows: -- hand digging, mechanical digging, and blade work are prohibited under the drip lines of standing live or dead oak trees; if digging under the drip lines of oaks is unavoidable, any damage that ensues will be subject to mitigation (replacement); -- 3:1 replacement for damaged or removed oaks; -- collection of acorns from the area of impacted oaks, planting at densities approved by CA ARNG, planting during January-February, watering if necessary; -- minimum of five (5) years of monitoring, 3:1 survivorship ratio, preparation of annual monitoring reports, and compliance with all other INRMP oak management stipulations. m) These oak tree avoidance and monitoring procedures shall also be followed for construction in all areas in the vicinity of oak trees along the construction route.				

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
BR-11	The VRRP shall include details on needlegrass grassland habitats. The restoration of needlegrass grasslands shall include salvaging of topsoil, recontouring the impact area to its original contours, and revegetating this area with purple needlegrass, nodding needlegrass, and foothill needlegrass plugs at the appropriate time of year (November January). This will require onsite seed collection and contract growing of plugs by a nursery with demonstrated experience in propagating native plants. The needlegrass grassland areas in the project corridor also include several highly sensitive sites with serpentine rock outcrops (i.e., serpentine bunchgrass community). Seed and bulbs from native forb and corm species indigenous to the serpentine grassland sites also shall be collected and reseeded or planted into the restoration areas. Forb species found in the impact areas appropriate for reseeding including California poppy, morning glory, fascicled tarweed, dot seed plantain, Canterbury bells, and yerba santa. Corm forming species found in the impact areas (e.g., wild onion, golden bloomeria, soap plant) shall be salvaged en masse with the topsoil and replanted in the impact areas after construction. These measures will ensure that the genetic integrity of the needlegrass, native forb, and corm forming species that are locally adapted to serpentine soils are preserved. Several special status plant species to be impacted in serpentine bunchgrass habitat shall be salvaged and replanted as described below under special status plants. The selected mitigation area shall be monitored by a qualified biologist for needlegrass plug survival at 1 month, 3 months, and 6 months following planting; all plug losses below 80% shall be replaced at the appropriate time of year. The percent cover of native forbs, corm forming plants, and needlegrass shall be monitored using transects or quadrants and compared with adjacent undisturbed native grassland habitat.	Submit the VRRP to the Lead Agency at the time of permit application.	Dept of P&B, FCWCD	Review of submitted documentation. Verify that all necessary information is present. Site visits.	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction and at 1, 3, and 6 months after construction completion.
BR-12	As part of the VRRP, chaparral, central coastal scrub, and nonnative grassland shall be revegetated and restored using topsoil salvage, recontouring disturbed areas to their original contours, and hydroseeding impacted areas with species characteristic of the impacted vegetative community. Appropriate species for erosion control purposes and eventual native shrub and herb cover shall be used. Because native grassland species are likely to be out competed by nonnative species, and native bunchgrasses require hand planting, it is recommended that grassland impact areas be hydroseeded with a ground cover mix. Hydroseeded areas shall be monitored by a qualified biologist for seed viability and overall success. Areas shall be re hydroseeded after 30 days if germination success is low. Topsoil salvage specifications, hydroseed mixes, and seed proportions for individual sites shall be specified in the detailed mitigation plan for this project.	Submit the VRRP to the Lead Agency at the time of permit application.	Dept of P&B, FCWCD	Review of submitted documentation. Verify that all necessary information is present. Site visits.	Prior to Board of Supervisors approval to advertise for construction bids. Site visits - periodically during construction. After

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
					construction is completed.
BR-13	To protect San Luis Mariposa lily, Brewer's spineflower, Cambria morning glory, Chorro Creek bog thistle, Obispo Indian Paintbrush, Jones Layia, Dwarf Soaproot, Most Beautiful Jewel-flower and Blochman's dudleya, the following shall be implemented in the Chorro Creek area. The location of all plant populations in or adjacent to the alignment shall be clearly shown on construction maps and labeled as sensitive areas that shall be avoided. These populations shall be flagged by a qualified biologist and protected with temporary fencing prior to construction. During the final project design phase, slight shifts and narrowing of the proposed construction ROW will be required to avoid all the sensitive plant habitats listed in Table 5.7.1. FCWCD shall prepare a detailed mitigation plan for salvage and restoration of these special status plant populations, if complete avoidance is not possible. Those individual plants to be impacted shall be salvaged and transplanted into appropriate habitat within or adjacent to the alignment after project construction is completed. Seed saving and nursery propagation before reintroduction may be necessary for restoration of Brewer's spineflower and possibly Blochman's dudleya populations. Any salvaging effort shall be conducted when the plants are dormant (i.e., late July through September), and transplantation or reintroduction shall occur in fall or early winter (September through January). A transplantation plan shall be prepared by the project biologist and submitted for approval to the Lead Agency prior to the onset of construction activities. This plan shall include guidelines for salvage of corms and seed, and salvage and replacement of topsoil and serpentine boulders. The plan shall also address guidelines for storage of plant material in the event that there is a delay between the salvage and transplantation efforts. Plant material storage guidelines shall include, at a minimum, the method(s) of storage and the storage facility (name and address of the institution, etc.). The plan shall also include specific information documenting the suitability of the receiver site (i.e., soils, existing vegetation, etc.), transplantation techniques, and a monitoring program. Transplanted corms and plants shall be marked and subsequently monitored during the blooming period for a minimum of three years. A status report documenting all aspects of the plan shall be submitted to the Lead Agency within one month of the final transplantation effort. Thereafter, yearly monitoring reports shall be submitted in September to the Lead Agency.	Submit the VRRP to the Lead Agency at the time of permit application.	Dept of P&B, FCWCD	Review of submitted documentation. Verify that all necessary information is present. Site visits.	Prior to Board of Supervisors approval to advertise for construction bids. Site visits - periodically during construction. After construction is completed.

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BR-14	To protect San Luis Obispo Sedge and Cuesta Pass Checkerbloom, construction ROW shall be narrowed as feasible where these plants occur (see Table 5.7.1). The location of all plants in or adjacent to the alignment shall be clearly shown on construction maps and labeled as sensitive areas that shall be avoided. The limits of the population in or adjacent to the alignment shall be flagged by a qualified biologist prior to construction. A mitigation plan would be required for propagation and reintroduction of the species into appropriate habitat.	Submit the VRRP to the Lead Agency at the time of permit application.	Dept of P&B, FCWCD	Review of submitted documentation. Verify that all necessary information is present. Site visits.	Prior to Board of Supervisors approval to advertise for construction bids. Site visits - periodically during and after construction is completed.
BR-15	To protect Shinning Navarretia and Straight-Awned Spineflower, Dwarf Calycadenia, Prostrate Navarretia, San Benito spineflower, Lemmon's Jewelflower, direct impacts shall be avoided by narrowing the construction ROW in those segments of the proposed alignment where they occur. The location of all plants in or adjacent to the alignment shall be clearly shown on construction maps and labeled as sensitive areas that shall be avoided. The limits of the population in or adjacent to the alignment shall be flagged by a qualified biologist prior to construction. If avoidance is not possible, impacts to these sensitive plant species would be adverse because of the relatively high sensitivity of the species (CNPS List 1B). A mitigation plan would be required for propagation and reintroduction of the species into appropriate habitat.	Submit the VRRP to the Lead Agency at the time of permit application.	Dept of P&B, FCWCD	Review of submitted documentation. Verify that all. Site visits.	Prior to Board of Supervisors approval to advertise for construction bids. Site visits - periodically during and after construction is completed.
BR-16	Potential impacts to special status bird species (in particular the Bald eagle, California condor, Yellow Warbler, Least Bell's Vireo, and Southwestern Willow Flycatcher) may be mitigated by implementing the general mitigation measures - BR-1 through BR-6. Impacts to avian species shall be avoided by not allowing construction during the breeding season in habitats special status birds are known to be breeding. Preconstruction surveys shall be conducted to assess the presence or absence of special status bird species in their breeding habitats, and areas that are in use will be flagged and avoided until the end of the breeding season. To protect Bald eagle during November through March avoid construction at locations in Camp Roberts where bald eagles have been spotted. Prior to beginning any construction activities, a survey for nesting bald eagles shall be performed by a qualified biologist. If a nest is discovered, construction activity shall not occur	Submit survey results to the Lead Agency.	Dept of P&B	Review of submitted documentation. Verify compliance by site visits.	Prior to Board of Supervisors approval to advertise for construction bids. Before construction start and periodically during construction.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	within 800 meters (2,400 feet) of the nest from 1 January to 31 August, or as stipulated by the U.S. Fish and Wildlife Service. To protect California condor, work shall be halted by the environmental monitor if the bird(s) is observed in the vicinity. Work can be resumed only after the project biologist has determined that the bird has moved far enough away that resuming work will not result in disturbance of the bird.				
BR-17	Construction activities within and/or immediately adjacent to all creek crossings, wetlands, special status plant species populations, or suitable habitats of special status wildlife of the pipeline shall be limited to a 15- to 30-foot corridor. Specific sites for this limitation would include pipeline crossings at Salinas and Nacimiento Rivers and San Marcos, Santa Margarita, Tassajara, Trout, Yerba Buena, and Chorro Creeks. Other creek crossings may be included as determined by the project biologist.	Submit construction plans (including ROW delineation) to the Lead Agency.	Dept of P&B	Review of submitted documentation. Site visits.	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction.
BR-18	The following construction techniques shall be utilized when constructing through drainages or within riparian areas: - Equipment access and construction shall be conducted from the banks rather than from within the drainage to the extent feasible. Prohibited activities within drainages or other wetland areas include staging areas and disposal or temporary placement of excess fill. - Trenching shall be scheduled during periods of minimum flow (i.e., summer through the first significant rain of fall, usually July through October) to avoid erosion and downstream sediment deposition and to avoid impacts to drainage dependent species such as California red legged frog or southwestern pond turtle. Construction through riparian or other wetland areas shall also be scheduled to avoid the breeding season (March September) and potential impacts to sensitive, riparian obligate bird species such as yellow warbler, southwestern willow flycatcher, and least Bell's vireo. - To the degree practicable, avoid any activity that places fill in or otherwise affects wetlands and streams.	Submit construction plans (including ROW delineation) to the Lead Agency.	Dept of P&B	Review of submitted documentation. Site visits.	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
BR-19	The following shall be observed during the final design of the project: - - Should it be infeasible to avoid any of the sensitive species listed in Table 5.7.2 during creek crossings, the Applicant shall utilize directional drilling or other non-invasive technique to avoid disturbance of sensitive species and/or habitat . - In planning construction adjacent to streambeds, place pipeline route away from streambed edges. - If suspended pipe crossings are used, design footings with as small a footprint in streambeds and riparian vegetation as possible. - Minimize disturbance to riparian woodlands.	Submit final construction plans to the Lead Agency.	Dept of P&B	Review of submitted documentation. Site visits.	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction.
BR-20	If preconstruction surveys indicate that habitat conditions on any drainage within the project area are suitable for a specific sensitive species, then dewatering of that drainage shall be avoided during potential reproduction or movement periods. Dewatering activities at known sensitive amphibian and reptile habitat, such as Chorro Creek, shall be avoided. If avoidance at potential habitat areas is not possible, preconstruction surveys shall be conducted, as outlined above, and all individual sensitive animals relocated to refugia elsewhere along the same drainage.	Submit construction plans to the Lead Agency. Submit species relocation plans.	Dept of P&B	Review of submitted documentation. Site visits.	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction.
BR-21	All equipment used in or near drainages shall be clean and free of leaks and/or grease. Emergency provisions shall be in place at all drainage crossings prior to the onset of construction to deal with accidental spills.	Implement.	Dept of P&B	Verify compliance by visiting the sites.	During construction.
BR-22	The VRRP shall also address wetland replacement. The replacement or restoration plan shall detail all impacts to wetland habitats as a result of the project and will specify in kind replacement of habitat quality. For riparian woodland and scrub communities, habitat replacement shall be required at 3:1 and 2:1 ratios, respectively, or greater. Mitigation for disturbed wetlands shall be at a 3:1 ratio. Mitigation for all riparian vegetation within Camp Roberts and Camp Luis Obispo shall be at a 3:1 ratio. As much as feasibly possible, salvaging and replanting of vegetation shall be done. The original contours of stream beds and ponds shall carefully be restored to their original configuration, including the salvaging and replacement of boulders and cobbles. Container planted shrubs and trees and species to be seeded in the riparian mitigation areas shall be based on the species composition of the impacted wetlands	Submit the VRRP to the Lead Agency.	Dept of P&B	Review of submitted documentation. Verify compliance by visiting the sites.	Prior to Board of Supervisors approval to advertise for construction bids. During and after revegetation efforts.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	and specified in the riparian mitigation plan. The precise proportions and special arrangement of the plantings also shall be specified in the VRRP. In many cases, it may be necessary to hydroseed native herbaceous species on banks and planting plugs of wetland species in the channel. Mitigation for impacts to disturbed wetlands and unvegetated waters can likely take place within the alignment. Likewise, onsite mitigation for woodland and scrub communities may occur within the alignment, although additional offsite mitigation (i.e., outside the alignment) will likely be required to accommodate required mitigation ratios				
BR-23	At all wetlands, vernal pools, bulldozer scrapes, low-lying areas that may pond water and roadside ditches where vernal pool fairy shrimp could be directly impacted, assume presence of the species if preconstruction surveys for 2 years during wet season can not be conducted to determine presence or absence. If present (or presence is assumed), the alignment shall be shifted to avoid the species, if possible. If impacts to the species are unavoidable the Applicant shall obtain authorization for Incidental Take Permit from the US Fish and Wildlife Service prior to construction (refer to Measure BR-8). Relocate staging area that is proposed to be near Nacimiento River (near Sta. 145+00) to be located away from documented vernal pool in the vicinity, and at least 100 feet from the river.	Submit the survey results to the Lead Agency. Submit proposals for realignment. In case realignment is not feasible, present a relocation plan/construction schedule that avoids breeding season(s).	Dept of P&B, USFWS and CDFG	Review of submitted documentation.	Prior to issuing of permits
BR-24	All drainages affected by the project and with known occurrences of steelhead trout, arroyo chub, and tidewater goby, or with the potential to support these species shall be surveyed for presence of these species at the crossing and 500 feet up and down the stream prior to commencement of construction. Preconstruction surveys shall include the Salinas River and major tributaries the proposed pipeline would cross San Marcos, Santa Margarita, Chorro, San Luis Obispo, Trout, and Yerba Buena Creeks. The presence or absence of special status fish species shall be determined and the potential for habitat to support these species shall be reassessed. If a special status fish species is detected, the fish shall be captured and relocated downstream. Relocation of listed species requires a formal consultation for obtaining an ITP (see section 5.7.2), therefore time shall be allowed in the project schedule for the consultation and obtaining of the ITP. If relocation is not feasible, construction will avoid the spawning season for those species. If the tidewater goby, arroyo chub, or steelhead trout are found at Chorro Creek, the creek crossing shall be done via directional boring under the creek , relocate pipeline away from the Creek bed as far as feasible, if not feasible and impacts are expected, the Applicant shall consult with the National Marine Fisheries Service and CDFG to obtain an ITP and/or obtain a Streambed Alternation Agreement.	Submit the survey results to the Lead Agency. Submit proposals for realignment. In case realignment is not feasible, present a relocation plan/construction schedule that avoids breeding season(s).	Dept of P&B, USFWS and CDFG	Review of submitted documentation.	Prior to issuing of permits

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
BR-25	At all drainages affected by the project and with known occurrences of California red legged frogs, western spadefoot toad, southwestern pond turtles, California tiger salamander, and arroyo southwestern toads or with the potential to support these species shall be surveyed for presence of these species at the crossing and 500 feet up and down the stream prior to commencement of construction. If present, the alignment shall be shifted to avoid the species, if possible. If this is not feasible, the frogs or turtles shall be captured and relocated to refugia outside the impact area. Appropriate refugia shall be located on the same drainage and shall support high quality species habitat. In addition, the impact area shall be recontoured subsequent to construction to approximate high quality habitat. Relocation of the California red-legged frog and arroyo southwestern toad would require approval from USFWS and CDFG. If these agencies do not allow for such a relocation program, Chorro creek crossing shall be done via directional boring under the creek.	Submit the survey results to the Lead Agency. Submit proposals for realignment. Present a relocation plan in case realignment is not feasible.	Dept of P&B, USFWS and CDFG	Review of submitted documentation.	Prior to issuing of permits
BR-26	Preconstruction surveys shall be conducted in riparian areas for presence of sensitive bird species no earlier than March 15 and at least three visits shall occur between this date and June 15. If no sensitive breeding birds are detected by June 15, it can be assumed that they will not nest in that location for that year and construction can proceed. If sensitive breeding birds are detected, construction activities shall be limited to those which will not produce significant noise impacts during the breeding season of the particular bird species (e.g., March 15 to September 15). Exact breeding time interval shall be determined by the qualified biologist. Preconstruction surveys shall be conducted in San Joaquin kit fox habitats for presence of kit fox dens. No construction shall be conducted near the kit fox dens during pupping season (December – April).	Submit the survey results to the Lead Agency.	Dept of P&B	Review of submitted documentation. Verify that required timing is observed.	Prior to starting construction in a specific location.
BR-27	After the Treated water phase would start and the raw water discharge facilities at Salinas River would no longer be needed, the Applicant shall remove and restore (e.g., revegetate) riparian habitats as feasible and all the disturbed riparian areas associated with the discharge facilities.	Submit restoration plans to the Lead Agency.	Dept of P&B	Review of submitted documentation. Visit sites after restoration completion.	Prior to Board of Supervisors approval to advertise for construction bids. After completion of restoration activities.

Note: County PW Dept. = Department of Public Works at the SLO County (The Applicant); Dept of P&B = Department of Planning and Building of the SLO County.

5.8 Cultural and Paleontological Resources

The following section summarizes two technical reports on cultural and paleontological resources of the project site prepared by Gibson's Archaeological Consulting (Inventory of Prehistoric, Historic, Paleontology, Geomorphology and Geological Resources for the Nacimiento Water Supply Pipeline Project, San Luis Obispo County, CA, November 1996 and January 30, 2003). These reports are herein incorporated by reference and because of the confidential nature of the information, may be reviewed by qualified persons on a "need-to-know" basis at the Environmental Division of the San Luis Obispo County Planning and Building Department, County Government Center, San Luis Obispo, California.

Inventories of cultural and paleontology resources have been assembled for the area in the 50-foot to 200-foot wide project corridor (referred to here as the "project area") where project-related impacts to the cultural or paleontology resources could occur. The exact locations of the cultural resources are not presented here due to the confidential nature of this information. All project pipeline corridor locations information is based on the year 2000–2001 project maps developed by Boyle Engineering Corporation and air photos prepared by Carollo Engineers.

The scope of work for the cultural and paleontological/geological resources inventory and assessment for the project included the following tasks:

1. Several preliminary field meetings were attended to aid in developing a project corridor and identify areas with minimum potential for containing significant cultural resources. This information was then used to define a project corridor to survey. Criteria for various survey corridor widths were reviewed.
2. Evaluation of an existing records check for completeness and identification of any deficiencies. For the proposed project, a cultural resources constraints analysis was performed by Cultural Resources Management Services, Paso Robles, (July 2000). Consulted parties included the Camp Roberts Museum Library and Environmental Office, San Luis Obispo County Historical Museum Archives, and the local museums in Paso Robles and Templeton.
3. Additional records checks were conducted with the California Archaeological Inventory Information Center at the University of California at Santa Barbara and the Camp Roberts Environmental Office. Historic records including maps, photographs, and literature were also examined for the project corridor.
4. A Phase I archaeological surface survey of approximately 40 miles of a 50-foot minimum to a maximum 200-foot wide project corridor was done to verify location and condition of existing cultural resources that might be affected by the pipeline construction and to search for previously unrecorded archaeological sites in areas not surveyed or where previous surveys were determined to be inadequate (due to poor surface visibility, or poorly qualified personnel, etc.).
5. In addition to the normal archaeological survey that identified historic and prehistoric cultural resources, an earth scientist accompanied the survey team and documented areas where surface indications of cultural materials may be obscured by geologic factors (such as alluvial fill). Areas where geological resources occurred that were typically utilized by native

people were also documented because prehistoric activities such as collecting chert or ochre may be difficult to observe during a Phase I surface survey.

6. The potential for paleontology resources was evaluated by an earth scientist with 20 years experience in the local area, visits to local museums with paleontological finds and geologic literature. Using geologic literature, geologic rock units have been evaluated for the presence of paleontology resources such as terrestrial fossil mammal remains, estuarine fossil shells, marine fossils and microfossils, and other fossil resources. Geologic units are correlated with the project footprint and field checked as part of the archeological field survey. Results form a preliminary environmental assessment of the potential for paleontology resources.
7. All previously unrecorded archaeological sites were recorded and added to project maps. Potential impacts resulting from pipeline construction activity on cultural resources were assessed. State archaeological site records were completed for all newly recorded sites and isolated artifacts, and were submitted to the California Archaeological Inventory Information Center at the University of California at Santa Barbara. All newly recorded archaeological sites were plotted on U.S.G.S. Topographic 7.5’ series maps.
8. Consultation was made with local Native American groups including members of the Chumash and Salinan organizations, and representatives of both communities were included in the survey team. Their concerns about cultural resources in or near the proposed project right of way were solicited during the field survey and incorporated in this report. In general, these consisted of avoidance, and/or further testing to define the nature of cultural resources and appropriate recommendations with their review, and input at public hearings.
9. Based on the records check and field survey, an assessment of potential adverse impacts on cultural resources from implementation of the proposed project was made. Possible mitigation of adverse impacts for subsequent phases of the project is offered including redesign, re-alignment, additional surface survey, subsurface testing, and data recovery (as a last resort). Avoidance of significant cultural resources will be stressed. Both State and Federal criteria (including Section 106) will be used for assessing significance of cultural resources.
10. All field procedures and cultural resource descriptions, assessments and other results including non-confidential project maps were prepared as a stand alone report, which is confidential in nature and therefore not incorporated in this EIR.

5.8.1 Environmental Setting

5.8.1.1 Cultural and Paleontology/Geology Resources Inventory Procedures

Archaeological Records Checks

Prior to starting field survey, the San Luis Obispo County Engineering Department obtained a cultural resource constraints analysis for the NWP. This was done by Cultural Resources Management Services, Paso Robles, CA (July 2000). An archival records search was conducted for a 60 mile long by 2000-foot wide project area with the California State Information Center at the University of Santa Barbara (Farrell 2000). This yielded information on:

- Previously surveyed tracts within or near the project

- Previously recorded sites within or near the project
- Characteristics of previously recorded properties
- Dates of previous survey and excavation programs, and technical reports.

The Camp Roberts Museum Library and Environmental Office, San Luis Obispo County Historical Museum Archives, and the local museums in Paso Robles and Templeton were also consulted. A total of 16 archeological sites were identified within a 200-foot wide corridor of the proposed project pipeline route (Farrell 2000).

Additional review was performed of the archaeological records check conducted in 1993 for the original Phase I survey completed in 1996 (Wilcoxon and Denardo 1993) (Gibson and Parsons 1996). During the field survey on Camp Roberts, Mr. Ethan Bertrando, archaeologist at the Camp Roberts Environmental Office, provided valuable additional archaeological information and assisted the field crew in locating existing archaeological sites on the Camp Roberts property.

Fieldwork Procedures

The archaeological surface survey consisting of the archaeologist and assistants zig-zagging back and forth in 15-feet to 50-feet spaced transects examining the surface, road cuts, creek banks, and rodent burrows for any signs of prehistoric cultural materials (including seashell fragment, stone flakes, bone, burnt rock, etc.) or significant historic structures or cultural materials (including rock formations, trash pits, historic shell, square nails, purple glass, etc.) The various rock outcrops encountered were examined for any evidence of rock shelters, pictographs (paintings), petroglyphs (carvings), cupules (depressions) or bedrock mortars (acorn processing), all of which are known to occur in San Luis Obispo County (Fleshman 1975, Gibson 1980).

Existing cultural sites were revisited to confirm their location and condition. Newly recorded archaeological sites were plotted on project maps and photographed; surface artifacts were recorded and specific site maps were drawn.

A total of seven previously unrecorded prehistoric archaeological sites and one prehistoric isolated artifact site were recorded. The records for these sites were completed and submitted for official state trinomial numbers with the State Information Center at the University of California at Santa Barbara. These sites were assigned site numbers SLO-2211 through SLO-2216, ISO-213 and ISO-214. Five additional prehistoric sites have been previously recorded during the course of other projects.

A pedestrian survey was not conducted in two areas because of access and final project alignment indecisions, Sta. 1525+00 to 1600+00 and 1810+00 to 1900+00. These two areas were assessed by examination of air photos and vehicular survey. In both areas, there does not seem to be a high potential to contain cultural resources. Both locations were not near known areas of high density of cultural materials, and no cultural resources were identified in these areas in the 1993 or 2000 archival records checks. Prior to finalizing project alignments, both areas should be examined.

General terminology of densities of archaeological materials on the surface of a site will follow those proposed by Spanne (1973) and shown in Table 5.8.1.

Table 5.8.1 Terminology of Density of Cultural Material

Density of Cultural Items	Shell	Stone Flakes
Trace	1 piece/ 1 x 1 meter	1 flake/ 5 x 5 meters
Light	5% surface cover	1 flake / 2 x 2 meters
Moderate	5% to 40% surface cover	up to 5 flakes/ 1 x 1 meter
Heavy	over 40% surface cover	over 5 flakes/ 1 x 1 meter

Source: adapted from Spanne 1973.

Field survey and literature data in the text below are grouped into five categories, 1) paleontological resources; 2) geological resources; 3) geomorphological data; 4) prehistoric cultural resources; and 5) historic cultural resources. For each category, background information and context are summarized to provide for understanding the various resources, assessments of the resource significance and locations in relation to the project area.

5.8.1.2 Paleontology Resources

Paleontology is the study of life in past geologic times based on fossil remains, their context and relationship with modern life and environment, and the chronology of earth's history. Using information from local museum collections and the geologic literature listed (see References, Section 5.8.8), geologic rock units were evaluated for paleontology resources such as terrestrial fossil mammal remains, estuarine fossil shells, marine fossils and microfossils, and other fossil resources. Geologic units are correlated with the project footprint and field checked as part of the archaeological field survey by an earth scientist with 20 years of experience in the local area. Field survey revealed only a single identified Paleontology Resource, a fossil shell deposit in the Santa Margarita Formation; however, there is a high potential to encounter additional fossil remains at several places along the pipeline right of way (ROW).

Paleontology General Overview

Based on previous finds in the area, potentially significant paleontology resources of high scientific value have a high probability of occurrence in the project area. Of strong interest to paleontologists are fossils of land mammals and birds, fossil shells, and fossil marine mammals. Microfossils are not normally considered a significant resource as they are generally common in the rocks in which they occur, while fossils represent significant and unusual finds. Paleontology information is summarized in Table 5.8.2. Although paleontology studies of ancient life have been made for hundreds of years, the study of the manner in which organisms become fossilized and form traces in rock (known as taphonomy: Greek derivation – *taphos* for burial, *nomos* for law) has grown only during the past 50 years. Taphonomy studies are concerned with the reconstruction of biological and sedimentary events occurring between mortality and burial. The chance of an organism being preserved is dependent on the conditions of sedimentation. Organisms that live in low-lying areas, streams, rivers, swamps, seas or oceans stand the best chance of being covered by sediment and eventually preserved as a fossil (Muller 1979). Information from these studies is helpful in evaluating the potential for sedimentary rocks to yield fossils, and forms the basis for assessing the paleontology potential along the pipe ROW where specific resources have yet to be identified due to limited exposure. The sections below discuss the paleontology sensitivity for rock units crossed by the pipe ROW following the guidelines of the Society of Vertebrate Paleontology; rock unit information is summarized in Table 5.8.2.

Table 5.8.2 Paleontology Sensitivity of Rock Units for the Project Area

Rock Unit	Lithology	Known Fossil Localities	Sensitivity
Young alluvium	Terrestrial clay, silt, sand & gravel	None	Low – reworked fossils
Old alluvium	Terrestrial clay, silt, sand & gravel	Mammoth skull in San Miguel	High
Plio-Pleistocene Paso Robles Formation	Terrestrial clay, silt, sand & gravel	Large mammals in many locations near Paso Robles-Creston	High – fossil mammals
Mio-Pliocene Santa Margarita Formation	Marine/estuarine fossiliferous sandstone	Paleontology Site A & near Santa Margarita	High
Miocene Monterey Formation	Marine shale	Mostly microfossils, rare marine mammal, unusual invertebrate	Low
Mio-Oligocene Vaqueros Formation	Marine/estuarine sandstone	Lacking in Tierra Redonda Member	Low
Cretaceous Atascadero Formation	Marine mudstone	Microfossils only	Low

Older Marine Rocks

Older rock units along the pipe ROW such as the Monterey Formation, Vaqueros Formation, and Atascadero Formation are deep marine shales, sandstones and mudstones in which microfossils occur, yet large fossil remains are generally lacking. Rare finds in these formations have included whales and other sea mammals that died and whose remains settled to the ancient ocean floor. Fish fossils may be found in some shales, and sharks teeth occur near Templeton. But for the most part, these formations can be expected to lack fossil resources other than microfossils, and these rock units are given a low potential for paleontology finds. Identified localities of fossils in local museum collections are located away from the pipeline ROW.

Santa Margarita Formation

Most noticeable of the fossils along the pipe ROW are fossil shells of the Santa Margarita Formation. These are encountered along the pipe ROW at Paleontology Resource #1, in the stream channel of Santa Margarita Creek, and in numerous outcrops of the Santa Margarita Formation near Santa Margarita. Durham (1974) lists a brachiopod, 12 gastropods, 17 pelecypods, and a barnacle of Late Miocene age. The most commonly reported species are *Ostrea titan* (Giant Oyster), *O. titan corrigata* Nomland, *Pecten estrellanus* Conrad, *Pecten crassicardo* Conrad, and *Tamiosoma gregaria* (Kehoe 1973). Fossil deposits often occur as thick biostromes consisting of accumulated masses of scallops and oyster shells and shell fragments that appear to represent storm concentrated masses in shallow water of high energy conditions (i.e., near beach wave zone) (Chipping 1987). Due to widespread fossil shell deposits, the Santa Margarita Formation has a moderate to high potential for paleontological resources.

Another recent paleontology find in the Santa Margarita Formation are fossil bones from a horse or camel found near the top of the formation in a gully at the Last Chance Reservoir spillway at Camp Roberts (Lawler and Associates 1997). Such terrestrial fossils of this age are very rare in this area.

Plio-Pleistocene Paso Robles Formation Terrestrial Rocks

Pliocene and Early Pleistocene age fossil mammal remains are known from terrestrial deposits in the Paso Robles Formation. In terrestrial settings, organisms living in higher areas subject to erosion are the least likely to be preserved as fossils. In low-lying alluvial settings, fine grained deposits representing normally dry plains and valley surfaces have low potentials for preservation of remains (exposed to defleshing by animals, putrification, and oxidation; poor chance of burial). Areas of standing water (lakes, ponds, marshes) are areas of moderate potential for preservation (aqueous mortality limits defleshing and putrification, remains settled and are buried by lacustrine deposits). Active channels are good areas for preservation of remains (aqueous mortality, quick burial in sand bars and bank collapses), but many remains are of isolated disarticulated parts (Koster 1987). Exposures of the Paso Robles Formation along the Pipe ROW often consist of stream channel deposits, though lake deposits are also common in the upper part of the formation. Thus the Paso Robles Formation has a high potential for terrestrial fossils.

A 1–2 million year old mastodon tusk (6-inch diameter, 67 inches long) was found on the Smith Ranch (Estrella River, approximately one mile upstream of the Salinas River) (Caledonia Enterprise 2002). In December 2000, workers encountered fossil mammal remains 1–2 million years old in the Paso Robles Formation at an eastside Paso Robles construction site, and there is a recent report of new finds (mammoth and short nose bear) during the building of roads at Santa Ysabel Ranch (Saint-Onge, personal communication). The remains at Paso Robles are believed to be from an animal that was trapped in an ancient lake and preserved after settling into the bottom muds. Other localities of fossil mammals in local museum collections are poorly documented or are away from the pipeline ROW.

Other local finds from the Paso Robles Formation include Pliocene marine mollusks from the base of the formation (in partly marine strata) near the Chicago Grade (Highway 41) (Galehouse 1967), and are similar to fossil finds in other Late Pliocene transitional terrestrial deposits in central California – Kehoe 1973). Fossilized pinniped fragments (seal or walrus limbs) from partly marine basal beds a mile east-southeast of Santa Margarita (Kellogg 1921) and scattered coal-like plant debris and rare thin shelled mollusks of probable lake origin (Hart 1976) have also been noted. Small freshwater gastropods have been reported approximately seven miles east of Paso Robles, near the mouth of Lowes Canyon east of San Miguel (Durham 1974), while a bone from a wading bird in freshwater limestone was discovered along an oil pipeline on Camp Roberts (Durham 1974). Recent mammal (possibly horse) bones were encountered in a gully at the Last Chance Reservoir spillway at Camp Roberts (Lawler and Associates 1997), and mammoth bones are reported from near Creston, buried at a depth of 4 to 5 feet (Gibson p.c.).

The time period of the Paso Robles Formation corresponds to the beginning of quick climate change and global ice volume changes leading into the Pleistocene glacial ages (Woodburne 1987, Crowley and North 1991, National Research Council 1995, and Graham 1999). Glacial ages during the Pliocene, responsible for the formation of the Greenland Ice Sheet by 3.2 million years ago, are thought to have been approximately only two-thirds as intense as Pleistocene glacial ages. A change of 2–4˚C in world climate may have precipitated the onset of glacial conditions. Summer precipitation from the desert regions reached into California, and there was moisture year round.

At 3.1 million years ago, the world reached a mid-Pliocene climatic optimum (global temperatures were 3 to 5˚C higher than today and sea-level was 35 meters higher). The Sonoma flora from this period indicates 25% greater precipitation and summer rain. Approximately 2.6 million years ago, the Laurentide Ice Sheet began to form (beginning of extensive continental glaciation), while perennial Artic ice formed 2.1 to 2.4 million years ago. The following interglacial period, the Nebraskan interglacial, is represented on the west coast by the Tule Lake fauna that indicate 5˚C warmer temperatures and beginnings of summer drought. The Aftonian interglacial 1.7–1.9 million years ago witnessed an increase in wildfires. North American mammals of the Blancan Mammal Age roamed the area throughout this time. The Blancan fauna was very rich in both species and diversity.

The period from 1.6 to 2.4 million years is poorly preserved in the rock record. This was a period of mountain building. The rise of the Sierra Nevadas, and Peninsular Ranges created new topography in California and cut off summer moisture from the deserts. This time period marks the beginning of development of the Mediterranean climate in California, with winters 2 to 6˚C cooler and summers 1 to 2˚C cooler than today. Between 1.8 and 2.5 million years ago much of the mammal fauna disappeared in a great extinction associated with the growing severity of glacial ages taking place at that time. Changes in fauna include a decline in large savanna ungulates and an increase in small herbivores.

Pleistocene Old Alluvium Terrestrial Rocks

Pleistocene age fossil mammal remains are known from terrestrial deposits in old alluvium, often exposed on top of the Paso Robles Formation near the top of the stream cliffs along River Road, consists of stream channels deposits; it has a slight potential for terrestrial fossils. A notable fossil discovery was made in 1966 in San Miguel in old alluvium. The skull of a mammoth (*Mammuthus imperator* [Leidy], Imperial Mammoth) was uncovered by workmen digging in ancient stream gravels exposed approximately 40 feet up the banks of the Salinas River in San Miguel (Durham 1974). This setting is similar to the stream cliffs along the River Road section of the pipe ROW. Otherwise, fossil finds in old alluvium include freshwater ostrocods, small gastropods and a few oogoniums of Chara fossils found east of Santa Margarita (Hart 1976).

During the period from 0.75 to 1.6 million years ago, permanent polar ice became established, and ice invaded the Mississippi River Valley. The great Kansan interglacial period also occurred, while California grassland became a distinct association. According to Milankovitch cycles, glacial ages probably followed in intervals of 23,000 or 41,000 years. The end of this period corresponds approximately with the Jaramillo magnetic reversal event which took place approximately 0.9 million years ago. The period from 0.9 to 0.35 million years ago is also not clear in the rock record. During this time, animals of the Irvingtonian Mammal Age (the type area are the Irvington Gravels in Fremont, in the southern San Francisco bay Area) walked the land. This was a fauna noted for its depauperateness (lack of diversity and species in comparison to the Blancan Mammal Age, but time and immigrants from other continents slowly rebuilt the fauna base. The fauna of this age is noted for mammoths, musk oxen, horses, saber-toothed cats, microtid rodents, sloths, anteaters, opossums and porcupine. The earliest terraces in the central coast area today date from this time (preceding land surfaces destroyed by erosion and deformation; only rock units remain).

Old alluvium is associated with landscapes of the Sangamon high sea-stand (120,000 to 125,000 years ago) and the Wisconsin glacial period (10,000 to 70,000 years ago). The global climate of the Sangamon era is thought to have been 2 to 6°C warmer than today's; animals known in Africa were found in England and extensive temperate forests covered parts of Alaska (Pewe et al 1997). Sea-level was approximately 6 meters higher than today. More extensive locally are old alluvium of Wisconsin age. These were the times of the Rancholabrean Mammal Ages in California (the type area is the Rancho LaBrea Tarpits in Los Angeles). The Rancholabrean fauna was rich and diverse, being fortified by time and immigration from other continents during the Pleistocene. Added to the fauna list of Irvingtonian animals are both bison and camels. The Rancholabrean also has the largest herpetafauna of the Pacific Coast. Though much of the mammalian fauna disappeared at the end of the glacial period 10,000 to 14,000 years ago due to environmental change and early human predation, the herpetafauna were little affected.

Paleontology Resources of the Project Area

Only one place with important paleontology resources has been identified in the project area, and is described below.

Paleontology Resource #1: Fossil Shells, Sta. 112+00

Paleontology Resource #1 is an exemplary outcrop of fossiliferous Santa Margarita Formation sandstone. Fossils or fragments of fossils are abundant in much of the sandstone and, at places, make up most of the rock. Dall and Harris (1892) first noted species of *Pecten* (scallops), particularly *Pecten pabloensis* at this locality. Nomland (1917) studied more closely the fossil fauna of the Santa Margarita Formation at the Narrows and adjacent areas, and recorded the presence of 20 shell species there (Table 5.8.3). Durham (1968), using more modern nomenclature, notes the fossil shells at the USGS fossil locality M2046 on the north bank in the Narrows (Table 5.8.4). Durham only listed a few species, but observed that fossiliferous beds ordinarily contain large numbers of individuals representing only a few taxa. Nomland (1917) may have observed a greater number of taxa by examining a wider area about the Nacimiento River.

Table 5.8.3 Nomland 1917 List of Santa Margarita Fauna from Nacimiento River

Bryozoa sp.	*Ostrea* sp. (small)
Brachiopod sp.	*Pecten estrellanus* Conrad
Astrodapsis antiselli Conrad	*Pecten (Hinnites) giganteus* (Gray)
Astrodapsis margaritanus	*Pecten raymondi* Clark
Kew (MS)	*Pecten sancti-ludovici* Anderson
Calyptraea sp.	and Martin
Crepidula sp.	*Pecten* sp.
Lima sp.	*Schizothaerus nuttalli* Conrad
Metis alta (Conrad)	*Trophon perelegans*
Mytilus kewi Nomland	*Turritella* sp.
Ostrea titan Conrad	*Balanus concavus* Bronn
Ostrea titan corrugata	

Table 5.8.4 Durham 1968 List of Fossils from the Santa Margarita Formation at the Narrows

Brachiopod:
Terebratalia arnoldi quaylei (Hertlein and Grant)

Pelecypods: *Crassostrea titan* (Conrad) *Lyropecten estrellanus* (Conrad)

To determine the locations where other potential finds may occur, information from geological sources and geomorphology data was used to evaluate the proposed pipeline ROW for areas of low, indeterminate, and high sensitivity for paleontology resources. These are summarized in Section 5.8.1.7.

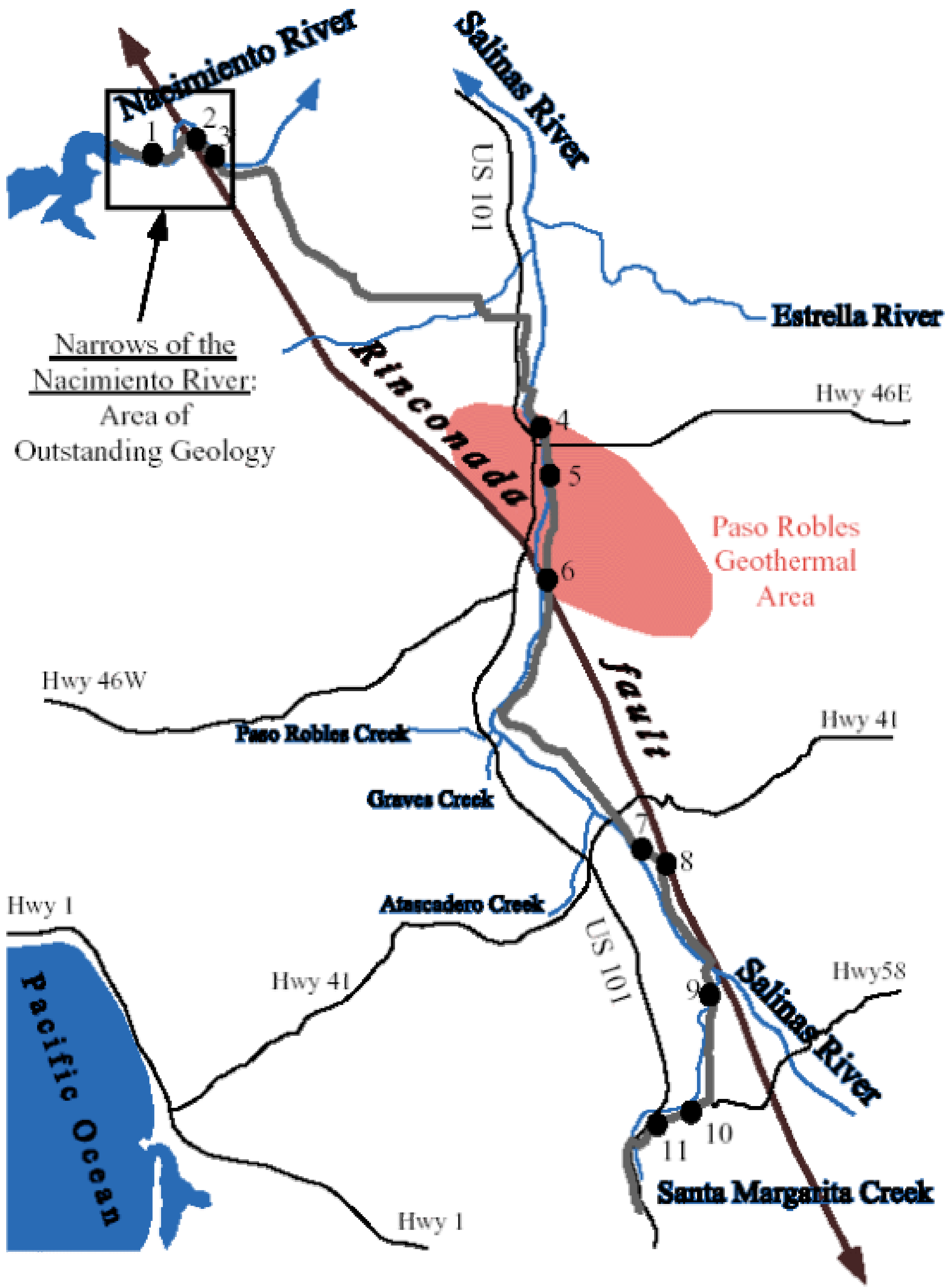
5.8.1.3 Geology Resources

Geology is the study of the planet earth, the materials of which it is made, the processes that act on these materials, the products formed, and the history of the planet and its life forms since its origin. Geological resources such as significant rock exposures, fossils, and economic deposits along the pipeline corridor are identified. Geology features are often related to paleontology and cultural resources. Many identified geologic items in the project area are recognized for their importance in prehistoric or historic rock extraction activities.

Outstanding Geology Resources General Overview
Rocks along the proposed pipeline ROW span the past 100 million years of geologic history. Modern geologic investigations go back to Blake 1857, Fairbanks 1904, and English 1918. More recent studies include Durham and Addicott 1964, Durham 1965, 1968, and 1974, and Dibblee 1976. Page et al 1998 provides a good overall recent geologic framework for the area. Exposures along the pipe ROW include the famous marine Miocene section in the Narrows of the Nacimiento River, and extensive exposures of the Paso Robles Formation along Dry Creek, San Marcos Creek and Salinas River. A geologic feature followed by the pipeline ROW is the Rinconada fault zone. The proposed pipeline route also crosses the Paso Robles Geothermal Area (see Figure 5.8-1).

Specific rock resources of interest to prehistoric people include rocks for making chipped stone tools, knives and projectile points (notably cherts and basalts from the Monterey Formation and Franciscan Complex). Quartzites and other dense cobbles from old sedimentary deposits were utilized as hammerstones, abrading hammers, and choppers, while hard sandstones, siltstones, and granites were used for ground stone like manos, metates, pestles and mortars. Early peoples used cinnabar and ochre as pigments and paints, while other rocks were used for spiritual purposes, such as cinnabar, fossils, quartz crystals, and large distinctive outcrops (for example: Chimney Rock along the original pipeline alignment). Modern geologic maps (Campion et al 1983; Durham 1968, Hart 1976; Kehoe 1973; Page 1970, 1972; Fugro 2001) provide basic mapping for geologic features. A discussion of the outstanding geological area of the Narrows of the Nacimiento River is below, followed by a discussion of the Paso Robles Formation, and a listing of the proposed pipeline route stations corresponding with Geological Places.

Figure 5.8-1 Geology Places for Nacimiento Water Project (Survey March 2002)



California Miocene and Rinconada Fault Zone

For the first five miles, the survey traverses one of California's outstanding geological localities, the Narrows of the Nacimiento. The Narrows are located at the "Big Bend" in the river where the stream enters the hills and mountains. It is one of the noted geologic localities where the geological relationships and ages of rocks in the Coastal Ranges were, and continue to be, studied. Prehistoric people found useful rocks and environments in the Narrows. During the Gold Rush, small placer mining activity occurred at the Big Bend, as well as on San Antonio River and San Marcos Creek (Durham 1974).

The Narrows of the Nacimiento is first mentioned as a place of geological interest in the California State Geological Survey (Whitney 1865), and is noted as one of three localities where sedimentary rocks of the Santa Lucia Range can be best studied (Reed 1925). Geologically, the rock formations and their relationships studied at the Narrows and elsewhere eventually became the classic sequence for the California Miocene (Kleinpell 1980). The unfolding story is full of paleontological controversies and problems in identifying geologic epoch boundaries that persisted through much of the twentieth century.

During the 1800s, El Camino Real crossed the Nacimiento River a couple miles downstream (east) of the survey area. Many geological parties took the short side trip to the Narrows where sedimentary rocks with a geological history of more than 100 million years (includes rocks beneath Lake Nacimiento) could be found. Petroleum deposits also attracted early attention; tar sands on the north bank of the Nacimiento River and the nearby asphaltum deposits in the Pleyto Oil District (San Antonio River area) were studied (Goodyear 1888). Waring and Bradley 1917 noted early uses of tar sands on the north bank in the construction of regional roads and bridges. The first stratigraphic column of the locality appears in Dall and Harris 1892.

By 1900, geologists had compiled a list of fossil shells useful in dating the rock layers existing in Monterey and San Luis Obispo Counties. Based on these fossils, the Miocene was separated into the Upper (Santa Margarita), Middle (Monterey) and Lower (Vaqueros) formations. Megafossils are abundant in the Santa Margarita (Arnold 1906 recorded 2 echinoderms, 27 pelecypods, 10 gastropods and 2 crustaceans) and Vaqueros (Arnold 1906 recorded 1 echinoderm, 1 brachiopod, 48 pelecypods, 31 gastropods, 1 crustacean, and 3 fishes), but were mostly lacking in the Monterey Formation, and stratigraphic relationships were unsure. Recent studies of the Narrows include Smith and Durham 1968; Durham 1968, 1974; Burch and Durham 1970; and Dibblee 1976. These studies built on earlier work in the upper Salinas Valley through utilization of new dating techniques, continued detailed geologic mapping, refinement of stratigraphic and structural relationships, and the application of tectonic theory to California geology beginning in the 1960s. Geology exposed in the Narrows important to this work includes rocks of the Santa Margarita Formation, Monterey Formation, and Vaqueros Formation, and faulting in the Rinconada fault zone.

Tierra Redonda Member of the Vaqueros Formation

The Nacimiento Dam and spillway (completed in 1958), along with the proposed Water Intake facility, are located on rocks of the Vaqueros Formation. This formation was first recognized at Vaqueros Creek, west of Greenfield (Hamlin 1904). The Vaqueros fauna includes common estuarine and shallow sea fossil mollusks shells, shell fragments, and fossil shell impressions. Beds typically consist almost entirely of a single species at a single locality. Common paleo-communities include fossil *Turritellas*, or oyster-shells; some beds contain fossil bone in addition to mollusk shells (Durham 1968). J.C. Merriam (1904) first called attention to a time differentiation between faunas of the Early Miocene.

Two prominent California paleontologists, Arnold (1905–1917) and Anderson (1905–1914), while working at different localities, arrived at conflicting conclusions about the Early Miocene in California that eventually became known as the “Vaqueros problem” (Loel and Corey 1932). These paleontology and stratigraphy controversies centered around the Miocene-Oligocene epoch boundary and the question of whether the Oligocene actually ever existed in California (Kleinpell 1980). Eventually, however, both Oligocene and Eocene fossils were found in Vaqueros Sandstones, establishing that it had indeed existed. Refined stratigraphy later restricted the use of the name ‘Vaqueros’ to Early Miocene rocks, thereby resolving the “Vaqueros problem” (Thorup 1943; Schenk 1935).

The formation is now considered to span portions of the Late Oligocene to Early Miocene. Terrestrial deposits (conglomerates representing old alluvial deposits) exist in the Vaqueros Formation near Atascadero and Santa Margarita, and in the Hunter-Liggett area. Marine deposits delineate a “Vaqueros Gulf” that existed in what is currently the southern Salinas Valley, stretching from King City to Paso Robles. Within this gulf, the Santa Lucia and Gabilan Ranges were flanking islands, forming an “East Straight” leading southeast past “La Panza Island” to the sea in San Joaquin Valley, and a “Southwest Straight” in the Huasna area heading south. It was in this shallow sea area that the Vaqueros Formation sandstones were deposited. The Vaqueros rocks mark a change in tectonic plate movement occurring 25 to 29 million years ago that coincides with the growth of the San Andreas fault system, and led to prolonged marine sedimentation (Page et al 1998).

The Tierra Redonda Member of the Vaqueros Formation is a whitish sandstone that overlies other Vaqueros Formation rocks at Tierra Redonda Mountain, and outcrop near Nacimiento Dam and spillway. Although similar to typical fossiliferous Vaqueros sandstones, the Tierra Redonda sandstones generally lack megafossils (Durham 1968). Based on stratigraphic position, the strata are Early Miocene (approximately 20 million years old). These sandstones represent the beginning of the Miocene marine transgression resulting in the deep marine basins represented by the Monterey Formation.

Monterey Formation

One of California’s most famous and economically important rock units, the Monterey Formation extends for 1200 km, from Humboldt to Los Angeles (Bramlette 1946; Garrison and Douglas 1981; Isaacs 1980, 1981, 1987; Isaacs and Garrison 1983; Isaacs and Rullkotter 2001). The Monterey Formation is widely noted for containing chert, asphaltum, and ochre (all important prehistoric rock resources), as well as modern petroleum resources. Characterized by siliceous shales and phosphatic calcareous mudstones, the Monterey Formation represents sediments deposited in deep (1.1–1.5 km) marine basins similar to modern marine basins off of southern California, the Gulf of California and elsewhere. Unlike shallow marine sandstone deposits, deep marine deposits lack fossil shells that help geologists date strata. As a result, many details of these rocks remained enigmatic to nineteenth century geologists, and confusion reigned in nomenclature well into the 1930s.

Petroleum paleontologists, however, were able to catalogue and correlate the age of the rocks based on microfossils of phytoplankton – microscopic ocean creatures who make their shells out of either silica (diatoms, radiolarians, and silicoflagellates) or carbonate (nanofossils, foraminifera, coccolithophores, pteropods). When they die, their remains settle on the ocean floor and become a part of the rock. The most widespread and recognizable of the microfossils are the foraminifera (Ford 1972; Kleinpell 1972; Pierce, Ingle and Bandy 1972; Cushman 1976). Using these microfossils, the Miocene rocks were separated into biostratigraphic units called Foraminiferal Zones. This paleontology work created some of the greatest controversies in California geology. Problems with defining stages reached fatal proportions for one noted paleontologist who died of a heart attack from the controversy's emotions and stress (Kleinpell 1980).

Monterey rocks include strata in the Mohnian, Luisian and Relizian Foraminiferal Zones, all of Middle Miocene age. The Mohnian type area is at Mohn Springs off Topanga Canyon Highway, Los Angeles County and is approximately 7 to 12 million years old. The Luisian is named for San Luis Obispo County (type area being at Wilsons Corner – Highway 58 at La Panza Road, Indian Creek area) and is 14 to 16.5 million years old. The Relizian type area is located at upper Reliz Canyon near Greenfield, in Monterey County, and is between 16.5 and 18 million years old.

Groundbreaking work on Miocene faunas was initiated by R.R. Wilson in the Adelaide Quadrangle (Kleinpell 1938). Later work, both at the Narrows and in the Adelaide area, was carried out by Smith and Durham 1968, and Durham 1968. The rocks in the vineyard area along Vineyard Drive and Adelaide Road are similar to the rocks along the proposed pipeline ROW in the Narrows, with the rocks in the Narrows being on the northeast limb of a large anticline and the vineyard areas being on the southwest limb of the anticline (Cretaceous sandstones of Lake Nacimiento are exposed in the core of the anticline).

The Relizian marks a change from earlier Caribbean-affiliated fossil faunas to a new, distinctly Californian fauna province (Kleinpell 1980). Prevailing Miocene paleo-climates were warmer and wetter than those of modern California, with a warm, temperate summer-wet climate of subtropical latitudes (Isaacs and Rullkotter 2001). The period occurring approximately 15 million years ago was unusually warm, with redwood forest extending from southern California to Alaska. Both the Mohnian and the Relizian represent two of the strongest marine transgressions (periods of rising sea-level) in California's past. The change from Luisian to Mohnian marks the change in California's marine faunas from warm subtropical to cool northern affiliations. This is reflected in increasing siliceous fauna of northern waters replacing more calcareous fauna from southern latitudes. Thus, Relizian age strata are mostly calcareous mudstones, while the Luisian is increasingly siliceous and the Mohnian is almost entirely siliceous shale.

Conspicuous chert beds are noted from the base of Luisian strata, and are also found sporadically throughout the Monterey Formation. Also associated with these rocks are layers of phosphate or phosphatic pellets. Phosphorus deposits are evidence of the rich life present along the Miocene shore (phosphorus is an element concentrated in living organisms) reworked by waves into deeper sediments. The Late Miocene (7 to 10 million years ago; Mohnian) was marked by crustal deformation and the rise of the first mountains in the Coast Ranges (Page et al 1998). Siliceous strata of the Mohnian and Luisian faunal stages are mostly correlated with the upper Monterey, or Hames Member (type area at Hames Valley off Jolon Road), while the calcareous mudstones of the Relizian are generally correlated with the lower Monterey, Sandholdt Member (type locality is Sandholdt Ranch in Reliz Canyon – Thorup 1941).

Santa Margarita Formation

Found along proposed pipeline route in the Nacimiento Narrows and near Santa Margarita, the Santa Margarita Formation extends through the Coast and Transverse Ranges between San Francisco and Los Angeles, and was named by Fairbanks 1904 for the spectacular fossiliferous whitish sandstones exposed in the hills around the town of Santa Margarita (type area is along Santa Margarita Creek channel – Richards 1933; adjacent to Sta. 1947+00). The spectacular fossil shells of this formation include *Ostrea titan* (Giant Oyster), *pectin* (various scallops) and *echinoderma* (sand dollars; urchins) in abundant estuarine sediments. The Santa Margarita Formation is 5 to 7 million years old (Late Miocene age) and formed during a time of marked folding of rock strata and continued faulting (creating the first mountains in the Coast Ranges) related to passage of the Mendocino Triple Junction through the area (Page et al 1998).

Fossil shells, or megafossils, were used by nineteenth century geologists to date rocks. Miocene fossils from the Pacific Coast were first described by Conrad in 1838–1857 (Conrad 1849–1885), and the "Santa Margarita" was a Late Miocene fauna widely known to early geologists. Outcrops of sandstone near Santa Margarita include the famous shell layers at Chalk Hill that were used in the making of outstandingly strong adobe mortar found at Mission San Luis Obispo and Asistencia (Cameron 1957). The Santa Margarita Formation was formed in either a series of small deposition basins, or in a single basin broken and dispersed along the San Andreas fault zone by Pleistocene age tectonic activity. Reconstructions indicate the presence of a single Late Miocene seaway between the Pacific Ocean and a shallow sea located in the present-day San Joaquin Valley (Phillips 1981). Sea-levels had fallen during the Late Miocene, and the sandstones of the Santa Margarita Formation represent sandy near-shore deposits and shallow marine basins. The white sandy hills are still important today, providing outstanding habitats and supporting important aquifers supplying surface seeps and springs.

Rinconada Fault and Rocks East of Fault

Recognition of a great fault in the region was discussed by Fairbanks (1904) and mentioned by Reed (1933), but it wasn't until the 1940s that detailed mapping occurred and interpretations of the Rinconada fault were made (Taliaferro 1943). The first published map showing the Rinconada fault is Jennings 1959, and the first detailed study is Dibblee 1976. It is now known that the Rinconada fault is a complex fault zone between the King City area and the San Raphael Mountains, a total distance of 250 kilometers. Seismic, or earthquake, activity began along the fault approximately 50 to 60 million years ago. Large fault movements on the Rinconada fault are thought to have occurred over 20 million years ago, and again 10,000–70,000 years ago (Dibblee 1976; Hart 1976). Strong geomorphological expression suggests the Rinconada fault may have potential earthquake activity (Hart et al 1986), and recent studies have suggested the fault is capable of greater than a magnitude 7.0 earthquake capable of causing widespread damage. The San Marcos fault is also a part of the Rinconada fault zone. Faults often act as groundwater barriers and/or conduits and can mark areas with springs, seeps, or moist ground that often attracted prehistoric people.

In the upper Salinas River area, the Rinconada fault offsets Miocene and Cretaceous rocks by approximately 10 to 40 kilometers (older rocks have greater offset), and the rocks across the fault are different. West of the fault are the classic exposures of Miocene rocks in the Narrows. Correlative rocks to these across the fault occur to the south in the La Panza Range and Huasna area. East of the fault is a sliver of steeply dipping Monterey Formation shales, a thin bed of Pancho Rico Formation sandstone, and the Paso Robles Formation.

The Pancho Rico Formation is associated with tar sands and asphaltum along the north bank of the river above Twin Bridges. The Pancho Rico Formation was named by Reed (1925), and redefined by Durham and Addicott 1964. The type area for this formation is along Pancho Rico Creek, to the southeast of King City. The rock unit is exposed only east of the Rinconada fault and is very similar to the Santa Margarita Formation, consisting of shallow marine and estuarine sediments deposited mostly during the Early Pliocene more than 5 million years ago. Fossils are known from the Pancho Rico, but the area near Nacimiento generally lacks fossils (Durham 1968) and instead consists of tar sands and sandstone. Tar, or asphaltum, likely migrated upward along the fault zone from source rocks in the Monterey rocks to reservoir rocks like the sandstones in the Pancho Rico Formation. Tar sands and asphaltum were important prehistoric resources.

Paso Robles Formation

Underlying the rolling hills and plains to the east of the Rinconada fault is the Paso Robles Formation. These rocks have been studied for their sedimentology (Galehouse 1967), tectonic geomorphology (Dupre 1991), groundwater resources (California Department of Water Resources 1979; Chipping 1987), and geothermal resources associated with the hot springs at Paso Robles (Campion et al 1983). The type area is Paso Robles, where it was first described by H.W. Fairbanks in 1898. The Paso Robles Formation is 1.6 to 3.5 million years old (Early Pleistocene and Pliocene geologic age), and is the first terrestrial sedimentary deposit in the area. Earlier rock formations, such as the Miocene rocks, are sedimentary deposits formed in marine environments. Approximately 3.5 million years ago, major tectonic activity related to shifts in plate motion marked the rise of the Santa Lucia Range and beginning of the alluvial deposits of the Paso Robles Formation (Page et al 1998).

The Paso Robles Formation in the survey area consists of partially consolidated clay, silt, sand and gravel over 2500 feet thick. Gravel contains cobbles consisting of many useful rocks such as chert, basalt, quartzite, and others important to prehistoric people. These materials were deposited by ancient streams when the Central Valley was a large marine embayment and today's coastal areas were low hills, peninsulas and islands. Watershed areas were in the Santa Lucia Mountains (upper Nacimiento and San Antonio Rivers today), and mountains to the southwest (La Panza Range). Portions of the Paso Robles Formation eroded out of metamorphic rocks in the central Santa Lucia Range contain minerals eroded from hornblende and garnet crystals. These minerals provide rich nutrients to soil, and are in part responsible for the high gluten wheat once grown on the Estrella Plains.

The trunk stream roughly followed the course of today's Estrella River, but the ancient waters flowed in the opposite direction, towards Shandon and the Carizzo Plains, where the shoreline of the marine embayment in the Central Valley was located. The ancient basin was isolated and deformed by growth of the San Andreas fault during the Early Pleistocene (0.9 to 2 million years ago) as tectonic uplift of the eastern portions of the basin disrupted streamflows. Upper portions of the Paso Robles Formation contain ancient lake deposits. Tectonic pressures have also slightly deformed the Paso Robles Formation; hills east of the study area are tilted up to 3˚ and the area has been uplifted over 1,000 feet.

Gravels in the Paso Robles Formation include a wide variety of rocks derived from erosion of the Santa Lucia Range. As stated above, the principal stream roughly followed the course of the Nacimiento River to the Big Bend, then flowed southeastward along the trend of the Estrella River towards Shandon and an inland arm of the sea. Stream channel deposits are good locations to search for fossil mammal remains. The fine grained deposits in the Paso Robles Formation represent ancient plains where, when death occurred, remains were consumed by animals, microfauna, and oxidation, and were not generally preserved. In contrast, stream channel areas marked by sandy paleo-levees and cross-bedded sands and gravels in paleo-channels represent ancient settings where animals could become trapped by raging waters, washed into the channel, deposited on a sand or gravel bar and quickly buried and potentially preserved as fossils.

Outstanding Geology Resources of the Project Area

A total of 11 geological locations were identified along the proposed pipeline route. These appear on Figure 5.8-1 and are described below. The proposed pipeline route stations 00+00 to 200+00 are within the area of Outstanding Geology – The Narrows of the Nacimiento River.

Geologic Place #1: Base of Luisian in Monterey Formation, Sta. 75+00

Microfossils of the Mohnian, Luisian and Relizian foraminiferal zones are commonly used to characterize strata in the deep marine Monterey Formation. This location along the pipeline route is approximately located at the transition in Monterey Formation rocks from the Luizian to the Relizian age strata. The base of the Luisian is generally marked by a conspicuous chert bed of archaeological importance. The location is extrapolated along strike of the strata between 2 microfossil localities on the south bank of the river. U.S.G.S. fossil locality Mf820 recorded by Durham 1968 is approximately adjacent Sta. 80+00. A total of 12 fossil foraminifera include the following: *Anomalina salinasensis* Kleinpell, *Bolivina advena striatella* Cushman, *Bolivina guadaloupe* Parker, *Bolivina tumida* Cushman, *Buliminella curta* Cushman, *Cassidulina crassa* d'Orbigny, *Eponides rosaformis* Cushman and Kleinpell, *Globoquadrina* sp., *Pullenia miocenica* Kleinpell, *Siphogenerina collomi* Cushman, *Uvigerinella californica* Cushman, and *Valvulineria californica* Cushman. These fossils all indicate an Upper Luisian age and deposition at middle to lower bathyal environments (approximately 2,000–5,000 feet depth).

A second microfossil locality on the south bank approximately adjacent to Sta. 70+00 (USGS fossil locality Mf829, Durham 1968) contains over a dozen fossil foraminifera (*Anomalina salinasensis* Kleinpell, *Baggina californica* Cushman, *Bolivina advena striatella* Cushman, *Bolivina californica* Cushman, *Bolivina imbricata* Cushman, *Bolivina marginata* cf. *B. plicatella* Cushman, *Bolivina tumida* Cushman, *Buliminella subsiformis* Cushman, *Epistominella relizensis* (Kleinpell*), Globigerina dubia* Egger*, Pullenia miocenica* Kleinpell, *Siphogenerina branneri* Bagg, and *Uvigerinella californica* Cushman) indicating an Upper Relizian age. Thus, the widespread chert horizon at the base of the Luisian probably crosses the proposed pipeline route at Sta. 75+00, near where the survey route drops onto river alluvium. Chert may occur nearby on the hillsides, but was not noted along the survey corridor.

Geologic Place #2: Tar Sands, Sta. 144+00

Soils and old alluvium blanket the surface in this vicinity, however, these deposits may be thin and conceal Miocene rocks in the subsurface. Tar sands are noted on the north bank of the river above Twin Bridges, and the rocks beneath SLO-1169 are along the same strike as the tar sands – suggesting the possibility that tar sands and seeps exist in the vicinity of the pipeline route. A tar seep has been reported (Ethan Bertrando, personal communication) along the riverbank below SLO-1169. Tar sands have been variously ascribed to sandy lenses in the uppermost Monterey Formation, to thin sandy layers of the Pancho Rico Formation overlying the Monterey Formation east of the Rinconada fault, and to sandy lenses in the lowermost Paso Robles Formation overlying the Monterey or Pancho Rico Formations depending upon differing interpretations of individual strata.

Geologic Place #3: Black Chert Source, Sta. 192+00

Chert is an important prehistoric rock resource. Chert along the proposed pipeline route is evident in road cuts along Boy Scout Road at the entrance to the Narrows. In this vicinity (near the existing petroleum pipeline crossing), the road is cut into a hillside perched on top of a river cut cliff of chert outcrops. The pipeline route along the road will not impact prehistoric resources as it is at the base of a road cut, in materials not exposed during the past 10,000 years; however, closer inspection of the cliff (requires specialized gear) may reveal high grade chert layers and possible prehistoric quarrying. Good chert cobbles could also be eroded out by the river and recovered by people as river gravel (placer mining).

Chert refers to a rock which main component is redistributed silica (silicon dioxide SiO_2, or quartz) and is characterized by its hardness (5–6+ moh, harder than stainless steel) and conchoidal fracture. Dense vitreous cherts are nearly pure silica (90–99% silica). Cherts form from marine sedimentary deposits of biogenic silica consisting of the remains of, mostly, microscopic ocean creatures (zooplankton and phytoplankton found in upwelling areas such as the California coast) who make their shells out of either silica (diatoms, radiolarians, and silicoflagellates) or carbonate (nanofossils, foraminifera, coccolithophores, pteropods). When these organisms die, their remains settle on the ocean floor as biogenic oozes, where they undergo diagenesis (process whereby soft sediment becomes hard rock). Chert in the Monterey Formation consists primarily of diatoms, and was useful for the fashioning of prehistoric tools, knives and points. The process of diagenesis transforms biogenic opal (opal-A with an amorphous crystal structure) into high grade opal-CT (crystoballite quartz crystalline structure) and very high grade opal-quartz (quartz crystal). Cherts have various colors (tan, brown, yellow) due to impurities in the rock; black chert results from the well-formed microcrystalline quartz faces which are so tightly interlocked that light cannot pass (Bailey et al 1964). Cherts of the Monterey Formation commonly contain 6–13% organic matter and can contain up to 34% organic mater (Isaacs 1987). Some field archaeologists have noted a bituminous smell in freshly broken chert. The content of organic matter is important in diagenesis; only rocks low in detrital material and high in organic matter and porosity are favored for chertification (Behl 1992).

Geologic Place #4: Geothermal Spring Outlet, Sta. 922+00

At the base of the hill on the west side of the road can be seen the culvert outlet for a geothermal spring located on top of the terrace east of the road. The waters are collected at the terrace and channeled in a culvert beneath the driveway and road. Another geothermal spring occurs in the mud-bathhouse located across the river off of the extension of Spring Street (Highway 101 northbound onramp). These springs mark the beginning of the Paso Robles Geothermal Area. The most famous springs occur in downtown Paso Robles at the Paso Robles Hot Springs Inn, a popular destination in the nineteenth and twentieth centuries, as well as today. A Mission period account tells of grizzly bears visiting the mud house seeps in the early 1800s. New sauna and hot spring resorts have opened recently in the nearby area.

Geologic Place #5: Anticline, Sta. 1015+00
An anticline is a geologic structure resulting from crustal compression causing folded strata that are convex upward, and whose core contains the oldest rocks (with progressively younger rocks outward on the flanks) of the geologic fold. The anticline in the Paso Robles Formation rocks in the stream cliff along River Road features a 20-foot thick layer of sand and gravel interspersed between finer grained strata. The form of the anticline can be seen in the arch of the sand and gravel layers. The layers were originally been deposited in a near horizontal attitude and have been subsequently arched upward by tectonic pressures in the crust. Note also the well formed erosional contact at the base of the sand and gravel layers where the newly formed stream eroded down onto pre-existing rocks (fine grained alluvial plain deposits) resulting in a wavy contact lined by large gravel.

Geologic Place #6: Spanish Oaks Creek, Sta. 1154+00 and Santa Ysabel Spring, Sta. 1186+00
The warm waters of Spanish Oaks Creek are crossed by the pipeline at Sta. 1154+00. The outlet of the valley for the large spring, Santa Ysabel Spring, is at Sta. 1186+00. These are resources in the Paso Robles Geothermal Area. Santa Ysabel Spring runs at a temperature of 94˚F. Mission outposts stood nearby, and the spring was developed into a spa resort during the late 1800s (See section on historical resources at Santa Ysabel Ranch).

Geologic Place #7: Buttress Unconformity, Sta. 1691+00
The southern portion of the large road cut at this locality contains a buttress unconformity. Contacts between different rock units are geologically important. Their nature and characteristics give clues to how the rocks formed, and are important to understanding stratigraphic relations between different rock units. Most sedimentary deposits are lain down as horizontal strata. In quiet geologic environments, successive strata are laid down upon each other with little change in strata orientation. Contacts between such strata are comformable. In more active geologic environments, such as California, many rock units undergo a period of deformation. In the course of deformation, strata which were once horizontal become tilted and even thrown over in places, before succeeding layers are deposited. Thus, orientation of the strata about the contact is uncomformable (i.e., does not conform). These contacts are called unconformities.

The buttress unconformity in the road cut is located between ancient alluvium of the Paso Robles Formation, and a portion of a Pleistocene stream terrace. In the southern third portion of the road cut, the darker colored, brown sand and gravels are old alluvium, and the whitish to tannish sand and gravels are part of the Paso Robles Formation. Strata in the Paso Robles Formation are slightly deformed and inclined gently to the north. Strata in the old alluvium above are nearly horizontal. Thus their contact is unconformable. The north part of the unconformity between these two rock units is nearly vertical. The vertical contact represents the old stream bank that was eroded into the Paso Robles Formation over 130,000 years ago. The old alluvium filling the creek channel is buttressed against the old bank just as modern alluvium is buttressed against hills in today's valleys. Thus, is the formation identified as a 'buttress' unconformity.

Geologic Place #8: Rinconada Fault, Sta. 1757+50
This bend in Rocky Canyon Road momentarily crosses the Rinconada fault so that at this locality, one side of the road is on the opposite side of the Rinconada fault from the other side of the road. In the road cuts north and south of this bend, rocks of the Paso Robles Formation (towards north and south) and Santa Margarita Formation (to south) are exposed. Exposed along the outside of this bend, however, are shales of the Monterey Formation. These relations indicate that a trace of the Rinconada fault (Hart 1976) runs along the hillside through the property north of the bend, across the filled-in swale, between the roadcut with Paso Robles Formation rocks and the roadcut with Monterey Formation shales, then beneath the road, before emerging beyond the driveway at 9000 Rocky Canyon Road and following the base of the hillside east of the road southward.

Rocks beneath the west side of the road at this bend (west of the fault) include Paso Robles Formation, Santa Margarita Formation, Monterey Formation, and subsurface Vaqueros Formation and Atascadero Formation. Beneath the east side of the road (east of the fault) on the steep hillside above the road are rocks of the Monterey Formation, Vaqueros Formation and granitic bedrock (La Panza Granite). Due to the tectonic forces evident in the presence of the fault, if one straddled the road for many years, the leg on the east side would move slowly backward (or the leg on the west side would move forward – movement is relative).

Geologic Place #9: Santa Margarita Formation, Sta. 1947+00
Richards (1933) mapped and studied exposures of the Santa Margarita Formation in Santa Margarita Creek between the town of Santa Margarita and where El Camino and the railroad crosses it. Spectacular fossiliferous sandstones can be seen downstream of the El Camino Real Bridge. This area is the type locality for this formation.

Geologic Place #10: Nacimiento Fault, Sta. 2132+00
Although the exact location of the Nacimiento fault is obscured by recent alluvium and town development at this locality, geologic maps (Hart 1976) suggest this is the likely point where the proposed pipeline route crosses the fault. This fault is a major structural feature of California and separates rock terrains underlain by Franciscan Complex rocks along the coast and Salinian Block granites. The Salinian Block is long section of earth's crust underlain by granites (exposed in La Panza Range, Salinas River Gorge, Santa Lucia Range, Gabilan Range, and Santa Cruz Mountains). This section of crust on granitic bedrock is only about 7–10 kilometers thick, and the Salinian Block is thought to be a section of continental crust (granitic basement) broken off the Sierra Nevada-San Bernadino-Peninsular Range mountain belt, rafted over underlying Franciscan rocks (ancient offshore subduction zone basement) and transported along the San Andreas fault. The juxtaposition of differing rock terrains provides central California with one of the world's most spectacular and diverse collections of rock types.

A better view of the Nacimiento fault can be obtained by examining the hill behind the Santa Margarita Branch County Library on I Street. The hill is bisected by the fault with Franciscan mélange exposed on the north slope of the hill, and shales of the Toro Formation present on the hillcrest.

Geologic Place #11: Atascadero Formation, Sta. 2200+00
The Atascadero Formation consists of massive orange to tan colored marine mudstone and sandstone named for outcrops at the type locality in Atascadero Creek (Hart 1976). These rocks date to the Upper Cretaceous age (67 to 90 million years old) and are sparsely fossiliferous (marine mollusks). They were deposited off the continental slope as turbidite and sandstone flows on submarine fans.

5.8.1.4 Geomorphology Resources

Geomorphology Resources General Overview
Geomorphology is the study of landforms and soils. Geomorphology is important in characterizing areas along the proposed pipeline route where post-depositional processes affect cultural sites. Such processes can create low site visibility, bury sites from surface observation, erode sites, and, by physically displacing artifacts, distort the archaeological record. As many pipeline projects have encountered sites not detected during initial field surveys due to their burial within the subsurface, of great importance to central coast archaeology is the delineation of areas where significant cultural deposits may be buried in the subsurface in order to prevent serious construction delays as well as contribute to destruction of irreplaceable archaeological deposits. Additionally, the identification and discussion of landforms and soils provides archeologists with a sense of the natural setting associated with these cultural resources.

Alluvium in valleys and terraces in today's landscape has been deposited by streams, alluvial fans and wind. Modern landforms in central California are generally 400,000 to 450,000 years old or younger (older landforms have been deformed and broken by tectonic forces and today are represented by geologic rock units; see Section 5.2, Geology, Seismicity and Soils). Active depositing of soils is an ongoing process near rivers (stream alluvium) or in areas of eolian (wind-blown) activity (dunes, or sandy areas). Periods of deposition are broken by periods of non-deposition or erosion. Over time these cycles of depositing and erosion can lead to the creation of a series of terraces. Terraces represent former valley levels and can be differentiated and dated using regional soil-chronostratigraphies (a sequence of soil types dated by radiocarbon, fossil, and other techniques). Terraces are preserved by tectonic uplift (uplifted terraces incised by streams) and/or climatic changes (that results in progressively weaker sedimentation, over time leads to incision of streams). Major terrace features in the region include:

- Oldest geomorphic surface: represented by flat plateaus and accordant ridges (i.e., a series of ridges that are approximately the same height) in the southern Gabilan Range, highlands between the Nacimiento River and San Antonio River, and in the hills near Creston (Durham 1974); old surface broken by faulting and erosion, creating a new intervening basin represented by the Estrella Plains east of Paso Robles. These landforms have been incised by the modern drainage of the Salinas River.
- San Ysidro (Airport) Terrace: characterized by Arbuckle and San Ysidro soils. Traces of the surface can be found throughout the Estrella area, near Templeton, and also in the foothills of the Santa Lucia Range near Santa Margarita. Little is known about the antiquity and character of this geomorphic surface. Similar geomorphic surfaces northward in the Salinas Valley (Gloria Surface, Tinsley 1975; Tinsley and Dohrenwend 1979), and southward in the

Santa Maria area (Casmalia Surface, Johnson 1984) have been dated to roughly 350,000 years ago. These are the first landscapes exhibiting the modern drainage patterns of the upper Salinas River.

- Arbuckle-Positas Terraces: associated with old stream terraces approximately 70,000 to 130,0000 years old; these soils are very well-developed and contain hardpans. This time period coincides with the last high sea-stand 125,000 years ago (oxygen isotope stage 5e). Portions of the pipe ROW are on Arbuckle-Positas Terraces in the area on West Perimeter Road along Dry Creek and Generals' Road on Camp Roberts.
- Rincon Terrace: evident along the Nacimiento and Salinas Rivers; approximately 50–60 feet above the modern valley floor. Rincon Terrace deposits marked the landsurface during the Wisconsin glacial periods occurring 20,000 to 50,000 years ago (Tinsley 1975; Tinsley and Dohrenwend 1979). These deposits can be traced throughout much of the Salinas River watershed and are particularly evident in the San Ardo-King City area. A mammoth skull recovered from terrace deposits on top of the Paso Robles Formation at San Miguel came from alluvial deposits in the Rincon Terrace.

Cycles of terrace forming are related to world wide climatic changes marked by Pleistocene glacial and interglacial eras. Milankovitch cycles suggest glacial ages occurred at intervals of 100,000 years during this time (Crowley and North 1991). The last great superglacial was approximately 150,000 to 160,000 years ago. Other glacials are known from approximately 210,000 years ago, and about 330,000 to 350,000 years ago. The last glacial age occurred 18,000 years ago (Alterman et al 1994). These are separated by the great interglacial periods of the Illinoian (c. 130,000 to 150,000) and Yarmouth (c. 250,000 to 300,000 years ago). The last great interglacial period occurred 125,000 years ago (Sangamon interglacial; oxygen isotope stage 5e). Global climate at that time is thought to have been 2–6˚ warmer than today, and sea-level was approximately 6 meters higher than today. Optimum conditions during interglacials typically last less than 10,000 years.

During the period 10,000 to 70,000 years ago, a time known as the Wisconsin glacial ages, sea-level dropped to 30–40 meters lower than it is today. At the height of the last glacial age (Late Wisconsin glacial) 18,000 years ago, global temperatures were 4–10˚C cooler than today (10˚C represents the difference in global temperature between full glacial and full interglacial conditions during the Late and Middle Pleistocene). The climate began to warm again 12,000 years ago, and modern California climate and vegetation established itself approximately 7,000 to 8,000 years ago. The period of the past 10,000 years is known as the Holocene, and approximates the period of time people have left behind an archaeological record in California.

Water released from glaciers as they melted caused sea levels to rise. In response to the rising base level, coastal streams eroded watersheds and transported sediment to the coast in order to aggrade their valleys and maintain level with the ocean. Stream incision in upper watersheds lowered the valley approximately 50 to 60 feet as sediment was washed downstream. Most of this erosion probably occurred during the Early Holocene (7,000 to 10,000 years ago). Sediment output may also have increased during times of slightly increased moisture during the neo-glacial, roughly 2,000 to 4,000 years ago (when glaciers advanced in the Sierra Nevadas). Most of the Holocene alluvium in the study areas includes 10 to75 foot thick sediments of the past 5,000 to7,000 years (Miller et al 1989).

Some prominent Holocene age terraces are crossed by the pipe ROW. These terraces are areas where alluvium has accumulated during the past 10,000 years. This roughly corresponds to the time period people have been known to occupy the region, thus these deposits may have buried at their base or within their body archaeological resources that are no longer evident at the surface (i.e., buried sites). Such terraces are marked by Pico soils (Early Holocene-Latest Pleistocene age), Hanford-Greenfield soils (varied age), Mocho soils (Late Holocene age), and active alluvium in areas of current deposition (Clear Lake, Elder, Metz, Sorrento, and Still soils).

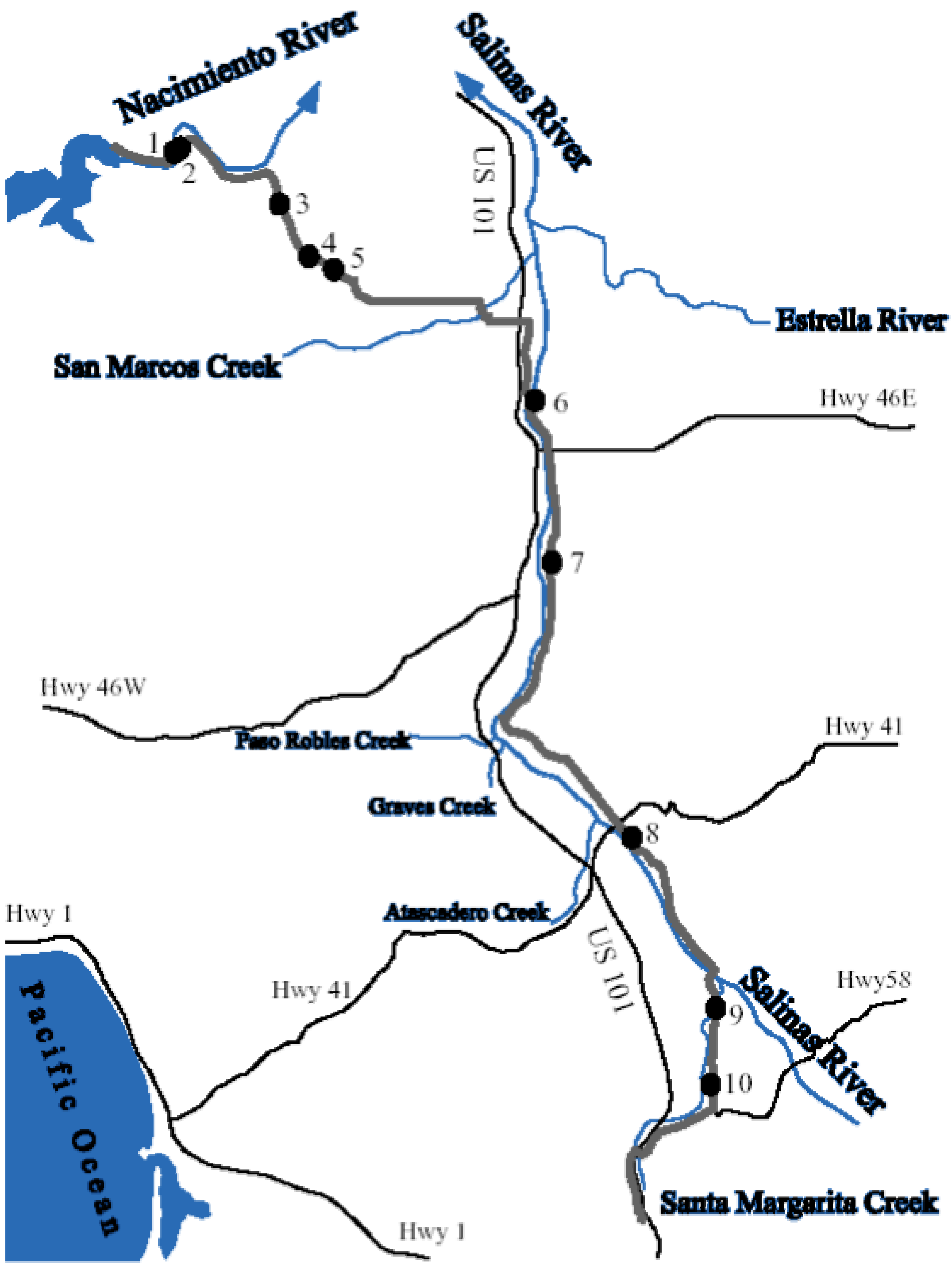
Noteworthy Geomorphology Resources of the Project Area
A total of ten noteworthy geomorphology locations were identified along the proposed project corridor was identified (see Figure 5.8-2).

Geomorphology Place #1: Constricted River Channel, Sta. 111+00
Note how the cliffs of the Santa Margarita Formation sandstone constrict the river channel. The stream gauging station on the north bank takes advantage of this constriction to simplify measurement of the stream channel dimensions for flood calculations. Such constrictions in the stream channel are the result of erosion-resistant rocks through which the stream must cut its channel. At this exposure it is interesting to note that the cliffs continue uphill, but that the canyon width is greater there. The top of the lower cliff corresponds to the level of downstream terraces and suggest it marks the level of the valley during the Pleistocene, over 10,000 years ago. The greater width of the valley at this level is likely due to the greater amount of time the ancient river was near this level. The longer time period allowed the ancient river to erode farther laterally than the present river channel has had the opportunity to do (yet). Subsequent erosion due to active tectonics and climatic change has resulted in stream incision during the past 10,000 years creating the lower canyon walls. Further discussion of prehistoric resources, geology and paleontology resources at this locality is available throughout this cultural and paleontological resources section.

Geomorphology Place #2: Rincon Soil and Terrace, Sta. 116+00
As the dirt road followed by the pipe ROW ascends out of the river floodplain, it is cut into a stream terrace. Soils exposed on the south side of the road in this vicinity have a clay loam to loam surface soil and clay enriched (argillic Bt horizons) subsoils. These soil features are indicative of the Rincon soil series. Rincon soils mark terraces that are 20,000 to 50,000 years old and represent the valley level during the last glacial period. River incision during the past 10,000 years has lowered the valley level.

Geomorphology Place #3: Small Caves, Sta. 313+00
The stream canyon (Dry Creek) adjacent the pipe ROW contains a series of small caves along its bank eroded into rocks of the Paso Robles Formation. Caves are intriguing to humans, and were used extensively by prehistoric people. One way for caves to form is when rushing water in stream channels erodes into banks consisting of heterogeneous materials including both soft and hard layers. In ancient stream channel deposits, lenses of crossbedded sand are relatively weak and erode out while gravel-armored layers remain resistant. In this manner, high flood waters erode small caves and nooks into the stream bank.

Figure 5.8-2 Geomorphology Places for Nacimiento Water Project (Survey March 2002)



Geomorphology Place #4: Arbuckle-Positas Soil, Sta. 393+00

Arbuckle-Positas soils are exposed in the roadcut at this locality, although surface portions of the soil have anthropic alterations associated with Site SLO-2210. Note the surrounding level areas on the land between the two reservoirs here. These level areas are old stream terraces formed by stream erosion and alluviation. The clayey subsoils of the Arbuckle-Positas soils give a clue to their great age, for these clayey subsoils have developed over long periods of time. The longer a terrace is exposed to surface weathering (from the time a landform becomes non-accumulating), the greater the amount of eolian dust and clays can fall and accumulate in the soil. The clays first accumulate in the surface soil by the churning actions of plants and animals, and are then illuviated into subsoils where they accumulate into thicker and thicker clay-enriched subsoils (soil Bt horizons). The clay enrich subsoils at this exposure are over several feet thick and extend below road level. Arbuckle-Positas soils mark terraces that are over 70,000 years old. Many of these terraces represent valleys that formed during the last great sea-stand 120,000 to 125,000 years ago (isotope stage 5e; sea level 6 meters higher than today's). Subsequent erosion due to active tectonics and climatic change has resulted in stream incision leaving these ancient valleys as terraces lying above the modern stream valleys and canyons.

Geomorphology Place #5: Caliche/Calcrete in Paso Robles Formation, Sta. 480+00

The whitish substance in subsoils in the exposed southern hill slope of this roadcut is calcrete (also known as caliche). Calcrete accumulates during arid climatic periods when these rocks have been exposed at the surface (calcrete is not a part of the original rock unit, but has been added by pedologic processes). During arid times (rainfall less than 10–12 inches per year), there is insufficient moisture penetrating soil to wash away carbonate deposited in association with dust from desert regions. After carbonate accumulates in the surface soil, it is later illuviated (process whereby soil elements are translocated lower into the soil profile) into subsoils (Reinick and Singh 1980; Weide 1985; Retallack 1990). Increased moisture during marginally wetter climates like those today (rainfall in area today is 14–20 inches per year estimated, many summer days are over 100˚F) may be responsible for washing carbonates lower into the profile, but is still insufficient to leach the carbonates from the soil profile. The carbonate is re-deposited in subsoils, usually near the top of parent soil material, in layers which can often take on tubular or other bizarre forms that are commonly known as calcrete. A key characteristic of calcrete is the layering of carbonates due to the seasonal washing of new carbonate into subsoils creating thin layers of calcrete accumulations.

The age of the calcrete is uncertain. It would seem that increased rainfall during glacial eras in this area is sufficient to wash away pedologic carbonates. Also, the usual source of carbonates is dust originating in desert playas that is blown coastward in strong storms. These playas were much wetter during the glacial periods, and large dusty aerosols are thought to have mainly occured during interglacial times such as the past 10,000 years. A suggested genesis is caliche buildup in surface soils during the mid-Holocene arid period 5,000 to 6,5000 years ago, with subsequent illuviation during the slightly moisture conditions of the past 3,000 years. An alternative genesis is that calcrete has accumulated episodically during the past 450,000 years and that this is an old landscape feature.

Geomorphology Place #6: Ancient River Meander, Sta. 888+00

The field on the east side of River Road at this locality is a former stream channel of the Salinas River. Note the rise along the road, and the linear, rock-filled depression along the base of the steep cliffs along the valley edge. The rocks in the depression consist of large, rounded stream cobbles marking the ancient river channel. The rise along the road is likely an old sandy levee, while the steep cliff to the east is an old river-cut bank. The level of the current river channel is only slightly lower than that of the ancient river channel, indicating it is likely a young stream terrace less than 2,000 years old. Rivers incise their channels in response to the effects on sedimentation resulting from tectonic events (earthquakes), climate change, and channel adjustments.

Geomorphology Place #7: Terraces at Santa Ysabel, Sta. 1185+00 to 1215+00

Lower portions of Santa Ysabel Ranch lie on a series of stream terraces of the Salinas River. Agricultural fields occupy a prominent low terrace. Soils in this terrace are mapped as Mocho clay loams (Lindsey 1983). Mocho soils commonly form in Late Holocene stream terraces and are approximately 2,000 to 4,000 years old. These terraces are just above the level of modern flooding by the Salinas River. The terrace has been preserved by (geologically) recent river channel changes. The modern channel is incised into the terrace and has migrated westward. The surface of this terrace contains several irregularities, such as a prominent linear depression below the entrance to the ranch. This depression may represent portions of the ancient river channel, geomorphic effects of the Rinconada fault that passes obliquely beneath the field formed by drainage ponding at the mouth of Santa Ysabel Springs Canyon (note lack of channel or alluvial fan at canyon mouth), or a combination of these things. Because this terrace has accumulated during the Late Holocene and then been exposed as a groundsurface next to an area of intensive long-term cultural use, there is a high potential for prehistoric cultural items to be buried in the subsurface beneath the agricultural terrace.

In the vicinity of the ranch buildings, a higher terrace occurs. It is nestled into the hills eroded into the Paso Robles Formation. An area of former gravel mining along the edge of the terrace adjacent pipe Sta. 1202+00 exposes large amounts of rounded stream cobbles. These terrace gravels indicate the high terrace is a stream terrace. That is, at one time, the terrace was actually a channel of the Salinas River that has since been left behind by subsequent river incision. US Soil Survey maps indicate the presence of Pico soils on the terrace. Pico soils are old terraces, generally more than 5,000 years old. Prehistoric sites at Santa Ysabel have radiocarbon dated artifactual materials to more than 8,000 years old. Therefore, the terrace must be at least 9,000 to 12,000 years old, and was formed during the post-glacial climatic period in California. About 9,000 years ago notable increases in sedimentation in California occurred. Continued research of the landform at this locality could provide data significant to understanding the paleo-environments of Santa Ysabel Ranch.

Along the hillside below the ranch entrance road (Sta. 1175+00 to 1180+00) are layers of hard rock in the Paso Robles Formation that have been naturally cemented together. A close look reveals many rounded pebbles and gravel are in the rock, similar to other nearby portions of the Paso Robles Formation. Another section of similar rock is located at the southern end of Santa Ysabel Ranch (Sta. 1210+00 to 1217+00). These areas flank the large stream terrace at the ranch where the prehistoric site and mission period areas are, known herein as the Pico Terrace (soils). One explanation for the formation of these rocks is the lowering of old groundwater tables due to stream incision.

During formation of the Pico Terrace, the river level was much higher than today. The dense gravels in the Pico terrace are ancient stream channel deposits. The terrace may have formed during the Latest Pleistocene time (about 9,000 to 14,000 years ago). Groundwater tables during the time the terrace were forming were presumably graded to the river level. Subsequent river incision during the past 8,000 years has left these stream terrace deposits well above the modern floodplain and water tables. Dropping of groundwater tables, especially those potentially charged with thermal qualities and high in dissolved solids, is known to cause hardening of soils and may be the genesis of siliceous duripans found in soils approximately 350,000 years old in the Salinas Valley. By similar process, stream incision and groundwater lowering in the Santa Ysabel area could have resulted in pedologic cementing of the Paso Robles Formation layers paired with the Pico Terrace.

Geomorphology Place #8: Ancient River Meander, Sta. 1642+00 to1662+00
The horse pastures at Cardiff Stud Farms are built on a large flat field that is an old cut-off meander of the Salinas River. This meander loop is particularly well preserved as stream incision has left it behind as an old terrace. The presence of Hanford-Greenfield soils indicate the terrace is of Holocene age, and its relatively great elevation relative to today's river channel suggests the river channel in the meander beneath the terrace is more than 5,000 years old.

Geomorphology Place #9: Alluvial Deposits, Sta. 1920+00 to 2015+00
Lowlands near the mouth of Santa Margarita Creek are underlain by extensive alluvial deposits that have accumulated during the Holocene (past 10,000 years), approximately the same time period that the area has been occupied by humans. Within the alluvium, or at its base, can be buried older archaeological materials. Holocene alluvium here is over 50 feet thick. Buried sites may be associated with older land surfaces and preserved by burial. Archaeological resources can also become encased in floods and buried in alluvium. Significant archaeological deposits have been impacted during recent pipeline construction in the region. Effective means to predict the location of buried sites are currently lacking.

Geomorphology Place #10: Sandy Soils, Sta. 2015+00 to 2102+00
Santa Margarita is an area containing primarily sandy soils. The sand comes both from erosion of sandstone in the Santa Margarita Formation underlying the hills and terraces at this locality, and also from sand blowing from exposed sandy soils, sandstone, and sandy deposits left during winter floods and exposed to spring or summer winds. A paleo-sand dune is located south of Highway 58 as one leaves Santa Margarita proceeding eastward. Sandy soils have significant implications for archaeology. Relevant soil processes include polygenetic surfaces (unstable surface can erode or accumulate at varying times and places), active soil fauna that churns soil, and continuing sand input. These processes quickly obscure prehistoric sites, hiding from view artifacts like bone, shell and chipped stone so that even sites located at the surface have very low visibility. Buried sites are most often encountered in areas with sandy soils.

5.8.1.5 Prehistoric Cultural Resources

General Overview
The proposed project is located in San Luis Obispo (SLO) County, which was historically occupied by the Obispeño Chumash, the northernmost of the Chumashian speaking peoples of California. The Salinan nation bordered the Chumash territory to the north, in the region now

known as Monterey County. Borders between Native American groups were very complex however, and included religious, political, social, and economic aspects which changed over time. Research is continuing on the definition and refinement of the border between the two peoples. Pre-mission marriage and social networks in the area between Paso Robles and Santa Margarita indicate that Chumash and Salinan people often lived in the same villages.

Archaeological evidence has revealed that the Chumash settled in northern Santa Barbara and SLO counties more than 9,000 years ago. The Chumash followed an annual cycle of hunting, fishing, fowling, and harvesting, relying on the abundance of ocean resources as a major food source. The Chumash people were able to adapt to changing environmental and social conditions and grew into a large, complex society which persists today. The territory and population of the Chumash was much larger than the neighboring Salinan.

The long history of the Chumash and their ancestors has been divided into three major periods: Early, Middle, and Late, based on general patterns of social, technological, and subsistence changes observable in the archaeological record. These periods are described in further detail in the archaeological technical report. The Chumash aboriginal society underwent major changes soon after Spanish contact in A.D. 1769, primarily due to the introduction of epidemic European diseases which resulted in a high mortality rate in the indigenous peoples of the area.

Archaeological evidence has revealed that more that 5,000 years ago the ancestors of the Salinan settled in what is now Monterey County. Like the Chumash, the Salinan followed an annual cycle of hunting, fishing, fowling, and harvesting, eventually developing into a large and complex society. After contact with the Spanish occurred in A.D. 1769, Salinan society underwent major changes and a rapid decline. Little systematic archaeological research has been conducted in Salinan territory and much of what there is remains unpublished. Much of the technological development of the Salinan is similar to the Chumash.

European settlement began in the SLO County area with the Spanish exploratory expedition in 1769, led by Gaspar de Portola. Subsequently, in 1772, the Mission San Luis Obispo de Tolosa was founded. Most of the Chumash and Salinan from rancherias in the region were baptized at Mission San Luis Obispo de Tolosa and neighboring San Miguel Mission between A.D. 1772 and 1805. The Spanish ruled the region until 1821, when the Mexican independence movement succeeded. During the period of Mexican rule from 1821 to 1848, the missions declined in influence. Large cattle ranches (Ranchos), which were created by the issuance of large land grants by the Mexican government, came into dominance during this period. The United States, however, assumed control of California by 1850 following a gradual influx of American immigrants, which accelerated in 1849 due to the discovery of gold. Between 1860 and 1900, farming became the major industry of the area. The petroleum industry also had a significant effect on the local economy, first in northern Santa Barbara County, and then by the 1930s in eastern SLO County in the Carizzo Plains.

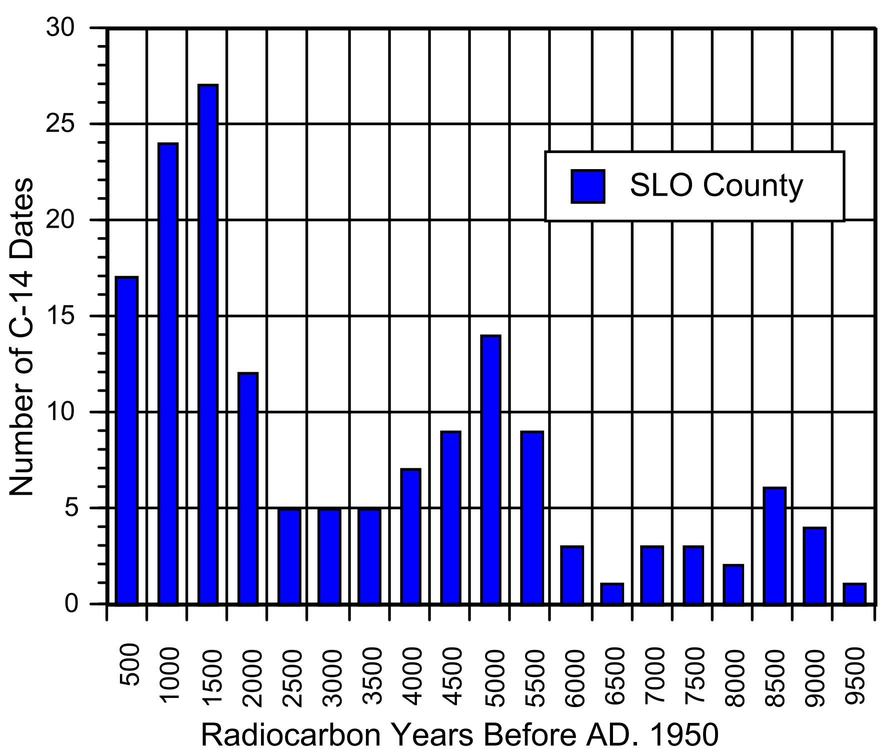
At least six types of cultural resources or sites have been recorded in the San Luis Obispo area including:

- Medium- to large-sized permanent villages;
- Small temporary camps or permanent sites near seasonal creeks and permanent water sources and springs;

- Quarry sites located near outcrops of chert or other lithic material;
- Bedrock mortars where women would grind acorns or other materials;
- Prehistoric isolated artifacts; and
- Historic cultural sites including adobe structures, stone foundations and structures, corrals, historic trash deposits, roads, railroad routes, and early structures associated with modern towns.

The proposed project is within the border territory historically shared by Southern Salinan to the north and Chumash to the south (Kroeber l953; Heizer l978; Milliken and Johnson 2002; Gibson 1983; Wollesen l972). Pre-mission marriage patterns, linguistic and personal name analysis and post mission settlement patterns have also identified some Yokuts and possibly Costanoan people living in the northern portions of San Luis Obispo County (Kroeber 1953, Gibson 1983, Mason 1912). The modern Highway 41/46 routes were originally major aboriginal roads along which people and goods flowed east and west across California for thousands of years (Davis 1961). As stated previously, the Salinan settled in Monterey County more than 5,000 years ago (Breschini, Haversat and Hampson l983; Breschini, Haversat, and Erlandson l986) while archaeological evidence has revealed that the ancestors of the Chumash settled in San Luis Obispo County more than 9,000 years ago (Gibson 1979, Greenwood 1972). During a recent State Water project, an archaeological site in the Edna area produced the earliest carbon-14 isotope (C-14) date in San Luis Obispo County, indicating human occupation dating back approximately 10,000 years (Fitzgerald 1998) (see Figure 5.8-3).

Figure 5.8-3 Carbon-14 Dating of Various Cultural Sites in SLO County



As stated previously, the Chumash and Salinan peoples adapted to changing environmental and social conditions and grew into a large complex society that persists today. The aboriginal societies underwent major changes soon after Spanish contact in A.D. 1769, primarily due to the introduction of epidemic European diseases and the consequent high mortality rate. Most of the Chumash from villages in the general project area were baptized at San Luis Obispo or San Miguel Mission between 1772 and 1805 A.D. People from these villages had many social ties with people from surrounding areas.

Currently, the aboriginal border between Salinan and Chumash is being studied and a draft report is being reviewed by interested Native Americans and ethnohistoric researchers (Milliken and Johnson 2002 Draft). Its conclusions should help clarify the pre-Spanish border between these two ancient cultures. By the time the NWP is implemented the report will be available and can be consulted and used as a basis for structuring Native American involvement in the project.

Archaeological sites are an integral part of the modern day Native American Chumash and Salinan communities. Their history is contained in the sites and they believe it is best left in its natural state. Both Chumash and Salinan representatives who accompanied the field survey, supported avoidance of all significant cultural resources. Archaeological sites are fragile time capsules and data generated by the systematic surface and subsurface testing of archaeological deposits contributes a significant element to the scientific history of California and to the history of SLO County. When unavoidable adverse impacts are proposed, most Native Americans strongly support the best sensitive scientific study that will benefit their culture and the general community.

Prehistoric Cultural Resources of the Project Area

A field survey conducting a Phase I archaeological survey of approximate 40 miles of the currently proposed pipeline route and the proposed facilities and staging areas has been conducted (information on the cultural resources along the pipeline corridor portion that is the same as in the 1997 EIR has been obtained from the 1996 survey and this portion of the pipeline has not been surveyed this time). A corridor survey width varied depending on private property, natural topography, or where it was necessary to find routes that would avoid known cultural resources. The survey corridor was a minimum width of 50-feet in some residential and urban areas and a maximum of 200-feet in open space areas. The original alignment (Ogden 1997) from the north side of Cuesta Grade to the southern end of the project were not re-examined during the current survey, as the previously available information was used to make determinations of the cultural resources and their significance.

The survey addressed parts of all 10,000 years of human occupation in the area, beginning with the earliest recorded Chumash and Salinan occupations, the proposed route passes by several villages, camps, and quarry sites utilized by these native peoples. The surveyed area crosses near several native rancherias that were occupied when the Franciscan Spanish Missions at San Luis Obispo and San Miguel were first established. The survey route also follows the early native roads, the later El Camino Real, and also railroads. It passes near a mission period adobe which later became the home of one of the earliest families in Atascadero. It passes through turn-of-the-century railroad stations in Templeton, Atascadero, and Santa Margarita, and follows near many railroad engineering achievements that made crossing the Cuesta Grade possible. It passes through communities that sprang up at the turn-of-the-century, briefly flourished, and then all but disappeared from the landscape. The route follows what were once narrow dirt roads, later became stage coach roads, and, as cars were developed, turned into narrow paved roads that became wider as cars became faster and society became more mobile.

There have been 27 locations identified along or adjacent to the proposed pipeline route that contained cultural resources. These included 19 previously recorded archaeological sites, 7 previously unrecorded archaeological sites and one isolated artifact. Of these, five were not considered significant due to their apparent integrity, lack of uniqueness or being only a single isolated artifact (SLO-134, SLO-1772, ISO-214, SLO-SYR-31/H, ISO-213). The remaining 22 sites can all be considered potentially significant as outlined in CEQA and NEPA criteria.

Geology and geomorphology data could indicate potential for the presence of cultural resources.

In review, most prehistoric sites identified for the NWP were located in three general areas, the Camp Roberts/Nacimiento River area, the Paso Robles Santa Ysabel Ranch area and the Santa Margarita Ranch area (see Figure 5.8-4).

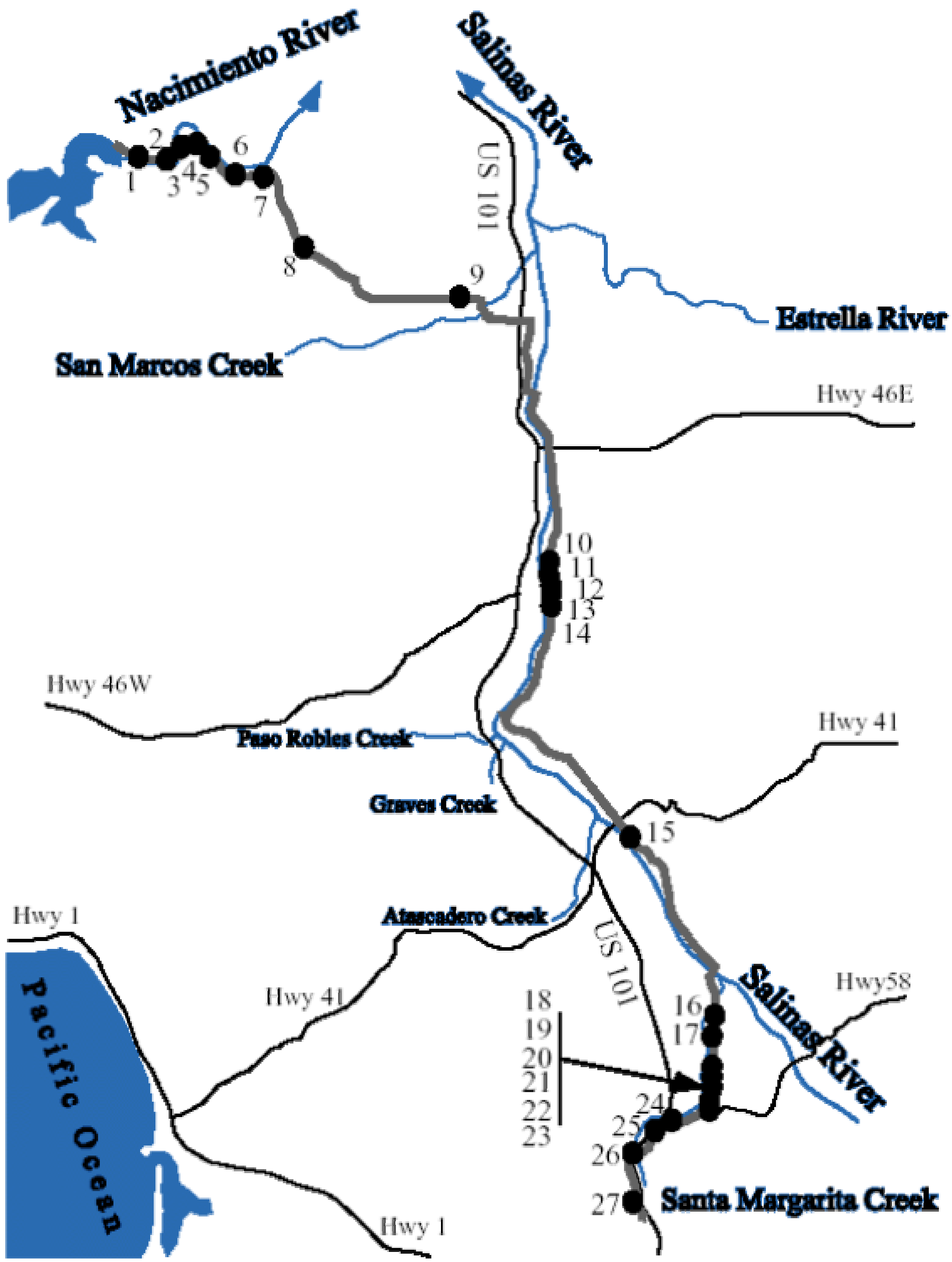
Camp Roberts/Nacimiento River Area, Sta. 0+00 to 665+00

This area, beginning below Nacimiento Dam, identified 10 prehistoric cultural sites including seven previously recorded sites, two previously unrecorded sites and one previously unrecorded isolated artifact. Eight of the ten were along or near the Nacimiento River. Most of these sites contained seashell imported from the coast some 30 miles to the west and appeared to be semi-permanent to permanent village sites. Both ground stone and chipped stone artifacts, burnt rock from hearths, and other artifacts indicate a wide range of cultural activities were conducted at these locations. Several time periods are reflected with the Late period (post A.D. 1000) being most common; however, several sites have Middle period components, dating several thousand years earlier.

Four of the largest sites in this region have been tested and deemed eligible for nomination to the National Register of Historic Places (NRHP): SLO-670, SLO-1180, SLO-1169, and SLO-2210. Adverse impacts from the proposed pipeline route could occur to the last two sites, but with some minor re- alignment, significant adverse impacts to both could be avoided. Two other sites and one isolated artifact, SLO-134, SLO-1772 and ISO-214 (isolate) would not be directly affected by the proposed pipeline route. Based on the current information, these sites do not appear to be intact and would therefore not be significant cultural sites. Three other sites, SLO-2216, SLO-2215, and SLO-1828, appear to be partially or wholly intact, and can be regarded as potentially significant cultural resources. They can probably be completely avoided or will only have minor direct adverse impacts that could be easily mitigated.

Thus, for the section of the proposed pipeline ROW, there are no major problems for cultural resources from the proposed project. No prehistoric cultural resources were identified between Sta. 665+00 and 1193+00.

Figure 5.8-4 Prehistoric Cultural Resources for Nacimiento Water Project (Survey March 2002)



Paso Robles Santa Ysabel Ranch Area, Stas 1193+00 to 1213+00
This area is located on river terraces east of the Salinas River and just south of the city limits of Paso Robles. The historic Rancho Santa Ysabel initially dates to the Spanish Mission Period in the early 1800s and has been continuously used for ranching, farming and other uses. Prehistoric use of the Rancho area extends back 8,000 to 9,000 years, and three previously recorded prehistoric sites, SLO-SYR-21/H, SLO-SYR-31/H and SLO-SYR-40/H have been recorded adjacent to the proposed project area. Two of these sites, SLO-SYR-21/H and SLO-SYR-40/H are located to the east, on an elevated river terrace above the proposed pipeline route and should be considered potentially significant cultural resources.

The other site, SLO-SYR-31/H is west of the pipeline route, but on the same terrace elevation. This site and has been previously tested, and was determined not to be significant (Farrell 2000). The pipeline route passes between these site locations and through the alluvial fan located at the mouth of the canyon that contains the original hot springs of Rancho Santa Ysabel. For this reason, there is a moderate possibility that buried cultural materials including camp and village sites could be located along the pipeline route between Sta. 1185+00 and Sta. 1200+00. If present and encountered during construction excavation, there could be long delays in construction while the cultural materials are identified and appropriate recommendations made. These may include a data recovery program.

While the current alignment of the pipeline route between Sta. 1185+00 and Sta. 1200+00 appears to be the best alignment, subsurface testing should be conduced to the depth of the proposed pipeline to identify any buried cultural materials and make appropriate recommendations. These could include minor re-alignment of the pipeline or mitigation prior to construction activity.

A newly recorded prehistoric site, SLO-2214 is also on the same lower river terrace, as SLO-SYR-31/H, and the proposed pipeline route would cross the site for a distance of 600-feet. During the survey, an area to the east of the proposed route, a barbed wire fence and plowed field were examined. No prehistoric artifacts were observed in rodent piles or on the surface. Minor re-alignment about 50-feet to the east would probably avoid the SLO-2214 site. Subsurface testing would be needed to confirm this re-alignment. This site should be considered potentially significant.

Another newly recorded prehistoric site, SLO-2213 is located between Paso Robles and Santa Margarita. Located just south of Highway 41 at Sta. 1637+00, it appears that road construction has removed most of the site in the road area. Testing adjacent to the road should be done but no major impacts or re-alignment would seem probable at this location. Overall, the prehistoric site should be considered significant; however, it is not likely that significant cultural materials would be located in the paved road area due to prior disturbance.

Thus, for the section of the proposed pipeline route, there are no major problems for cultural resources from implementation of the proposed project. No prehistoric cultural resources were identified between Sta. 1637+00 and 2022+00.

Santa Margarita Ranch Area, Sta. 2022+00 to 2213+00
The general area around the historic Rancho Santa Margarita contains the greatest density of prehistoric sites of anywhere in the NWP. In 2000, the Santa Margarita Ranch conducted

archaeological surveys of much of the ranch including the areas adjacent to the proposed pipeline alignments along El Camino Real, north of the town of Santa Margarita. They identified 66 prehistoric sites, and 67 isolated artifacts locations (Flint et al 2000), which was a very conservative inventory of cultural resources in this area. These sites span 8,000 to 9,000 years of prehistory and contain the full range of types of prehistoric and historic settlements and activities. They would qualify as a significant district.

For the NWP pipeline route that was examined during the current survey, the alignment from approximately Sta. 2022+00 to 2105+00 is located east of the SPRR tracks, and east of the barbed wire fence for the Santa Margarita Ranch on ranch property. Only in one section at the Tosco pump station does it jog west to follow the pavement of El Camino Real. The pipeline would traverse as many as seven prehistoric sites (SLO-1978/H, SLO-1959/H, SLO-1386, SLO-1387, SLO-2056, SLO-2212, SLO-587). All these sites should be considered potentially significant. One significant site, SLO-1429, probably would not be affected. Subsurface testing would be needed at all seven sites in the proposed pipeline route to confirm the magnitude of these impacts. For the most part, cultural materials along the Santa Margarita Ranch fence in the pipeline route appear to consist in only trace to low density amounts of cultural materials.

Prehistoric Cultural Resource #1: SLO-134, Sta. 27+50

This prehistoric site was originally recorded in 1955 as part of the original Nacimiento Dam project. It was within an area that could be flooded by the reservoir or floodplain below the Dam. The site record identified only bedrock mortars, but the landowner also reported finding projectile points, portable mortars and pestles (Farrell 2000:5).

A large area (900 x 900-foot) around the existing house, barn and access roads were surveyed between the proposed pipeline route and the Nacimiento River. A few bedrock outcrops were examined but no mortars were found. Much of this area has been disturbed, probably during the original dam construction.

No displaced or intact prehistoric cultural materials were identified in the survey area. None of the bedrock outcrops on the terrace overlooking the river contained bedrock mortars. No evidence of SLO-134 could be found in the survey area

The proposed pipeline right-of-way (ROW) in this area will follow an existing road along the northern edge of the river terrace. No evidence of displaced or intact cultural materials from SLO-134 was identified during the survey in this area. It is most likely that the original location of the site was on a terrace overlooking the river. The terrace edge is located about 500 feet south of the proposed pipeline alignment.

Prehistoric Cultural Resource #2: SLO-2216, Sta. 72+50

This newly discovered prehistoric site is located along the river terrace approximately 225–300 feet north of and overlooking the Nacimiento River. It measures about 300-feet long (east/west [E/W]) and 120-feet wide (north/south [N/S]) and consists of a trace to light density of weathered mussel (*Mytilus sp.)* shell, sandstone and volcanic burnt rock and chipped stone artifacts. Chert artifacts include a brown Monterey chert secondary flake (30 millimeters [mm] long), a green Franciscan chert primary flake and a red Franciscan chert biface knife midsection. Although fragmentary, this last artifact appears to be from a stemmed biface knife and may indicate pre A.D. 1000 occupation.

The proposed pipeline in this area follows an existing dirt road and the nearest artifacts were located 30 feet south of the dirt road. No artifacts were observed in the dirt road or north of the dirt road. This newly recorded prehistoric site may or may not extend into the proposed pipeline ROW area. If it does, it would probably be in the edge of the cultural deposit.

Prehistoric Cultural Resource #3: SLO-670, Sta. 112+00

This prehistoric site was originally recorded in 1973 as a series of at least 16 bedrock mortars on two rock outcrops located about 30-feet south of the Nacimiento River. The site was re-recorded in 1986 and an adjacent rock shelter with a shell midden located about 100-feet west and upslope was added to the site (Breschini and Haversat 1988). In 2001, a small-scale subsurface testing program was conducted on the 580-m^2-rock shelter deposit (Cardiff, Stillman, and Basgall 2001). Shell recovered was primarily mussel (*Mytilus sp*.) and turban shell (*Tegula sp.)* from rocky coast environments, along with some chert flakes, burnt rock and carbon. C-14 dates on the charred materials range between A.D. 770 and A.D. 1180.

Also in the strata of the rock shelter were almost solid beds of one to two meters thick fossilized oyster shells and scallops.

The proposed pipeline route crosses the Nacimiento River at least 50 to 75-feet north of the bedrock mortars. The area of the ROW as well as the bedrock mortars is within the occasional flood zone of the river. Some of the mortars exhibit water erosion.

No surface artifacts were observed between the bedrock mortars and the river, and none were observed in the area of the pipeline crossing or alignment along the south side of the river. There is, however, slight potential for prehistoric cultural items to be buried along the river edge beneath the river floodplain in this vicinity.

Prehistoric Cultural Resource #4: SLO-1169, Sta. 143+00

This large prehistoric site was first recorded in 1986 as a chert lithic scatter on the terrace above and south to southwest of the Nacimiento River (Breschini and Harvest 1988). This large, significant site is primarily located along Boy Scout Road. Boy Scout Road extends north through the site that measures approximately 990-feet (north to south) by 360-feet (east to west). Another dirt road forks to the west at the southern end of the site. Subsurface testing has been conducted at this site on three occasions (Breschini and Haversat 1988; Jones and Stokes 2000; Cardiff, Stillman, and Basgall 2001).

The site produced ground and chipped stone artifacts, shell beads, hearths, animal bone and shell, and human remains. Two temporal components are suggested with the later occurring in the Late period (1300 to 1500 A.D.) and the other component being several thousand years earlier. Based on the Jones and Stokes fieldwork, the SLO-1169 site was recommended for listing in the NRHP.

Noted during the current survey around the intersection of the two roads and extending to the edge of the river bank were low densities of chipped stone consisting primarily of Franciscan with some Monterey chert flakes and cores. A recent alluvial fan created by runoff from the two dirt roads may have buried some cultural materials from SLO-1169. The extent, integrity and nature of these materials are unknown. One biface perform and one small fragment of a sandstone mortar were noted between the two roads. Only two flakes were noted on the graded dirt road along the west side of SLO-1169 where the proposed pipeline route is located. They were found in a linear area of approximately 60-feet. Approximately 300-feet of ROW are along this sloped dirt road, which connects an upper terrace with Boy Scout Road on the lower terrace where SLO-1169 is located. The dirt road has been graded with cuts of 2 to more than 5-feet deep.

Prehistoric Cultural Resource #5: SLO-2215, Sta. 177+50

The newly recorded prehistoric site consists of a small rock outcrop located about 40-feet south of the south edge of Boy Scout Road. The low rock outcrop is a fossil scallop rock measuring about 1 meter by 80 centimeters (cm) and contains two bedrock mortars. The larger is 18 cm in diameter and the smaller is 12 cm in diameter. Between the mortars and the road was a very black, Monterey chert perform fragment and gray polyhedral core fragment of approximately 3 cm in diameter. Much of the area south and west of the outcrop has been mechanically modified to level it. No artifacts were noted north of Boy Scout Road and along the riverbank, although oak leaves and grasses were heavy in this area.

This site is approximately 0.6 miles east of the east edge of SLO-1169, and about 900-feet west of several very black-banded Monterey chert outcrops.

The proposed pipeline route in this area follows the Boy Scout Road and while no chipped stone artifacts were noted within 6-feet of the west side of the road, at least a trace to low density of chipped stone artifacts are probably present adjacent to the road and within the road area.

Prehistoric Cultural Resource #6: SLO-1772, Sta. 235+00

This location was recorded in 1995 as a small disturbed lithic concentration (less than 8 x 8-feet) located adjacent to the Nacimiento River. Three test units were excavated with negative results, and it was determined the site consisted of a surface scatter of chipped stone re-deposited by river action. The site was recommended to be "ineligible for inclusion in the NRHP" (Jones and Stokes 1996:52–53). No evidence of these chipped stone materials was identified during the current survey.

A small orchard of very large, English walnut trees and some eucalyptus trees were present on the river terrace, north of Boy Scout Road. No other historic materials were noted on the terrace.

The proposed pipeline route is located along Boy Scout Road in this area and is 375-feet south of the mapped location of SLO-1772.

Prehistoric Cultural Resource #7: SLO-1180, Sta. 250+00

This a very large, significant prehistoric site containing a subsurface component of faunal materials, ground and chipped stone artifacts, shell beads and carved stone. It has been divided by Dry Creek into an east and west loci. The west locus, measuring approximately 600 by 600-feet was tested and recommended as eligible for listing in the NRHP (Breschini and Haversat 1987). An additional eligibility study is currently underway that supports the Breschini and Haversat 1987 initial study but the cultural deposit was found to be deeper and more complex that originally suggested.

East of Dry Creek towards the terrace of the Nacimiento River is the east locus, which measures approximately 600-feet NE/SW by 300-feet NW/SE and is located north of Boy Scout Road.

The main route of the Boy Scout Road extends through the middle of the western locus and crosses a wooden bridge. Just west of the bridge a temporary dirt road turns south and east to cross the intermittent Dry Creek bed southeast of the bridge and joins Boy Scout Road and West Perimeter Road on the east side of the creek. This temporary road also crosses the southwest area of the west locus of SLO-1180, although only a few pieces of chipped stone artifacts were noted at this location during the current survey. Most of the cultural materials noted were located north of Boy Scout Road and consisted of chipped stone artifacts, including green Franciscan and brown Monterey chert cores and flakes and one light tan to gray colored Monterey beeswax chert secondary flake (20 mm long). Some probable fossil oyster shell was also noted.

Currently the proposed pipeline route will follow the north side of Boy Scout Road for a distance of at least 600-feet, the length of the west locus of SLO-1180.

Prehistoric Cultural Resource #8, SLO-2210, Sta. 390+00

The prehistoric site was first recorded at the Black Bass Site by E. Bertrando in July 2002 along a road cut and is bisected by West Perimeter Road. It measures about 300-feet N/S by 150-feet E/W and consists of mostly chipped stone with some ground stone (a pestle/mano combination) and burnt rock. Several hearths are exposed in the upper 2-feet in the east side of the road cut bank. Modern reservoirs are located east and west of this site and suggest that springs or intermittent water may have been present here prehistorically.

Much of the area of the site has been disturbed by road and reservoir construction, and by military activities. The east side of West Perimeter Road; however, indicates a good transect sample of this site is still present and intact. This site is rare in that its location is well away from the Nacimiento River. A mano may suggest an earlier period site (i.e. pre-1000 A.D.) This site has recently been tested and preliminary results indicate it is probably eligible for the National Register of Historic Places. Some evidence indicates intact cultural deposits do occur beneath some portion of road.

The pipeline in this area will be in the west side of the road pavement. The proposed pipeline route will cross the length of the prehistoric site, although most, if not the entire cultural site along the road, has been impacted and probably removed during the road construction. Some displaced cultural materials could be in the road area, and the southern end may daylight into original topography that could potentially contain intact soils harboring cultural materials.

Prehistoric Cultural Resource #9, SLO-1828, South of Sta. 560+00

The prehistoric site is located at the southern edge of Camp Roberts at the intersection of General's Road and San Marcos Creek Road. It was recorded in 1997 and given the temporary number CB-1097 (Bertrando Site Record 1997). Located on a sloping south facing terrace its boundaries are tentatively defined as 445 by 165-feet. The site consists of a "sparse lithic scatter" with cores and flakes. The site area has been much disturbed by grading for a fuel break and military use.

This location is where an all weather road from San Marcos Road will be located to access the proposed WTP and Pump Station (Sta. 560+00). The road will be approximately 1.5 miles long and follow a property fence at the east edge of Camp Roberts.

Prehistoric Cultural Resource #10: ISO-214, Sta. 665+00

This consists of an isolated chert artifact found near the bottom of a moderately steep east-facing ravine. It is a black Monterey chert core fragment measuring approximately 7 by 4.5 by 3 cm. It was found in a grassy, oak leaf covered surface on a rodent spoil pile. The artifact was discovered 20-feet north of the vineyard fence, and 75-feet upslope from the ravine bottom. No additional artifacts could be found on the slope or on the top of the ravine along the vineyard edge. Surface visibility in the vineyard was excellent.

The proposed pipeline ROW will generally follow the vineyard fence line in this area. This alignment is on flat ground and the isolated artifact is 20-feet north of the fence but on a steep slope with many small oak trees.

Prehistoric Cultural Resource #11: SLO-SYR-40/H Sta. 1193+00

This is a large prehistoric site (400 by 500-feet) with the full range of prehistoric materials, ground stone, chipped stone, fire cracked rock and hearths, shell and bone debris, ornaments, and shell beads (Farrell 2000). The site is located on a river terrace, near the mouth of a canyon that contains ancient hot springs. Also present is a historic site, part of the Santa Ysabel Ranch complex dating to the late 1800s. A total of three previously recorded sites and one newly recorded archaeological site were identified on the ranch.

The proposed pipeline route is located several hundred feet west of the terrace that contains this SLO-SYR-40/H site. Following the proposed pipeline route from project maps, no prehistoric or historic artifacts were observed along the pipeline route in this area.

Prehistoric Cultural Resource #12: SLO-SYR-31/H, Sta. 1190+00

The site is located on a river terrace, in an alluvial area down slope from a canyon that contains hot springs. Prehistoric use of the terrace east of this site spans many millennia. This is a large site that contains both historic and prehistoric cultural materials. It is described as a surface scatter of brick, glass, ceramics, lumber fragments with prehistoric materials consisting of chipped and ground stone artifacts (Farrell 2000). Subsurface testing done in June 2000, indicated a minimal subsurface deposit. It is likely that the subsurface testing did not extend deep enough to encounter potential buried cultural strata. Pipeline route excavation in this area, however, could impact such deeper strata. Preliminary assessment performed at the SLO-SYR-31/H site determined it was “disturbed due to natural processes of deposition and erosion” (Farrell 2000).

The proposed pipeline route is located several hundred feet east of the surface boundaries of the SLO-SYR-31/H site. Following the proposed pipeline route from project maps, no prehistoric or historic artifacts were observed along the pipeline route in this area.

Prehistoric Cultural Resource #13: SLO-SYR-21/H, Sta. 1200+00

This site is located on a river terrace overlooking the Salinas River. It is a prehistoric site with ground stone and chipped stone artifacts being found on the surface. Subsequent subsurface testing indicated the site extends to a depth of approximately 50 cm. (Farrell 2000). Dimensions of the site are approximately 200-feet by 200-feet. Also present at this location is a historic site, part of the Santa Ysabel Ranch complex dating to the late 1800s. The proposed pipeline route is located several hundred feet west of the terrace that contains this site.

Prehistoric Cultural Resource #14: SLO-2214, Sta. 1213+00

This newly recorded prehistoric site is located west of the barbed wire fence in a plowed field at the southern end of the Santa Ysabel Ranch. The proposed pipeline route extends just west of the barbed wire fence along the east edge of this site for the entire 600-feet of it. Noted for about 600-feet adjacent to the fence and within 50-feet of it were a light density of fire-cracked rock, a Monterey chert biface perform and chert flakes. This terrace has been plowed.

Prehistoric Cultural Resource #15: SLO-2213, Sta. 1637+00

This newly recorded prehistoric site was discovered in a landscaped area just west of Templeton Road and south of Highway 41. Templeton Road bisects the site. Chert flakes and core fragments were noted in a 50-foot by 50-foot area. This site is located on a river terrace and additional cultural materials probably extend to the west 150 to 225-feet where a private residence is located. One small fragment of mussel shell (*Mytilus sp.*) was identified on the east side of the road approximately 225-feet north of the flake area. The context of the shell is possibly disturbed and a one-meter road cut is located south between the shell and flake area.

The proposed pipeline route in this area is beneath the existing road pavement. It is possible that the prehistoric site is located on both sides of the road and that about 225-feet of ROW could be located within the prehistoric site boundaries.

Because of private residences on both sides of Templeton Road, the boundaries and content of this prehistoric site could not be defined. The general location is on a terrace where the Salinas River comes very close to the west edge of the terrace. It is probable the main focus of the site would be along the river edge, in which case Templeton Road would be at the east or back end of the prehistoric site.

Prehistoric Cultural Resource #16: SLO-1978/H, Sta. 2022+00

This multi-component site originally was recorded as an isolated bottle located approximately 1140-feet south of the Hansen Quarry entrance, and 75-feet inland of the Santa Margarita Ranch barbed wire fence. Four auger holes were placed around the bottle and two Monterey chert flakes were encountered, prompting its recording as an archaeological site (Flint et al 2000).

Several other isolated prehistoric artifacts were located south and east of this site. One, P-40-000140 is a Franciscan chert secondary flake that was discovered approximately 1200-feet south of the Hansen entrance and 15-feet east of the barbed wire fence. An auger in 2000, at this isolate did not reveal any additional artifacts. However, additional chert artifacts were found in this area during a subsequent fiber optics project.

The SLO-1978/H area was re-located during the current survey, and the presence of a trace to light density of chipped stone artifacts consisting of Monterey chert (light gray to brown) primary and secondary flakes was noted were. The flakes were noted on a terrace and south-facing slope, just north of a lower area that would contain seasonal water or a marsh. The artifacts were encountered within a 225 by 225-foot area extending from the Santa Margarita Ranch property fence (just east of the railroad tracks) east. The railroad tracks are situated in a cut through this terrace which contains the prehistoric site area but no artifacts were noted in the cut bank (east side of the tracks).

The artifacts recorded during the current survey are believed to be a southern extension of the original chert flakes recorded about 150-feet north at SLO-1978/H. Because of the very low density of prehistoric chipped stone, a linear distance of approximately 400-feet is defined as suggested N/S limits of this prehistoric site along the fence.

As currently mapped, the proposed pipeline route is located within ten feet (to the east) of the ranch fence and would cross this site for the entire 400-feet.

Prehistoric Cultural Resource #17: SLO-1429, Sta. 2050+00
Charles Dills first recorded this prehistoric site on the west side of El Camino Real extending to within approximately 240-feet of Yerba Buena Creek in 1990. The Unocal pipeline passes between two low knolls that contain a low density of chipped stone artifacts. Both Franciscan and Monterey chert flakes and cores, and one piece of obsidian were noted during monitoring of pipeline replacement projects in 1994 and 1995. The northern knoll measures approximately 240 by 240-feet and the southern knoll is approximately 300 by 300-feet.

In 1995, a basal fragment of a biface was found near the Unocal pipeline trench about 225-feet west of the pavement of El Camino Real. The fragment is of a Franciscan chert and exhibits transverse flake on each side emanating from the base. This form is commonly called a "Fluted Point" and is typically assigned to a time period older than 8,000 years. Two test units were excavated, producing some burnt rock, carbon and a piece of sea mammal bone as well as some Monterey and Franciscan debitage and stone tools.

This site should be regarded as a very significant cultural resource. It may be one of oldest prehistoric sites in San Luis Obispo County (Gibson 1996).

In this area, the proposed pipeline route is located beneath the pavement along the east side of El Camino Real, approximately 100-feet east of SLO-1429.

Prehistoric Cultural Resource #18: SLO-1959/H, Sta. 2062+00
This multi-component site is located east of El Camino Real and the Southern Pacific Railroad tracks (SPRR), and south of the Tosco Pump Station. Two historic concentrations of 1900–1930s residential debris are located approximately 225 and 300-feet east of El Camino Real. Also a light density lithic concentration of Monterey and Franciscan chert cores and flakes were recorded on the northwestern portion of the site approximately 180-feet east of the barbed wire fence along the SPRR property.

After passing the Tosco Pump Station along El Camino Real, the proposed pipeline route jogs back to the east side of the railroad tracks and the Santa Margarita property fence and follows south, within about ten feet of the fence. This would cross about 180-feet of the west edge of the SLO-1959/H site.

Prehistoric Cultural Resource #19: SLO-1386, Sta. 2072+00
This site was first recorded in 1991 during the Coastal Branch Adequate project as exhibiting a low density concentration of chipped stone and shell on the west side of El Camino Real. Monterey and Franciscan chert flakes were noted on a small knoll between the pavement and Yerba Buena Creek. Additional surveys on the east side of El Camino Real in 2000 resulted in mapping a much larger prehistoric site directly east of the original location. It was concluded that

El Camino Real and the Southern Pacific Railroad tracks bisected the prehistoric site (Flint et al 2000). Its dimensions were re-recorded as 900-feet SE/NW by 450-feet NE/SW.

After passing the Tosco Pump Station, the pipeline ROW jogs back to the east side of the railroad tracks and the Santa Margarita property fence, and follows south within about ten feet of the fence. Based on surface boundaries, approximately 360-feet of the SLO-1386 site would be crossed by the proposed pipeline route. Although the SLO-1386 site is located on both sides of El Camino Real, it is possible that the previous road construction has removed, destroyed or severely impacted the cultural materials within the road area.

Prehistoric Cultural Resource #20: SLO-1387 Sta. 2080+00

This site was also originally documented in 1991 during the Coastal Branch Adequate project as being a low density concentration of chipped stone and shell located on the west side of El Camino Real. Monterey and Franciscan chert flakes, burnt rock and seashell were noted on a small knoll between the pavement and Yerba Buena Creek. A small leaf shaped projectile point on the surface suggested a Late period occupation (A.D. 1000–1500).

Additional surveys on the east side of El Camino Real in 2000, resulted in mapping a much larger prehistoric site (345-feet E/W by 465-feet N/S) directly east of the original location. It was concluded that El Camino Real and the Southern Pacific Railroad tracks bisected the prehistoric site (Flint et al 2000).

After passing the Tosco Pump Station, the pipeline route jogs back to the east side of the railroad tracks and the Santa Margarita property fence, and continues following south within about ten feet of the fence. As mapped on surface artifacts, approximately 240-feet of the proposed pipeline route would cross the SLO-1387 site.

Prehistoric Cultural Resource #21: SLO-2056, Sta. 2087+00

This site was first discovered in 1996 and recorded in 2000 (Gibson and Parsons 1996; Flint et al 2000). It is located east of El Camino Real and is centered around two erosion exposures. The site consists of a medium dense concentration of ground stone (manos and a pestle), hammer stones, chipped stone, and hearths. Surface dimensions of the site are approximately 180 by 255-feet although a probable larger subsurface deposit is present. Some cultural materials were also noted on the west side of the road (but not included in the original site record). Monterey and Franciscan chert flakes and cores were encountered on the small knoll and to the west; however, nothing was recorded within 10 feet of the east side of the Santa Margarita Ranch fence and the proposed pipeline route. The pipeline in this area is located east of the railroad tracks and the Santa Margarita Ranch property fence and follows south within about ten feet of the fence.

In the discussion of this cluster of prehistoric sites between the Tosco pump station and Pozo Road (Highway 58) just north of Santa Margarita it was suggested:

> *"The construction of El Camino Real and the railroad just east of the SLO-2056 site, may have obscured additional cultural materials. However, buried intact cultural deposits may be present based on observations in the erosion channel and the site's position just south of SLO-1387 and SLO-1386. The discovery of buried cultural deposits at SLO-1386 substantiates this possibility. Given their proximity, further studies may in fact reveal that SLO-1387, -1386 and -2056 are part of the same site. Furthermore, SLO-587, recorded*

> *as a small temporary village site by Mel and Ann Hunter in 1971, lies to the south (Flint et al 2000:81)."*

Prehistoric Cultural Resource #22: SLO-2212, Sta. 2095+00

This prehistoric site was identified approximately 600 feet south of SLO-2056 and 200 feet east of El Camino Real. It is located on a low knoll (with a red pump house in the center) and consists of a low density of bunt rocks around the pump house and few Monterey chert flakes extending to within 20 feet of the barbed wire fence. The diameter of the site is estimated to be approximately 225 feet, based on surface artifacts. The proposed pipeline route through this area is east of the railroad tracks and the Santa Margarita property fence and follows south within about ten feet of the fence.

Prehistoric Cultural Resource #23: SLO-587, Sta. 2102+00

This large prehistoric site was first recorded in 1971 as a small village located north of the intersection of El Camino Real and Highway 58/Pozo Road (Hunter 1971). It was re-visited in 1996 and additional shell, flakes and chipped stone tools were encountered from the SPRR tracks southeast to H Street and Estrada Avenue and west of the Santa Margarita School (Gibson and Parsons 1996). The site contains large sandstone mortars and pestles, gaper clam (*Tresus sp*.) and mussel shell (*Mytilus sp*.), Franciscan and Monterey chert flake and chipped stone tools.

A revision of the alignment of the proposed pipeline route at the intersection of El Camino Real and Pozo Road (Highway 58) was made to follow El Camino Real west through the town of Santa Margarita. This realignment does not show on aerial photos 14 and 15. Just north of the intersection, the pipeline route is on the east side of the railroad tracks and the Santa Margarita Ranch property fence and follows within about ten feet of the fence. The jog of the pipeline route west and south to El Camino Real is not yet defined.

Prehistoric Cultural Resource #24: SLO-2211, Sta. 2170+00

This newly recorded site is located east of El Camino Real and northwest of the SPRR tracks in a flat area that had recently been disked (see photo 13). It is to the southwest of a small intermittent creek. Two Monterey chert flakes were encountered approximately 100-feet apart. To the north of the flakes were half a dozen, slightly weathered and smaller that legal sized Pismo clam (*Tivela stultorum*), a piece of white porcelain, and a few pieces of brown bottle glass (which appears modern). Several ornamental trees (possibly elm) are located adjacent to the road and there is also a metal railroad sign with a piece of rail as a post.

The proposed pipeline route through this area is located on the edge of the pavement of El Camino Real, and is within 15-feet (northwest) of one of the chert flakes. It is very doubtful if any historic materials would be encountered beneath the pavement (due to its antiquity). It is possible that during the original road construction any prehistoric cultural materials at this site were removed or severely impacted.

Prehistoric Cultural Resource #25: ISO-213, Sta. 2180+00

This site consists of a small sandstone outcrop approximately one meter across and 45 cm high with two parabolic, circular mortar depressions on top. One is 10 cm in diameter and 4 cm deep, the other is slightly smaller. This rock outcrop is approximately 150-feet south of Santa Margarita Creek, directly beneath the barbed wire fence. It is approximately 25-feet north of the pavement of El Camino Real. The pipeline route in this area would be beneath the pavement on the south side of the road, and within 25-feet of these bedrock mortars.

Prehistoric Cultural Resource #26: SLO-593, Sta. 2205+00
This prehistoric site was originally recorded in 1971 as a cluster of 8 bedrock mortars on four sandstone outcrops (Hunter 1971). They are located east of Highway 101 and west of the old original alignment for Highway 58 (now an access road to the Santa Margarita booster pump station). In 1990 the area was re-surveyed and chipped stone chert artifacts were recorded around the mortars. The current survey confirmed the presence of the mortars and chipped stone, including a large white chert polyhedral core. The site has been cut by roads on all sides and appears as an island approximately 150-feet by 300-feet in extent. Cuts on the east side adjacent to Highway 58 and the proposed pipeline route are approximately 15 to 20 feet deep.

The pipeline adjacent to this site is located beneath the pavement and 15 to 20-feet below the original landform that contains SLO-593. It is possible the pipeline trench would cross original topography where the road cut daylights out to the south and northeast. It is also probable that during the original road construction any subterranean cultural materials from SLO-593 were removed, destroyed or severely impacted.

Prehistoric Cultural Resource #27: SLO-538, Sta. 2264+00
This prehistoric site is located west of Highway 101 and north of Tassajara Road. It consists of four bedrock mortars in a single outcropping. A single sandstone pestle was found near the mortars but no subsurface materials were noted during monitoring for a telephone cable in 1995 (Gibson 1991, 1995). The proposed pipeline route is located at least 50 feet east of the rock outcrop.

5.8.1.6 Historic Cultural Resources

Historic Cultural Resources General Overview
California's Historical Period begins in 1769 with Spanish exploration and founding of the Franciscan Missions. Early settlements grew up at Mission San Miguel and Mission San Luis Obispo. Mission San Miguel established outposts at Santa Ysabel Ranch (1814–16) and the Estrada Adobe (1812) in today's Atascadero (Ohles 1997). The mission is reputed to have mined limestone in San Marcos Creek. Aqueducts formed by ditches were once reported along the Salinas River from Santa Ysabel northward, but the last traces of these disappeared during the 1950s (Ohles 1997) and their location is uncertain today. Mission San Luis Obispo established the Asistencia at Santa Margarita. These places became areas of activity during the California Spanish Period. The proposed pipeline route passes through Santa Ysabel Ranch in the Mission Period activity areas.

After 1821, California became part of the independent Republic of Mexico. Under Mexican jurisdiction, most missions were secularized after 1833, and the lands divided into Mexican land grant ranchos. The proposed pipeline route passes through (from Ohles 1997; Durham 2000) the following identified ranchos:

- Rancho El Nacimiento: a place name since the 1774 Anza Expedition, meaning either "source of waters" or "nativity". The rancho was originally granted in 1844 to Christianized

Indians of San Miguel Mission. This claim was rejected by the United States, and the land was purchased in 1868–1879 by Robert G. Flint who built first ranch house. After 1895, the land was purchased by German citizen Baron von Schroeder whose lands were forfeited during World War I, wherein the ranch passed to Eli Wright. The land was leased out, and converted to Camp Roberts in 1940–41.

- Rancho Paso de Robles: the name was used as early as 1828 and means “pass through the oaks”. This 25,993 acre rancho was first granted in 1844 to Pedro Narvaez, and patented in 1866 to Petronillo Rios. Blackburn Brothers (Daniel and James) and James Drury in purchased the land in 1857 establishing Hot Springs and the Ranch House (near Templeton), and developing the town of Paso Robles after 1887.
- Rancho Santa Ysabel: 17,774 acres granted in 1844 to Francisco Arce. The title was confirmed in 1857 and received in 1866.
- Rancho La Asuncion: granted in 1845 to Pedro Estrada, the name refers to the Ascension of the Virgin Mary. The 39,225 acre title was confirmed in 1854 and received in 1866;.
- Rancho Atascadero: granted in 1842 to Trifon Garcia, the name means “boggy ground” in Spanish. Encompassing 4,348 acres, this rancho encountered problems with Indians from east, and passed through several hands. It was bought in 1865 by Martin Murphy, Jr.; became Jason H. Henry Ranch; and was eventually purchased by E.G. Lewis in 1913 as part of the 23,000 acre Atascadero Colony.
- Rancho Santa Margarita: a place name since the 1776 Anza Expedition, this area was used by Mission San Luis Obispo since at least 1790 and Asistencia was constructed in the early 1800s. The 17,735 acre rancho was originally granted to Joaquin Estrada in 1841, and was purchased by Martin Murphy, Jr. in 1860; US Patent in 1861.
- American farmers began settling the region after the Civil War and opening of the transcontinental railroad in 1869. The Estrella region became settled in the 1870s as did the Linne, Geneseo and Creston areas east of Paso Robles (Ohles 1997). Many of the ranchos were purchased eventually by C.H. Philips of the West Coast Land Company (Nicholson 1980) and subdivided between 1886–1888 from the sales office in Templeton, then a temporary railroad end-of-line. These subdivisions include Rancho Santa Ysabel, the Templeton Tract, and Eureka Ranch.

El Camino Real

El Camino Real or “King’s Highway” is a Spanish term referring to the overland traveling route established between the Missions by the Spanish explorers during the 1770s. However, the route the Spanish followed included an amalgamation of earlier trails used prehistorically. These trails were developed by native people over thousands of years, and connected the many villages in the region. In particular, the route along the Salinas River had been a regional trade route long before the arrival of the Spaniards (Davis 1961; Heizer 1978). The original El Camino Real, came north out of Cuesta Pass, past the later location of the Santa Margarita Asistencia, through the Garden Farms lowlands (following Santa Margarita Creek towards the Salinas River), along lowlands or the river to Asuncion (northern Atascadero), and on to San Miguel, a route now partially duplicated by the Juan Bautista de Anza National Historic Trail (Bolton 1930; National Park Service 1994).

The first San Francisco–Los Angeles stage along El Camino Real was Charles McLaughlin's 1861 Overland Mail Company, taken over in 1868 by Flint, Bixby and Company, William Buckley, superintendant (Outland 1973; Hoag 2001). Stations in 1868 included San Miguel, Hot Springs (Paso Robles), and Santa Margarita. After 1873, stages were run by Buckley and W.H. "Shotgun" Taylor, and Buckley and Company later purchased the line in 1878 as the Coast Line Stage Company. Stages may have also run along what is today's Monterey Road (between Paso Robles and San Miguel) on the way to the Hot Springs and Paso Robles Ranch House, then past Estrada's Adobe and the Atascadero Ranch House on Atascadero Creek, and through the low hills to Cashin/Dove (at La Paloma Creek), and roughly following the modern road to the Santa Margarita Creek crossing. In the Santa Margarita area, stages ran directly across the lowlands to the Asistencia (away from the proposed pipeline route).

Southern Pacific Railroad Coast Line

Railroads slowly extended along the coastal counties beginning in 1864 with completion of the San Francisco and San Jose Railroad. Originally, Southern Pacific, bought the San Francisco and San Jose Railroad to serve as a northern portion of their Sunset Route to Texas. However, the Sunset Route was constructed up the Central Valley, and the San Francisco and San Jose Railroad became the nucleus of Southern Pacific's Coast Route. It was extended south from San Jose, reaching Soledad in 1873, and eventually Templeton in 1886. At that time, Paso Robles consisted of the Hot Springs and ranch, Templeton didn't exist yet, and Atascadero was still a ranch. The town of Templeton was laid out on a southern portion of the Paso Robles Ranch and the rails reached the location in October–November 1886. Further progress south towards San Luis Obispo was delayed while the route was finalized. It was a large and costly battle to get the railroad located through San Luis Obispo (Tognazzini 1890). In October 1888, 200 to 1,000 men, mostly Chinese, began to extend the line from Templeton to Santa Margarita (Ochs 1970; Nicholson 1980). Grading was accomplished by pick and shovel, embankments were constructed using one-horse dump carts in much the same way the lines over the Sierras and across the deserts had been built.

Masonry abutments are a visually distinctive clue to original engineering structures along the Coast Route. Railroad equipment of the time was mostly 4-4-0 American type steam locomotives, and hand brake equipped rolling stock; rails weighed 50–60 pounds per yard (lb/yd.) The line was opened to Santa Margarita in January 1889. The rails eventually reached San Luis Obispo in 1894. The remaining area near Point Conception and Point Arguello known as "The Gap" was closed in 1901 to complete the Coast Route.

In 1901, the Southern Pacific Railroad came under Edward Harriman's control, and soon thereafter the route was improved. Harriman rose to fame at the helm of the Union Pacific Railroad, turning the bankrupt line into the greatest transcontinental railroad of its time (he died in 1909, and the US Supreme Court dissolved in the SP-UP system under a landmark anti-trust decision in 1913). Under Harriman's leadership, however, the Southern Pacific poured over $12 million dollars into improvements of the Coast Route which presaged a great increase in traffic and service to the public, equipment standardization and improved rail operations (Kennan 1922). Improvements included grade reductions, the elimination of curves, stronger bridges, signaling improvements, and beautification projects. The most spectacular of these improvements are the great Bayshore Cutoff near San Francisco, and the Montalvo Cutoff near Los Angeles, but many other smaller line improvements were also made throughout the route.

Improvements to the line actually began in the late 1890s and fell under the Hood Survey, named for the famed civil engineer William Hood (1846–1926), a Dartmouth College graduate who worked for the Southern Pacific for 54 years, rising to Chief Engineer of the railroad's Pacific System in 1883, and of the entire Southern Pacific system in 1900 (Middleton 1999). Hood kept on after Harriman bought the line and did not retire until 1921. Most of the Coast Line work was accomplished in the first decade of the twentieth century. Typical trains of the early twentieth century had grown to 2-8-0 Consolidations, 2-6-0 TenWheelers and 4-6-2 Pacific steam locomotives pulling freights and passenger cars; rails were 95 lb/yd. Since then, grade improvements have been limited to on-going construction and removal of various sidings and spurs, some curvature reduction in the Salinas Valley, and station abandonment in 1960 (Hofsommer 1986; Signor 1994). Other activities have included replacement of old, small capacity, or damaged bridges and culverts, and improvements in signaling and communication. Today's trains ride on a grade that, except for above ground changes to ballast (taller, wider profile, and better rock), ties (larger, better treated wood ties, some concrete ties), rails (currently 116–135 lb/yd), and signals, looks much as it did when it was a premier Harriman-era style railroad.

Early Salinas River Crossings

While many early routes of travel along the west bank of the Salinas River are major north-south arteries, the pipeline survey route along the east bank of the river crosses the approaches to many historical river crossings. The earliest crossings were near Mission San Miguel (north of the survey area) and Charolais Road (Sta. 1127+00), and were used by travelers and stages (Ohles 1997). Beginning in the 1870s, wheat farmers began to settle the Estrella Plains and Creston areas east of the river. Other crossings active before the mid-1880s are southern Santa Ysabel Ranch (used until fenced off in the 1950s), and El Pomar Road (Franklin 2001a). These early crossings were prepared by laying straw in the river bottom and building up a compacted dirt roadway on top. The crossings required renewal after each season's flooding.

After the coming of the railroad, several new crossings were built, including the 1887 El Pomar Bridge (first bridge completed across the Salinas River) and the original wooden 13th Street Bridge (constructed by the Blackburn Brothers and James Drury in 1887). While early crossings are located at areas with low banks, bridge sites tend to be located where high ground or terraces constrict the river channel. South River Road between Charolais Road and 13th Street Bridge was originally built in 1887 to connect the old crossings to the new bridge and was known as "Cliff Road." Roads from Shandon and Estrella (Union Road) also converged at the new bridge (Franklin 2001a; Nelson 1995).

Service to the Creston area was improved in 1888 when Chinese laborers constructed Rocky Canyon Road between Dove/Cashin (southern Atascadero) and Creston. Later a grade over Eureka Ranch was constructed which eventually became the route of modern Highway 41 (Eureka Grade). Another grade serving the horse-wagon teams hauling wheat and barley to the railheads is the Chicago Grade (South El Pomar Road). By 1900, Creston Road ran as far as Creston, allowing postal service from Paso Robles (no author, 1984).

Age of the Automobile

The dawn of the twentieth century brought another revolution in traveling – the automobile. California was a pioneer in early roadway design and construction, with El Camino Real being one of the original paved highways in the State. Included in the First Biennial Report of the California Highway Commission is a list of paving contracts indicating that paving between San Luis Obispo and San Miguel first occurred between 1913 and 1915, and utilized standardized 15-foot wide concrete roadways with oiled shoulders. National roads didn't have uniform standards until after 1918, and the first "Ideal Section" wasn't constructed until 1922 – by which time the paving of El Camino Real had already been completed. An important civic group, the El Camino Real Association, formed in 1902–04 as part of the outgrowth of the "Good Roads" movement at turn-of-the-century. The association was important in securing public funds for road construction along the route, and even funded the famous Mission Bells guide-posts (Forbes 1925).

Major improvements to the original paved road were made by the State between 1929–1930 when the road was upgraded with wider lanes and shoulders, and repaved to a standard width of 20-feet. Cement box culverts were also installed at this time, and now serve as convenient archaeological markers of the original route. Most of the culverts and bridges evident along the route today date from the 1930s, but a few original sections of 1914 pavement also still exist where route changes bypassed the original pavement. An excellent example, complete with a 16 inch diameter concrete culvert is located along Monterey Road. The section of El Camino Real near Santa Margarita was constructed about this time, destroying most evidence of the earlier road. The highway was eventually bypassed by construction of the modern route US 101 in the 1950s.

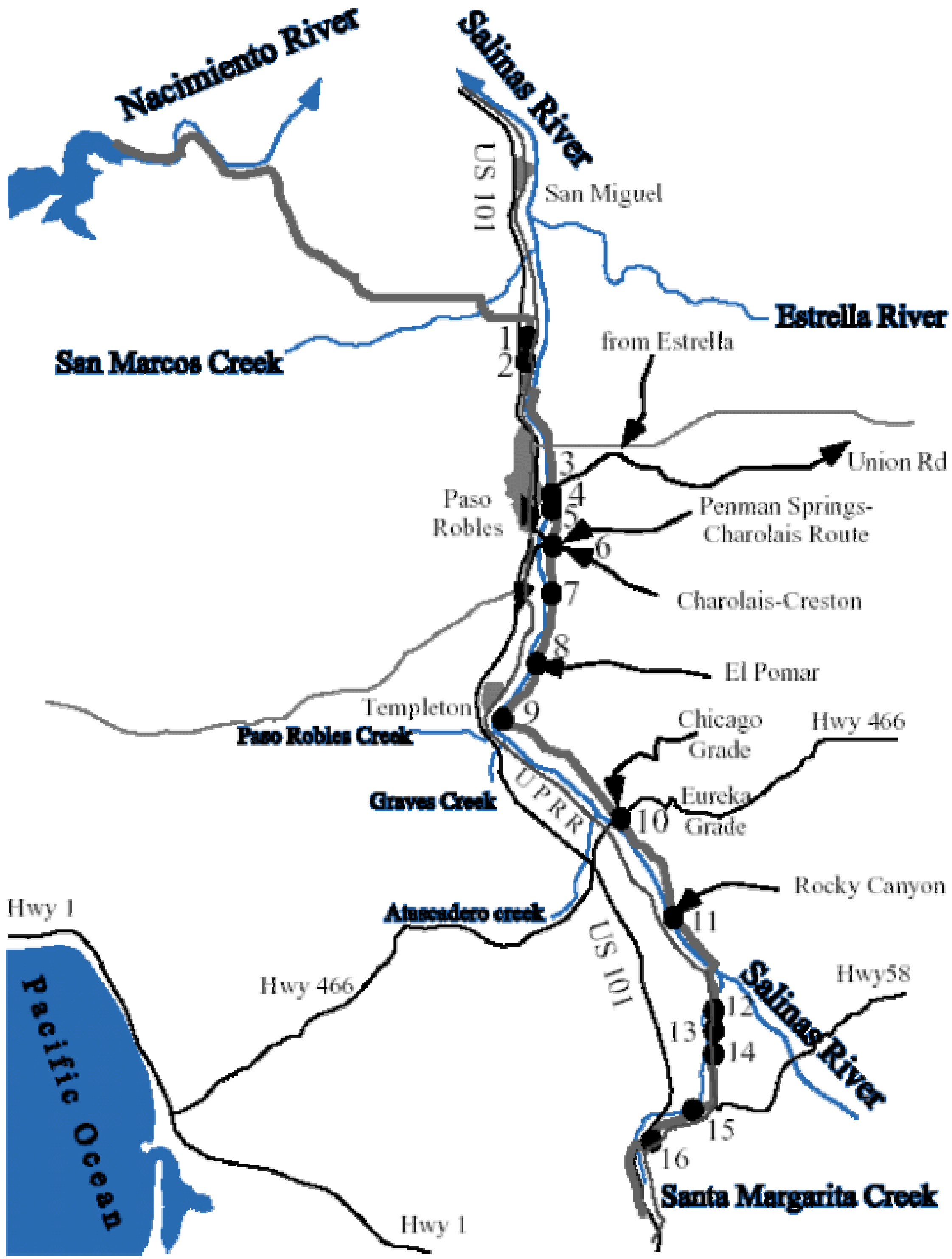
Historical Cultural Resources of the Project Area

A total of 16 historic places, some with multiple resources, were identified along the proposed pipeline route (see Figure 5.8-5). These are described below along the station numbers shown on Figures 2-3 through 2-17 (see Project Description, Section 2.0).

Historical Resource #1: Monterey Road, Sta. 774+00 to 872+00

From Wellsona Road to the Salinas River Crossing, the proposed pipeline route follows Monterey Road – the original paved route of El Camino Real, and earlier routes used by stages and Spanish travelers. Originally paved in 1914, most of the road was upgraded in the early 1930s to meet new highway standards featuring wider lanes, shoulders, and improved drainage. Today, only a short section of the original 1914 roadway remains. The 1930's roadway features at least six 24 inch diameter concrete with metal pipe (CMP) culverts (see a list of locations in the table below), along with two larger cement box culvert structures. The 24 inch CMP culverts have concrete cornices 66 inches long by 11 inches wide by 11 inches tall (above the road shoulder) on the west (uphill) side, but often have only pipe outlets (no concrete abutment/cornice) on the downhill side. The large culverts are dated 1931 (date mark made in original concrete forms). Standards of the 1930s required a substantial graded shoulder and culvert openings are located many feet away from the paved roadway edge. The roadway is 20-feet wide with 15-feet wide shoulders; the culverts are approximately 50-feet wide.

Figure 5.8-5 Historical Resources and Places for Nacimiento Water Project (Survey March 2002)



List of 24” CMP Large Concrete Culverts
Sta. 786+00
Sta. 788+00
Sta. 810+00 (near Paso Robles Auto Wrecking, 5755 Monterey Rd.)
Sta. 812+00 (near Paso Robles Auto Wrecking, 5755 Monterey Rd.)
Sta. 835+00 (adjacent 1914 section bypassed in 1931)
Sta. 841+00 (adjacent 1914 section bypassed in 1931)
Sta. 847+00 (adjacent 1914 section bypassed in 1931)
Sta. 857+00

Historical Resource #2: 1914 El Camino Real, Sta. 830+00 to 847+00

East of Monterey Road just south of Exline Road is a section of the original, paved 1914 El Camino Real that was bypassed by the 1930’s improvements. The old roadway parallels the railroad tracks and is bisected by a private residence (5370 Monterey Road). On the north side is a small embankment and culvert (adjacent Sta. 835+00).

The 1930’s road avoids the embankment and improves the curve to the north as well. The southern segment is an excellent example of state-of-the-art roadways in 1914 featuring a 4-inch thick, 15-foot wide concrete pavement, 5-foot wide shoulders, and 16-inch diameter concrete culverts (lacking metal pipe). California Department of Public Works Bulletins indicates the 10.63 mile section between Paso Robles and the County Line was paved and given an oil surface in 1914; C.F. Price was the engineer and W.A. Dontanville was the contractor.

Historical Resource #3: Union Road Culvert, Sta. 1035+00

The 24-inch concrete culvert at this locality marks 1930’s improvements to Union Road, the original route eastward from Paso Robles. Before 1887, the route crossed the river to the south at the Charolais Crossing and connected to the Union Road route via Penman Springs, where livestock could be watered. When the 13th Street Bridge was built in 1887, Union Road was relocated to approximately its present alignment. The route became Route 33, a lateral road in the original 1918 State Highway System. Grading, gravel surfacing and bridge improvements were made in 1930. This is about the time the 24 inch concrete culvert was installed. Some bituminous surfacing was accomplished in 1932–1938 under WPA Projects during the Great Depression. During this time, the road received federal recognition as part of Route 466, a section of the famed Route 66 that branched off at Barstow and passed through Bakersfield, Paso Robles or Atascadero to the coast at Cambria or Morro Bay. Supporting the route were influential politicians and movie celebrities, most notably Will Rogers. In 1964, the Route 46 designation replaced earlier ones, with Highway 46 proceeding through Paso Robles to Cambria on the new Highway 46 West, while the former Route 466 road from Shandon to Atascadero and Morro Bay became Highway 41 (Dellard 1997).

Historical Resource #4: 13th Street Bridge and South River Road, Sta. 1039+00

After arrival of the railroad in Paso Robles, the Blackburn Brothers and James Drury paid $6,000 to have a plank bridge built spanning the Salinas River at 13th Street (Franklin 2001a). The bridge, built in 1887, was supported on 3 piers and provided a year-round river crossing. Roads to outlying farming communities converged at the bridge, including River Road, Union Road, and "Cliff Road", which ran along the stream bluffs to the Charolais Crossings to the south. Later, in 1948, the current Creston Road was graded using a Caterpillar D7 Bulldozer and a carryall scraper operated by local contractor Tom Cropper (Nelson 1995). The original bridge was replaced by an iron bridge, which had washed away in the floods of 1914. The steel truss replacement was dynamited in 1964 for better clearance provided by the current cement bridge, which is currently facing planned widening.

Historical Resource #5: Buchanan's Concrete Plant, Sta. 1043+00
Arthur "Art" Buchanan operated an early concrete business in the North County (Franklin 2001b). He owned the only pipe-making business in the area, and is responsible for most of the concrete irrigation systems made and laid there from the early 1920s until his death in 1958. Buchanan also manufactured large concrete bricks 24 inches long by 9 inches wide. These were used in several buildings in both Paso Robles and Templeton. In 1925 Buchanan purchased a farm of approximately 30 acres that extended into the river south of the 13th Street Bridge. South River Road ran along the edge of the property, and Buchanan's work yard was located on the small shelf of land between the road and the river. The City of Paso Robles now uses this area for fill storage. Buchanan's plant included a one yard sand sled hung by cables from sycamore and oak trees in the river in order to mine sand, but his concrete mixer was portable and pipes and reservoirs were probably built in the field. He later purchased a lot on the adjacent hill above the road and built a house using cement bricks for his fireplace and chimney (house is still there).

Historical Resource #6: Charolais Crossings, Sta. 1127+00
The large live oak at the west side of the Charolais Road – South River Road intersection marks the spot where a cattle trough once existed between it and another large valley oak (now gone). The trough was used to water early teams hauling grains and supplies before crossing the river (Franklin 2001). Additional crossings, making use of the low riverbanks in this vicinity, were probably made at many points from the former location of Bryan's Slaughter House (currently a flat, graded area just north of Woodland Plaza I shopping center) south to Santa Ysabel Ranch. The crossings led to El Camino Real which paralleled the west bank of the river at this location. The crossings served both the local wheat farmers beginning in the 1870s, as well as the original Union Road route used by stages and travelers which led east to Penman Springs (on the Huerhero River), and then continued eastward approximately along Union Road and Highway 46 today (as shown on the 1874 County Surveyor Map). In 1887, when the 13th Street Bridge was built, Cliff Road (now South River Road) was graded along the riverbank between the bridge and Charolais Crossing. The crossing slowly declined but was still in use until approximately the 1920s.

Historical Resource #7: Santa Ysabel Ranch, Sta. 1190+00 to 1220+00
Rancho Santa Ysabel was originally a part of the lands of Mission San Miguel (Ohles 1997). The land grant takes its name from Santa Ysabel Spring, a noted hot spring in the Paso Robles Geothermal Area. It is located up a small side valley approximately one mile from the Salinas River. In the late twentieth century, the spring was measured at 34.4˚C/94˚F with a flow of 150 gallons per minute (Campion et al 1983). In 1888–89 a San Francisco syndicate formed the Santa Ysabel Hot Springs Land and Water Company and built an artificial lake below the spring

(Nelson 1995). The dam was 250-feet long and up to 14-feet deep. A University of California expert testified the water was good for chronic rheumatism, arthritis, scrofula and glandular enlargements, skin diseases, and other things, too. The spring then flowed at 200,000 gallons per day, at 94˚F, and was used for bathing and irrigation.

Mission San Miguel used the area for raising sheep and a large vineyard. Two adobe houses were constructed, one in 1814 and one in 1816. One of the structures was two stories and was used as a school for the local Indians. An eight mile long irrigation ditch is reported to have existed between Santa Ysabel and San Miguel (Stanley 1897), however, the ditch may have led to east side fields, or also have come from a seasonal laguna in the river channel near Santa Ysabel. In 1839, William Hartnell noted "… the Indians apparently did not consider the possibility of the Rancho de Santa Ysabel being taken from them. It was here they raised crops for their own use" (quoted in Ohles 1997).

In 1844 Francisco Arce became the grantee (at his request) of Rancho Santa Ysabel (Ohles 1997). Arce filed claim on the land in US Courts in 1852 A.D. and was granted title in 1857. The title, however, was not issued until 1866. By this time, the ranch had changed hands several times. Eventually, in 1874, the land was purchased by Maurice Dore who ran 30,000 head of sheep. In 1886, with the approach of the railroad, the then owners, the Huntington family, made plans for a hotel and resort and poured a concrete basin around the spring.

In 1887, the ranch was subdivided by C.H. Phillips of the West Coast Land Company, and a scenic buggy road was built through the property. The aforementioned syndicate tried to develop the springs, but the area remained only lightly used by the local populous, who came out for fishing, swimming and picnics on the grounds. In 1892, the ranch included 28 acres of fruit orchards, additional acreage in vegetables, a nursery with rare ornamentals near the lake, and 200–300 acres of corn, alfalfa and other forage, and a dairy. Later, in the early 1920s, a new road was built that bypassed the ranch because the owner did not want people to have direct access to the springs (Franklin 2001a). The new road, South River Road, was built by William Grebe and Art Plum using a Yuba tractor pulling a grader. The public could continue using the Salinas River crossing at the south end of Santa Ysabel Ranch until the early 1950s when the ranch owner, William Hunter, fenced off the ranch entirely from public use.

Historical Resource #8: El Pomar Crossing, Sta. 1399+00

Another early river crossing used by early wheat farmers in the 1870–80s is the El Pomar Crossing. The river sand mining operations, which currently include the active stockpiling of sand, make use of the low banks and wide sandy nature of the river at this location. The crossing connected with Volpi Road (now called Creekside Ranch Road) and led to Templeton. The crossing continued in use for quite some time; however, a bridge spanning the river was built nearby in 1887.

Historical Resource #9: El Pomar (Vineyard Drive) Bridge, Sta. 1399+00

The original bridge at this location was the first bridge constructed over the Salinas River, and was completed in July 1887 (Ohles 1987). Its purpose was to serve increased traffic following construction of the railroad, which reached Templeton in 1886. Abutments were prepared, the piles driven, the bridge erected and the approaches graded. An extension of El Pomar Road was constructed south from the El Pomar to the new bridge. The bridge took approximately a month to construct. It washed out in the floods of 1913–1914 and was later replaced. After crossing to the west bank, the old road ran north between the river and the railroad racks to connect with an extension of Eighth Street into town. A section of this road is still apparent.

Historical Resource #10: Highway 41 Bridge, Sta. 1621+00
Highway 41 grew from beginnings as Morro Road between the Atascadero Colony and Morro Bay, and was improved by E.G. Lewis in the early twenties. During the 1930s the federal road system consolidated several roads in the Creston – El Pomar area into a through highway route that eventually became today's Highway 41. The crossing served wheat hauling routes into the back country, including the Chicago Grade (on modern South El Pomar Road) and Eureka Grade (Highway 41; named for Eureka Ranch). The "grades" are large hills created as a result of topographical effects of the Rinconada fault which runs near the base of each grade. During its early years, this route was part of Highway 466. Portions of it were paved during the 1930s. A temporary bridge was installed at a crossing (Sta. 1665+00) leading to Cubarill Road (shown on 1890 and later County Surveyor maps) and the original Atascadero rail station at Henry (off of Cortez Road). The bridge for the permanent river crossing wasn't constructed until 1999–2000.

Historical Resource #11: Rocky Canyon Crossing, Sta. 1817+00
Rocky Canyon Road was constructed between Atascadero and Creston in 1888 by Chinese laborers. The route today is broken by the Rocky Canyon Quarry. The current crossing connecting to Halcon Road is maintained by the quarry, but often washes out during winter and must be subsequently rebuilt. The 1888 route terminated at Cashin/Dove where it connected with El Camino Real, a road from the future Highway 41/Cubarill crossing, and an early trail over the range to Morro Bay (roads shown on 1890 County Surveyor Map).

Historical Resource #12: Southern Pacific Railroad, Sta. 1920+00 to 2102+00

List of Sandstone Masonry (West Side) and Concrete (East Side) Culverts
Sta. 2023+00 (near SLO-1978/H)
Sta. 2036+00
Sta. 2048+00 (near railroad signal stand)
Sta. 2059+00 (between Tank Farm entrance and SLO-1959/H)
Sta. 2068+00 (near north edge of SLO-1386)
Sta. 2078+00 (between SLO-1386 and SLO-1387)
Sta. 2084+00 (between SLO-1387 and SLO-2056)
Sta. 2091+00 (between SLO-2056 and SLO-2212)
Sta. 2100+00 (between SLO-2212 and SLO-587)

The railroad right-of-way retains many features of its construction, both those initial built by Chinese laborers in 1888–1889, and added during subsequent upgrades. Extensive improvements to the grade were last accomplished in 1901–1910 during the Harriman-era. Embankments were built using horse drawn wagons and fresno scrapers. Except for improvements to ballasting, rails and signaling, the form of the line is classic Harriman-era railroading. Note the embankments used for bridge approaches in the Santa Margarita Creek floodplain, and the steel truss bridge.

Railroad dispatchers directing trains through Santa Margarita have a choice of two tracks. Currently, the main track is the eastern track. Careful examination of the embankment on which the two tracks run, as well details of culverts in the embankment, can be used to recreate the construction of these tracks. The series of culverts draining this stretch of railroad grade are remarkable. Culvert sections beneath the west track have sandstone masonry construction marking the original track built in 1888–1889 (see a list of locations in the table above). Beneath the east track, however, these same culverts are built of concrete, signifying that they were later additions. Also of note are the different types of earth materials in the embankments. Beneath the west track are fill materials derived from local sources, while the east track has materials from distant quarries. These features indicate the west track is the original mainline. A series of culverts extend south from the Oil Company Tank Farm. The first culvert extension beneath the east track contains a 1910 builder's date on the bridge face. Facilities for the Producers Pipeline were constructed 1909–1910, and the original siding probably served as a construction supply point. The next several culvert extensions along the tracks to the south are dated 1937. Thus it seems likely that a siding was originally laid in for the Tank Farm in 1910. Later, in 1937, additional track was added to the north and south as the Tank Farm siding became a second track. The railroad likely adopted the east track for its new mainline due to the use of more exacting earth materials and improved construction techniques providing for a stronger roadbed.

Historical Resource #13: El Camino Real, Sta. 1977+00 to 2102+00

List of 24" CMP Concrete and Double Box Culverts
Sta. 2025+00
Sta. 2048+00 (adjacent railroad culvert)
Sta. 2059+00 (adjacent railroad culvert)
Sta. 2066+00
Sta. 2068+00 (adjacent railroad culvert)
Sta. 2078+00 (adjacent railroad culvert)
Sta. 2084+00 (adjacent railroad culvert)
Sta. 2091+00 (adjacent railroad culvert)

This is the route of El Camino Real. Before paving, travelers and stages crossed Santa Margarita Creek in this vicinity and ran along the plains towards the Asistencia. The first paved road, however, followed the railroad tracks out of Santa Margarita – the route followed by the proposed pipeline. According to California Department of Public Works Bulletins, this section of El Camino Real was first paved in 1914. The 8.35 miles from Santa Margarita to Atascadero was contracted to W.A. Dontanville; E.S. Rust was the Engineer. The original road was greatly improved between 1929 and 1933. Today, although much of the character of the 1930's road is still evident, the highway surface has been improved and portions of the original concrete roadway are no longer evident. However, 24-inch concrete and metal pipe culverts constructed during the 1929–1931 improvements still underlie the current roadway (most are adjacent the railroad culverts) (see a list of locations in the table above). The concrete double box culvert is dated 1931. Evidence of the earlier 1914 roadway is lacking in this area.

Historical Resource #14: Producers Pipeline Route, Sta. 2051+00

The Oil Company Tank Farm at this locality was originally constructed as part of the 1909–1910 Producers Pipeline (Welty and Taylor 1958; Waddell and Niven 1976; Pederson 1990). Early petroleum operations in the early 1860s in the San Joaquin "Westside" area were near the town of Reward., The first oil company was the 1864 Buena Vista Petroleum Company (Latta 1949). In 1909, California became the number one crude oil producing state in the USA, with much of the 52 million barrel annual output coming from the Westside area. Westside operators, however, felt limited by the oil transport monopoly of the railroad. A group of over 150 companies formed the Independent Oil Producers Agency, and in 1909, joined with the Union Oil Company to construct the Producers Pipeline from the Westside fields to Port Harford on the coast (San Luis Obispo Bay). The 8 inch pipeline extended for 74 miles from Avila to junction on the Westside, and then branched out to the various fields (Coalinga, McKittrick, Midway-Sunset, and Kern River) for a total of 240 miles of pipe with 15 pumping stations, field storage for 27,000,000 barrels and wharf facilities. Total cost came to $4.5 million, a cost higher than estimated "because we were in such a hurry" (L. Steward quoted in Welty and Taylor 1958). The first pipe was laid in July 29, 1909 and the first oil delivered eight months later, in March 1910.

Boilers, used to heat the oil so it could be pumped, were hauled in by 20-horse teams. Pipe laying crews numbered 30–40 men, many drawn from the local farms. Pipe bending was accomplished by the crew standing on the pipe as it was cantilevered out over a depression in the ground. The crew would bounce up and down, slowly bending the pipe. Some early, chain driven trucks were used to haul pipe and supplies (Franks and Lambert 1985). The Santa Margarita Pump Station was completed during this time. After completion, crude oil could be delivered to the coast for 12.5 cents per barrel. There, it was either stored for 1 cent per month in steel tanks, or shipped at 10 cents per barrel to San Diego or San Francisco. During early operations, oil entered the pipe at the pump stations at a pressure of 600–800 pounds per square inch and a temperature of approximately 150–160˚F (temperature in pipe should not fall below 100˚F) with a pumping speed of approximately 1,000 barrels per hour (McLaughlin and Waring 1914). Union Oil Company eventually purchased the entire pipeline in 1917 and, with pipe replacement and improvements, the system continues in operation today.

Historical Resource #15: Town of Santa Margarita, Sta. 2110+00 to 2140+00

As a place name, Santa Margarita was named by Pedro Font in 1776 during Anza's expedition to settle San Francisco. Lands about the area were used by the Mission since at least 1790 A.D. (Cameron 1957). The Asistencia, built in the early 1800s, is 135 feet by 37 feet in size, and provided living quarters for servants, major-domos, and wayfarers, grain storage, chapel, and guest rooms for visiting priests during harvest. In 1841, the Rancho Santa Margarita was granted to Joaquin Estrada; title to the 17,735 acres was confirmed in 1854. Estrada ran 200,000 head of cattle on the ranch, but was devastated by drought in 1859. He sold the ranch in 1860 to Michael Murphy, Jr., who received the US Patent for the ranch in 1861. The ranch was placed in the hands of General Patrick Murphy along with the Asuncion Ranch, and the pastures were returned to grain production. After harvest, reduced herds were turned out. Billy Farrel opened a small store near the ranch house that also served as the stage stop. Five adobes remain about the ranch headquarters.

Murphy sold the ranch in 1904 to William Reis, who built the galvanized iron barn over the Asistencia. Reis ran up to 75,000 head of sheep on the ranch. In 1967 the Reis family willed the ranch to Stanford University who sold it in 1975 to the Robertson family of Texas. After an unsuccessful bid to develop the ranch, it passed hands to Rob Rossi and Affiliates in 1999, the current owner. The current owner has since taken extensive steps to identify and protect prehistoric resources locate on the Santa Margarita Ranch (Applied Earthworks 2000).

The town of Santa Margarita was purchased from the ranch and laid out by the Pacific Improvement Company, a subsidiary of the Southern Pacific Railroad, in 1889. The railroad operated a construction office there for the first five years employing up to 1,000 people, many of them Chinese. The town grew and contained saloons, grocery stores, blacksmith shops, barbershops, restaurants, butcher shops, watch repair, a drug store, dairy, cobbler, a pool hall, and a casket maker (Williams 1966). The Southern Pacific Milling Company operated in town and Swiss immigrant wood cutters also settled here to work the ranch. During the paving of El Camino Real in 1914, the road was routed through town and away from the Asistencia. The current road appears to roughly follow the historical road and road relocations in town have not occurred.

Historical Resource #16: 1914, 1930s, and 1950's highways, Sta. 2198+00 to 2215+00
Portions of the original 1914 (this section was actually built in 1913), the 1929–33 roadway, and the modern freeway built in the mid-1950s all come together at this locality. The original PCC (Portland Concrete Construction) road was built 4-inches thick and 15-feet wide with an oiled surface using day labor overseen by Engineer B.W. Upson. A section of this roadway can be seen east of the proposed pipeline route, and follows the old utility poles. In 1929, the road beginning 1.5 miles south of Santa Margarita and running over the pass was graded, and paved to 20-feet with PCC pavement and had 15-feet wide shoulders (restricted in cuts). The work was overseen by Contractor Matt J. Bevanda. This stretch began at the road cut at this locality. The stretch north of here through Santa Margarita to Atascadero was widened to 30-feet in 1938. The modern freeway was constructed in the mid 1950s.

5.8.1.7 Areas with Potential for Paleontology and Cultural Resources

Paleontology and cultural resources have been identified through surveys and information searches and are described in sections above. However, certain geology and geomorphology features could indicate a potential for the presence of heretofore unrecorded paleontology and cultural resources. The geology and geomorphology data collected on the project area suggests that there are several areas with such potential.

In addition to information from rock units, actual pipeline route locations were evaluated in the field for potential resources. If the proposed pipeline route is at the base of cliffs in disturbed ground, then the sensitivity is low to none; if the pipeline ROW is at the top of, or in the cliff, in a rock unit of high sensitivity, then the resource sensitivity is high. Additional factors in sensitivity rating include proximity to known paleontology finds. Paleontology sensitivity designations following guidelines of the Society of Vertebrate Paleontology for the proposed pipeline route are included in Table 5.8.5.

Seven (7) areas along the proposed pipeline route have been determined to have high potential. This is because old land surfaces of the Holocene age can often be buried in the subsurface and not evident during surface surveys. Since these land surfaces were extensive during prehistoric occupation of the area, they are potentially associated with buried, intact prehistoric cultural deposits, and could be discovered during the proposed pipeline construction.

5.8.2 Regulatory Setting

A summary of the regulatory setting for cultural resources is provided below.

5.8.2.1 Federal Regulations

A variety of Federal statutes specifically address paleontological resources. They generally become applicable to specific projects if the project crosses Federal lands or involves a Federal agency license, permits, approval, or funding.

Code of Federal Regulations, Title 36, Part 800
Construction of the proposed project would likely require the Lead Agency to obtain a Clean Water Act (33 USC 1344) Section 404 permit from the ACOE. Because a Section 404 permit is required, the project would be considered a federal "undertaking" per 36 CFR 800.2(o) and subject to Section 106 of the National Historic Preservation Act (NHPA) and other federal regulations governing cultural resources. The permit requirements could relate to some of the pipeline reaches only, or the Corps could consider the project as a whole under the permit.

For the Section 106 process, cultural resource studies are undertaken in five sequential phases: (1) inventory and preliminary assessment; (2) testing and evaluation; (3) data recovery; (4) construction monitoring and "emergency" archaeology; and (5) preparation of final reports and curation of collections. The information obtained in the Phase I survey conducted for the proposed project under CEQA will be used to satisfy the first phase of the Section 106 process as described above.

National Historic Preservation Act of 1966 (NHPA; 16 USC 470)
The NHPA sets forth national policy for protecting historic properties. Under Section 106 federal agencies are man-dated to take into account the effect of federal undertakings on historic properties owned by federal agencies or affected by federally funded or federally approved undertakings. The NHPA also established the National Register of Historic Places and state historic preservation programs administered by a State Historic Preservation Officer. It established the Advisory Council on Historic Preservation, an independent agency that is responsible for implementing Section 106. The Advisory Council Section 106 regulations are found at 36 CFR §800-800.16. National Register Regulations are published in 36 CFR §60, and

Table 5.8.5 Project Area Locations with Potential for Presence of Cultural and Paleontology Resources

Project Station Location	Natural Feature	Description	Comments	Cultural Resources Sensitivity*	Paleontology Resources Sensitivity*
00+00 to 20+00	Vaqueros Fm	Sandstone	–	none	low
20+00 to 108+00	Stream alluvium & Monterey Fm	Alluvium & shale	Upper Narrows	low	low
108+00 to 115+00	Santa Margarita Fm	Sandstone	Fossil shells, Paleo. Place 1	potential	high
109+00	Young alluvium	Nacimiento River	Floodplain	low	low
115+00 to 142+00	Pleistocene terraces	Old alluvium	Terrace sequence	low	low
142+00 to 145+00	Young alluvium	Small fan	Tributary	high	low
145+00 to 180+00	Pleistocene terraces	Old alluvium	Incised by tributaries	low	low
180+00 to 195+00	Monterey Fm	Shale	Black chert	none	low
195+00 to 230+00	Paso Robles Fm	Sandy	Rock cut exposure	none	low
230+00 to 245+00	Young alluvium	Nacimiento River	Floodplain	moderate	low
245+00 to 252+00	Paso Robles Fm	Clay, silt, sand, gravel	Cliff exposure	none	low
252+00 to 259+00	Old alluvium	Nacimiento River	E. Holo. Terrace	low	low
259+00 to 269+00	Young alluvium	Dry creek	–	low	low
269+00 to 290+00	Old alluvium	Nacimiento River	E. Holo. Terrace	low	low
290+00 to 295+00	Young alluvium	Dry creek	–	low	low
295+00 to 385+00	Paso Robles Fm	Clay, silt, sand, gravel	Some stream terraces	none	low
385+00 to 440+00	Old alluvium	Dry creek	Some Paso Robles Fm	low	low
440+00 to 585+00	Paso Robles Fm	Clay, silt, sand, gravel	Some stream terraces	none	low
585+00 to 685+00	Old alluvium	–	Shallow on Paso Robles Fm	low	low
685+00 to 690+00	Young alluvium	San Marcos Creek	–	moderate	low
690+00 to 695+00	Paso Robles Fm	Clay, silt, sand, gravel	Cliff	none	high
695+00 to 871+00	Old alluvium	–	Shallow on Paso Robles Fm	low	low
871+00 to 885+00	Young alluvium	Salinas River	–	low	low
885+00 to 895+00	Paleo-meander	Salinas River	Geomorphol. Place 6	low	low
895+00 to 935+00	Old alluvium	Salinas River	On Paso Robles Fm	low	low

Table 5.8.5 Project Area Locations with Potential for Presence of Cultural and Paleontology Resources

Project Station Location	Natural Feature	Description	Comments	Cultural Resources Sensitivity*	Paleontology Resources Sensitivity*
935+00 to 1035+00	Paso Robles Fm	Clay, silt, sand, gravel	Base of cliffs	low	low
1035+00 to 1080+00	Paso Robles Fm	Clay, silt, sand, gravel	Road on cliff	none	high
1080+00 to 1150+00	Old alluvium	Salinas River	Plei. Terrace	low	low
1150+00 to 1155+00	Young alluvium	Warm spring fed creek	–	moderate	low
1155+00 to 1185+00	Old alluvium	Salinas River	Plei. Terrace	low	low
1185+00 to 1215+00	Young terrace Stream terraces	Salinas River Young and old	Holo. Terrace Geomorphol. Place 7	high	low
1215+00 to 1287+00	Paso Robles Fm	Not surveyed	Microtunnels	moderate	high
1287+00 to 1310+00	Paso Robles Fm	Clay, silt, sand, gravel	Vaquero Drive	none	low
1310+00 to 1320+00	Young alluvium	Salinas River	–	low	low
1320+00 to 1340+00	Paso Robles Fm	Clay, silt, sand, gravel	Road near cliff base	none	low
1340+00 to 1360+00	Young alluvium	Salinas River	Low terrace	moderate	low
1360+00 to 1395+00	Paso Robles Fm	Clay, silt, sand, gravel	Road on cliff	none	high
1395+00 to 1420+00	Old alluvium	Salinas River	Plei. Terraces	low	low
1420+00 to 1450+00	Monterey Fm	Shales	Relizian age	none	low
1450+00 to 1525+00	Young alluvium	Salinas River	Holo. Terrace	moderate	low
1525+00 to 1597+00	Not surveyed	Alluvium & Paso Robles Fm	–	moderate	low
1597+00 to 1642+00	Old alluvium	Plei. Terrace	Templeton Road	low	low
1642+00 to 1662+00	Paleo-meander	Young alluvium	Geomorphol. Place 8	moderate	low
1662+00 to 1685+00	Old alluvium	Plei. Terrace	Rocky Canyon Rd	low	low
1685+00 to 1697+00	Paso Robles Fm	Clay, silt, sand, gravel	Road on cliff	none	high
1697+00 to 1730+00	Old alluvium	Salinas River	–	low	low
1730+00 to 1756+00	Paso Robles Fm	Clay, silt, sand, gravel	–	none	low
1756+00 to 1759+00	Monterey Fm	Shale	East side of road only	none	low
1759+00 to 1772+00	Santa Margarita Fm	Sandstone	–	none	high
1772+00 to 1817+00	Old alluvium	Salinas River	Rocky Canyon Rd	low	low
1817+00 to 1900+00	Not surveyed	Alluvium	Happy Valley	moderate	low
1900+00 to 1916+00	Old alluvium	Plei. Terrace	–	low	low
1916+00 to 2015+00	Young alluvium	Santa Margarita Creek	Geomorphol. Place 9	moderate	low
2015+00 to 2110+00	Santa Margarita	Sandstone	Geomorphol. Place 10	high	high

Table 5.8.5 Project Area Locations with Potential for Presence of Cultural and Paleontology Resources

Project Station Location	Natural Feature	Description	Comments	Cultural Resources Sensitivity*	Paleontology Resources Sensitivity*
	Fm				
2110+00 to 2132+00	Alluvium	Santa Margarita Creek	Town area	moderate	low
2132+00 to 2175+00	Young alluvium	Santa Margarita Creek	–	moderate	low
2175+00 to 2305+00	Atascadero Fm	Mudstone	Geology Place 13	none	low
2305+00 to 2375+00	Monterey Fm	Basalt	Tunnel	none	none
2375+00 to 3037+00	Alluvium	Clay, silt, sand, gravel	SLO Area	moderate	low

Note: * Cultural and Paleontology sensitivity indicates that there is a potential for buried landscapes in the area, and therefore a potential for unrecorded cultural or paleontology resources.

Fm=formation

Determination of Eligibility Regulations are published in 36 CFR §63.
Section 106 of the NHPA does not apply to paleontological resources unless the paleontological specimens are found in culturally related contexts (e.g., fossil shell included as a mortuary offering in a burial or a culturally–related site such as petrified wood locale used as a chipped stone quarry). In such instances the materials are considered cultural resources and are treated in the manner prescribed for the site in question; mitigation being almost exclusively limited to sites determined eligible for or listed on the National Register of Historic Places. It should be emphasized that cooperation between the cultural resource and paleontological disciplines is expected in such instances.

Antiquities Act of 1906 (16 United States Code [USC] 431-433)
The Antiquities Act of 1906 states, in part that any person who shall appropriate, excavate, injure or destroy any historic or prehistoric ruin or monument, or any object of antiquity, situated on lands owned or controlled by the Government of the United States, without the permission of the Secretary of the Department of the Government having jurisdiction over the lands on which said antiquities are situated, shall upon conviction, be fined in a sum of not more than five hundred dollars or be imprisoned for a period of not more than ninety days, or shall suffer both fine and imprisonment, in the discretion of the court.

Although there is no specific mention of natural or paleontological resources in the Act itself, or in the Act's uniform rules and regulations (Title 43 Part 3, Code of Federal Regulations [43 CFR 3]), "objects of antiquity" has been interpreted to include fossils by the National Park Service (NPS), the Bureau of Land Management (BLM), the Forest Service (FS), and other Federal agencies. Permits to collect fossils on lands administered by Federal agencies are authorized under this Act. Therefore, projects involving Federal lands will require permits for both paleontological resource evaluation and mitigation efforts.

Archaeological and Paleontological Salvage (23 USC 305)
Statute 23 USC 305 amends the Antiquities Act of 1906. Specifically, it states:

> *"Funds authorized to be appropriated to carry out this title to the extent approved as necessary, by the highway department of any State, may be used for archaeological and paleontological salvage in that state in compliance with the Act entitled "An Act for the preservation of American Antiquities," approved June 8, 1906 (PL 59-209; 16 USC 431-433), and State laws where applicable."*

This statute allows funding for mitigation of paleontological resources recovered pursuant to Federal aid highway projects, provided that "excavated objects and information are to be used for public purposes without private gain to any individual or organization" (Federal Register [FR] 46(19):9570).

National Environmental Policy Act of 1969 (42 USC 4321)
The National Environmental Policy Act (NEPA) directs Federal agencies to use all practicable means to "Preserve important historic, cultural, and natural aspects of our national heritage…" (Section 101(b) (4)). Regulations for implementing the procedural provisions of NEPA are found in 40 CFR 1500 1508.

If the presence of a significant environmental resource is identified during the scoping process, Federal agencies and their agents must take the resource into consideration when evaluating project effects. Consideration of paleontological resources may be required under NEPA when a project is proposed for development on Federal land, or land under Federal jurisdiction. The level of consideration depends upon the Federal agency involved.

NEPA includes cultural resources preservation within its general policy for environmental protection. It requires the preservation of important historic, cultural, and natural aspects of our national heritage, and maintenance, wherever possible, of an environment that supports diversity and a variety of individual choices. Cultural resources are considered in the preparation of all NEPA documents.

National Registry of Natural Landmarks (16 USC 461-467)
The National Natural Landmarks (NNL) program was established in 1962 and is administered under the Historic Sites Act of 1935. Implementing regulations were first published in 1980 under 36 CFR 1212 and the program was re-designated as 36 CFR 62 in 1981. A National Natural Landmark is defined as:

> *... an area designated by the Secretary of the Interior as being of national significance to the United States because it is an outstanding example(s) of major biological and geological features found within the boundaries of the United States or its Territories or on the Outer Continental Shelf (36 CFR 62.2).*

National significance describes:

> *... an area that is one of the best examples of a biological community or geological feature within a natural region of the United States, including terrestrial communities, landforms, geological features and processes, habitats of native plant and animal species, or fossil evidence of the development of life (36 CFR 62.2).*

Federal agencies (e.g., FHWA) and their agents (e.g., Caltrans) should consider the existence and location of designated NNLs, and of areas found to meet the criteria for national significance, in assessing the effects of their activities on the environment under section 102(2)(c) of the NEPA (42 USC 4321). The NPS is responsible for providing requested information about the National Natural Landmarks Program for these assessments (36 CFR 62.6(f)). However, other than consideration under NEPA, NNLs are afforded no special protection. Furthermore, there is no requirement to evaluate a paleontological resource for listing as an NNL. Finally, project proponents (State and local) are not obligated to prepare an application for listing potential NNLs, should such a resource be encountered during project planning and delivery.

Federal-Aid Highway Act of 1935 (20 USC 78)
Section 305 of the Federal Aid Highway Act of 1956 (20 USC 78, 78a) gives the Federal Highway Administration (FHWA) authority to use Federal funds to salvage archaeological and paleontological sites affected by highway projects.

Section 4(f) of the Department of Transportation Act of 1966 (23 USC 138; 49 USC 1653)
The Department of Transportation Act specifically protects public park and recreation lands, wildlife and waterfowl refuges and historic sites. Under its provisions, a federally assisted highway project cannot adversely take property of these types unless it can be shown that there is no prudent or feasible alter-native to doing so. Section 4(f) applies only when there is an actual taking of land from or constructive use of a historic property. Section 4(f) evaluation requires documentation of completion of the Section 106 process.

Section 4(f) of the Department of Transportation Act does not specifically address paleontological resources. This section of the law places restrictions on the ability of the FHWA to take publicly owned land 4(f) properties (which include parks, recreation areas, wildlife or waterfowl refuges, and National Register of Historic Places eligible or listed properties). Paleontological resources would only be addressed under this law if located within a 4(f) property.

5.8.2.2 State Regulations

California Environmental Quality Act
CEQA declares that it is state policy to "take all action necessary to provide the people of this state with ... historic environmental qualities." It further states that public or private projects financed or approved by the state are subject to environmental review by the state. All such projects, unless entitled to an ex-emption, may proceed only after this requirement has been satisfied. CEQA requires detailed studies that analyze the environmental effects of a proposed project. In the event that a project is determined to have a potential significant environmental effect, the act requires that alternative plans and mitigation measures be considered. CEQA includes historic and archaeological resources as integral features of the environment. The California Environmental Quality Act (CEQA) (Chapter 1, Section 21002) states that:

> *"… it is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects, and that the procedures required are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects."*

The CEQA Guidelines (Article 1, Section 15002(a)(3)) state that CEQA is intended to:

> *"...prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible."*

CEQA Guidelines, Appendix G, states, in part, that:

> *"A project will "normally" have a significant effect on the environment if it, among other things, will disrupt or adversely affect…a paleontological site except as part of a scientific study."*

If paleontological resources are identified during the Preliminary Environmental Analysis Report (PEAR), or other initial project scoping studies, as being within the proposed project area, the sponsoring agency (Caltrans or local) must take those resources into consideration when evaluating project effects. The level of consideration may vary with the importance of the resource.

State Executive Order, Executive Order W-26-92
The Governor's Executive Order W-26-92 directs all state agencies to administer the cultural and historic properties under their control, whether state owned or not, in a spirit of stewardship, and to initiate measures to preserve, restore, and maintain significant state-owned properties. It specifically requires agencies to develop management plans for their significant heritage resources, and to complete the inventories of their state-owned historical resources as directed in PRC §5024.

California Administrative Code
Four sections of the California Administrative Code (Title 14, State Division of Beaches and Parks) administered by the California Department of Parks and Recreation CDPR) address paleontological resources. These include:

> *Section 4306: Geological Features - "No person shall destroy, disturb, mutilate, or remove earth, sand, gravel, oil, minerals, rocks, or features of caves."*
>
> *Section 4307: Archaeological Features - "No person shall remove, injure, disfigure, deface, or destroy any object of paleontological, archaeological, or historical interest or value."*
>
> *Section 4308: Property - "No person shall disturb, destroy, remove, deface, or injure any property of the state park system. No person shall cut, carve, paint, mark, paste, or fasten on any tree, fence, wall, building, monument, or other property in the state parks, any bill, advertisement, or inscription."*
>
> *Section 4309: Special Permits - "Upon a finding that it will be for the best interest of the state park system and for state park purposes, the director may grant a permit to remove, treat, disturb, or destroy plants or animals or geological, historical, archaeological, or paleontological materials; and any person who has been properly granted such a permit shall to that extent not be liable for prosecution for violation of the foregoing. "*

These sections of the California Administrative Code establish authority and processes to protect paleontological resources while allowing mitigation through the permit process.

California Public Resources Code

California Register of Historical Resources (PRC §5024.1)
Public Resources Code § 5024.1 establishes the California Register of Historical Resources. The register is listing of all properties considered to be significant historical resources in the state. The California Register includes all properties listed or determined eligible for listing on the

National Register, including properties evaluated under Section 106, and State Historical Landmarks from No. 770 on. The criteria for listing are the same as those of the National Register. The California Register statute specifically provides that historical resources listed, determined eligible for listing on the California Register by the State Historical Resources Commission, or resources that meet the California Register criteria are resources which must be given consideration under CEQA (see above). Other resources, such as resources listed on local registers of historic registers or in local surveys, may be listed if they are determined by the State Historic Resources Commission to be significant in accordance with criteria and procedures to be adopted by the Commission and are nominated; their listing in the California Register, is not automatic.

State owned Historical Resources (PRC §5024-5024.5)
Section 5024 requires each state agency to "formulate policies to preserve and maintain, when prudent and feasible, all state-owned historical resources under its jurisdiction." It directs agencies to prepare inventories of all state-owned historical resources and to evaluate them using the National Register and State Historical Landmark criteria. "State-owned structures in freeway rights-of-way shall be inventoried before approval of any undertaking which would alter their original or significant features or fabric, or transfer, relocate, or demolish those structures." Until the inventory is complete, state agencies shall ensure that any structure which might qualify is not inadvertently transferred or altered.

In 1992, Section 5024.1 was added, establishing the California Register of Historical Resources to identify the state's historical resources, and "to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change." PRC 5024.5 stipulates that before any state agency alters, transfers, relocates, or demolishes listed historical resources, the agency will give the State Historic Preservation Officer the opportunity to review and comment on the proposed action. This section further requires state agencies and the State Historic Preservation Officer to adopt prudent and feasible measures to eliminate or mitigate adverse effects to historic structures.

Native American Grave Artifacts (PRC §5097.991)
This section states that "it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated."

Native American Religious Freedom (PRC §5097.9 et seq)
Section 5097.9 stipulates it is contrary to the free expression and exercise of Native American religions for public agencies to interfere with or cause severe irreparable damage to any Native American cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public lands. The only exception occurs when it can be clearly and convincingly demonstrated that the public interest and necessity require such action.

Disturbance of an Archeological Site (PRC §5097.5)
Section 5097.5 indicates it is a misdemeanor for a person to knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological, or vertebrate paleontological site situated on public lands, except with expressed permission of the public agency having jurisdiction over such lands. As used in this section,

(Public Lands) mean lands owned by, or under the jurisdiction of the State, or any city, county, district, authority or public corporations, or any agency thereof.

California Coastal Act

Section 30244 states that "where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required."

The California Coastal Act, in part, authorizes the California Coastal Commission (CCC) to review permit applications for development within the coastal zone and, where necessary, to require reasonable mitigation measures to offset effects of that development. Permits for development are issued with "special conditions" to ensure implementation of these mitigation measures.

If the CCC determines that a paleontological resource is present within an applicant's proposed project area, they generally look for evidence that the applicant has taken the resource into consideration (e.g., through formal survey by a professional paleontologist with implementation of resulting recommendations). If a paleontological site is present, special permit conditions may range from avoidance of the site to construction monitoring and/or salvage of significant fossils. This approach virtually parallels the level of protection afforded to paleontological resources by CEQA.

Under CEQA, only sites determined to be important cultural resources require a determination of impact and, if necessary, mitigation measures. Until an evaluation of resource importance (Phase II investigation) is conducted for each of the cultural resource sites located along the project's reaches, each site must be considered as potentially important. The California Coastal Act stipulates that if development will adversely impact archaeological resources, mitigation measures will be defined; therefore, it is considered that all resources discovered during this study would be adversely impacted and mitigation measures would be developed.

5.8.2.3 Local Rules and Regulations

Few county or city planning documents refer to specific cultural resources policies. The majority of counties and cities in California rely on CEQA, the California Public Resources Code, and in coastal locations, the California Coastal Act of 1976. SLO County has adopted these statewide policies as well as stipulating specific policies within their Land Use Element, local Coastal Plan Policies document.

5.8.3 Significance Criteria

For environmental assessment documents, "historically significant" sites have been defined as those that meet the criteria for significance defined in CEQA, Section 15064.5 and revised effective February 1999 (Public Resource Code 5024.1, title 14 CCR, Section 4852). The State Historical Commission is officially responsible for determining whether a property is eligible for listing in the California Register of Historical Resources (Public Resources Code Section 21084.1; CEQA Guidelines Section 15064.5 (a)(1)).

Under CEQA provisions and guidelines, a proposed project is considered to have a significant effect on the environment if:

- It has the potential to degrade the quality of the environment, curtail the range of the environment, or to achieve short-term, to the disadvantage of long-term, environmental goals (Public Resources Code Section 21083 [a]); or
- If a project may affect an archaeological resource, the permitting agency shall determine whether the effect may be a significant effect on the environment. If the project may cause damage to an important archaeological resource, the project may have a significant effect on the environment (CEQA Section 15064.5).

A second set of standards used for federal projects or properties in determining whether a site or a resource may be considered "significant" is the eligibility criteria of listing in the NRHP. These federal criteria provided the basis for those CEQA criteria listed above for the California Register. Sites or resources that are on federal property, like Camp Roberts, are evaluated to these criteria that are more rigorous and require more detailed documentation. For instance, NRHP determination require complete boundary definition, determining site contents and internal organization, and a review of broad based research questions that the historic property may be applicable to if tested, and documentation of integrity on all parts of the site.

According to the definition outlined in Section 15064.5 of CEQA an important archaeological resource is one which: Generally, a resource shall be considered by the Lead Agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code § 5024.1, Title 14 CCR, Section 4852) including the following:

(A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(B) Is associated with the lives of persons important in our past;

(C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

(D) Has yielded, or may be likely to yield, information important in prehistory or history.

5.8.4 Proposed Project Impacts and Mitigation Measures

Each of the paleontology, geology and archaeological (historical and pre-historical cultural) sites and isolated artifact locations were evaluated with respect to potential significance and potential impacts by the construction activity of the NWP. Impacts can occur from actual trenching for the pipe, grading of adjacent landforms to support the pipe trench, staging areas for construction, stockpiling, borrow areas for soil or rock, temporary roads created or improved during construction activities. These impacts have been evaluated and are discussed below.

5.8.4.1 Treated Water Option

Impact	Impact Description	Residual Impact
CR.1	Soil moving construction activities (e.g., trenching, excavating) could impact significant and important paleontology resources.	Class II

One location at the Nacimiento River crossing is a paleontology resource that could be impacted by construction trenching (see Table 5.8.6). Direct adverse impacts are uncertain. Given the nature of the resource, what would be encountered is probably the same as that observed in the rock faces south of the river.

The locations with paleontology sensitivity have been determined from geology and geomorphology data. This type of data allows for identifying locations where ancient landscape surfaces have been buried intact. These ancient landscape surfaces may have been used in prehistoric times, and therefore may contain unrecorded cultural or paleontology resources. Nine areas in the project area have been determined to have moderate or high potential (sensitivity) for paleontology resources. Details on these areas, along with the proposed mitigations are summarized in the second part of Table 5.8.6.

Table 5.8.6 Project Areas with Confirmed or Potential Paleontology Resources

Confirmed Paleontology Resources					
Project Station Location	**Natural Feature**	**Significance of Resource**	**Distance from ROW**	**Adverse Impact**	**Mitigation Measure**
112+00	Santa Margarita Formation	yes	60’ SW	Potential	CR-1, -2, -3
Project Locations with Paleontology Sensitivity					
Project Station Location	**Natural Feature**	**Description**	**Comments**	**Sensitivity**	**Mitigation**
108+00 to 115+00	Santa Margarita Fm	Sandstone	Fossil shells	Slight to moderate	CR-1, -2, -3
440+00 to 585+00	Paso Robles Fm	Clay, silt, sand, gravel	Some stream terraces	Slight to moderate	CR-1, -2, -3
690+00 to 695+00	Paso Robles Fm	Clay, silt, sand, gravel	Cliff	Moderate	CR-1, -2, -3
1035+00 to 1080+00	Paso Robles Fm	Clay, silt, sand, gravel	Road on cliff	Moderate	CR-1, -2, -3
1215+00 to 1287+00	Paso Robles Fm	Not surveyed	Microtunnels	Moderate	CR-1, -2, -3
1360+00 to 1395+00	Paso Robles Fm	Clay, silt, sand, gravel	Road on cliff	Moderate	CR-1, -2, -3
1685+00 to 1697+00	Paso Robles Fm	Clay, silt, sand, gravel	Road on cliff	Moderate	CR-1, -2, -3
1759+00 to 1772+00	Santa Margarita Fm	Sandstone		Moderate	CR-1, -2, -3
2015+00 to 2110+00	Santa Margarita Fm	Sandstone	Geomorph. Place 10	High	CR-1, -2, -3

Note: Fm=formation.

Mitigation Measures

CR-1 *Prior to authorization to proceed or issuance of permits, the applicant shall submit a paleontological resources monitoring plan to the appropriate jurisdiction for review and approval. Monitoring shall be required for all surface alteration and subsurface excavation work including trenching, boring, grading, use of staging areas and access roads, and driving vehicles and equipment within the boundaries of all exposed sensitive geological formations. A qualified professional paleontologist that is approved by the Lead Agency in consultation with all affected jurisdictions shall prepare the plan. The plan shall address (but not be limited to) the following issues:*

1. Training program/workshops for all construction and field workers;

2. Person(s) responsible for conducting monitoring activities;

3. How the monitoring shall be conducted and required format and content of monitoring reports;

4. Person(s) responsible for overseeing and directing the monitors;

5. Schedule for submittal of monitoring reports and person(s) responsible for review and approval of monitoring reports;

6. Clear delineation and fencing off if necessary of sensitive geological formations/paleontology resources requiring monitoring within each pipeline reach (onsite, only the construction foreman, environmental monitor, and project engineer shall have access to this information);

7. Physical monitoring boundaries (e.g. 100 feet each side of formation);

8. Protocol for notifications in case of encountering of cultural resources, as well as methods of dealing with the encountered resources (e.g., collection, identification, curation);

9. Methods to ensure site security;

10. Protocol for notifying local authorities (i.e. Sheriff, Police) should site looting and other illegal activities occur during construction.

CR-2 *Prior to authorization to proceed or issuance of permits, the applicant shall retain a qualified professional paleontologist to monitor construction activities pursuant to the approved paleontological resources monitoring plan. The monitoring shall include inspection of exposed rock units and microscopic examination of matrix to determine if fossils are present, preparation of monthly progress reports and filed with the applicant, the Lead Agency, and the appropriate jurisdiction pursuant to the approved paleontological resources monitoring plan. The monitor (professional paleontologist or their representative) shall have authority to temporarily divert grading and construction equipment away from exposed fossils to recover the fossil specimens if fossils or other resources are encountered.*

CR-3 *Prior to authorization to proceed or issuance of permits, the applicant shall present an agreement to pay associated curation fees to the chosen accredited repositories.*

In the event that fossils are discovered, the following mitigation measures shall be implemented to reduce the significance of the impacts to paleontology resources:

CR-4 *In the event fossils are discovered by the retained monitor during construction, the professional paleontologist (or their representative) shall ensure the implementation of the following measures as necessary:*

- Fossils shall be collected, prepared, tested or identified by qualified experts, and listed in a database to allow analysis;

- At each fossil locality, field data forms shall record the locality, stratigraphic columns shall be measured when possible, and appropriate scientific samples submitted for analysis; and

- The qualified professional paleontologist shall recommend one or more accredited repositories for collected fossils depending on the abundance and origin of those fossils.

CR-5 *Prior to final inspection of the completed project, the applicant shall submit a final mitigation report prepared by the retained professional paleontologist to the Lead Agency, the appropriate jurisdiction, and the chosen accredited repository pursuant to the approved paleontological resources monitoring plan.*

Residual Impacts

Implementation of the measures recommended above will ensure that any significant fossils encountered in the identified sections of the excavations will be properly considered for their scientific value. Therefore, this impact is *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
CR.2	Soil moving construction activities (e.g., trenching, excavating) could impact significant and important geology resources.	Class III

A total of 11 geologic locations with potentially significant resources have been identified along the proposed pipeline route (see Figure 5.8-1 and Table 5.8.7). Most of the identified geologic items are recognized for their importance in pre-historical or historical rock extraction activities but will not be directly impacted by the pipeline construction. Care during construction should, however, be taken to keep existing rock exposures clear of backfill and unnecessary grading in order to maintain the integrity of the existing landscape.

Table 5.8.7 Inventory of Geology Resources for the Proposed Project

Project Location	Type of Resource or Natural Feature	Geology Resource No.	Significance of Resource	Distance from ROW	Adverse Impact	Proposed Mitigation Measures
75+00	Base of luisian	Place #1	no	n.d.	none	none
144+00	Buried tar sands	Place #2	no	n.d.	none	none
192+00	Black chert	Place #3	no	n.d.	none	none
922+00	Warm springs	Place #4	no	n.d.	none	none
1015+00	Anticline	Place #5	no	n.d.	none	none
1154+00	Warm springs	Place #6	no	n.d.	none	none
1691+00	Buttress unconformity	Place #7	no	n.d.	none	none
1757+00	Rinconada fault	Place #8	no	n.d	none	none
1947+00	Santa Margarita form.	Place #9	no	n.d.	none	none
2132+00	Nacimiento fault	Place #10	no	n.d.	none	none
2200+00	Atascadero form.	Place #11	no	n.d.	none	none

Note: Form = formation

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts

Residual impacts to geological resources would be *adverse but not significant* (Class III).

Table 5.8.8 Inventory of Geomorphology Places in the Project Area

Project Station Location	Type of Resource of Natural Feature	Geomorphology Resource No.	Significance of Resource	Distance from ROW	Adverse Impact	Mitigation
111+00	Constricted channel	Place #1	no	n.d.	none	none
116+00	Rincon soil	Place #2	no	n.d.	none	none
313+00	Caves	Place #3	no	n.d.	none	none
393+00	Arbuckle-Positas soil	Place #4	no	n.d.	none	none
480+00	Calcrete	Place #5	no	n.d.	none	none
888+00	Paleo-meander	Place #6	no	n.d.	none	none
1185+00 to 1215+00	Terraces	Place #7	no	n.d.	potential	CR-1, -2, -3
1642+00 to 1662+00	Paleo-meander	Place #8	no	n.d	potential	CR-1, -2, -3
1920+00 to 2015+00	Alluvial deposits	Place #9	no	n.d.	potential	CR-1, -2, -3
2015+00 to 2102+00	Sandy soils	Place #10	no	n.d.	potential	CR-1, -2, -3

Impact	Impact Description	Residual Impact
CR.3	Soil moving construction activities (e.g., trenching, excavating) could impact significant and important geomorphology resources.	Class II

A total of 10 geomorphology places with potentially significant resources have been identified along the proposed pipeline route (see Table 5.8.8). These areas have been chosen to represent landforms and soils of interest in defining cultural settings, and natural features of interest to archaeology. These locations may hold keys to understanding the location of prehistoric and historic activities in SLO County.

Mitigation Measures

Mitigation Measures CR-1, CR-2 and CR-3 shall be implemented for the segments of the project area listed in the above Tables. In the event that sensitive resources are encountered, Mitigation Measures CR-4 and CR-5 shall be implemented.

Residual Impacts

After implementation of the proposed mitigation measures, residual impacts to geomorphology resources would be *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
CR.4	Soil moving construction activities (e.g., trenching, excavating) could impact significant and important prehistoric cultural resources.	Class II

There have been 27 locations identified along or adjacent to the proposed pipeline route that contain cultural resources. These included 19 previously recorded archaeological sites, 7 previously unrecorded archaeological sites and one isolated artifact. Of these, five were not considered significant due to their apparent lack of integrity, lack of uniqueness or being only a single isolated artifact (SLO-134, SLO-1772, ISO-214, SLO-SYR-31/H, ISO-213). The remaining 22 sites can all be considered potentially significant as outlined in CEQA and NEPA criteria. The information about the 27 prehistoric cultural sites and the proposed mitigation measures are summarized in Table 5.8.9.

Locations with cultural resources sensitivity have been determined from geology and geomorphology data. This type of data allows for identifying locations where ancient landscape surfaces have been buried intact. Sixteen (16) areas along the pipeline route have been determined to have potential land surfaces of the Holocene age which can be buried in the subsurface and may not be evident to surface surveys. Since these land surfaces were extensive during prehistoric occupation of the area, they are potentially associated with buried, intact prehistoric cultural deposits. Such areas should be identified during archaeological workshops as areas where buried cultural materials could be discovered. Depending of the specific location and degree of sensitivity, various levels of effort are recommended. These can range from archaeological workshops, to spot checks, to full time monitoring by archaeological monitors during construction to minimize impacts to potential buried sites. Details on these areas along with the proposed mitigation measures are summarized in Table 5.8.10.

Mitigation Measures

CR-6 *Prior to authorization to proceed, or issuance of permits, the applicant shall prepare and submit a cultural resources monitoring plan to the appropriate jurisdiction for review and approval. Monitoring shall be required for all surface alteration and subsurface excavation work including trenching, boring, grading, use of staging areas and access roads, and driving vehicles and equipment within the boundaries of all exposed sensitive cultural resources. A qualified professional archaeologist (cultural resources monitor) that is approved by the Lead Agency in consultation with all affected jurisdictions shall prepare the plan. The plan shall address (but not be limited to) the following issues:*

1. Training program for all construction involved in site disturbance and field workers;

2. Person(s) responsible for conducting monitoring activities;

3. How the monitoring shall be conducted and required format and content of monitoring reports, including any necessary archaeological re-survey of the final pipeline alignment, assessment, designation and mapping of the sensitive cultural resource areas on final project maps, assessment and survey of any previously un-surveyed areas;

4. Person(s) responsible for overseeing and directing the monitors;

5. Schedule for submittal of monitoring reports and person(s) responsible for review and approval of monitoring reports;

6. Procedures and construction methods to avoid sensitive cultural resource areas (i.e. boring conduit underneath recorded or discovered cultural resource site);

7. Clear delineation and fencing off if necessary of sensitive cultural resource areas requiring monitoring within each sub-segment;

8. Physical monitoring boundaries (e.g., 100 feet each side of a site);

9. Protocol for notifications in case of encountering of cultural resources, as well as methods of dealing with the encountered resources (e.g., collection, identification, curation);

10. Methods to ensure security of cultural resources sites;

11. Protocol for notifying local authorities (i.e. Sheriff, Police) should site looting and other illegal activities occur during construction.

CR-7 *Prior to authorization to proceed or issuance of permits, the applicant shall submit plans to the appropriate jurisdiction for review and approval showing the boundaries of all known archaeological and historical sites and a buffer line drawn 100 feet from the boundaries of the known sites along the project route. For any pipeline segments where soil disturbance is expected and that have not been surveyed for presence of cultural resources, the Applicant shall ensure that such surveys are conducted prior to finalizing of the project plans, and results are included into the project plans and maps prior to submission for authorization. Limited activity may occur within the 100-foot buffer area (outside of the boundaries of known sites) as permitted by the appropriate jurisdiction in consultation with the cultural resources monitor. Due to high confidential nature of these documents, on site, only the construction foreman, environmental monitor, and project engineer shall have access to these plans.*

CR-8 *Prior to authorization to proceed or issuance of permits, the construction foreman, project manager(s), and all construction workers associated with the proposed project that would be involved in site disturbance shall participate in a cultural resources training/workshop to be conducted by the approved cultural resources monitor. The training shall highlight on the significance of cultural resources and the legal consequences of looting, disturbing, destroying these resources or violating approved mitigation measures. A declaration confirming the training's occurrence shall be prepared by the monitor and signed by all persons in attendance. This signed declaration shall be submitted to the appropriate jurisdiction.*

Table 5.8.9 Inventory of Prehistoric Cultural Resources for the Proposed Project

Project Station Location	Location Name	Resource No.	Type of Resource	Distance from ROW	Subsurface Sample	Significance of Resource	Adverse Impact	Mitigation Measures
27+00	SLO-134	prehistoric #1	BRM, mortars, points (not found, destroyed?)	500'	no	no	no	none
72+50	SLO-2216	prehistoric #2	camp site: chipped stone, burnt rock, shell	30'	no	yes	yes	CR-6—CR-10, CR-12, CR-13
112+00	SLO-670	prehistoric #3	rock shelter: BRM, shell, chipped stone	60'	yes	yes	potential	CR-6—CR-10
143+00	SLO-1169	prehistoric #4	village site: ground and chipped stone, shell, bone, beads	0'	yes	yes	yes	CR-6—CR-10, CR-12, CR-14
177+50	SLO-2215	prehistoric #5	camp site: BRM, chipped stone	6'	no	yes	yes	CR-6—CR-10, CR-12, CR-15
235+00	SLO-1772	prehistoric #6	displaced chipped stone (not intact)	375'	yes	no	no	none
250+00	SLO-1180	prehistoric #7	village: ground and chipped stone, shell, bone, beads	0'	yes	yes	yes	CR-6—CR-10, CR-12, CR-16
390+00	SLO-2210	prehistoric #8	camp site along trail (?): chipped stone, burnt rock	0'	no	yes	yes	CR-6—CR-10, CR-12
560+00	SLO-1828	prehistoric #9	camp site (?): chipped stone	50'	no	yes	yes	CR-6—CR-10, CR-12, CR-17
665+00	ISO-214	prehistoric #10 (isolate)	isolated chert artifact	20'	no	yes	potential	CR-6—CR-10, CR-12
1193+00	SLO-SYR-40/H	historic/prehistoric #11	village: historic/ground and chipped stone, hearths, shell, beads	200'	yes	yes	potential	CR-6—CR-10, CR-12
1193+00	SLO-SYR-31/H	historic/prehistoric #12	buried site (?): historic and chipped stone	200'	yes	no	potential	CR-6—CR-10, CR-12
1200+00	SLO-SYR-21	prehistoric #13	village: ground and chipped stone	200'	yes	yes	potential	CR-6—CR-10, CR-12
1213+00	SLO-2214	prehistoric #14	camp site (?): chipped stone, burnt rock	0'	no	yes	yes	CR-6—CR-10,

Table 5.8.9 Inventory of Prehistoric Cultural Resources for the Proposed Project

Project Station Location	Location Name	Resource No.	Type of Resource	Distance from ROW	Subsurface Sample	Significance of Resource	Adverse Impact	Mitigation Measures
								CR-12, CR-18
1637+00	SLO-2213	prehistoric #15	camp site (?): chipped stone, shell	0'	no	yes	yes	CR-6—CR-10, CR-12
2022+00	SLO-1978/H	historic/prehistoric #16	camp site: historic bottle, chipped stone	0'	yes	yes	yes	CR-6—CR-10, CR-12, CR-19
2050+00	SLO-1429	prehistoric #17	camp site: chipped stone, burnt rock	100'	yes	yes	potential	CR-6—CR-10
2062+00	SLO-1959/H	historic/prehistoric #18	camp site: historic materials, chipped stone	0'	no	yes	yes	CR-6—CR-10, CR-12, CR-19
2072+00	SLO-1386	prehistoric #19	camp site: chipped stone	0'	no	yes	yes	CR-6—CR-10, CR-12, CR-19
2080+00	SLO-1387	prehistoric #20	camp site: chipped stone	0'	no	yes	yes	CR-6—CR-10, CR-12, CR-19
2087+00	SLO-2056	prehistoric #21	village (?): ground and chipped stone	60'	no	yes	yes	CR-6—CR-10, CR-12, CR-19
2095+00	SLO-2212	prehistoric #22	burnt rock, chipped stone (related to SLO-587)	20'	no	yes	yes	CR-6—CR-10, CR-12, CR-19
2102+00	SLO-587	prehistoric #23	village: ground and chipped stone, shell, burnt rock	50'	no	yes	yes	CR-6—CR-10, CR-12, CR-19
2170+00	SLO-2211	historic/prehistoric #24	Historic shell, chipped stone	15'	no	yes	yes	CR-6—CR-10, CR-12, CR-20
2180+00	ISO-213	prehistoric #25	BRM	25'	no	no	no	none
2205+00	SLO-593	prehistoric #26	BRM, chipped stone	20'	no	yes	no	CR-6—CR-10, CR-12
2264+00	SLO-538	prehistoric #27	BRM, isolated pestle	50'	no	no	no	CR-6—CR-10
2400+00	SLO-2283	prehistoric #28	Red outcrop	50'	no	yes	none	CR-6—CR-10

Table 5.8.9 Inventory of Prehistoric Cultural Resources for the Proposed Project

Project Station Location	Location Name	Resource No.	Type of Resource	Distance from ROW	Subsurface Sample	Significance of Resource	Adverse Impact	Mitigation Measures
2650+00	–	historic #29	Foothill rock culvert	200'	no	no	none	none
2650+00	–	historic #30	Foothill retaining wall	250'	no	no	none	none
2700+00	WC-ISO-1	prehistoric #31	Prehistoric isolate	300'	no	no	none	none
2750+00	–	historic #32	Rock wall site	250'	no	yes	none	CR-6—CR-10
2900+00	SLO-1427	prehistoric #33	Lithic Scatter Site, BRM, rock shelter/cave, worship/ritual, sacred/power area. Potential burial sites.	50’	yes	yes	potential	CR-6—CR-10
2900+00	SLO-2282	prehistoric #34	Red point site	125'	no	yes	none	CR-6—CR-10
2900+00	SLO-2281	prehistoric #35	Rock lined feature	250'	no	no	none	none
2950+00	–	historic #36	Afuera road culvert	10'	no	no	none	none
3000+00	–	historic #37	Orcutt road culvert	10'	no	no	none	none
3000+00	–	modern #38	Woods Pet Cemetery	50'	no	no	none	none

Note: BRM = bed rock mortar.

Table 5.8.10 Project Area Locations with Potential for Buried Land Surfaces and Therefore for Presence of Cultural Resources

Project Station Location	Natural Feature	Description	Comments	Potential for Buried Landsurfaces	Mitigation
108+00 to 115+00	Santa Margarita Fm	Fossiliferous sandstone	Near Paleo. Place 1	potential	CR-6—CR-10
142+00 to 145+00	Young alluvium	Small fan	Tributary	high	CR-6—CR-10
230+00 to 245+00	Young alluvium	Nacimiento River	Floodplain	moderate	CR-6—CR-10
685+00 to 690+00	Young alluvium	San Marcos Ck	–	moderate	CR-6—CR-10
1150+00 to 1155+00	Young alluvium	Warm spring fed creek	–	moderate	CR-6—CR-10
1185+00 to 1215+00	Young terrace	Salinas River	Holo. Terrace	high	CR-6—CR-10
1215+00 to 1387+00	Paso Robles Fm	Not surveyed	Micro tunnels	moderate	CR-6—CR-10
1340+00 to 1360+00	Young alluvium	Salinas River	Low terrace	moderate	CR-6—CR-10
1450+00 to 1525+00	Young alluvium	Salinas River	Holo. Terrace	moderate	CR-6—CR-10
1525+00 to 1597+00	Not surveyed	Alluvium & Paso Robles Fm	–	moderate	CR-6—CR-10
1642+00 to 1662+00	Paleo-meander	Young alluvium	Geomorph. Place 8	moderate	CR-6—CR-10
1817+00 to 1900+00	Not surveyed	Alluvium	Happy Valley	moderate	CR-6—CR-10
1916+00 to 2015+00	Young alluvium	Santa Margarita Creek	Geomorph. Place 9	moderate	CR-6—CR-10
2015+00 to 2110+00	Santa Margarita Fm	Sandstone	Geomorph. Place 10	high	CR-6—CR-10
2110+00 to 2132+00	Alluvium	Santa Margarita Creek	Town area	moderate	CR-6—CR-10
2132+00 to 2175+00	Young alluvium	Santa Margarita Creek	–	moderate	CR-6—CR-10

Note: Fm = formation.

Source: The list of locations was assembled from geology and geomorphology data.

CR-9 *During any soil disturbance activities (e.g., trenching, boring, excavation) in the locations with the known or potential cultural resources, cultural resource monitoring shall be conducted by a qualified archaeologist and Native American monitor familiar with the resource types potentially present in these locations. The qualified professional archaeologist (or their representative) and Native American shall conduct monitoring activities based on the cultural resources monitoring plan.*

CR-10 *The following activities shall be excluded from known designated and discovered cultural resource sites: 1) excavation; 2) staging equipment, machinery, or vehicles on undisturbed or exposed portions of the cultural resource; 3) collection, removal or unnecessary displacement of any artifacts, "eco-facts" or other cultural remains; 4) stockpiling of imported soils within the designated sensitive area; 5) removal of native soils outside a sensitive area. Every effort shall be made to contain and collect any chemical/fuel spills immediately.*

In the event of encountering of cultural resources, the following mitigation measures shall be implemented.

CR-11 *In the event unknown archaeological resources are discovered, the following standards shall apply:*

1. Construction activities shall cease, and the project archaeologist shall be notified so that the extent and location of discovered materials may be recorded by a qualified archaeologist and disposition of artifacts may be accomplished in accordance with state and federal law. The project archeological monitor (professional archaeologist or their representative) shall be responsible to notify the local jurisdiction.

2. In the event archaeological resources are found to include human remains, or in any other case when human remains are discovered during construction, the County or City Coroner shall be notified in addition to the appropriate jurisdictions so proper disposition may be accomplished.

Several locations with identified cultural resources have been recommended for archaeological testing prior to proceeding with construction (also see Table 5.8.9). Each type of testing would be determined for a specific resource by a qualified archaeologist.

CR-12 ***Phase II Subsurface Testing.*** *Shall be implemented for the areas where there is a potential for intact cultural deposits to occur in the pipeline ROW. Two methods of testing may be used depending on the density of surface artifacts, surface conditions, and type of cultural site. Which specific testing would be used for which cultural resource would be determined by a qualified professional archaeologist depending on the available information at the time of the project.*

Backhoe Testing. *This is a preliminary testing method designed to determine presence or absence of cultural materials particularly in a buried context. Backhoe testing is only done until the presence of cultural materials and their integrity is confirmed. For the proposed project, this testing is recommended for the Santa Ysabel Ranch area between pipeline Sta. 1185+00 and 1200+00. No definite prehistoric sites were identified on the surface in this 50-foot wide ROW area but exist on both sides of the proposed ROW. Backhoe trenches should be excavated at approximately 100-foot* *intervals along the proposed ROW to a depth slightly greater that the maximum depth expected for the bottom of the trench for the pipeline. If any intact cultural deposits are encountered, then a controlled excavation method should be utilized to define the nature and extend of the cultural materials.*

Controlled Excavation. *In cases where surface artifacts are present within or adjacent to the pipeline ROW and could be adversely impacted by actual construction excavation or staging areas, a series of controlled test units should be excavated. The tests shall be planned and executed under a supervision of a qualified professional archaeologist. Typical size should be 1 x 1 meter, excavated in 10 or 20 cm levels, screened with 1/8" mesh or smaller screen and excavated to sterile soil. In some cases these can be placed adjacent to pavement where the pipeline is scheduled to go beneath pavement. This will expose a profile of the cultural strata and allow a determination to be made about the possibility of intact cultural materials beneath the pavement that would be impacted by the pipeline construction. Test units should be placed at approximately 50-foot increments depending on the density of cultural materials encountered.*

Sample Analysis. *Standard analyses including C-14 dating, could be recommended by a qualified archaeologist to provide information on the boundaries, content, integrity and significance of cultural resources in the pipeline ROW. This controlled sample would be used to minimize adverse impacts by providing information to help define minor re-alignments of the pipe ROW to completely avoid impacts or greatly minimize them by locating the pipeline in the lowest density areas of the cultural deposits.*

Phase III Data Recovery Program. *Finally, after all avoidance and minimizing of adverse impacts is done, this subsurface testing can be used to develop a Phase III data recovery program for all unavoidable adverse impacts to significant cultural resources.*

Resource-specific mitigation measures are outlined below. These measures shall be implemented for a specific prehistoric cultural resource and are mostly related to those resources where significant adverse impacts can be avoided by relocating the proposed pipeline and facilities to a different place, typically not more that 100 feet from the proposed location.

CR-13 *Prehistoric Cultural Resource (PCR) #2. Prior to construction in this area, a small scale subsurface testing program should be conducted along the edge of the road to determine if any significant cultural materials are present and if they would be affected by the pipeline construction. If present, the testing could define the boundaries of the cultural materials and the pipeline could be moved north of the dirt road, perhaps no more than 30–50 feet to avoid adverse impacts to all cultural materials from this site.*

CR-14 *PCR #4. It is recommended that the pipeline be located along the south side of the dirt road in areas of deepest cut. SLO-1169 could be completely avoided by moving the pipeline ROW upslope of the dirt road to the west by approximately 60-feet. If avoidance is not possible, additional subsurface testing would be needed to supplement existing information and define the boundaries, content and significance of the cultural resources of this site. Based on the Phase II testing, appropriate* *recommendations can be made regarding treatment of any significant cultural resources that would be affected by the proposed pipeline.*

A large staging area, 200-feet by 600-feet that would cover most of PCR #4 site shall be moved from this location entirely. Another location along the actual pipeline ROW shall be selected. One possible location for this staging area could be near Sta. 130+00.

CR-15 *PCR #5. It is recommended that subsurface testing be conducted along the south edge of the Boy Scout Road to determine if any cultural materials exist in the pipeline ROW. If the cultural deposit is shallow, the approximately 1-foot deep grading of the road may have removed the cultural deposit. If materials extend deeper, then the pipeline could encounter additional materials beneath the road. If avoidance is not possible, additional subsurface testing would be needed to define the boundaries, content and significance of the cultural resources of this site. Based on the Phase II testing, appropriate recommendations can be made regarding treatment of any significant cultural resources that would be affected by the proposed pipeline.*

CR-16 *PCR #7. Due to the fact that the site has been deemed eligible for NRHP status and it is costly and time consuming to meet both state and federal requirements, it is strongly recommended that the pipeline ROW be re-aligned and moved south of Boy Scout Road before entering the west end of SLO-1180. If the pipeline remains south of it and crosses Dry Creek to meet West Perimeter Road, adverse impacts to the west locus could probably be avoided. Subsurface testing would be needed to find the best route south of SLO-1180 that would avoid impacting significant cultural materials. If re-routing were not possible, then an extensive testing and mitigation program would be required for this location.*

CR-17 *PCR #9. Subsurface testing is recommended where the access road meets San Marcos Road to determine if any cultural materials from this prehistoric site are present and would be impacted. If the entrance road begins 150-feet to 300-feet east of the existing General's Road gate, it may avoid this prehistoric site. If preliminary testing cannot avoid cultural materials then additional testing would be needed to determine the boundaries, context and significance of this site and to develop appropriate recommendations.*

CR-18 *PCR #14. It is recommended that the proposed pipeline be moved east approximately 100–20 feet to the toe of the slope and east of the barbed wire fence. Subsurface testing is recommended to find an area east of the proposed pipeline ROW that would avoid impacting cultural materials from this newly recorded prehistoric site. If preliminary testing cannot avoid cultural materials then, additional testing would be needed to determine significance and appropriate actions.*

CR-19 *To avoid impacts to PCR #16 through #23 place the pipeline ROW adjacent to the pavement of El Camino Real and west of the rail road tracks starting just north of Sta. 2015+00 and follow that alignment through the town of Santa Margarita to Sta.2105+00.*

CR-20 PCR #24. To avoid this prehistoric site it is recommended to move the pipeline ROW to the north side of the pavement of El Camino Real.

Residual Impacts

After implementation of the outlined mitigation measures, residual impacts to prehistoric cultural resources would be *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
CR.5	Soil moving construction activities (e.g., trenching, excavating) could impact significant and important historical cultural resources.	Class III

A total of 16 locations of potential historical significance are identified (see Table 5.8.11). The same CEQA criteria for determinations of resource significance applies to both prehistoric and historic cultural resources. All 16 sites can be considered potentially significant. Nine of the locations include transportation structures (railroad; old roadway and culverts; bridge crossings) that have been upgraded, and are currently in use and maintained to modern standards. In the case of the railroad and early roads, historical engineering features are often still prominent, with recent alterations only slightly altering their appearance (most changes to the railroad are to ballast and track improvements yet the grade still looks much the same as a standard Harriman-style road of the early twentieth century; likewise, original culverts and engineering features of the 1930's El Camino Real are very much evident in many places).

Table 5.8.11 Inventory of Historical Cultural Resources in the Proposed Project Area

Project Station Location	Historical Resource No.	Location Name	Significance of Resource	Distance from ROW	Potential Adverse Impact	Mitigation
774+00 to 872+00	historical #1	Monterey Road	yes	n.d.	no	none
830+00 to 847+00	historical #2	1914 roadway	yes	n.d.	no	none
1035+00	historical #3	Union Road	yes	n.d.	no	none
1039+00	historical #4	13th Street Bridge	no	n.d.	no	none
1043+00	historical #5	Concrete plant	no	n.d.	no	none
1127+00	historical #6	Charolais crossings	no	n.d.	no	none
1190+00 to 1220+00	historical #7	Santa Ysabel Ranch	yes	n.d.	no	none
1317+00	historical #8	El Pomar crossing	no	n.d.	no	none
1399+00	historical #9	El Pomar Bridge	no	n.d.	no	none
1621+00	historical #10	Hwy 41 Bridge	no	n.d.	no	none

Table 5.8.11 Inventory of Historical Cultural Resources in the Proposed Project Area

Project Station Location	Historical Resource No.	Location Name	Significance of Resource	Distance from ROW	Potential Adverse Impact	Mitigation
1817+00	historical #11	Rocky Canyon crossing	no	n.d.	no	none
1920+00 to 2102+00	historical #12	Railroad grade	yes	n.d.	no	none
1977+00 to 2102+00	historical #13	El Camino Real	yes	n.d.	no	none
2051+00	historical #14	Producer's Pipeline	no	n.d.	no	none
2110+00 to 2140+00	historical #15	Santa Margarita	no	n.d.	no	none
2198+00 to 2215+00	historical #16	El Camino Real	yes	n.d.	no	none

For Salinas River bridge locations, all of the bridges have been replaced more than once and are now late twentieth century structures. The original engineering features of the early bridges have been destroyed or greatly obscured (historical place only). Since these transportation structures are all operating currently, it is assumed that the pipeline trench will be kept clear of all existing engineering structures (and thereby avoid all historical engineering structures). Other historical places are adjacent the proposed pipeline ROW, but outside the area of direct impact. Thus, no direct adverse impacts to any of the historical resources identified in the current survey will occur from the proposed project.

Mitigation Measures
No mitigation measures are proposed for the historical cultural resources.

Residual Impact
Residual impacts would be *adverse but not significant* (Class III).

Impact	Impact Description	Residual Impact
CR.6	Construction of the proposed project adjacent to or in the vicinity of archaeological or historical sites may result in the looting, vandalism or destruction of cultural resources by construction employees or persons visiting the construction site.	Class II

The public has tendency to loot or do other damage to discovered archaeological resources. Significant cultural resources could be unearthed during the proposed project. Impact to these cultural resources could be significant if there is no protection against public access to discovered resources and from potential looting.

Mitigation Measures

CR-21 In the event of discovered looting or disturbance of resources, all responsible parties shall be reported to the appropriate jurisdiction and local authorities for legal action pursuant to the approved cultural resources monitoring plan.

Residual Impacts

Residual impacts would be *insignificant with mitigation* (Class II). Implementation of measures CR-1, CR-6, and CR-8 is required.

5.8.4.2 Raw Water Option

There are no new impacts associated with the Raw Water Option as compared with the Treated Water Option. All impacts described for the treated water option would be the same, because the route of the pipeline would be the same and therefore impacts to potential cultural resources would be the same. All the same proposed mitigation measures would apply.

5.8.5 Alternative Impacts and Mitigation Measures

Impacts from different alternatives are described below.

5.8.5.1 No Project Alternative

Under this alternative no construction would occur, and thus there would be no impacts to paleontology or cultural resources.

5.8.5.2 NWP 1997 EIR Alternative

Under this alternative, the pipeline would have a different route, and the pipeline system parts would be located in different locations compared to the proposed project. The different route of the pipeline would result in potential disturbance to different cultural resources. However, the same mitigation measures would be applicable to reduce the impacts to below significant level. In the project area under this alternative a total of 50 sites were identified that are considered to have potentially significant cultural resources. These sites include: 14 previously recorded prehistoric sites, 9 newly recorded prehistoric sites, 1 previously recorded historic site, 13 newly recorded historic sites, and 11 locations of isolated prehistoric artifacts. A summary of the project corridor locations that have been identified in the 1997 EIR along with the determined severity of the impact and recommended mitigation measures are presented in Table 5.8.12. Under this alternative, more cultural resources could be affected by the project construction activities—13 prehistoric cultural resources in the proposed project as compared to only 8 under this alternative require either Phase II testing or relocation mitigation measures. However, all impacts could be mitigated to insignificance under the proposed project or under this alternative.

Summary of Prehistoric and Historic Cultural Resources for this Alternative

Numerous prehistoric cultural resources sites have been identified along the pipeline route for the 1997 EIR alternative. These include:

- A total of five prehistoric cultural resources were located along the primary pipeline segment of Reach A. These include three new prehistoric sites, and two prehistoric isolated artifacts. In addition, one modern cultural resource was identified.
- Three newly recorded historic sites were identified along Reach B of the proposed pipeline.
- A total of five cultural resources were located along Reach C. Two were previously recorded prehistoric sites. One new prehistoric site and two new historic sites were identified.
- A total of five cultural resources were located along Reach D. Three were previously recorded prehistoric sites. Two new historic sites were identified.
- A total of seven cultural resources were located along Reach E. Four were previously recorded prehistoric sites. Two new prehistoric sites and one new isolated artifact location were identified.
- A total of four cultural resources were located along Reach F. One was a previously recorded prehistoric site. One was a previously recorded historic site. Two new prehistoric isolated artifact locations were also identified.
- One new prehistoric cultural resource was located along Reach G.
- A total of six cultural resources were located along Reach H. One new prehistoric site and four new historic sites were identified. In addition, one new prehistoric isolated artifact location was identified.
- A total of two new historic cultural resources were located along Reach K. In addition, one modern cultural resource was identified.
- A total of six cultural resources were located along the Los Osos Spur. Four were previously recorded prehistoric sites. Two isolated artifact locations were also identified.

5.8.5.3 Phased Raw and Treated Water Alternative

This alternative would be very similar to the proposed project; however, various parts of the project would take place over longer period of time. Similar impacts to paleontology and cultural resources are expected, the same mitigation measures shall be implemented and that would reduce the impacts to below a significant level.

5.8.6 Cumulative Impacts

Impacts to cultural or paleontology resources are site-specific. Two projects, NWP and SVWP, would affect different resources; therefore no cumulative impacts would occur. Similar site specific impacts would also be expected for the projects listed in Section 4, with little or no potential for cumulative significant impacts.

Table 5.8.12 Inventory of Cultural Resources

Pipeline Reach	Location Name [c]	Type of Resource	Distance from ROW	Significance of Resource	Adverse Impact	Mitigation Measures
A-Camp Roberts	ISO-217 (CR-ISO-1)	isolate - prehistoric	0'	no	probable	CR-12, CR-6 through CR-10[a]
A-Camp Roberts	ISO-216 (CR-ISO-2)	isolate - prehistoric	0'	no	probable	CR-12, CR-6 through CR-10[a]
A-Camp Roberts	CR-ISO-3	isolate - prehistoric	0'	no	probable	CR-12, CR-6 through CR-10[a]
A-Primary	SLO-ISO-215 (K-ISO-1)	isolate - prehistoric	30' N	no	slight to none	CR-6 through CR-10
A-Primary	SLO-2220 (MV-1)	prehistoric site	0'	yes	slight to none	CR-6 through CR-10
A-Primary	SLO-2218 (San Marcos-1)	prehistoric site	10' NE	yes	slight to none	CR-6 through CR-10
A-Primary	SLO-2217 (Two Raccoons site)	prehistoric site	10' W	yes	slight to none	CR-6 through CR-10
A-Primary	Cuesta site	modern site	100' W	no	none	none
A-Primary	J-ISO-1	isolate - prehistoric	10' SW	no	none	none
A-Alternative	SLO-2219 (Chimney Rock site)	prehistoric site	0'	yes	probable	CR-12, CR-6 through CR-10
B	1930 culvert	historic site	100' NE	no	none	none
B	1929 culvert A	historic site	10' E	no	none	none
B	1929 culvert B	historic site	10' E	no	none	none
C	SLO-1077	prehistoric site	0'	yes	probable	CR-12, CR-6 through CR-10
C	SLO-1076	prehistoric site	0'	yes	probable	CR-12, CR-6 through CR-10
C	Asucion Train Station	historic site	200' S	yes	none	CR-6 through CR-10
C	SLO-1912 (Village of Sceele)	prehistoric/historic site	50' S	yes	probable	CR-12, CR-6 through CR-10
C	Estrada Adobe	historic site	150' S	yes	none	CR-6 through CR-10
D	SLO-1372	prehistoric site	30' S	yes	slight to none	CR-6 through CR-10
D	Atascadero Train Station	historic site	150' S	yes	none	CR-6 through CR-10
D	SLO-1260	prehistoric site	400' S	yes	none	CR-6 through CR-10
D	SLO-1375	prehistoric site	0'	yes	probable	CR-12, CR-6 through CR-10
D	Henry Train Station	historic site	0'	no	slight to none	CR-6 through CR-10
E	SLO-1429	prehistoric site	100' W	yes	slight to none	CR-6 through CR-10[b]
E	SLO-1386	prehistoric site	100' W	yes	slight to none	CR-6 through CR-10[b]
E	SLO-1387	prehistoric site	100' W	yes	slight to none	CR-6 through CR-10[b]
E	CO-ISO-1	isolate - prehistoric	120' E	yes	slight to none	CR-6 through CR-10[b]
E	SLO-2056 (Ravine site)	prehistoric site	150' E	yes	slight to none	CR-6 through CR-10[b]
E	SLO-2212 (Red House site)	prehistoric site	50' E	yes	slight to none	CR-6 through CR-10[b]
E	SLO-587	prehistoric site	10' E	yes	slight to none	CR-6 through CR-10[b]

Table 5.8.12 Inventory of Cultural Resources

Pipeline Reach	Location Name [c]	Type of Resource	Distance from ROW	Significance of Resource	Adverse Impact	Mitigation Measures
F	SMB-ISO-1	isolate - prehistoric	30' E	no	slight to none	CR-6 through CR-10
F	SLO-586	prehistoric site	0'	yes	slight to none	CR-6 through CR-10
F	M-ISO-1	isolate - prehistoric	0'	no	slight to none	CR-6 through CR-10
F	SLO-1645H	historic site	50' N	yes	none	CR-6 through CR-10
G	SLO-2283 (Red outcrop)	prehistoric site	50' E	yes	none	CR-6 through CR-10
H	Foothill rock culvert	historic site	200' W	no	none	none
H	Foothill retaining wall	historic site	250' W	no	none	none
H	WC-ISO-1	prehistoric isolate	300' W	no	none	none
H	Rock wall site	historic site	250' W	yes	none	CR-6 through CR-10
H	SLO-2282 (Red point site)	prehistoric site	125' W	yes	none	CR-6 through CR-10
H	SLO-2281 (Rock lined feature)	prehistoric site	250' W	no	none	none
K	Afuera road culvert	historic site	10' E	no	none	none
K	Orcutt road culvert	historic site	10' E	no	none	none
K	Woods Pet Cemetery	modern site	50' W	no	none	none

Note:

[a] Although Phase II testing normally is not required for isolate findings, it is recommended in this case because isolates can be indicative of larger cultural sites; since the pipeline will directly impact the isolates and because of other local conditions, testing would confirm that a larger site is not encountered during actual construction.

[b] Mitigation assumes pipeline route will be realigned to the west side of El Camino Real and that the WTP site will be relocated away from SLO-587. If these changes are not made, Class I impacts will remain.

[c] Location Name in parenthesis is a temporary name/number from the NWP 1997 EIR. The locations have been cataloged and assigned permanent numbers since then.

Source: NWP 1997 EIR.

5.8.7 Mitigation Monitoring Plan

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
CR-1	Prior to authorization to proceed or issuance of permits, the applicant shall submit a paleontological resources monitoring plan to the appropriate jurisdiction for review and approval. Monitoring shall be required for all surface alteration and subsurface excavation work including trenching, boring, grading, use of staging areas and access roads, and driving vehicles and equipment within the boundaries of all exposed sensitive geological formations. A qualified professional paleontologist that is approved by the Lead Agency in consultation with all affected jurisdictions shall prepare the plan. The plan shall address (but not be limited to) the following issues: 1. Training program/workshops for all construction and field workers; 2. Person(s) responsible for conducting monitoring activities; 3. How the monitoring shall be conducted and required format and content of monitoring reports; 4. Person(s) responsible for overseeing and directing the monitors; 5. Schedule for submittal of monitoring reports and person(s) responsible for review and approval of monitoring reports; 6. Clear delineation and fencing off if necessary of sensitive geological formations/ paleontology resources requiring monitoring within each pipeline reach (onsite, only the construction foreman, environmental monitor, and project engineer shall have access to this information);	Prior to the final approval, submit a Paleontology Resources Monitoring Plan to the Lead Agency.	Dept of P&B, appointed qualified paleontologist	Review and approve the Monitoring Plan. Site monitoring to verify compliance with the plan	Prior to Board of Supervisors approval to advertise for construction bids. Periodic during construction

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	7. Physical monitoring boundaries (e.g. 100 feet each side of formation); 8. Protocol for notifications in case of encountering of cultural resources, as well as methods of dealing with the encountered resources (e.g., collection, identification, curation); 9. Methods to ensure site security; 10. Protocol for notifying local authorities (i.e. Sheriff, Police) should site looting and other illegal activities occur during construction.				
CR-2	Prior to authorization to proceed or issuance of permits, the applicant shall retain a qualified professional paleontologist to monitor construction activities pursuant to the approved paleontological resources monitoring plan. The monitoring shall include inspection of exposed rock units and microscopic examination of matrix to determine if fossils are present, preparation of monthly progress reports and filed with the applicant, the Lead Agency, and the appropriate jurisdiction pursuant to the approved paleontological resources monitoring plan. The monitor (professional paleontologist or their representative) shall have authority to temporarily divert grading and construction equipment away from exposed fossils to recover the fossil specimens if fossils or other resources are encountered.	Present documentation proving hiring of a qualified paleontologist. Prior to the final approval, submit a Paleontology Resources Monitoring Plan to the Lead Agency. The plan shall include all responsibilities and authority for the paleontologist.	Dept of P&B, appointed qualified paleontologist	Review and approve the documentation and the Monitoring Plan.	Prior to Board of Supervisors approval to advertise for construction bids.
CR-3	Prior to authorization to proceed or issuance of permits, the applicant shall present an agreement to pay associated curation fees to the chosen accredited repositories.	Present documentation proving the financial agreement(s)	Dept of P&B	Review the documentation	Prior to Board of Supervisors approval to advertise for construction bids.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
CR-4	In the event fossils are discovered by the retained monitor during construction, the professional paleontologist (or their representative) shall ensure the implementation of the following measures as necessary: - Fossils shall be collected, prepared, tested or identified by qualified experts, and listed in a database to allow analysis; - At each fossil locality, field data forms shall record the locality, stratigraphic columns shall be measured when possible, and appropriate scientific samples submitted for analysis; and - The qualified professional paleontologist shall recommend one or more accredited repositories for collected fossils depending on the abundance and origin of those fossils.	Include as part of the Paleontology Resources Monitoring Plan	Dept of P&B, appointed qualified paleontologist.	Review and approve the Monitoring Plan. Site visits and monitoring to verify compliance and provide monitoring according to the Plan	Prior to Board of Supervisors approval to advertise for construction bids. Periodical during construction. Constant monitoring during active trenching and soil disturbance
CR-5	Prior to final inspection of the completed project, the applicant shall submit a final mitigation report prepared by the retained professional paleontologist to the Lead Agency, the appropriate jurisdiction, and the chosen accredited repository pursuant to the approved paleontological resources monitoring plan.	Submit the report to the Lead Agency	Dept of P&B, or appointed qualified paleontologist.	Review the report	After construction completion, before final inspection.
CR-6	Prior to authorization to proceed, or issuance of permits, the applicant shall prepare and submit a cultural resources monitoring plan to the appropriate jurisdiction for review and approval. Monitoring shall be required for all surface alternation and subsurface excavation work including trenching, boring, grading, use of staging areas and access roads, and driving vehicles and equipment within the boundaries of all exposed sensitive cultural resources. A qualified professional archaeologist (cultural resources monitor) that is approved by the Lead Agency in consultation with all affected jurisdictions shall prepare the plan. The plan shall address (but not be limited to) the following issues: 1. Training program for all construction involved in site disturbance and field workers;	Prepare and submit the Cultural Resources Monitoring Plan to the Lead Agency	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Review and approve the plan	Prior to Board of Supervisors approval to advertise for construction bids.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	2. Person(s) responsible for conducting monitoring activities; 3. How the monitoring shall be conducted and required format and content of monitoring reports, including any necessary archaeological re-survey of the final pipeline alignment, assessment, designation and mapping of the sensitive cultural resource areas on final project maps, assessment and survey of any previously un-surveyed areas; 4. Person(s) responsible for overseeing and directing the monitors; 5. Schedule for submittal of monitoring reports and person(s) responsible for review and approval of monitoring reports; 6. Procedures and construction methods to avoid sensitive cultural resource areas (i.e. boring conduit underneath recorded or discovered cultural resource site); 7. Clear delineation and fencing off if necessary of sensitive cultural resource areas requiring monitoring within each sub segment; 8. Physical monitoring boundaries (e.g., 100 feet each side of a site); 9. Protocol for notifications in case of encountering of cultural resources , as well as methods of dealing with the encountered resources (e.g., collection, identification, curation); 10. Methods to ensure security of cultural resources sites; 11. Protocol for notifying local authorities (i.e. Sheriff, Police) should site looting and other				

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	illegal activities occur during construction.				
CR-7	Prior to authorization to proceed or issuance of permits, the applicant shall submit plans to the appropriate jurisdiction for review and approval showing the boundaries of all known archaeological and historical sites and a buffer line drawn 100 feet from the boundaries of the known sites along the project route. For any pipeline segments where soil disturbance is expected and that have not been surveyed for presence of cultural resources, the Applicant shall ensure that such surveys are conducted prior to finalizing of the project plans, and results are included into the project plans and maps prior to submission for authorization. Limited activity may occur within the 100 foot buffer area (outside of the boundaries of known sites) as permitted by the appropriate jurisdiction in consultation with the cultural resources monitor. Due to high confidential nature of these documents, on site, only the construction foreman, environmental monitor, and project engineer shall have access to these plans.	Prepare and submit the plans	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Review and approve the plans	Prior to Board of Supervisors approval to advertise for construction bids.
CR-8	Prior to authorization to proceed or issuance of permits, the construction foreman, project manager(s), and all construction workers associated with the proposed project that would be involved in site disturbance shall participate in a cultural resources training/workshop to be conducted by the approved cultural resources monitor. The training shall highlight on the significance of cultural resources and the legal consequences of looting, disturbing, destroying these resources or violating approved mitigation measures. A declaration confirming the training's occurrence shall be prepared by the monitor and signed by all persons in attendance. This signed declaration shall be submitted to the appropriate jurisdiction.	Include as part of the Monitoring Plan. Implement.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Verify by visiting the workshop(s)	Prior to Board of Supervisors approval to advertise for construction bids.
CR-9	During any soil disturbance activities (e.g., trenching, boring, excavation) in the locations with the known or potential cultural resources, cultural resource monitoring shall be conducted by a qualified professional archaeologist (or their representative) and Native American monitor familiar with the resource types	Include in the plan. Implement.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Site monitoring	Constant during active trenching at the outlined in the monitoring plan sites

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	potentially present in these locations. The qualified archaeologist and Native American shall conduct monitoring activities based on the cultural resources monitoring plan.				
CR-10	The following activities shall be excluded from known designated and discovered cultural resource sites: 1) excavation; 2) staging equipment, machinery, or vehicles on undisturbed or exposed portions of the cultural resource; 3) collection, removal or unnecessary displacement of any artifacts, "eco-facts" or other cultural remains; 4) stockpiling of imported soils within the designated sensitive area; 5) removal of native soils outside a sensitive area. Every effort shall be made to contain and collect any chemical/fuel spills immediately.	Include in the plan. Implement.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Site monitoring	Constant during active trenching at the outlined in the monitoring plan sites
CR-11	In the event unknown archaeological resources are discovered, the following standards shall apply: 1. Construction activities shall cease, and the project archeological monitor (professional archaeologist or their representative) shall be notified so that the extent and location of discovered materials may be recorded by a qualified archaeologist and disposition of artifacts may be accomplished in accordance with state and federal law. The project archaeologist shall be responsible to notify the local jurisdiction. 2. In the event archaeological resources are found to include human remains, or in any other case when human remains are discovered during construction, the County or City Coroner shall be notified in addition to the appropriate jurisdictions so proper disposition may be accomplished.	Include in the plan. Implement.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Site monitoring	Constant during active trenching at the outlined in the monitoring plan sites
CR-12	Phase II Subsurface Testing. Shall be implemented for the areas where there is a potential for intact cultural deposits to occur in the pipeline ROW. Two methods of testing may be used depending on the density of surface artifacts, surface conditions, and type of cultural site. Which specific testing would be used for which cultural resource	Include in the plan. Implement.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Site monitoring.	Constant during active trenching at the outlined in the monitoring plan sites.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	would be determined by a qualified professional archaeologist depending on the available information at the time of the project. Backhoe Testing. This is a preliminary testing method designed to determine presence or absence of cultural materials particularly in a buried context. Backhoe testing is only done until the presence of cultural materials and their integrity is confirmed. For the proposed project, this testing is recommended for the Santa Ysabel Ranch area between pipeline Sta. 1185+00 and 1200+00. No definite prehistoric sites were identified on the surface in this 50-foot wide ROW area but exist on both sides of the proposed ROW. Backhoe trenches should be excavated at approximately 100-foot intervals along the proposed ROW to a depth slightly greater that the maximum depth expected for the bottom of the trench for the pipeline. If any intact cultural deposits are encountered, then a controlled excavation method should be utilized to define the nature and extend of the cultural materials. Controlled Excavation. In cases where surface artifacts are present within or adjacent to the pipeline ROW and could be adversely impacted by actual construction excavation or staging areas, a series of controlled test units should be excavated. The tests shall be planned and executed under a supervision of a qualified professional archaeologist. Typical size should be 1 x 1 meter, excavated in 10 or 20 cm levels, screened with 1/8" mesh or smaller screen and excavated to sterile soil. In some cases these can be placed adjacent to pavement where the pipeline is scheduled to go beneath pavement. This will expose a profile of the cultural strata and allow a determination to be made about the possibility of intact cultural materials beneath the pavement that would be impacted by the pipeline construction. Test units should be placed at approximately 50-foot increments			Implementation of the Phase II and III testing or Data Recovery	As determined necessary.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	depending on the density of cultural materials encountered. Sample Analysis. Standard analyses including C-14 dating, could be recommended by a qualified archaeologist to provide information on the boundaries, content, integrity and significance of cultural resources in the pipeline ROW. This controlled sample would be used to minimize adverse impacts by providing information to help define minor re-alignments of the pipe ROW to completely avoid impacts or greatly minimize them by locating the pipeline in the lowest density areas of the cultural deposits. Phase III Data Recovery Program. Finally, after all avoidance and minimizing of adverse impacts is done, this subsurface testing can be used to develop a Phase III data recovery program for all unavoidable adverse impacts to significant cultural resources.				
CR-13	Prehistoric Cultural Resource (PCR) #2. Prior to construction in this area, a small scale subsurface testing program should be conducted along the edge of the road to determine if any significant cultural materials are present and if they would be affected by the pipeline construction. If present, the testing could define the boundaries of the cultural materials and the pipeline could be moved north of the dirt road, perhaps no more than 30–50 feet to avoid adverse impacts to all cultural materials from this site.	Include in the plan. Implement. Present realignment plans to the Lead Agency or reasoning why the realignment is not feasible.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Review the realignment plans. Make a determination on whether or not to require realignment. Site monitoring. Implementation of the testing or data recovery.	Prior to Board of Supervisors approval to advertise for construction bids. Constant during active construction at the sites outlined in the Monitoring Plan
CR-14	PCR #4. It is recommended that the pipeline be located along the south side of the dirt road in areas of deepest cut. SLO-1169 could be completely avoided by moving the pipeline ROW upslope of the dirt road to the west by approximately 60-feet. If avoidance is not possible, additional subsurface testing would be needed to supplement existing information and define the boundaries, content and significance of the cultural resources of this site. Based on the Phase II testing,	Include in the plan. Implement. Present realignment plans to the Lead Agency or reasoning why the realignment is not feasible.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Review the realignment plans. Make a determination on whether or not to require realignment. Site monitoring. Implementation of the testing or data	Prior to Board of Supervisors approval to advertise for construction bids. Constant during active construction at the sites outlined

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	appropriate recommendations can be made regarding treatment of any significant cultural resources that would be affected by the proposed pipeline. A large staging area, 200-feet by 600-feet that would cover most of PCR #4 site shall be moved from this location entirely. Another location along the actual pipeline ROW shall be selected. One possible location for this staging area could be near Sta. 130+00.			recovery.	in the Monitoring Plan
CR-15	PCR #5. It is recommended that subsurface testing be conducted along the south edge of the Boy Scout Road to determine if any cultural materials exist in the pipeline ROW. If the cultural deposit is shallow, the approximately 1-foot deep grading of the road may have removed the cultural deposit. If materials extend deeper, then the pipeline could encounter additional materials beneath the road. If avoidance is not possible, additional subsurface testing would be needed to define the boundaries, content and significance of the cultural resources of this site. Based on the Phase II testing, appropriate recommendations can be made regarding treatment of any significant cultural resources that would be affected by the proposed pipeline.	Include in the plan. Implement. Present realignment plans to the Lead Agency or reasoning why the realignment is not feasible.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Review the realignment plans. Make a determination on whether or not to require realignment. Site monitoring. Implementation of the testing or data recovery.	Prior to Board of Supervisors approval to advertise for construction bids. Constant during active construction at the sites outlined in the Monitoring Plan
CR-16	PCR #7. Due to the fact that the site has been deemed eligible for NRHP status and it is costly and time consuming to meet both state and federal requirements, it is strongly recommended that the pipeline ROW be re-aligned and moved south of Boy Scout Road before entering the west end of SLO-1180. If the pipeline remains south of it and crosses Dry Creek to meet West Perimeter Road, adverse impacts to the west locus could probably be avoided. Subsurface testing would be needed to find the best route south of SLO-1180 that would avoid impacting significant cultural materials. If re-routing were not possible, then an extensive testing and mitigation program would be required for this location.	Include in the plan. Implement. Present realignment plans to the Lead Agency or reasoning why the realignment is not feasible.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Review the realignment plans. Make a determination on whether or not to require realignment. Site monitoring. Implementation of the testing or data recovery.	Prior to Board of Supervisors approval to advertise for construction bids. Constant during active construction at the sites outlined in the Monitoring Plan
CR-17	PCR #9. Subsurface testing is recommended where the access road meets San Marcos Road to determine if any cultural materials from this prehistoric site are present and would be impacted. If the entrance road begins 150-feet to 300-feet east of the existing General's Road gate, it may	Include in the plan. Implement. Present realignment plans to	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Review the realignment plans. Make a determination on whether or not to require realignment.	Prior to Board of Supervisors approval to advertise for construction bids.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	avoid this prehistoric site. If preliminary testing cannot avoid cultural materials then additional testing would be needed to determine the boundaries, context and significance of this site and to develop appropriate recommendations.	the Lead Agency or reasoning why the realignment is not feasible.		Site monitoring. Implementation of the testing or data recovery.	Constant during active construction at the sites outlined in the Monitoring Plan
CR-18	PCR #14. It is recommended that the proposed pipeline be moved east approximately 100–20 feet to the toe of the slope and east of the barbed wire fence. Subsurface testing is recommended to find an area east of the proposed pipeline ROW that would avoid impacting cultural materials from this newly recorded prehistoric site. If preliminary testing cannot avoid cultural materials then, additional testing would be needed to determine significance and appropriate actions.	Include in the plan. Implement. Present realignment plans to the Lead Agency or reasoning why the realignment is not feasible.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Review the realignment plans. Make a determination on whether or not to require realignment. Site monitoring. Implementation of the testing or data recovery.	Prior to Board of Supervisors approval to advertise for construction bids. Constant during active construction at the sites outlined in the Monitoring Plan
CR-19	To avoid impacts to PCR #16 through #23 place the pipeline ROW adjacent to the pavement of El Camino Real and west of the rail road tracks starting just north of Sta. 2015+00 and follow that alignment through the town of Santa Margarita to Sta.2105+00.	Include in the plan. Implement. Present realignment plans to the Lead Agency or reasoning why the realignment is not feasible.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Review the realignment plans. Make a determination on whether or not to require realignment. Site monitoring. Implementation of the testing or data recovery.	Prior to Board of Supervisors approval to advertise for construction bids. Constant during active construction at the sites outlined in the Monitoring Plan
CR-20	PCR #24. To avoid this prehistoric site it is recommended to move the pipeline ROW to the north side of the pavement of El Camino Real.	Include in the plan. Implement. Present realignment plans to the Lead Agency or reasoning why the realignment is not feasible.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Review the realignment plans. Make a determination on whether or not to require realignment. Site monitoring. Implementation of the testing or data recovery.	Prior to Board of Supervisors approval to advertise for construction bids. Constant during active construction at the sites outlined in the Monitoring Plan

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
CR-21	In the event of discovered looting or disturbance of resources, all responsible parties shall be reported to the appropriate jurisdiction and local authorities for legal action pursuant to the approved cultural resources monitoring plan.	Include in the plan. Implement.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Site monitoring. Reporting to the appropriate authorities	Constant during active construction at the sites outlined in the Plan. In the event of discovery of looting

5.9 Land Use

This section describes the environmental and regulatory settings related to land use within the proposed project area, identifies and evaluates consistency issues of the proposed project and alternatives with adopted land use plans and policies, and lists potential mitigation measures.

5.9.1 Regulatory Setting

Federal, State, and local agencies have established standards and regulations that will affect the proposed project. A summary of the regulatory setting for land use is provided below.

5.9.1.1 State Regulations

California Coastal Act
The California Coastal Act of 1976 (Public Resource Code [PRC], Division 20, updated 2002) mandates that local governments prepare a land use plan to implement the Coastal Act through both general plan policies and identification of detailed land use recommendations. The SLO County coastal zone includes portions of four of the County's 15 Land Use Element planning areas: North Coast, Estero, San Luis Bay and South County. Within the four planning areas, the text of the Land Use Element area plans have been amended to include the more specific data necessary to address Coastal Act provisions.

To implement the provisions of the Coastal Act regarding watershed management, the policies adopted by the County represent a commitment that all new developments ensure watershed protection. The Coastal Act requires that new development not create nor contribute to long-term erosion (PRC 30253). The policies contained in the County's Local Coastal Plan (LCP), as well as the Coastal Zone Land Use Ordinance requirements for grading and drainage plans, fulfill the requirements of this Coastal Act policy. Implementation of the policies will ensure the protection of the biological productivity and the quality of coastal waters through the control of sediment entering coastal waters.

There are no coastal planning areas in SLO County that would be physically affected by the NWP-related construction or structures; however, the Cayucos and Morro Bay municipalities both may receive water via the pipeline through the institution of water agreements with the County. These municipalities lie within the Estero Planning Area, and are subject to review under the County's LCP. The potential impacts to these communities and the surrounding coastal zone resources from the availability of this additional water are discussed in Chapter 7.0, Growth Inducing Impacts.

5.9.1.2 Local Rules and Regulations

Section 15125(b) of the State CEQA Guidelines requires that an EIR discuss any potential inconsistencies between a proposed project and applicable General Plan Elements and Area Plans. CEQA Appendix G states, *"a project will normally have a significant effect on the environment if it will conflict with adopted environmental plans and goals of the community* *where it is located"*. Therefore, this section of the EIR provides a brief overview of the goals, policies, and programs of the County of San Luis Obispo's Area Plans, and other applicable local government plans (i.e., General Plans for the Cities of Paso Robles, Atascadero, and San Luis Obispo), as related to the NWP. The comments provided in this section are advisory, because only planning commissions, city councils, and the SLO County Board of Supervisors can determine whether the project is consistent with the policy or not.

Figure 5.9-1 displays the planning areas within SLO County affected by the proposed NWP pipeline, water conveyance facilities (intake, storage tanks, river recharge areas and pump stations), and water treatment facilities. The following policy documents, referenced in this section, have been selected for discussion based on the project's proposed objective as a supplemental water supply and public works project, as well as potential environmental impacts, discussed in the EIR:

A. San Luis Obispo County General Plan, updated September 20, 2002.

   1. Framework for Planning (Inland), Revised November 18, 1999;
   2. County Code Title 22, Land Use Ordinances, Revised September 22,2000;
   3. Land Use and Circulation Elements within the General Plan:
      a) Adelaida Area Plan, Amended January 1997;
      b) Estero Area Plan, Revised April 23, 1996;
      c) Nacimiento Area Plan, Revised October 8, 1996;
      d) Salinas River Area Plan, Revised April 27, 1999;
      e) San Luis Obispo Area Plan, Revised September 22, 2000;

D. San Luis Obispo County Master Water Plan Update, 1986 and 1998;
E. City of El Paso de Robles General Plan, Land Use and Circulation Elements, 1991;
F. City of El Paso de Robles, Water Master Plan, Revised 1995;
G. City of Atascadero General Plan, Update 2002;
H. Atascadero Mutual Water Company, Water System Master Plan, 1993;
I. City of San Luis Obispo General Plan, Land Use and Circulation Elements, Update 2000;
J. City of San Luis Obispo, Urban Water Management Plan, Update 1994.

The Land Use Element (LUE) for the San Luis Obispo County General Area Plan establishes the patterns for land use within the county, and sets out standards for development. The LUE consists of three major components: the Framework for Planning, the Area Plans, and the official land use (zoning) maps. The Framework for Planning provides an overview of the county's land use policies, defines the land use categories (zoning) applied to properties, and the allowed uses within each category. The Framework for Planning - Inland Area establishes general goals and policies for those unincorporated areas of the county which are located outside of the coastal zone. The eleven Area Plans contain policies, programs, land use regulations, and maps for specific geographic areas within the county (See Figure 5.9-1). Within each plan are development standards specific to that area. The Framework for Planning is used together with the adopted Area Plans, Land Use Maps, and the County's Land Use Ordinance when reviewing and evaluating new development. Contained in the Framework for Planning are 22 general goals which describe the fundamental purposes for the Land Use and Circulation Elements. Goal 1 applies to the County's recognition that conservation of resources is necessary to ensure the long-term health of the region, while goals 15, 16, 17, and 18 (see below) apply directly to Public Services and Facilities such as the proposed project.

5.9.1.3 Framework for Planning

Environment

General Goal 1: *Maintain and protect a living environment that is safe, healthful and pleasant for all residents by conserving nonrenewable resources and replenishing renewable resources.*

Public Services and Facilities

General Goal 15: *Provide additional public resources, services and facilities to serve existing communities in sufficient time to avoid overburdening existing resources, services, and facilities.*

General Goal 16: *Avoid the use of public resources, services and facilities beyond their renewable capacities, and monitor new development to ensure that its resource demands will not exceed existing and planned capacities or service levels.*

Goals 15 and 16 describe the County's intent to provide for public services without exceeding the County's corresponding resource capacities. As such, the general goals describe fundamental purposes which are more fully addressed in specific planning programs, such as the County's Resource Management System (RMS). The RMS is an information tool which attempts to balance land development with the resources necessary to sustain such development. It utilizes the collection of existing data from various County departments, State and Regional agencies, incorporated cities, and special districts, to allow decision-makers to identify problems in the resource areas of water supply, sewage disposal, schools, roads, and air quality. The RMS uses three recommended levels of severity (RLOS) to identify potential and progressively more immediate resource deficiencies (e.g., RLOS I is least severe; RLOS III most severe). The proposed project involves augmenting the water supply for the planning areas identified in Figure 5.9-1 below.

The proposed NWP would be able to provide a water supply by approximately mid 2009. The project may be able to meet a schedule of water supply augmentation for LOS II but not LOS III. Table 5.9.1 lists the RLOS for water by community requesting supplemental supplies from the NWP. The proposed project would be potentially consistent with Goals 15 and 16.

Figure 5.9-1 Planning Areas within SLO County Affected by the Proposed Project

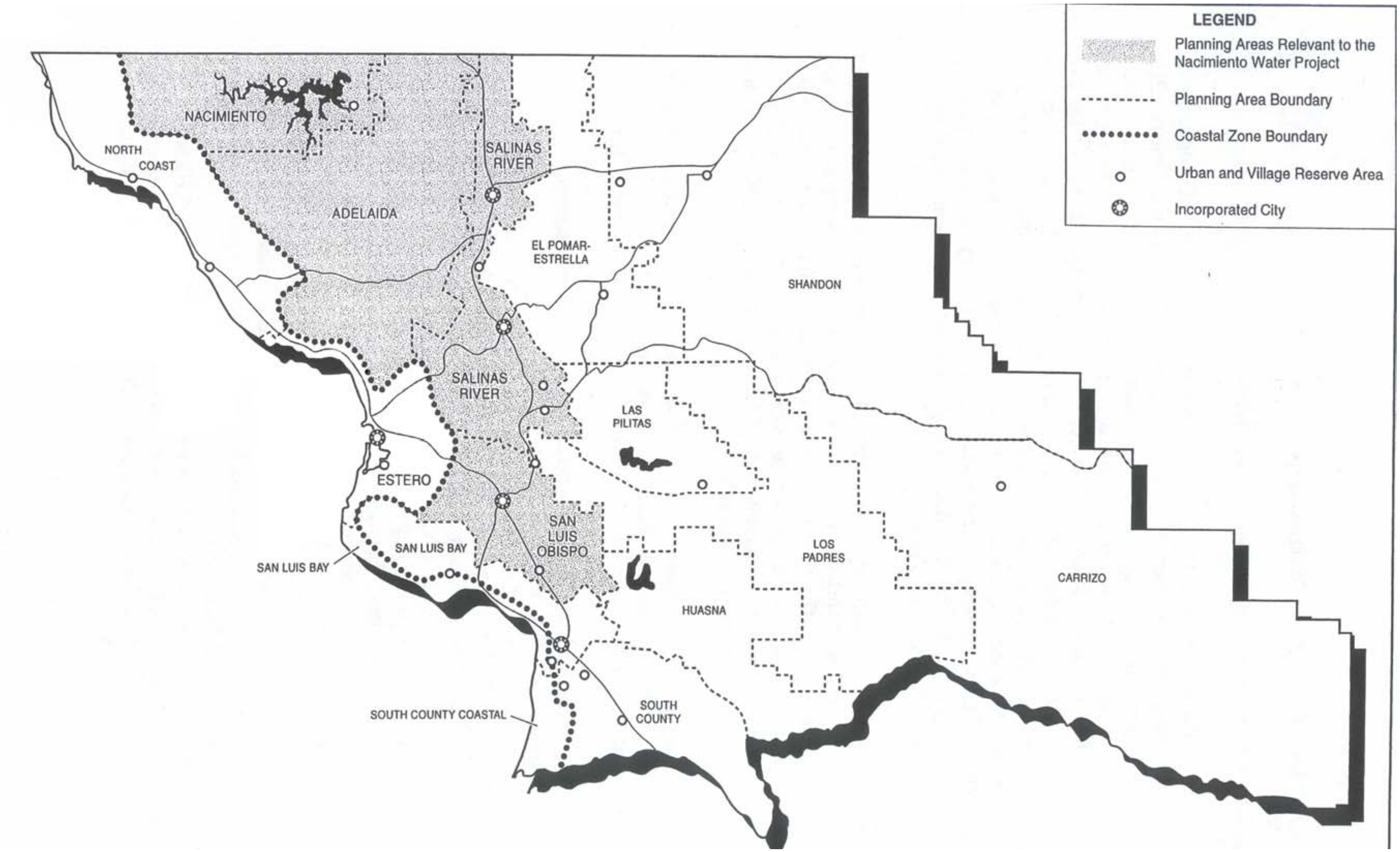


Table 5.9.1 RLOS for Communities Proposing to Receive Supplemental Water from the NWP

Community	Water Supply RLOS	Water Distribution/System RLOS
Atascadero	N/I	N/I
Cayucos	II	II
Los Ranchos/Edna	II	none
Paso Robles Urban Area	N/I	N/I
San Miguel	I[a]	none
Santa Margarita	N/I	II
SLO Urban Area	N/I	N/I
Templeton	I[a]	II

Notes: [a] Possible basin overdraft of Paso Robles Groundwater Basin

Level I = Projected water demand over next 9 years is ≥ the estimated dependable supply.
Level II = Projected water demand over next 7 years is ≥ the estimated dependable supply
Level III = Existing water demand equals or exceeds the current dependable supply;
N/I=RLOS not identified.

Source: San Luis Obispo County Department of Planning & Building, Land Use Element, Circulation Element, Annual Resource Summary Report 2002.

General Goal 17: *Finance the cost of additional services and facilities from those who benefit by providing for dedications, in-lieu fees or exactions.*

Goal 17 describes the County's intent to provide public services in pace, and consistent with planned development without creating financial burdens on taxpayers who may not directly benefit from additional or expanded services. The proposed NWP is consistent with General Goal 17 because the Nacimiento Participants Advisory Committee (NPAC) was established by the County Board of Supervisors to oversee and fund the preparation of conceptual project design plans and environmental permitting for the NWP. NPAC allocates project expenses to the service areas of water purveyors who would benefit from the proposed additional water supply source.

General Goal 18: *Locate new and additional public service facilities on existing public lands where feasible, allowing for sufficient buffers to protect adjacent rural and agricultural areas.*

Goal 18 would be used to evaluate the following permanent facilities proposed by the NWP: raw and treated water pipelines, Water Intake and Intake Pump Station, WTP, WTP storage facility and Pump Station, Rocky Canyon Storage Tank and Happy Valley Pump Station, and Cuesta Tunnel Storage Tank. The proposed raw and treated water pipeline alternatives would exist in 30-foot permanent easements. It is assumed that the easements would preclude vineyards or orchard crops from being planted within the easements. Where the land is privately held and designated for agriculture or in cultivation, the proposed NWP facilities may be inconsistent with Goal 18. The potential impacts of the NWP on agricultural resources are discussed in Section 5.13 of the EIR.

Development Guidelines for Proposed Public Facilities

The SLO County Framework for Planning (Inland) discusses the need for Water Supply Facilities consistent with plans contained in the Master Water and Sewerage Element of the

General Plan. The Framework for Planning (Inland), Development Guidelines for Water Supply Facilities stresses that water service should not be extended beyond the Urban Service Line (USL) where such extension would impair the adequacy of service within the USL, or where such extensions have not been programmed or are not in conformity with the General Plan. The Framework for Planning (Inland) also states that residential rural uses with lots larger than 2.5 acres, and agricultural uses should rely on onsite wells. Prior to establishment of community water service within a rural area, the General Area Plan should be amended to delineate the boundaries, policies, and standards of an urban level community service system for water service that would apply to a specific area experiencing long-term physical hardship due to local groundwater shortages. Amended Area Plans detailing the boundaries, policies, and standards for water service should be processed for those private water companies located outside of the USL and participating in the NWP (Santa Margarita Ranch Water Company, and Edna Valley Mutual Water Company) in order to be considered consistent with the development guidelines for proposed public facilities. The potential environmental impacts to public services as a consequence of extending community water services to areas located outside the USL are discussed in Section 7.0, Growth Inducement, of this EIR.

Circulation Element
Scenic Highways Local Objective #2: *Adopted programs and standards in the LUE area plans to protect the scenic quality of identified areas and to maintain views from designated scenic roads and highways. Provide special attention to the location, siting, and design of visible structures, access roads, and outdoor advertising, while ensuring that there will not be undue restrictions on private property or agricultural operations. Encourage area native plants in landscaping. Promote placing utilities underground where feasible.*

The Nacimiento Area Plan designates Nacimiento Lake Drive as a county Scenic Highway with a Sensitive Resource Area (SRA) overlay extending 500 feet from the centerline of the road. The proposed NWP Water Intake and Intake Pump Station structure at Lake Nacimiento are located outside of the designated scenic corridor (at approximately 560 feet from the centerline of Nacimiento Lake Drive), however the pump station access road would be located within the SRA. These structures are evaluated in the EIR (Section 5.12, Aesthetics/Visual Resources) for potential visual impact because of their proximity to a highly scenic area. The construction of pipelines and facilities in the viewshed of Nacimiento Lake Drive would have potentially significant, short-term visual impacts until vegetation is re-established.

5.9.1.4 Combining Designations

Combining designations are special overlay land use categories applied in areas of the county for which special characteristics of public value or hazard are present. These special characteristics, which may be related to location, terrain, man-made features, or biological resources, require more detailed project review in order to avoid or minimize adverse environmental impact. The following combining designations would be encountered within the proposed project area. More specific policy implications of such interactions are addressed by planning area in the following section and in the EIR text for specific resource areas (i.e. geology, biology, visual resources, etc.). As described in Framework for Planning, Inland Area, the relevant combining designations are:

- **Geologic Study Area (GSA):** Applied to: areas identified in the Alquist-Priolo Geologic Hazard Zones Act as "Special Studies Zone" (Public Resources Code Section 2622); to areas within urban and village reserve lines subject to "moderately high to high" landslide risk or liquefaction potential (as identified in the Seismic Safety Element of the County General Plan); and to lands outside urban reserve lines subject to high landslide risk potential (also according to the Seismic Safety Element).
- **Energy or Extractive Area (EX):** Applied to areas where oil, gas or mineral extraction occurs, is proposed, or where the State Geologist has identified petroleum or mineral reserves of statewide significance; and areas of existing or proposed energy-producing facilities. This designation was expanded in 1991 (Ordinance 2498) to include areas which the California Department of Conservation's Division of Mines and Geology has classified as containing or being highly likely to contain significant mineral deposits, including active mines.
- **Flood Hazard (FH):** Applied to flood-prone areas identified through review of available data from various Federal, State, or local agencies. Also includes flood elevations of existing lakes and reservoirs.
- **Historic Site (H):** Applied to areas of unique historical significance.
- **Sensitive Resource Area (SRA):** Applied to areas having high environmental quality and special ecological or educational significance.
- **Local Coastal Plan (LCP):** Applied to areas subject to the California Coastal Act of 1976.
- **Airport Review (AR):** Applied to areas identified in the various county airport land use plans where proposed developments receive special review (to avoid land uses incompatible with airport operations), as well as areas within airport approach and departure patterns.

5.9.2 Land Use Policy Consistency Determination by Planning Area

SLO County uses a General Plan Conformity Report procedure to determine whether proposed public projects are consistent with the County's General Plan. Pursuant to Government Code Section 65100, the Department of Planning and Building is authorized to prepare and issue conformity reports that are required by California Government Code Section 65402. The conformity reports are prepared within 40 days from submittal and are reviewed by the Planning Commission. Appeals of the Department's determination may be made in accordance with the provisions of Section 22.01.042 of the County's Land Use Ordinance. Upon an appeal, the effective date of the determination is extended until the date of the final appeal decision.

The determination of conformity is based on the SLO County General Plan, including the text, standards, programs, and maps. Permit requirements for the public water system wells, treatment plants and storage facilities of the NWP are contained in the Public Utility Facilities, Section 22.08.288 of Title 22 of the SLO County Code, Land Use Ordinance. Permit requirements for pipelines, pump stations and storage tanks are also found in Section 22.08.286, Pipelines and Transmission Lines, of the SLO County Code. As a public project, the NWP would be exempt from general permit requirements. However, no such exemption exists when the facilities would be constructed by, or on land owned by, mutual water companies, such as the Atascadero Mutual Water Company. Factors considered in determining conformity of the proposed water distribution and facilities project would include the following:

- The proposed project is consistent with the Master Water and Sewage Element of the General Plan.
- The water storage facilities proposed are consistent with Section 22.08.288 – Public Utilities Facilities of SLO County's Land Use Ordinance.
- The proposed project is consistent with the goals, objectives and policies of the Land Use Element and any other applicable General Plan elements.

The proposed permanent above-ground facilities to be constructed would require a determination of conformity with the General Plan by the County Planning Commission. Public utility facilities are considered special land uses, allowable in all land use categories, and are subject to special standards and/or processing requirements. These facilities include public water system wells, treatment plants, and storage facilities such as water tanks or recharge areas. Table 5.9.2 reviews each component of the NWP by pipeline segment (reach) and planning area to determine whether the proposed project is potentially consistent with existing land use designations. As with the State Water Project, local Distribution Lines and Facilities, an overall conformity report would be prepared for all elements of the project which would be reviewed by the County Planning Commission and, if applicable, the County Board of Supervisors (Griffin 1996).

5.9.2.1 SLO County Master Water Plan

The proposed project is consistent with SLO County's Master Water Plan. The County's use of supplemental water supplies from Lake Nacimiento has been anticipated since 1959. The County Master Water Plan recognizes that continued reliance on groundwater supplies may result in significant damage to local aquifers, and recommends that a variety of water projects be developed to diversify water sources, reduce reliance on groundwater, and meet long-term forecasted water demand.

5.9.2.2 Public Utilities Facilities Land Use Designation

Government Code Section 53091 exempts local agencies from obtaining land use permits for the development of water supply systems. No General Plan amendments or rezoning applications would be necessary to construct the proposed Water Intake and Pump Station at Lake Nacimiento in an area designated as Open Space (OS). Similarly, no change in land use designation would be required to permit the WTP, water storage tanks, water recharge areas, or pump stations when located in agricultural (AG) or OS areas. The land use consistency analysis assumes that the pipelines, water storage facilities, and pump stations would be developed using a series of 30-foot wide easements, rather than necessitating a lot split accomplished through a public lot procedure. The WTP site will be located on approximately 28 acres of land within Camp Roberts.

Table 5.9.2 Land Use Consistency Determination

NWP Component by Planning Area and Reach	Land Use Designation	Combining Designation	Applicable Goal or Policy	Consistency Determination
Nacimiento Area Plan				
Reach 1 (Sta. 0+00 to Sta. 560+00)				
Water Intake and PS	OS		Goal 18	Potentially Consistent
Nacimiento Lake Drive to pipeline crossing	OS, road ROW	SRA(35)	Scenic Hwy. Obj.2	Potentially Consistent
Pipeline	OS, RL, road ROW	FH	-	Consistent
Camp Roberts: pipeline, WTP, WTP storage tank, WTP PS	Federal lands	-	NEPA	Potentially Consistent
Adelaida Area Plan				
Reach 2 (Sta. 560+00)				
Camp Roberts: water storage tank, WTP, WTP PS	Federal lands	-	NEPA	Potentially Consistent
Reach 3 (Sta. 560+00 to Sta. 775+00)				
Pipeline	AG, road ROW	-	-	Consistent
San Miguel turnout	AG, RR, road ROW	-	-	Consistent
Salinas River Area Plan				
Reach 3A (Sta. 775+00 to Sta. 1130+00)				
Pipeline	AG, road ROW	-	-	Potentially Consistent
City of Paso Robles				
Pipeline	various, road ROW	-	-	Consistent
Paso Robles Discharge Area, Paso Robles treated water connection	AG, road ROW	-	-	Consistent
Reach 4 (Sta. 1130+00 to Sta. 1415+00)				
Pipeline	AG, road ROW	FH	-	Consistent
Discharge area for TCSD (raw water option); surge tank and TCSD turnout (treated water option)	AG, road ROW	FH	-	Consistent
Reach 5 (Sta. 1415+00 to Sta. 1635+00)				
Pipeline	AG, road ROW	FH	-	Consistent
Staging area	AG		-	Consistent
Atascadero turnout (treated water option)	AG, road ROW	FH	-	Consistent
Atascadero turnout and discharge area (raw water option)	AG	FH	-	Potentially Consistent
Reach 6 (Sta. 1635+00 to Sta. 1830+00)				
Pipeline	AG, road ROW	FH	-	Consistent

Table 5.9.2 Land Use Consistency Determination

NWP Component by Planning Area and Reach	Land Use Designation	Combining Designation	Applicable Goal or Policy	Consistency Determination
Reach 6A (Sta. 1785+00)				
Rocky Canyon storage tank	AG	FH	Goal 18	Potentially Consistent
Reach 6B (Sta. 1785+00)				
Happy Valley PS	AG	FH	Goal 18	Potentially Consistent
Reach 7 (Sta. 1830+00 to Sta. 2150+00)				
Pipeline	AG, RS, road ROW, SPRR ROW	FH	-	Consistent
Santa Margarita				
Pipeline	Various, road ROW	FH	-	Consistent
Santa Margarita Ranch/CSA turnout (raw water option)	Road ROW	FH	-	Consistent
Reach 7A (Sta. 2150+00 to Sta. 2320+00)				
Pipeline	AG, RL, road ROW	FH, SRA	Scenic Hwy. Corridor Obj. 2	Potentially Consistent
Reach 7B (Sta. 2310+00)				
Cuesta Tunnel storage tank	RL	SRA	Goal 18, Scenic Hwy. Corridor Obj. 2	Potentially Consistent
Reach 8 (Sta. 2320+00 to Sta. 2370+00)				
Cuesta Tunnel	RL, OS	SRA, GSA	Cuesta Ridge Scenic Area	Potentially Consistent
Reach 8A (Sta. 2370+00 to Sta. 2520+00)				
Pipeline	RL, OS, AG	-	-	Consistent
Reach 9 (SLO WTP – CMC)				
Pipeline	AG, PF, road ROW	GSA, FH, SRA	SLO Scenic Backdrop Area	Potentially Consistent
Reach 10 (SLO WTP – Edna Valley)				
Pipeline	AG, road ROW	GSA, FH, SRA, AR	SLO Scenic Backdrop Area, SLO County Airport	Consistent
City of San Luis Obispo				
Pipeline	Various, OS, road ROW	-	-	Consistent

Notes: AG=agriculture, CR=commercial retail, CS=commercial service, IND=industrial, OS=open space, PF=public facilities, PS=pump station, REC=recreation, RL=rural lands, RMF=residential multiple family, ROW=right-of-way, RR=residential rural, RS=residential suburban, RSF=residential single family, SRA = scenic resource area, ST=storage tank

Water treatment plants are defined as Public Utility Facilities, which are considered consistent with SLO County's AG and RS land use categories as a special use (S). Public utility facilities are allowable, subject to the requirements of section 22.08.288 of the County Land Use Ordinance. These permit requirements include approval of a Development Plan, an Environmental Quality Assurance Program, minimization of the amount of vegetation removal, replacement of topsoil and vegetation, and the establishment of effective visual barriers. As a public project, the proposed project would not be required to comply with this ordinance; however, the intent of the ordinance provisions would be met by the project's compliance with the mitigation measures contained in the EIR.

5.9.2.3 Nacimiento Area Plan

Water Supply

The Nacimiento planning area extends from the Monterey County line on the north to the Adelaida planning area on the south, and includes the western slopes of the Santa Lucia Mountains to Camp Roberts on the east. At the center of the planning area is Lake Nacimiento, a reservoir created in the late 1950s when a dam was constructed on the Nacimiento River, a tributary to the Salinas River. The lake and substantial surrounding acreage is owned in fee by the MCWRA, who operates Lake Nacimiento to provide flood control and maximize releases to benefit groundwater recharge in the Salinas Valley. Sources for domestic water for the Nacimiento Planning Area are limited to the lake and scattered groundwater wells.

Lake Nacimiento is a popular recreational area for residents of San Luis Obispo and Monterey counties. The reservoir provides boating, camping, fishing, swimming, and water skiing opportunities for the public. Upland and adjacent slopes are used for limited grazing and are primarily maintained as watershed/open space. Several residential communities exist along the lake's shoreline: Oak Shores along the north shore and Running Deer Ranch, Heritage Ranch and Lake Nacimiento Resort along the southern shore. These communities are comprised primarily of seasonal residences, and are geared mainly toward recreational use of the reservoir with limited commercial uses. Rural residential uses are located where slopes permit.

The area surrounding Lake Nacimiento is sparsely populated, with primary uses geared toward recreation on the reservoir, rural residential and grazing. Lands surrounding Lake Nacimiento are for the most part designated as AG and OS within the SLO County General Plan. Land uses directly adjacent to the reservoir primarily include Rural Residential, Recreation, Agriculture, and Open Space, with some Residential Suburban.

Vineyards, grain production, livestock grazing, and horse ranching are the dominant AG in this area of the Salinas Valley. For the most part, upland areas adjacent to the reservoirs are maintained as watershed OS areas, with some dryland grazing. Widespread grasslands on the rolling hills in the area of Lake Nacimiento provide prime grazing areas. The NRCS designates agricultural land surrounding the reservoir as Grazing Lands (NRCS 1996).

The Nacimiento Area Plan recommends that negotiations between the MCWRA and the SLO County Board of Supervisors focus on operational issues that affect fish and wildlife, and in prolonging recreational use of the lake. It recommends that the SLO County water allocation be considered as a supplement to the minimum pool retained in the lake until required for domestic uses. This recommendation is aimed at ensuring optimal use of Lake Nacimiento for recreational purposes.

At a maximum of 36 inches in diameter (at the intake), and tapering to less than 10 inches in diameter beyond the San Luis Obispo WTP, the proposed NWP pipeline is sized to take less than the County's maximum 17,500 afy allocation. The 1959 Agreement between the MCWRA and SLOFCWCD theoretically allows SLOFCWCD to take lake water below a 22,000 af minimum reserve pool (Boyle 1992). The SLO County Board of Supervisors acting as the Board of the SLOFCWCD has the ability to direct the SLOFCWCD to add 1,300 af to the minimum pool of 10,000 af, as recommended in the Nacimiento Area Plan, or to adopt a water surface elevation beyond which SLOFCWCD would not be able to take lake water. The 2,365 af figure quoted in the Nacimiento Area Plan is 1,065 af more than the lakeside reserve figure of 1,300 af proposed in the NWP. If sufficient water is not available, development densities in the Nacimiento Area Plan may need to be revised downward.

The following Nacimiento Area Plan standard regarding water supply systems applies to all lands within the Nacimiento planning area:

Area-wide Development Standard #2, Water Treatment. *Where use of lake water is authorized by the county, the treatment of lake water shall include storage, coagulation, sedimentation, filtration, and disinfection. Intake systems shall be protected to prevent contamination either by means of a closed zone or other approved method. The systems shall be designed by a registered civil engineer and approved by the county Health Department* (Ord. 2471).

The intent of this policy is to assure full treatment of surface water as required under Chapter 8 of the California Health & Safety Code Section 4050 et seq. The determination of proposed consistency with this development standard depends on requirements imposed by the State of California Department of Heath Services (DHS). The NWP water will need to receive complete filtration treatment, including coagulation, flocculation, sedimentation, filtration, and disinfection and will need to comply with the provisions of the California Surface Water Treatment Rule. DHS regulates the public health and safety of public water supplies. Historically, swimming and water-skiing have existed at Lake Nacimiento because the reservoir is not used directly as a water source for domestic water use. On September 28, 1997 AB 1460 was approved by the Governor to amend Section 115825 of, and to add Section 115841 to, the Health and Safety Code, relating to water. Section 115825 was amended to read:

> *(a) It is hereby declared to be the policy of this state that multiple use should be made of all public water within the state, to the extent that multiple use is consistent with public health and public safety.*
>
> *(b) Except as provided in Sections 115840, 115840.5, 115841, and 115842, recreational uses shall not, with respect to a reservoir in which water is stored for domestic use, include recreation in which there is bodily contact with the water by any participant.*
>
> *(c) This section shall remain in effect only until January 1, 2004, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2004, deletes or extends that date.*

> *115825. (a) It is hereby declared to be the policy of this state that multiple use should be made of all public water within the state, to the extent that multiple use is consistent with public health and public safety.*
> *(b) Except as provided in Sections 115840, 115841, and 115842, recreational uses shall not, with respect to a reservoir in which water is stored for domestic use, include recreation in which there is bodily contact with the water by any participant.*
> *(c) This section shall become operative on January 1, 2004.*

Section 115841 was added to allow for Lake Nacimiento water to be used for human consumption while still allowing for recreational activity in which there is bodily contact with the water by participants, provided certain requirements are met. These requirements are as follows:

> *Recreational activity in which there is bodily contact with the water by any participant shall continue to be allowed in Nacimiento Reservoir in accordance with all of the following requirements:*
>
> *(a) Any agency that removes water from the reservoir for domestic use shall comply with any, or at a minimum, one of the following with regard to the water removed:*
>
> *(1) The water subsequently receives complete water treatment in compliance with all applicable department regulations, including coagulation, flocculation, sedimentation, filtration, and disinfection, before being used for domestic purposes.*
>
> *(2) The water is discharged in a manner that allows percolation into a subsurface groundwater basin for subsequent extraction from only those groundwater wells that have been determined by the department not to be under the influence of surface water pursuant to Chapter 17 (commencing with Section 64650) of Division 4 of Title 22 of the California Code of Regulations and subsequently receives disinfection and complies with all applicable department regulations before being used for domestic purposes.*
>
> *(3) The water is discharged in a manner that allows percolation into a subsurface groundwater basin for subsequent extraction from groundwater wells under the influence of surface water that receives treatment pursuant to Chapter 17 (commencing with Section 64650) of Division 4 of Title 22 of the California Code of Regulations and complies with all applicable department regulations.*
>
> *(b) The reservoir is operated in compliance with regulations of the department.*
>
> *(c) The water stored for domestic purposes that may be excepted from the requirements of subdivision (b) of Section 115825 is removed from the reservoir by an agency for domestic purposes only in San Luis Obispo County and only in an amount for which that agency has a contractual right.*

The project description proposes that the existing log boom would be relocated a minimum of 500 feet from the intake, and would have trash racks in order to deter debris from entering the intake works. The project would also utilize fish screens (Carollo 2002).

Intake and Intake Pump Station

The proposed location for the Water Intake and Intake Pump Station for the proposed project is designated as OS, in the County's General Area Plan. The area proposed for the Water Intake and a portion of the pipeline in the road (G14) is owned by the MCWRA. The Division of Safety of Dams will require an Alteration application for any proposed work on an intake or pipeline near the Nacimiento Dam (No. 1008) prior to the start of construction.

The OS category is applied to lands under the jurisdiction of the MCWRA; however land use authority is retained by the SLO County Board of Supervisors. Pump stations and storage tanks are included in the definition of Pipelines and Transmission Lines which are considered consistent with the open space land use category as a special use (S-14). Such uses are allowable subject to the requirements of sections 22.08.286 and 22.08.120 of the County Land Use Ordinance. These requirements include a detailed geologic hazard investigation and mitigation plan, an erosion control and revegetation plan, and a cultural resources survey and mitigation program for known or later identified sites. As a public project, the NWP would not be required to comply with this ordinance; however the intent of the ordinance provisions would be met by the project's compliance with the mitigation measures contained in the EIR.

Permission from the MCWRA to construct the intake and pipeline on their property would be necessary, however SLO County's entitlement agreement stipulates that MCWRA must allow access to lake water or SLOFCWCD may use the reservoir's outlet works. The Division of Safety of Dams will review the proposed location of intake facilities at the time geologic investigations for final design and engineering are initiated as part of the Alteration application. The extent of review would depend on the Division of Safety of Dams' determination on whether there is a possibility of negatively influencing the structural performance of the existing dam.

Pipeline

Pipeline corridor selection objectives for Reaches 1 through 3A (Lake Nacimiento to Paso Robles) were keeping the cost of construction low, while avoiding disturbance of native vegetation, and disruption of traffic along Nacimiento Lake Drive (Carollo 1996, 2002). The pipeline would leave the Water Intake and Pump Station, and continue across Nacimiento Lake Drive past the northern abutment of the dam, down a dirt farm road parallel to the north side of the Nacimiento River, crossing into Camp Roberts' property still following the dirt road and crossing the Nacimiento River at approximately Sta. 110+00.

The pipeline would be constructed on lands designated as Rural Lands (RL) and OS (SLO County, Land Use Element Maps) and within road ROWs. A small portion of the pipeline within the Nacimiento Planning Area would also be constructed in areas designated with a Scenic Sensitive Resources Area (SRA) combining designation associated with Nacimiento Lake Drive, a designated scenic highway in the County's General Plan. The SRA for the scenic highway extends along Nacimiento Lake Drive from its intersection with Chimney Rock Road to the lake, and extends 500 feet from the roadway on both sides of Nacimiento Lake Drive. In the SRA for scenic highways, pipelines would be considered consistent with this land use designation because the pipeline would be buried underground. Mitigation measures to revegetate the construction corridor once construction is complete, would reduce short-term visual impacts to insignificance. Therefore, applying standard conditions outlined in the SRA combining designation would make the project potentially consistent with the Nacimiento Area Plan.

The proposed project would traverse drainages, streams, and creeks throughout the project's pipeline alignment. Most notable among these are the Nacimiento and Salinas Rivers. Construction of the Nacimiento River Crossing would be coordinated with the MCWRA so construction does not occur during times of high water flow or releases to the Nacimiento River by the MCWRA. Stream alteration permits from the CDFG would be required for all crossings (Section 5.7, Biological Resources). However, by designing the pipeline alignment to utilize the presence of existing roads wherever feasible, impacts to water quality and biological resources from the installation of the pipeline and crossings would be minimized.

5.9.2.4 Adelaida Area Plan

Pipeline
As it traverses the Adelaida area, much of the proposed pipeline would be constructed across the southwestern portion of Camp Roberts, on lands under Federal jurisdiction. On leaving Camp Roberts, the proposed pipeline would be located within road ROWs and in areas designated for AG on the SLO County Land Use Maps.

Camp Roberts
Camp Roberts is a military base used by the California Army National Guard administered by the ACOE, Sacramento District. The portion of the pipeline route on the camp's property and the construction of the WTP and water storage tanks would require a formal use-license or ROW permit from the ACOE.

Issuance of a use-license or ROW permit by the ACOE would require environmental review under NEPA. Camp Roberts uses an environmental checklist form to assess whether the proposed project would require additional review under NEPA. Issues of concern include potential kit fox habitat in the vicinity of the pipeline (Section 5.7, Biological Resources) and the presence of significant cultural resources onsite (see Section 5.8, Cultural and Paleontological Resources). The California Army National Guard is concerned with any action which may affect the military training mission of Camp Roberts (Hageman 1995). The proposed pipeline route within the camp, and the locations of the proposed WTP and storage tanks do not appear to adversely affect the military training mission of Camp Roberts because of the distance between the proposed route and facilities and the training areas; however, land use consistency would be evaluated for conformance with training and safety standards and would be at the discretion of the Camp's Range Manager.

5.9.2.5 Salinas River Area Plan

The Salinas River Area Plan covers the majority of the project from the city of Paso Robles to Santa Margarita, and south to the Cuesta Tunnel. Within this planning area the Cities of Paso Robles and Atascadero, and communities of Templeton and Santa Margarita retain permit authority over the construction of pipelines and discharge ponds within their respective jurisdictions.

Pipeline

The pipeline enters the Salinas River Planning Area at Wellsona Switch Road, just to the west of Highway 101 (Sta. 775+00). The pipeline remains within the road ROW along Wellsona Switch Road, passing through a small enclave of residential, rural, and commercial service areas before reaching Monterey Road. Upon reaching Monterey Road, the pipeline proceeds south, within the road ROW, through a small section of unincorporated residential suburban, commercial services, and industrial areas (SLO County Land Use Maps). The pipeline then parallels the SPRR tracks, passing through land zoned for AG before crossing to the eastern side of the Salinas River at Sta. 880+00. Here, the pipeline follows the North River Road ROW through an AG designated area, and enters the City of Paso Robles. A stream alteration permit from CDFG would be required for the Salinas river crossing (Section 5.7, Biological Resources), and encroachment permits from SPRR would be necessary for any work within the SPRR ROW. Because water pipelines are allowed in all of the affected land use categories, the project is determined to be potentially consistent with the Salinas River Area Plan. As a public project, the NWP would not be required to comply with the land use ordinance, however, the intent of ordinance provisions would be met by the project's compliance with the mitigation measures contained in the EIR.

5.9.2.6 City of El Paso de Robles

Pipeline

The potential use of supplemental water from Lake Nacimiento is included in the City of El Paso de Robles, Water Master Plan, April 1995 Update. Therefore, the project is determined to be potentially consistent with the City's adopted Water Master Plan.

The proposed raw water pipeline follows North River Road southward as it enters enter the city limits of El Paso de Robles (Paso Robles). The pipeline continues along North River Road as it becomes South River Road, with a slight deviation from the road right of way at the intersection of Niblick and South River Road. The pipeline exits the Paso Robles urban reserve area at the intersection of South River Road and Charolais Road where it continues along the road right-of-way through unincorporated residential rural (RR), and AG areas. Land uses abutting the pipeline alignment within the Paso Robles urban reserve area are primarily comprised of residential single family (RSF), and community commercial (CC) uses. Potential impacts to residential driveways, parking for businesses, and traffic circulation during peak hours would occur during construction (Section 5.11, Transportation/Circulation). Temporary construction noise would also be a significant short-term impact to residents (Section 5.5, Noise). A water pipeline constructed in road ROW would require an encroachment permit from the City's Public Works Department. The encroachment permit would specify traffic control standards and authorized times of operation under the City's Noise Ordinance. Since the pipeline would be constructed within the road shoulder, it could potentially result in damage to the existing street trees. The encroachment permit may include special conditions, such as requirements that an arborist be consulted when construction is proposed within the drip lines of existing trees. The presence of underground utilities along this road indicates a potential risk of upset during construction (Section 5.6, Hazards and Hazardous Materials). The contractor would be required to contact utility companies and to submit design plans showing locations of utility lines in respect to proposed trenching prior to issuance of an encroachment permit.

Discharge Areas
The proposed Paso Robles discharge area (Raw Water Option) is designed to serve the Paso Robles water system. This discharge area is located outside of the Paso Robles southern city limit, in an unincorporated area of the County. This region is zoned AG and has a combining designation of flood hazard (FH) in the County's Salinas River Area Plan. The discharge area would be constructed on land owned by the City of Paso Robles. Land use conformity would be assessed in an overall General Plan Conformity Report for the proposed project (Griffin 1996).

5.9.2.7 Templeton and City of Atascadero

The AMWC provides potable water to the City of Atascadero. The AMWC's 1993 Water System Master Plan includes the NWP as an alternative source of water supply. Therefore, the NWP is determined to be potentially consistent with AMWC's Water System Master Plan.

Pipeline
Upon leaving the City of Paso Robles the pipeline traverses unincorporated private land zoned for AG until reaching El Pomar Drive, where it returns to the road ROW. The pipeline would remain on the eastern side of the Salinas River as it passes Templeton and Atascadero, and would not physically enter the urban reserve area of either community.

Sections of this pipeline reach are located within a Flood Hazard Combining Designation for the Salinas River in the County's Land Use Plan. Operation of underground pipelines in the road shoulder should not be affected by the flood hazard combining designation. Because water pipelines are allowed in all of the affected land use categories, the project is determined to be potentially consistent with the Salinas River Area Plan. As a public project, the proposed project would not be required to comply with County ordinances; however, the intent of ordinance provisions would be met by the project's compliance with the mitigation measures contained in the EIR.

Discharge Areas
The Templeton Community Service District (TCSD) Discharge Area is located in an unincorporated county area to the east of Templeton, having an AG land use designation. This site is located within a Flood Hazard Combining Designation in SLO County's Land Use Plan. Areas along the Salinas River have also been used for gravel mining and may carry an Extraction Combining Designation in the County's Land Use Plan as well. The pipeline, itself, would be constructed in the road shoulder (ROW) of El Pomar Drive.

The proposed turnoff for the Atascadero River Discharge branch line and recharge area (Raw Water Option) is located at Sta. 1470+00. The branch line runs west along a private property boundary to the Salinas River. The recharge area is located on the west side of the river. The zoning for the unincorporated area traversed by the branch line is AG zoned, however, it appears that the discharge area will be located within the URL of the City of Atascadero in an area that is designated as open space (OS).

No general plan amendment for the proposed discharge area would be required. A "precise plan" may be required if the locations or design of the proposed discharge location changes from that reviewed in 1997 EIR (Kaiser 1996). A precise plan allows the City of Atascadero to conduct supplemental CEQA review. Depending on the final location and design of the discharge area, a conditional use permit for an above ground utility may be required.

Happy Valley Pump Station and Rocky Canyon Road Storage Tank
The Rocky Canyon Storage Tank facility and Happy Valley Pump Station (Sta. 1785+00) are also located within this stretch of pipeline. No land use permit would be required for these facilities because as a public project they would be exempt under Government Code Section 53091. Because the project has the potential to generate substantial noise during operation of the project, review of final design plans by a qualified acoustical engineer is recommended (Section 5.5, Noise).

5.9.2.8 Santa Margarita

Pipeline
The pipeline (Sta. 1785+00 to 2150+00) extends from the Happy Valley Pump Station, past Templeton and Atascadero, and through the town of Santa Margarita. After leaving the pump station, the pipeline cuts across the private agriculturally zoned lands of the Happy Valley and Taft ranches before crossing the Salinas River and regaining existing road ROW near Santa Clara Road. The pipeline turns south again and follows El Camino Real ROW for much of the extent of this reach as it parallels the SPRR tracks through AG zoned lands. At several points, the pipeline crosses the SPRR ROW. As the pipeline nears the existing Union Oil Santa Margarita Pumping Facility (Sta. 2060+00 to 2075+00) the potential for contaminated soils increases. Standard conditions placed in the encroachment permit and design specifications would address these concerns (Section 5.6, Hazards and Hazardous Materials).

The pipeline would enter the urban reserve area of Santa Margarita at Sta. 2110+00, and would continue following El Camino Real as it passes through the town. El Camino Real is the primary traffic route in this area, and connects Santa Margarita with both Atascadero and Highway 101. Land use designations of parcels bordering the pipeline route within Santa Margarita are primarily residential single family (RSF), and commercial retail (CR). Noise and traffic control (access to driveways) are concerns in this area which would be addressed in SLO County's encroachment permit conditions. Temporary construction noise would be a significant short-term impact to residents (Section 5.5, Noise), while impacts to peak hour traffic circulation during construction could create delays on El Camino Road (Section 5.11 Transportation/Circulation). Because water pipelines are allowed in all of the affected land use categories, the project is determined to be potentially consistent with the Salinas River Area Plan. As a public project, the proposed project would not be required to comply with County land use ordinances, however the intent of ordinance provisions would be met by the project's compliance with the mitigation measures contained in the EIR.

5.9.2.9 Cuesta Grade

Pipeline
Upon leaving Santa Margarita, the pipeline remains in the road ROW of El Camino Real. From here, it passes by the Salinas Project booster station before it crosses beneath Highway 101. The

pipeline then parallels the highway across lands zoned AG and RL until it joins the existing Nacimiento pipe at the entrance of the Cuesta tunnel. An encroachment permit from CalTrans will be required for any work performed within the highway ROW, while stream alteration permits will be required from the ACOE for the pipeline crossing of Tassajara Creek.

Public Utility Facilities such as water pipelines and water storage tanks are considered consistent with the AG and RS land use categories of ‘S’ in the LUE of the County’s General Plan. Additionally, the area surrounding Highway 101 in this location has both SRA and FH combining designations within the County’s Land Use Plan. The SRA is a scenic corridor along Highway 101, and projects within it are subject to review for their visual/aesthetic impact on the area. As a public project, the NWP would not be required to comply with this ordinance, however the intent of the ordinance provisions would be met by the project’s compliance with the mitigation measures contained in the EIR.

Cuesta Storage Tank

Prior to entering the Cuesta Tunnel, the pipeline will make a slight detour to the Cuesta storage tank (Sta. 2310+00). This storage facility will be notched into the hillside at approximately 1380 ft. in elevation from mean sea level, and will allow water to flow by gravity from the reservoir through the tunnel. The tank is proposed to be recessed into the hillside, and is sufficiently far from the highway viewshed, that no significant visual impacts are expected (Section 5.12, Aesthetics/Visual Resources).

Storage tanks are included in the definition of Pipelines and Transmission Lines which are considered consistent with the AG land use category of ‘S,’ allowable subject to the requirements of Section 22.08.286 of the County Land Use Ordinance. These permit requirements include a detailed geologic hazard investigation and mitigation plan, an erosion control and revegetation plan, and a cultural resources survey and mitigation program for known or later identified sites. As a public project, the NWP would not be required to comply with this ordinance; however the intent of the ordinance provisions would be met by the project’s compliance with the mitigation measures contained in the EIR. Both the pipeline and the Cuesta storage tank are evaluated in the EIR (Section 5.12, Aesthetics/Visual Resources) for their potential visual impact. The construction of pipeline and the storage tank would have potentially significant, short-term visual impacts until vegetation is re-established, however, the distance is sufficiently far that no visual impacts are expected to occur with regards to views from the highway.

5.9.2.10 San Luis Obispo Area Plan

Pipeline

Pipelines proposed in the SLO planning area would be constructed through areas designated as agriculture, open space, and rural lands, cross the SPRR tracks and connect with an existing Salinas pipeline terminating at the City of San Luis Obispo’s WTP. The potential use of supplemental water from Lake Nacimiento is included in the City of San Luis Obispo, Urban Water Management Plan (1994). Therefore, the project is determined to be potentially consistent with the City’s adopted Water Management Plan. This reach of pipeline involves crossing several drainages and the SPRR tracks. Stream alteration permits from the CDFG will be required for the creek crossings, and encroachment permits for the SPRR crossing will be obtained.

The NWP proposes an ACOE Spur pipeline (Reach 9) which would take NWP water to the CMC WTP. After the water is treated at an upgraded CMC WTP, two treated water pipelines would exit the site, one would connect with the existing Chorro Valley pipeline to serve SLCUSD, and one would serve purveyors south of the City of SLO (Reach 10). The San Luis Obispo Area Plan states:

> *"3. The County of San Luis Obispo intends to facilitate the eventual annexation of the urban reserve into the city. The county will coordinate with the city and property owners to facilitate an orderly transition from county to city jurisdiction during implementation of the Land Use Element.*
>
> c. *While under county jurisdiction, any onsite or community water supply, or onsite sewage disposal systems, should be designed to connect eventually with the city's municipal systems (San Luis Obispo Area Plan, Revised January 9, 1997)."*

The City has developed master plans for water, wastewater, and storm drainage for an unincorporated area of 1,100 acres, as part of the Airport Annexation project (Specification No. 97-38). The NWP would be able to tie into water pipelines along Reach 10. Therefore, the NWP would be potentially consistent with the San Luis Obispo Area Plan.

Water Treatment Plant Upgrade at CMC (Reach 9)

The CMC is under the jurisdiction of the California Department of Corrections. It operates water and wastewater services for Camp San Luis Obispo, Cuesta College, County Superintendent of Schools, County Operational Center, as well as facilities used by CMC (Ferrara 1996). The rated capacity of the CMC WTP is 3.0 million gallons per day (mgd). The County Planning and Building Department and CMC have discussed the use of the CMC for the NWP, however no agreements have been finalized (Gibson 1996). Agreements between the County Board of Supervisors and the California Department of Corrections to use the CMC for the NWP and associated development upgrades would take place during the final design process.

Pipeline (Reach 10)

Land uses in this area are primarily AG with Geologic Study, Flood Hazard, and SRA Combining Designations noted on the SLO Land Use Map. Reach 10 enters the urban area of San Luis Obispo with associated noise and traffic control issues. From there, the pipeline exits the urban reserve limit of the City as it travels west on Foothill Boulevard. South of West Foothill Boulevard, the pipeline leaves the road ROW and proceeds south through agriculturally designated land, just outside a designated SRA (Laguna Lake), to Madonna Road (Sta. 2800+00). This area is zoned as Open Space under the City's General Plan. Because much of the pipeline is intended to be installed within road ROW, minor realignments to Reach 10 are likely due to pending final construction plans for Prado Road through the Margarita Specific Plan Area (Ferrara 1996).

Pipeline construction in Reach 10 could also impact sensitive biology associated with Laguna Lake, grassland communities, and serpentine soils which may require minor realignments of the pipeline (Section 5.7, Biological Resources). Portions of Reach 10 would be constructed through an area, near the airport, that is generally known to contain potentially contaminated soils (Section 5.6, Hazards and Hazardous Materials). The construction of the pipeline along Highway 227 would potentially involve significant traffic delays due to high traffic volumes on this road (Section 5.11, Transportation/Circulation). Because water pipelines are allowed in all of the affected land use categories, the project is determined to be potentially consistent with the San Luis Obispo Area Plan. As a public works project, the NWP would not be required to comply with land use ordinances, however the intent of ordinance provisions would be met by the project's compliance with the mitigation measures contained in the EIR.

The potential use of supplemental water from Lake Nacimiento is included in the City of San Luis Obispo, Urban Water Management Plan, updated in 1994. Therefore, the project is determined to be potentially consistent with the City's Master Water Plan. The project is determined to be consistent with the City of San Luis Obispo's General Plan and zoning ordinance. Section 17.08.080 of the City's Zoning Ordinance allows the development of unmanned public utilities such as water pipelines and facilities in all land use zones. An administrative use permit from the City would be required. Development of open space designated lands is permissible under the City's Conservation and Open Space Plan when it is determined that the development would serve the interests of public health, safety, or welfare, and when measures are taken to ensure preservation of the sensitive and scenic resources of the area. As such, the project is consistent with the City's Plan.

Water Exchange Agreements

No physical improvements are necessary to provide water to the community of Cayucos, or to the SLCUSD. Water rights are proposed to be exchanged via a Whale Rock Reservoir agreement with the City of San Luis Obispo, however no agreements have been finalized. The SLCUSD has no formal agreement with the City of Morro Bay to replace city water with Nacimiento supplies. The City of Morro Bay is awaiting further details from the SLCUSD (Ferrara 1996).

Because no physical construction would take place with water exchange agreements, no Coastal Plan consistency determination is required. The California Coastal Commission is a State agency concerned with the effects of development and land use on coastal resources. The Commission recognizes that, within SLO County, water quality issues area directly tied to the water supply. In their Periodic Review of the San Luis Obispo Local Coastal Plan (2001), the Commission noted that excessive use of shallow coastal aquifers to supply municipal water for communities within the Estero Planning Area could lead to seawater intrusion, affecting water quality, marine habitat, flora, and fauna. Because the proposed delivery of NWP water would be surface water, not groundwater, depending on the groundwater management practices of the individual purveyors, there may be less reliance on water resources from coastal aquifers as a result of any water exchange agreements involving the NWP in these areas.

5.9.3 Proposed Project Impacts and Mitigation Measures

There would be no significant impacts to land use resulting from the proposed project as the proposed project is compatible with the underlying land use designations outlined in SLO County's General Plan, and with those of affected Federal, State, and local government entities.

5.9.3.1 Treated Water Option

There would be no additional impacts to land use resulting from construction and implementation of the treated water option as the land use designation for the WTP site is consistent with its proposed use as a public facility.

Further the proposed project would play a key role in providing supplemental water supplies to fulfill the general plan visions as documented by the various project participants.

5.9.3.2 Raw Water Option

There would be no additional impacts to land use resulting from the implementation of the raw water option as it would not involve the construction of any additional facilities beyond those previously discussed.

As with the treated water option, the proposed project would play a key role in providing supplemental water supplies to fulfill the general plan visions as documented by the various project participants.

5.9.4 Alternatives Impacts and Mitigation Measures

5.9.4.1 No Project Alternative

Under this alternative, the project would not go forward and the goals and objectives of the project would not be met. There would be no consistency issues or impacts associated with the prevailing land use policies if the pipeline and other project facilities were not constructed.

In the absence of adequate water supplies, project participants, or the communities that they serve, would not be able to fulfill their general plan visions. Potential impacts would include limits placed on future residential and commercial development, agricultural conversions that require more water, as well as individual development initiatives.

5.9.4.2 NWP 1997 EIR Alternative

Under this alternative, the water intake was proposed to be tunneled from the south side of the dam, as opposed to the current north side tunneling plan. In addition, the lowest level inlet was positioned at 660 feet elevation (10 feet below the current plan) and included a dredged channel leading into the inlet. The pipeline would begin at the water intake structure at Lake Nacimiento and run eastward along Resort Drive to Nacimiento Lake Drive, then follow Nacimiento Lake Drive (within the road ROW) to Paso Robles, where it would turn south on Vine Street to its intersection with Cuerno Largo Way (Carollo 1997). In the NWP 1997 EIR, this portion of the pipeline is referred to as Reach A.

Nacimiento Lake Drive, from Lake Nacimiento to its intersection with Chimney Rock Road is designated as a scenic highway and SRA within SLO County's General Area Plan. This scenic resource area extends 500 feet from the roadway on both sides of Nacimiento Lake Drive. While the pipeline would be underground, siting of supporting facilities (WTP and storage tanks) along this roadway would need to be reviewed for their potential impacts to the scenic quality of the area (see Section 5.12, Aesthetics/Visual Resources). This area has narrow road shoulders and a buried cable on the right with steep slopes, therefore the alignment would stay under the left edge of the pavement (Carollo 1996, 2002). Additionally, the Heritage Ranch Village Reserve lands through which this alternative passes appear in the County's Land Use Maps with a combining designation overlay indicating the presence of a geologic hazard (GSA). Geologic hazard combining designations are applied to areas of potentially high landslide risk potential, and development in this area will require review by geologist or civil engineer for suitability of development in accordance with all applicable Land Use Ordinances.

To be considered consistent with the Circulation Element of the Area Plan, the location of the proposed NWP pipeline would need to be moved outside the area proposed for roadway in the County's Godfrey Grade project. The Godfrey Grade Project involves the County's intention to widen Nacimiento Lake Drive (G14) from Chimney Rock to Interlake. It should be noted that should the NWP pipeline be installed in the ROW of the existing road, as proposed, this action may add substantial costs to long-range plans for widening Nacimiento Lake Drive to three or four lanes. However, because the widening of the road is a non-mandatory program of the County's Circulation Element, this alternative is considered to be potentially consistent with the County's circulation plans. Significant short-term impacts to traffic flow (see Section 5.11, Transportation/Circulation) along Nacimiento Lake Drive would occur during pipeline construction under this alternative.

Designated land uses adjoining Nacimiento Lake Drive along Reach A include the Heritage Ranch Village Reserve Area and AG and RL. The pipeline would then enter the Paso Robles Urban Reserve Area and proceed south along Vine Street, crossing over Highway 101 at the south end of town where Highway 46 meets Highway 101. The pipeline would then proceed south down Main Street through Templeton. As opposed to the proposed project, additional stream crossings would be required with this alternative due to the route remaining on the west side of the Salinas River (see Section 5.3, Drainage, Erosion, and Sedimentation).

The remaining portions of the proposed project are aligned in a manner consistent with those of the 1997 EIR; therefore, the impacts to land use from the remaining portions of this alternative are consistent with those of the proposed project and also identified in the 1997 NWP EIR.

5.9.4.3 Phased Raw and Treated Water Alternative

Land use impacts associated with this alternative would be identical to the proposed project treated and raw options, only the timing would change.

5.9.5 Cumulative Impacts

No changes to the existing land use designations are proposed in conjunction with the development of the NWP; therefore, no impacts with regards to land use are anticipated.

5.9.6 Mitigation Monitoring Plan

No Mitigation Monitoring Plan is necessary as there are no impacts or mitigation measures for the Land Use issue area.

5.10 Utilities and Public Services

This section describes the existing condition of utilities and public services in the area and how they would be potentially impacted by the proposed project.

Public services that could be affected during construction and operation of the proposed project include water and wastewater services, waste disposal, energy, fire protection and emergency response, health services, law enforcement, public roads and school facilities. Water would be used for dust suppression during the construction phase of the proposed project; energy would be used during construction activities and for the operation of the WTP, Water Intake, and Pump Stations; health services, fire protection and law enforcement services would be required during the construction of the pipeline; and waste disposal would occur as part of the construction of the project and during operation of the WTP. Potential long-term impacts to other services (e.g., schools, health services, law enforcement) could occur as a consequence of operating the WTP. However, augmenting the local water supply reliability could be potentially a beneficial impact to water utilities. The proposed project may also contribute to increased energy demand in SLO County assuming that the expanded water supply accommodates planned growth in the County. Impacts from potential population growth are discussed in Section 7, Growth Inducement.

5.10.1 Environmental Setting

For the proposed project, environmental setting or baseline conditions would reflect the baseline condition of utilities and public services associated with the project area.

5.10.1.1 Water Utilities and Sources

Most of the water in SLO County is supplied from groundwater sources—approximately 60% (mostly from the Paso Robles Basin), and from surface reservoirs, such as Santa Margarita Lake (Salinas Reservoir), Lopez Lake, Whale Rock and Twitchell Reservoirs, and Lake Nacimiento. The water demand by SLO County, however, is nearing the limits of the available water supplies. In fact, the proposed project is one of the methods designed to provide additional water supplies to the County.

SLO County's water distribution network consists of 12 Water Planning Areas (WPAs)—1 through 8, 9A–C, and 10. The WPAs relevant to the proposed project are: WPA 2 (Cayucos Area), WPA 3 (Morro Bay/Los Osos Area), WPA 4 (San Luis Obispo/Avila Area), WPA 9A (Salinas Area), and WPA 10 (Nacimiento Area).

Three separate water purveyors supply domestic water to the community of Cayucos: Morro Rock Mutual Water Company, Paso Robles Beach Water Association, and County Service Area 10A. These purveyors share a common source of supply (Whale Rock Reservoir) and operate a common water treatment plant. Whale Rock Reservoir supplies water to the City of SLO, the CMC, and California Polytechnic State University (Cal Poly) via the Whale Rock Pipeline, a 17-mile, 30-inch diameter pre-stressed concrete cylinder pipeline constructed in the 1960s to convey untreated water. By virtue of the Whale Rock Pipeline, Cayucos is therefore inter-tied with the City of SLO, CMC, and Cal Poly. Two pump stations along this pipeline convey water to the City of SLO WTP.

The City of Morro Bay's distribution system is a separate system, however, the City is linked to the State Water Project (SWP) Pipeline via the Chorro Valley Pipeline. The Whale Rock Pipeline traverses the City as discussed above.

CMC, Cuesta College, Camp San Luis Obispo, County Main Jail and Operations Center, and County Superintendent of Schools share a common water system. These facilities receive water via CMC. CMC receives water from Whale Rock as well as the SWP.

The City of San Luis Obispo receives water from Whale Rock Reservoir as discussed above, and from Santa Margarita Lake. The Coastal Branch of the SWP traverses the City, although the City does not have an entitlement nor a turnout from the system. Water from Santa Margarita Lake is conveyed to the City water treatment plant via 9.2 miles of 24-inch diameter reinforced concrete pipe. One primary pump station conveys water.

The three largest communities in WPA 9A (Paso Robles, Atascadero, and Templeton) operate separate water distribution systems. Templeton CSD and Paso Robles have a system inter-tie on 12-inch diameter distribution lines at Highway 46 and Theater Drive. The distance between Templeton's and Atascadero's systems is approximately a mile and a half. Similarly, Santa Margarita's water system does not adjoin any other community systems, though the Salinas Pipeline (which delivers water to City of San Luis Obispo and Cal Poly) traverses the Santa Margarita service area. San Miguel does not adjoin any other community water system.

Development around Lake Nacimiento is served by Heritage Ranch Community Services District and Oak Shores (Nacimiento Water Company). These two water systems are approximately 8 miles apart. There currently are no facilities to interconnect WPA 10 with other Water Planning Areas (SLO County 2001).

5.10.1.2 Energy Sources

The major sources and uses of energy in California include electricity, natural gas and petroleum-based fuels. Table 5.10.1 summarizes the State energy sources and their production and consumption in California.

Table 5.10.1 California Energy Sources and Consumption in 2000

Type of Energy Source	Produced Instate	Imported (US or Foreign)	Total Consumed
Electricity, GWh	226,300 (82%)	49,500 (18%)	275,800
Natural Gas, billion feet^3	376.5 (15%)	2,133.5 (85%)	2,510
Petroleum-based fuels* (1,000 barrels)	326,370 (49.6%)	332,330 (50.4%)	658,700

Notes: GWh=Gigawatt-hours.

* Fuels derived from liquid crude oil, including natural gas liquids, liquefied petroleum gas, or others that are not attributed to natural gas.

Sources: California Energy Commission (CEC) web site www.energy.ca.gov/html/energysources.html, California Independent Petroleum Association web site.

Electricity production in California is mostly fueled by natural gas, hydropower, and nuclear energy. Other energy sources that are used for electricity production include coal, solar and wind power, biomass/waste, geothermal energy and oil. Natural gas is the number one fuel used to produce electricity in California with oil-based fuels (such as fuel oil) being the least used for electricity production. Electricity produced with natural gas as a fuel accounts for more than 37.4% (84,703 GWh/year) of all electricity produced in the State, with oil being only 0.02% (55 GWh/year).

Electric services in SLO County are provided by Pacific Gas & Electric (PG&E). PG&E operates one power plant in SLO County: the Diablo Canyon Nuclear Power Plant. Duke Energy operates the former PG&E Morro Bay Fossil Fuel Plant. In addition, the Monterey County Water Resources Agency (MCWRA), which owns and operates a hydroelectric facility at Lake Nacimiento, sells its power to PG&E. Energy supplied to SLO County comes from a variety of sources; sources may range geographically from the Pacific Northwest to the Southwest, depending on market conditions. Energy deliveries to all of the County users in 2000 equaled 1,516 million kWh, of which 888 million kWh to non-residential users (CEC 2001).

5.10.1.3 Fire Protection and Emergency Response Services

The California Department of Forestry and Fire Protection/SLO County Fire Department (CDF/SLO County Fire) provides fire protection, emergency response, and rescue services to the unincorporated areas of SLO County. Areas not served by CDF/SLO County Fire have established fire or community services districts or are incorporated cities with their own fire departments. CDF provides structural fire protection and emergency services to all unincorporated areas, except areas served by the independent fire agencies as mentioned above.

SLO County Office of Emergency Services is an emergency management agency under SLO County with responsibilities that include coordination of emergency and disaster preparedness planning, response, and recovery with and between local, State, and Federal agencies, such as the SLO County Fire Department, Sheriff's Department, and County Emergency Medical Services Agency.

5.10.1.4 Law Enforcement

The SLO County Sheriff's Department provides police protection and emergency services to all unincorporated areas of SLO County. Areas not served by the SLO County Sheriff's Department are incorporated cities, which are served by local police departments, and freeways and highways, which are served by the California Highway Patrol.

5.10.1.5 Solid Waste Disposal

The Solid Waste Information System (SWIS) database contains information on solid waste facilities, operations, and disposal sites throughout the State of California. For each facility, the database contains information about location, owner, operator, facility type, regulatory and operational status, authorized waste types, and local enforcement agency. The data in the database is continuously updated by the California Integrated Waste Management Board (CIWMB). Tables 5.10.2 and 5.10.3 contain information on the landfills and waste disposal facilities located closest to the proposed project sites. Non-hazardous wastes can be accepted at the four Class III facilities, while hazardous wastes can only be accepted at Class I and II facilities.

Under Title 22, Article II of the California Code of Regulations, waste products must be classified and determined to be either non-hazardous or hazardous. Disposal facilities are classified depending on what class wastes they are permitted to receive. Class I sites are facilities that can accept hazardous wastes as well as municipal solid waste, construction debris, and yard waste. Class I sites typically have limited capacities and are the most costly to use. Class II sites may receive certain designated waste along with municipal solid waste, construction debris, and yard waste. Class III sites are the most restrictive of the three landfill classifications, with regard to the types of material that can be accepted. In general, Class III sites can only accept non-hazardous waste. These types of waste include solid waste, construction debris, wood and yard waste, and certain industrial waste that meet individual facility permit criteria.

5.10.1.6 School Facilities

SLO County schools are divided into ten school districts. Current enrollments at most of the County's schools exceed design capacities. This is accomplished through the utilization of additional temporary classrooms placed on the individual school sites. However, estimates provided by the school districts indicate that there is a practical limit to the number of temporary classrooms that can be added to a site, beyond which the "core" facilities become so over-stressed that the educational environment begins to deteriorate. Each district, therefore, has calculated an estimated maximum capacity number for each of its schools. The maximum capacity estimate is generally approximately 25% higher than the established permanent design capacity. Enrollment at four of the County's 42 elementary schools, one middle school, and one high school currently exceeds their estimated "maximum" capacities (SLO County 2002). The County's Department of Planning and Building reports that 18 out of 23 communities in the County have a severe school resources capacity problem, where the enrollment is higher than the school's capacity.

5.10.1.7 Other Utilities

The proposed pipeline alignment would cross numerous public utilities. Utility infrastructure is concentrated primarily within urban areas and includes sanitary and storm sewer drains, and water lines, as well as electrical and telephone cables that pose electrocution hazard if accidentally damaged during soil movement operations.

In some communities within the county (predominantly rural communities), property owners have individual septic tanks. Urban communities are served by sewage treatment facilities. Currently, all of the 15 sewage treatment facilities in the County are operating below their capacity. In fact, the highest percentage use of a facility's capacity is only 66.5% (at the Cauycos Morro Bay Wastewater Treatment Plant) (SLO County 2002).

Table 5.10.2 Active Class III Solid Waste Disposal Facilities in San Luis Obispo County

Permit Information	Chicago Grade Landfill	Cold Canyon Landfill	Camp Roberts Landfill	Paso Robles Landfill
Location	4 miles northeast of Atascadero off of Hwy 41	6 miles south of the City of San Luis Obispo on Hwy 227	Perimeter Road, Camp Roberts	8.5 miles east of Paso Robles off of Hwy 46 East
Owner/Operator	Walter and Patricia Johnson/Chicago Grade Landfill, Inc.	Corral De Piedra Land Co./Cold Canyon Landfill, Inc.	California Army National Guard	City of Paso Robles/ Carmel Marina Corp.
Estimated Closure Date	2020	2017	2027	2034
Maximum Permitted Capacity	3,100,000 cy	8,773,339 cy	130,000 cy	6,495,000 cy
Remaining Capacity, cy	1,525,520 (June 2000)	2,775,891 (May 2001)	151,410 (August 2000)	4,533,216 (June 2001)
Permitted Throughput	500 tons/day	750 tons/day	43 tons/day	250 tons/day
Permitted Waste Types	Residential and commercial waste, tires, asbestos, construction & demolition waste, sludge (less than 50% solids)	Prohibited from accepting hazardous, extremely hazardous, designated, radioactive, asbestos, untreated medical, and liquid waste	Construction/ demolition, mixed municipal, agricultural, tires	Residential and commercial waste, tires, construction & demolition waste, sludge from city treatment plan, agricultural

Note: cy=cubic yards.

Source: http://www.ciwmb.ca.gov/swis/ February 2003.

Table 5.10.3 Active Class I and Class II Waste Disposal Facilities Available for the Project

Permit Information	Kettleman Hills	McKittrick	Clean Harbors Buttonwillow
Location	Kettleman City, Kings County, CA	McKittrick, Kern County, CA	Buttonwillow, Kern County, CA
Owner/Operator	Chemical Waste Management, Inc./Waste Management Inc.	Liquid Waste Management, Inc.	Clean Harbors Buttonwillow LLC
Estimated Closure Date	2010	2029	2040
Maximum Permitted Capacity	4,200,000 cy	2,091,800 cy	14,293,760 cy
Remaining Capacity	3,374,413 cy (Sept 2001)	841,498 cy (Aug 2001)	NA
Permitted Throughput	1,400 tons/day	1,180 tons/day	10,482 tons/day
Permitted Waste Types	Class II wastes, industrial, mixed municipal, sludge (bio-solids)	Class II, contaminated soil, industrial	Class I wastes, contaminated soil, industrial

Note: cy=cubic yards.

Source: http://www.ciwmb.ca.gov/swis/ February 2003.

The only two communities that have a potential problem with treatment capacity (Level of Severity III) are Los Osos (most of the property owners have individual septic tanks) and Nipomo (where some property owners are not connected to the available treatment facility).

Southern California Gas operates facilities and gas lines across SLO County: a Southern California Gas transmission main extends through Atascadero and Templeton.

5.10.1.8 Roads

Public roads and their maintenance are under jurisdiction of the municipalities where the roads are located or the County in the unincorporated areas. The California Department of Transportation (CalTrans) is responsible for maintaining the highway system in the State.

5.10.2 Regulatory Setting

5.10.2.1 Utilities

The California Public Utilities Commission (CPUC) regulates privately owned electric, telecommunications, natural gas, water, railroad, rail transit and passenger transportation companies in California. The CPUC is responsible for assuring California utility customers have safe, reliable utility service at reasonable rates, protecting utility customers from fraud, and promoting the health of California's economy. In pursuing these goals, the Commission establishes service standards and safety rules, and authorizes utility rate changes. It monitors the safety of utility and transportation operations, and oversees markets to inhibit anti-competitive activity. In its efforts to protect consumers, it prosecutes unlawful utility marketing and billing activities, governs business relationships between utilities and their affiliates, and resolves complaints by customers against utilities. It implements energy efficiency programs, low-income rates and telecommunications services for disabled customers. It enforces CEQA for utility construction. The CPUC works with other State and Federal agencies in promoting water quality, environmental protection, and safety.

SLO County's Division of Environmental Health is responsible under the provisions of Section 4.019.9 of the California Health and Safety Code for the regulation of water systems which fall under the State's criteria of Public Water Systems. At the community level, various Community Services Districts (CSDs) in the County assume responsibility for the operation of community water systems. Responsibilities for sewage are likewise assumed by the several Sanitary Districts (SDs) or CSDs within the County.

5.10.2.2 Waste Management Regulation

The Federal Resource Conservation and Recovery Act of 1991 (RCRA) and its associated regulations establish a strict and comprehensive regulatory program applicable to hazardous waste. The EPA has promulgated regulations under RCRA for new and existing treatment, storage and disposal facilities including incinerators, storage and treatment tanks, storage containers, storage and treatment surface impoundments, waste piles, and landfills.

The Integrated Waste Management Act of 1989 (Chapter 1095, 1989) requires each city and county to divert 50% of its solid waste by 2000 (Public Resources Code 41780) and maintain the achieved reduction after 2000 (amended Act). San Luis Obispo County has reached 52% of its waste diversion. A State agency, the Integrated Waste Management Board, monitors the disposal rates through quarterly reports from each jurisdiction.

California Code of Regulations (CCR) Title 23, Chapter 15 establishes requirements and specifications for waste handling. CCR Title 14, Division 7 provides the State's standards for the management of facilities that handle or dispose of solid waste. CCR Title 14, Division 7 is administered by the CIWMB and the designated Local Enforcement Agency (LEA).

CCR Title 14, Division 7, Chapter 9, Article 9 Section 18800-18813 were adopted to implement Public Resources Code Section 41821.5 which requires each solid waste handler, transfer station operator, disposal facility operator, and county to gather information on which jurisdiction the solid waste originated from, their amounts disposed, and amounts of waste exported. Currently, the SLO County Public Works Department, Solid Waste Division is the responsible agency for SLO County, which is comprised of the unincorporated area and the cities of Paso Robles, Atascadero, Arroyo Grande, Grover Beach, Morro Bay, Pismo Beach, and SLO.

5.10.3 Significance Criteria

Title 14 of California Code of Regulations §15387 (also contained in CEQA Handbook, Statutes and Guidelines, Appendix I – Environmental Checklist Form) contains checklist questions for determination of environmental impacts. The questions contained in the checklist that relate to Public Services and Utilities were analyzed and a comprehensive set of criteria has been developed, against which the significance of the proposed project impacts to public services and utilities can be judged. According to the developed criteria, the proposed project would be considered to have a significant impact on public services and utilities if it results in:

- A need for new or altered police protection, fire protection and/or health care services;
- Student generation exceeding school capacity;
- Significant amounts of solid waste or breach any national, state, or local standards or thresholds relating to solid waste disposal and generation (including recycling facilities and existing landfill capacity);
- A need for new or altered potable water or sewer system/water treatment facilities (water pipelines or treatment plants, sewer lines, lift-stations, etc.);
- Substantial increase in demand, especially during peak periods, upon existing sources of energy or potable water;
- Requirement for the development or extension of new sources of energy or potable water.

5.10.4 Proposed Project Impacts and Mitigation Measures

This section presents the project impacts and proposed mitigation measures.

5.10.4.1 Treated Water Option

Impact	Impact Description	Residual Impact
UP.1	Impacts to Water Services during construction.	Class III

Water would be mainly used for dust suppression during construction and would be obtained by the proposed project's construction contractors; small amounts of water would be required for hygienic use. The sources of water that would be used for the project would vary depending mainly on the location of the construction project phase. The sources could include wells owned by the contractor, private wells of landowners in proximity to a particular construction site, or municipal supplies. It is estimated that water would be required for application to approximately 800 acres of construction area assuming a worst-case scenario of a 100-foot construction corridor for a 65-mile pipeline and some auxiliary facilities. Due to the economic incentive, contractors would most likely obtain water from the closest possible source. As a contractor may have multiple sources within the vicinity of the project area, it is not feasible to determine a definite source for the proposed project. This impact would be short-term, occurring only during the construction phase; however, the water supplies within the County are finite and demand is nearing the limits. The project's water use would represent an adverse impact to potable water supplies if potable water was used. To minimize potential impacts to potable water supplies a mitigation measure is proposed.

Mitigation Measures

UP-1 *To mitigate potential adverse impacts to potable water supplies due to short-term use during construction, all contractors should use (maximally as feasible) non-potable water sources for dust mitigation and other non-drinking purposes.*

Residual Impacts

After implementation of the proposed mitigation measure the residual impact is considered to be *adverse but not significant* (Class III).

Impact	Impact Description	Residual Impact
UP.2	Impacts to Water Services during operation.	Class IV

Operation of the WTP and the Nacimiento water system would result in a net increase of water supply in SLO County. Reliability of water supply in the region would be improved due to the project – additional reliable water source would be available from Lake Nacimiento. In fact, the goal of the NWP is to provide a reliable supplemental water source for a variety of uses within SLO County by supplementing the local ground and surface water supplies with a new surface water source. The objective is also to increase reliability of water deliveries, to improve water quality and to lessen the extent of future ground water pumping to existing residents and provide sufficient supplies to support planning objectives in various communities of SLO County. The objective of the proposed project is, therefore, to ensure better management of available water resources throughout the county.

If these goals are achieved, the project would have a *beneficial impact* to water services *(Class IV)*.

Impact	Impact Description	Residual Impact
UP.3	Impacts to Energy Resources.	Class III

Petroleum Fuels

The construction and operation of the proposed project would require the expenditure of both petroleum fuels and electricity. The energy used for the construction and operation of this project would be considered an irretrievable commitment of resources. The energy that would be consumed during construction would be comprised of onsite energy consumption, energy requirements to transport pipe and construction materials, and fuel used by commuting construction workers.

Construction would require the use of heavy equipment. Most of this equipment would be fueled with diesel. In addition to the equipment, construction workers commuting to the job site would consume gasoline in their vehicles. Fuel consumption could be reduced through car pooling. The Lead Agency encourages construction contractors to promote car pooling among their employees.

The total fuel consumption for the construction of the proposed project cannot be accurately estimated at this time. However, the proposed facilities are relatively small, the construction phase is temporary, and diesel and gasoline are readily available fuels. Due to these factors the project's construction phase petroleum fuels impacts would be insignificant.

During normal operation, petroleum fuels would also be utilized for the occasional testing or emergency use of standby diesel-powered generators and pumps and for the transportation of operating personnel and supplies to each site. Also, nine or less personnel would be employed at the WTP. Due to the short-term use of the emergency equipment and the small number of staff required, the fuel consumed would be insignificant from an energy use/consumption perspective.

Electrical power

Electrical power would be the primary energy source for operation of the proposed pump stations and WTP. At the proposed WTP, electrical power would be the primary energy source for treatment processes, also electricity would be needed for operation of the electrical water pumps, lighting, instrumentation and controls.

Annual energy use at the WTP (including the WTP pump station) was estimated at approximately 15.7 million kilowatt hours[1] (kWh), with 7.1 kWh for each of the two other pump stations, to a total maximum of 30 million kWh/yr. These estimates are a worst-case scenario of 100% horsepower efficiency operating 24 hours per day minus 10% downtime. During normal operations, these facilities would not operate at this capacity. The worst case estimate is less than 2% of all electricity consumed in SLO County. This electricity demand is not expected to result in a need to construct a new power generating facility or make changes to the existing facilities.

In addition, due to the difference in water level in the WTP storage tanks and the WTP and other elevation differences along the pipeline, an energy recovery system could be used by means of

[1] Boyle Engineers Report (Boyle 2002) estimated that the WTP and the WTP pump station would have a load of approximately 2,000 kW, with less than 1,000 kW for each of the other two pump stations .

converting hydraulic energy to electricity or directly driving the equipment at the WTP (Boyle 2002). The water conveyance system is designed in a way that utilizes high elevations whenever possible to increase the hydraulic gradient (i.e., pressure head), or decrease the amount of energy used by the pumps and WTP.

In addition, it is not imperative for the water supply or water users that the water system remains operational during electricity use peak hours, and therefore the project would not impact peak hours electricity use. Energy use would increase with approval of the proposed project; however, the impact of this additional energy consumption would not be considered significant due to the above reasons. Therefore, the additional electricity requirements of the proposed project would not be considered significant.

Nacimiento Hydroelectric Facility

MCWRA owns and operates a hydroelectric facility located downstream of Nacimiento Dam. The power generated at the facility is sold to PG&E in the amount of up to four megawatts. The minimum flow rate required to operate the facility would be 25 cubic feet per second (cfs) (Vicente 1996). If water levels were to drop below 25 cfs, the hydroelectric facility would be unable to operate.

The proposed maximum annual allocation of 16,200 af would be approximately 5 to 6% of the maximum reservoir storage volume (the typical storage within the reservoir ranges from 279,000 acre-feet in October to 350,000 acre-feet in April, with the maximum at 377,900 af). Modeling of Lake Nacimiento water levels during different conditions (Boyle 2002) showed that during the normal rainfall years the worst case difference of the water level between the current conditions and post-project conditions would be less than 2 feet. This difference could be higher during drought, and up to 8-12 feet during the worst drought conditions (as modeled for the year of 1989).

The California Department of Fish and Game (CDFG) and Monterey County Water Resources Agency (MCWRA) have established a Memorandum of Agreement (MOA) that requires a minimum discharge of 25 cfs from Lake Nacimiento, except under drought or emergency conditions. In the case of drought conditions, defined as water surface elevation of Lake Nacimiento at or below 748 feet (132,900 af), a minimum discharge of 10 cfs would be maintained (Carollo Engineers 2002). When the water elevation is at or below 689 feet (22,000 af storage), the MCWRA is not required to maintain a minimum discharge below Nacimiento Dam. Therefore, at reservoir levels of 748 feet or below, the Nacimiento hydroelectric facility would not be able to operate at full power, or even not at all. There are recorded instances when the reservoir level has been at low level, and the hydroelectric facility was not operational.

Because the water level in the reservoir widely fluctuates under normal conditions, the decline in water level would not be expected to have a significant impact on the hydroelectric facility during years with normal rainfall. However, under drought conditions, the proposed additional withdrawal of water form the reservoir would impact the operation of the hydroelectric facility and production of electricity. Because the hydroelectric facility generates only a very small fraction of power available to PG&E, and because non-operation of the facility would be expected during drought even without the proposed project, the impacts to electricity would be considered adverse but insignificant.

Mitigation Measures
No mitigation measures are proposed.

Residual Impacts
The residual impacts are considered *adverse but not significant* (Class III).

Impact	Impact Description	Residual Impact
UP.4	Impacts to Fire Protection and Emergency Response Services.	Class II

Construction activities associated with installation of the pipeline and other proposed facilities would increase the probability for a wildland fire to occur because there would be diesel and gasoline fuelled machinery present and refueling operations occurring in high fire hazard areas (rural areas with dry vegetation). Large portions of the pipeline would be installed through wild fire prone areas known as State Responsibility Areas. These areas include the following pipeline stretches: from the Nacimiento Reservoir Water Intake to the western Camp Roberts boundary (approximately Stas. 00+00—275+00); from the eastern Camp Roberts boundary at the WTP to the northern boundary of the City of Paso Robles (approximately Stas. 564+00—980+00), from the southern boundary of Atascadero to the northern boundary of Santa Margarita, from western boundary of Santa Margarita to the urban areas near City of San Luis Obispo. There are several other small portions of the southern part of the pipeline route that would be within the State Responsibility Areas. If the proposed pipeline was installed during the declared wildland fire season, normally May through November, a significant impact on fire protection services could occur. To mitigate this impact mitigation measures are proposed.

Operation of the WTP and other facilities would present an additional demand to the fire protection services because flammable materials would be handled at these facilities. The facilities are located in places accessible to the fire protection and emergency response services. It is required that the design of each facility is in compliance with the fire safety requirements included in various codes, ordinances, and national standards adopted by SLO County (e.g., Uniform Fire Code, Uniform Building Code). These standards are contained in the *SLO County Fire Department and the California Department of Forestry and Fire Protection Developer's Guide*. Due to the safe design of the facilities, it is not expected that additional fire protection services would be required, therefore impacts are insignificant.

Mitigation Measures

UP-2 *A Wildland Fire Prevention Plan (WFPP) shall be required for the proposed installation of the pipeline and other facilities. This plan will help to reduce the threat of wildland fires and provide a fire safe environment to communities in the area of the proposed pipeline construction.*

UP-3 *Final design plans for each facility shall adhere to all fire safety requirements as contained in the SLO County Fire Department and the California Department of Forestry and Fire Protection Developer's Guide.*

Residual Impacts

With the implementation of the mitigation measures, impacts to fire protection services would be considered *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
UP.5	Impacts to Law Enforcement.	Class III

The proposed pipeline route is almost entirely within the jurisdiction of SLO County's Sheriff's Department. Construction activities associated with installation of the pipeline would increase the need for additional patrols, primarily due to increased traffic congestion during pipeline construction. According to the Nacimiento Area Plan, portions of area roadways become dangerously congested during peak use (e.g., summer holiday weekends), however SLO County's Sheriff's Department has adequate personnel to accommodate increased patrols on a short-term basis, and therefore the impact would be insignificant.

Operation of the proposed facilities would not require additional law enforcement services beyond normal patrolling, therefore impact would be insignificant.

Mitigation Measures

No mitigation measures are proposed.

Residual Impacts

The residual impacts would be *adverse but not significant* (Class III).

Impact	Impact Description	Residual Impact
UP.6	Impacts to Waste Disposal Services.	Class III

During construction, the proposed project would generate waste asphalt and concrete pavement, soil and, possibly, sand spoils due to the trenching and grading involved in pipeline and facility construction. It has been estimated (Carollo Engineers 2002) that approximately 0.02 to 0.26 cubic yards of soil, waste pavement and other groundcover materials per foot of pipe would be spoil (a total of approximately 45–60 thousand cubic yards for a 65-mile pipeline). Construction of other facilities (e.g., water intake, WTP, micro-tunnels, pump stations and water storage tanks) would generate additional spoil and waste materials.

During construction in open spaces, the Applicant would balance cut and fill material onsite (i.e., cut soil would be used as backfill) to reduce spoil as much as possible. Any resulting spoil material could be spread evenly over the easement (this would represent one to two inches of cover over the permanent easement), or used as fill material for other projects in the area (typically a commercial or a residential site that needs fill material). Where possible, concrete and asphalt pavement and other waste will be recycled. In the unlikely event that no commercial or residential sites are found to dispose of the materials, the material would be taken to the nearest landfill (Table 5.10.2 shows the available four Class III landfills in the vicinity of the proposed project that have sufficient capacity to accommodate waste generated by construction).

If the amount of spoils is above 50 cubic yards, the County Building Department requires the contractor to have an approved disposal site prior to issuance of a grading permit. The Applicant would obtain all required permits needed for proper disposal.

If hazardous materials are uncovered during construction, these would need to be disposed off at a facility that is permitted to receive hazardous wastes. Table 5.10.3 includes three Class I and II waste disposal facilities that have sufficient capacity to accommodate contaminated soils and other industrial hazardous waste.

The proposed project is designed and required to comply with Federal, State, and local statutes and regulations related to solid waste. Due to the permitting requirement and the fact that several landfill facilities are available to accept spoils and other wastes, short-term impacts to waste disposal services are considered insignificant.

Impacts from Operations

The proposed WTP would generate at a maximum approximately 4,200 to 6,200 tons of dry sludge residuals per year; if Powdered Activated Carbon (PAC) is used[2], an additional 1,000 tons/year of sludge residuals would be generated (Carollo Engineers 2002). The proposed WTP site provides sufficient area for long-term stabilization and drying of sludge residuals (5-acres of drying beds). Alternating the use of different drying beds will allow the plant operators to dewater and compress residuals in order to minimize their volume. Therefore, it is intended that the operators have sufficient area to minimize the quantity of residuals requiring offsite disposal well below the number estimated above. For example, it is estimated that a 2-acre drying bed would result in a residual depth of approximately 4 inches per year (dry, non-uniformly distributed). By alternating drying beds yearly, it would be possible to store up to 2 year's residual on-site while significantly reducing the volume of residuals requiring removal. Once completely dry, the total amount of residual could be as low as 2-4 tons/day, or at a maximum 1,460 tons per year. This reduction in volume is consistent with other treatment plants where residuals drying beds are used.

Tables 5.10.2 and 5.10.3 include four Class III and three Class I and II waste disposal facilities that have sufficient capacity to accommodate sludge residuals and industrial hazardous waste generated by the proposed WTP. Because several existing sludge or sludge residuals disposal sites and industrial waste disposal sites are readily available, long-term impacts to waste disposal services are considered insignificant.

Mitigation Measures

No mitigation measures are proposed.

Residual Impacts

The residual impacts would be *adverse but not significant* (Class III).

[2] PAC could be used on occasion (typically four months in a year), it would be injected into raw water to enhance removal of total organic carbon when necessary, and then removed as sludge.

Impact	Impact Description	Residual Impact
UP.7	Impacts to school facilities.	Class III

Every SLO County school district scheduled to receive water from the proposed project currently lists its capacity and enrollment conditions as moderate to severe (see Section 7, Growth Inducement). Any increased demands on school facilities would be considered a significant impact. However, because the project would create nine or fewer permanent employees, no direct impacts to school facilities would occur as a consequence of operating the proposed project (i.e., WTPs). The proposed project could contribute to increased demands on school facilities in the county assuming the expanded water supply accommodates planned growth. Impacts to school facilities resulting from potential growth caused by the project are discussed in Section 7, Growth Inducement.

Mitigation Measures
No mitigation measures are proposed.

Residual Impacts
The residual impacts would be *adverse but not significant* (Class III).

Impact	Impact Description	Residual Impact
UP.8	Impacts to roads and road maintenance.	Class III

The project would impact several public roads due to removal of pavement to install the proposed pipeline, and potential road surface damage due to heavy trucks and other machinery travel on pavement. However, according to the project description, the Applicant will restore the affected roads to the pre-project or better conditions. Therefore, the impact to roads and road maintenance would be insignificant.

Additional use of roads during operation of the proposed facilities (10–12 vehicles per day) would be small, and is not considered as significant impact to roads or road maintenance.

Mitigation Measures
No mitigation measures are proposed.

Residual Impacts
The residual impacts would be *adverse but not significant* (Class III).

5.10.4.2 Raw Water Option

Impacts UP.1 through UP.8 would be reduced in severity as the WTP would not be constructed. There would be less water and energy use during construction because the WTP would not be constructed. Operational energy use would also be reduced (Impact UP.3) because the WTP would not be operating. Impacts to roads would be approximately the same under these two options because most of the impact from Impact UP.8 is from construction of the pipeline, which would be constructed under both options.

5.10.5 Alternatives Impacts and Mitigation Measures

Detailed descriptions of the various alternatives have been provided in Section 3, Alternatives. This section provides a discussion of the impacts to utilities and public services of the various alternatives.

5.10.5.1 No Project Alternative

Under the No Project Alternative, all project-related impacts (UP.1 through UP.8) would be eliminated because there will be no construction or operation of the water pipeline or the WTP.

5.10.5.2 NWP 1997 EIR Alternative

Under this alternative the pipeline would have traverse the route analyzed in the NWP 1997 EIR (Ogden 1997) and there would be three WTPs as compared to only one in the proposed project. Impacts UP.1 through UP.8 would be the same or similar as for the proposed project because a comparable amount of water would be needed for construction and operation, the same mitigation measure would apply (UP-1). Impact UP.3 (Energy Resources) would be slightly more severe because operation of three treatment plants would require more energy to operate, although energy needs due to pumping and actual treatment of the similar water volumes would be similar, the differences would be in auxiliary power needs, such as lighting, heating, and controls of three WTPs as compared to only one in the proposed project. Similar fire protection, emergency and law enforcement services would be required (Impacts UP.4 and UP.5), and the same mitigation measures would apply (UP-2 and UP-3). Impacts to waste disposal facilities (UP.6) could be slightly more severe during operation phase because three WTPs could generate more waste even if treating the same amount of water (due to the economies of scale), however this impact would still be insignificant because sufficient capacity of landfills exists. Impacts to schools could be slightly more severe because more employees would be required to operate three WTPs as compared to only one as in the proposed project. However, this impact (UP.7) would still be insignificant. Impacts to roads (UP.8) would be similar because the most impact to the roads is from the pipeline construction, and a similar length of the pipeline would be constructed under this alternative.

5.10.5.3 Phased Raw and Treated Water Alternative

This alternative would be very similar to the proposed project, however various parts of the project would take place over a longer period of time. This alternative would not change the impacts to various utilities and public services, however these impacts would be introduced over a longer time frame because the WTP would be constructed later in the project, and all impacts associated with the WTP would therefore be delayed. All the mitigation measures outlined for the proposed project would be applicable under this alternative (Measures UP-1 through UP-3).

5.10.6 Cumulative Impacts

Several other projects are planned in the project area that would have the potential to coincide with the proposed project. Most of these are public works projects to replace aging infrastructure.

For many of these projects, construction would have impacts to water utilities similar to the proposed project—water would be used to suppress fugitive dust emissions. There would be a need for fire protection and adherence to wildfire protection measures as well, as with the proposed project. Cumulative and individual impacts of these projects to law enforcement would be small. There would no impact to schools as no new employment would be generated. Because the projects would be conducted during the same timeframe, but at different locations within SLO County, and the impacts of each project are not significant or would be mitigated, and impacts would not be cumulatively significant.

Concurrent operation of the Salinas Valley Water Project would not have any impacts to utilities or public services, except for water services. However, these impacts would be beneficial, as it is the goal of both projects to improve water quality and water supply reliability.

5.10.7 Mitigation Monitoring Plan

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
UP-1	To mitigate potential adverse impacts to potable water supplies due to short term use during construction, all contractors should use (maximally as feasible) non potable water sources for dust mitigation and other non-drinking purposes.	Submit documentation for the available water sources and which sources were selected.	Dept of P&B	Approval of the water sources	Before construction at specific locations, where different water sources are used
UP-2	A Wildland Fire Prevention Plan (WFPP) shall be required for the proposed installation of the pipeline and other facilities. This plan will help to reduce the threat of wildland fires and provide a fire safe environment to communities in the area of the proposed pipeline construction.	Develop and submit the WFPP prior to final approval	Dept of P&B	Verification that the plan has been submitted to the appropriate parties	After submittal
UP-3	Final design plans for each facility shall adhere to all fire safety requirements as contained in the SLO County Fire Department and the California Department of Forestry and Fire Protection Developer's Guide.	Develop and submit the design plans prior to final approval	Dept of P&B	Verification that the plan has been submitted to the appropriate parties. CFD and Camp Roberts verify that the plans are within all required codes	After submittal

Notes: County PW Dept=Department of Public Works at the SLO County (The Applicant); Dept of P&B=Department of Planning and Building of the SLO County.

5.11 Transportation/Circulation

This section assesses potential impacts to traffic circulation as a consequence of construction and operation of the NWP. The construction practices associated with the proposed pipeline are common to installation of underground utilities and involve excavating a trench, installing the pipeline, backfilling and compacting the trench, and restoring the trench surface. Because the majority of the pipeline would be installed in road right-of-way (ROW), the final surface would generally be asphalt paving. Roadways referenced in this section are shown in Figures 2-3 through 2-24. The analysis in this section is based on field surveys, a review of local and regional maps and data, and discussions with State and County transportation agencies.

Traffic associated with the construction and operation of water treatment facilities would involve the intake and intake pump station at Lake Nacimiento and the proposed WTP site. Negligible traffic would be associated with existing water facilities such as WTPs at the CMC or City of SLO. After completion of construction, storage tanks and pump stations would require only occasional traffic trips for routine maintenance.

5.11.1 Environmental Setting

5.11.1.1 Roadway and Intersection Classification

Circulation conditions are often described in terms of levels of service (LOS). LOS is a means of describing the amount of traffic on a roadway versus the design capacity of the roadways. The design capacity of a roadway is defined as the maximum rate of vehicle travel that can reasonably be expected along a section of roadway. Capacity is dependent on a number of variables including road classification and number of lanes, weather, and driver characteristics. The LOS rating uses qualitative measures that characterize operational conditions within a traffic stream and their perception by motorists. These measures include freedom of movement, speed and travel time, traffic interruptions, types of vehicle, comfort, and convenience. Ideal conditions for a roadway would include good lane widths and roadside clearances, the absence of trucks or other heavy vehicles, and level terrain. LOS is generally a function of the ratio of traffic volume (V) to the capacity (C) of the roadway or intersection, which provides the V/C ratio (see Table 5.11.1).

Table 5.11.1 Traffic Conditions Along Project Related Routes

Road / Route	Class	Average Daily Trips (ADT)	ADT LOS*	Peak Hr.	Reference
Intake Pump Station to Water Treatment Plant (Sta. 0+00–560+00)					
Nacimiento Lake Drive	Arterial–2 Lanes	5,175	C	433	2
24th Street	Collector–4 Lanes	15,570	B		3
Boy Scout Road	Minor–2 Lanes	Traffic data not available			
West Perimeter Road	Minor–2 Lanes	Traffic data not available			
General's Road	Minor–2 Lanes	Traffic data not available			

Table 5.11.1 Traffic Conditions Along Project Related Routes

Road / Route	Class	Average Daily Trips (ADT)	ADT LOS*	Peak Hr.	Reference
Water Treatment Plant to Charolais Road/South River Road (Sta. 560+00–1130+00)					
Texas Road	Minor–2 Lanes	Traffic data not available			
Mahoney Road	Minor–2 Lanes	Traffic data not available			
San Marcos Road	Minor–2 Lanes	491	A	48	2
Wellsona Road	Minor–2 Lanes	208	A	31	2
Hwy 101	Major–4 Lanes	See below			
Monterey Road	Minor–2 Lanes	Traffic data not available			
North River Road	Collector–2 Lanes	1,658	A	159	2
Hwy 46	Major–2 Lanes	See below			
Union Road/Hwy 41	Arterial–2 Lanes	19,710	E	1,971	3
Creston Road	Collector–4 Lanes	14,830	B	288	2, 3
Mohawk Court	Minor–2 Lanes	Traffic data not available			
South River Road	Arterial–2 Lanes	8,610	B	861	2
Niblick Road	Arterial–2 Lanes	7,362	A	736	3
Charolais Road	Collector–2 Lanes	3,710	A	257	2
Charolais Road to Vineyard Street Bridge (Sta. 1130+00–1415+00)					
Santa Ysabel Road	Collector–2 Lanes	3,804	A	344	2
Vaquero Drive	Minor–2 Lanes	172	A	28	2
El Pomar Drive	Minor–2 Lanes	649	A	62	2
Templeton Road	Collector–2 Lanes	1,576	A	146	2
Vineyard Street	Collector–2 Lanes	4,781	A	438	2
Vineyard Street Bridge to New Hwy 41 (Sta. 1415+00–1635+00)					
Templeton Road	Collector–2 Lanes	1,576	A	146	2
Hwy 41–Salinas River Bridge	Arterial–2 Lanes	5,500	A	560	1
New Hwy 41 to Happy Valley Pump Station (Sta. 1635+00–1830+00)					
Templeton Road	Collector–2 Lanes	1,576	A	146	
Rocky Canyon Road	Minor–2 Lanes	794	B	73	2
Halcon Road	Minor–2 Lanes				
Rocky Canyon Road to Santa Margarita (Sta. 18300+00–2150+00)					
Santa Clara Road	Minor–2 Lanes	Traffic data not available			
El Camino Real	Arterial–2 Lanes	5,786	A	468	2
Wilhelmina Avenue	Minor–2 Lanes	605	A	53	2
Santa Margarita to the Cuesta Tunnel (Sta. 2150+00–2320+00)					
Hwy 101	Major–4 Lanes	See below			
Tassajara Creek Road	Minor–2 Lanes	326	A	32	2
Hwy 1	Major–4 Lanes	See below			
Cuesta Tunnel to San Luis Obispo Water Treatment Plant (Sta. 2370+00–2520+00)					
Stenner Creek Road	Minor–2 Lanes	Traffic data not available			
San Luis Obispo WTP to Hwy 227/Santa Fe Road (Sta. 2520+00–2935+00)					
Hwy 1	Major–2 Lanes	See below			
Highland Drive	Arterial–2 Lanes	8,900	B		2
Patricia Drive	Collector–2 Lanes	3,900	A		2
Foothill Blvd	Arterial–2 Lanes	6,453	A	966	2
Madonna Road	Arterial–4 Lanes	34,000	D		2
Dalidio Drive	Arterial–2 Lanes	9,000	B		2
Hwy 101	Major–4 Lanes	See below			
Prado Road	Major–4 Lanes	9,000	A		2

Table 5.11.1 Traffic Conditions Along Project Related Routes

Road / Route	Class	Average Daily Trips (ADT)	ADT LOS*	Peak Hr.	Reference
Hwy 227	Major–2 Lanes	19,000	F		2
Santa Fe Road	Collector–2 Lanes	1,529	A	168	2
Buckley Road	Collector–2 Lanes	3,108	A	342	2
Davenport Road	Minor–2 Lanes	Traffic data not available			
Hwy 1					
San Luis Obispo, Foothill Blvd	Major–4 Lanes	34,000	C	3,050	1
Highland Drive (Chorro St)	Major–4 Lanes	34,000	C	2,950	1
Entrance, Los Padres Men's Colony	Major–4 Lanes	26,000	C	2,400	1
Hwy 101					
San Luis Obispo County Jct. Rte. 166 East	Major–4 Lanes	62,000	D	6,400	1
Tefft Street	Major–4 Lanes	51,000	C	4,500	1
Los Berros Road	Major–4 Lanes	51,000	C	4,700	1
Arroyo Grande, Bridge Street	Major–4 Lanes	51,000	C	6,000	1
Arroyo Grande, Jct. Rte. 227 North, Grand Ave	Major–4 Lanes	45,000	B	5,500	1
Arroyo Grande, Brisco Road	Major–4 Lanes	46,000	B	5,700	1
Pismo Beach, Oak Park Road	Major–4 Lanes	51,000	C	6,400	1
Pismo Beach, Pismo Oaks	Major–4 Lanes	58,000	C	7,400	1
Pismo Beach, South Pismo Beach (Villa Crk)	Major–4 Lanes	66,000	E	8,400	1
Pismo Beach, Jct. Rte. 1 South, North Pismo Beach	Major–4 Lanes	55,000	C	8,400	1
North Shell Beach	Major–4 Lanes	55,000	C	4,750	1
Avila Road	Major–4 Lanes	62,000	D	7,800	1
North Avila Road/San Luis Bay Drive	Major–4 Lanes	58,000	C	6,900	1
Santa Fe	Major–4 Lanes	69,000	E	8,300	1
San Luis Obispo, Los Osos Valley Road	Major–4 Lanes	69,000	E	8,000	1
San Luis Obispo, Madonna Road	Major–4 Lanes	54,000	C	5,500	1
San Luis Obispo, Jct. Rte. 227 South; Marsh St	Major–4 Lanes	75,000	F	8,600	1
San Luis Obispo, Jct. Rte. 1 North, Osos St	Major–4 Lanes	71,000	E	8,000	1
San Luis Obispo, California Boulevard	Major–4 Lanes	62,000	D	7,000	1
San Luis Obispo, Grand Avenue	Major–4 Lanes	54,000	C	6,000	1
San Luis Obispo, Buena Vista	Major–4 Lanes	41,000	B	4,600	1
San Luis Obispo North City Limits	Major–4 Lanes	48,500	B	5,300	1
Jct. Rte. 58 East, Santa Margarita Creek	Major–4 Lanes	40,500	B	4,300	1
Atascadero, Santa Barbara Road	Major–4 Lanes	38,500	B	4,150	1
Atascadero, Santa Rosa Road	Major–4 Lanes	40,500	B	4,450	1
Atascadero, Curbaril Avenue	Major–4 Lanes	41,500	B	4,650	1

Table 5.11.1 Traffic Conditions Along Project Related Routes

Road / Route	Class	Average Daily Trips (ADT)	ADT LOS*	Peak Hr.	Reference
Atascadero, Jct. Rte. 41	Major–4 Lanes	41,500	B	4,550	1
Atascadero, Traffic Way	Major–4 Lanes	44,500	B	4,900	1
Atascadero, San Anselmo Road	Major–4 Lanes	47,000	B	5,100	1
Atascadero, Del Rio Road	Major–4 Lanes	42,000	B	4,500	1
San Ramon Road	Major–4 Lanes	42,000	B	4,450	1
Vineyard Drive	Major–4 Lanes	44,000	B	4,550	1
Las Tablas Avenue	Major–4 Lanes	42,000	B	3,900	1
Main Street	Major–4 Lanes	42,000	B	3,900	1
Jct. Rte. 46 West	Major–4 Lanes	44,500	B	3,750	1
South Paso Robles	Major–4 Lanes	49,500	B	5,800	1
Paso Robles, 13th Street	Major–4 Lanes	33,500	B	3,950	1
Paso Robles, Jct. Rte. 46 East	Major–4 Lanes	29,000	A	3,450	1
Paso Robles, North Paso Robles	Major–4 Lanes	21,500	A	2,150	1
Huey-Exline Road	Major–4 Lanes	20,000	A	2,400	1
San Marcos Road	Major–4 Lanes	17,500	A	2,000	1
South San Miguel	Major–4 Lanes	18,500	A	2,150	1
San Miguel, 10th Street	Major–4 Lanes	16,500	A	2,100	1
North San Miguel	Major–4 Lanes	16,500	A	2,050	1
South Camp Roberts	Major–4 Lanes	18,000	A	2,100	1
Monterey County Camp Roberts	Major–4 Lanes	18,000	A	2,050	1
East Garrison	Major–4 Lanes	16,500	A	2,150	1
Hwy 46					
Vineyard Drive	Major–2 Lanes	2,900	A	370	1
South Jct. Rte. 101	Major–2 Lanes	5,500	A	570	1
Paso Robles, Airport Road	Major–2 Lanes	21,000	E	2,800	1
Mc Millan Canyon Road	Major–2 Lanes	11,000	C	1,500	1
Jct. Rte. 41 South	Major–2 Lanes	700	C	1,400	1
Hwy 41					
Cerro Alto Road	Major–2 Lanes	7,800	A	690	1
Atascadero, Santa Rosa Road	Major–2 Lanes	10,500	B	950	1
Atascadero, Jct. Rte. 101	Major–2 Lanes	21,000	E	2,100	1
El Camino Real	Major–2 Lanes	29,000	E	3,000	1
Salinas River Bridge	Major–2 Lanes	5,500	A	560	1
Templeton Road	Major–2 Lanes	5,500	A	560	1
Jct. Rte. 229 South (to Creston)	Major–2 Lanes	2,500	A	280	1
McMillan Canyon Road; Shandon, West	Major–2 Lanes	650	A	65	1
West Jct. Rte. 46; Shandon, East	Major–2 Lanes	700	A	75	1

Note: *LOS calculated using Santa Barbara County thresholds or Highway Capacity Software

V/C=the volume to capacity ratio, capacity is based on roadway class with LOS of E; ADT=Average Daily Traffic

Source: 1=Caltrans 2001; 2=San Luis Obispo Traffic Volumes 2002, which includes data from as far back as 1993; 3=City of Paso Robles

Trucks impact LOS by occupying more roadway space and having poorer operating qualities than passenger cars. Because heavy vehicles accelerate more slowly than passenger cars, gaps form in traffic flow, which affects the efficiency of the roadway. Also, intersections present a number of variables that can influence LOS including curb parking, transit buses, turn lanes, signal spacing, pedestrians, and signal timing.

The Transportation Research Board has developed the Highway Capacity Manual that details the procedures to be used in predicting LOS for a range of roadways and intersections. The LOS of a roadway is defined by scales ranging from A to F, with A indicating excellent traffic flow quality and F indicating stop-and-go traffic. Level E is normally associated with the maximum design capacity that a roadway can accommodate. The highest quality of traffic service occurs on roadways when motorists are able to drive their desired speed without strict enforcement and are not delayed by slow-moving vehicles more than 30% of the time. This condition is representative of LOS A. The classifications of LOS B and C are characterized when average drivers are delayed up to 45–60% of the time, respectively, by slow moving vehicles. LOS D is characterized by 31–70% of the signal cycles having one or more vehicles that wait through at least one signal cycle. When an area drops to LOS E, the speed of traffic is restricted 71–100% of the time; and intersection signal cycles have one or more vehicles waiting through more than one signal cycle during peak traffic periods. A LOS of A, B, or C is generally considered satisfactory.

Past EIRs for SLO County, including those for the Avila Beach and Guadalupe Remediation projects, have used Santa Barbara County's thresholds for V/C ratios to calculate LOS. As discussed above, LOS is determined not only by traffic volumes but also by a number of roadway conditions and intersection details. Determining a roadway's potential to present a traffic flow problem is a time-consuming process; therefore, a screening approach is often recommended. The screening approach involves comparing the roadway class with a traffic volume level for each level of service. The screening levels are developed by making generic assumptions for the data input in the Highway Capacity Manual calculations. Table 5.11.2 shows the screening volume levels that are proposed for this study. Note that the screening tool is for roadways and not for intersections.

Table 5.11.2 LOS Screening Classifications, Roadway Daily Volumes

Roadway Class	LOS (High Values)				
	A	B	C	D	E
Freeway – 6 Lanes	44,000	74,400	88,800	99,900	111,000
Freeway – 4 Lanes	29,600	49,600	59,200	66,600	74,000
Arterial – 4 Lanes	23,900	27,900	31,900	35,900	39,900
Arterial – 2 Lanes	12,000	14,000	16,000	18,000	20,000
Major – 4 Lanes	19,200	22,300	25,500	28,700	31,900
Major – 2 Lanes	9,600	11,200	12,800	14,400	16,000
Collector	7,100	8,200	9,400	10,600	11,800

In addition, LOS values are often developed by county engineering and public works departments to address future land use and impacts on requirements of future roadway projects. These analyses are normally conducted as part of a community plan and are available for only limited locations in the proposed projects area. They generally utilize the detailed approach given in the Highway Capacity Manual and include both roadways and intersections.

5.11.1.2 Existing Conditions

Routes that could be affected by the proposed project include major routes to and from the pipeline route areas and major roads accessing the WTP, pump stations, and storage tanks. Major roads that then connect these areas to Highway 101 for north or south travel are also included. These routes are shown in the Project Description.

Existing traffic circulation and roadway operating conditions for the proposed projects area were compiled for the roadways and intersections along the transportation routes in the vicinity of the projects. Average daily traffic (ADT) rates and peak hour traffic flow measurements were used to classify the road segments according to the LOS shown in Table 5.11.2. The LOS provides an indication of the extent to which the roads are currently congested. Information was obtained for the State highways (Highway 101, 1, 46, and 41) from CalTrans (2001), and for major roads and arterial roads from the SLO County Public Works and Engineering Departments. For areas where peak hour traffic was not available, it was assumed to be 10% of ADT. Table 5.11.1 lists the segments of each route, along with the corresponding traffic volumes, LOS classification, and volume to capacity ratios.

Most of the routes that could reasonably be affected by the proposed project show acceptable LOS levels. Several county roads and several stretches of Highways 101 and 41 have an LOS of D or E. The most congested County roads are Union Road/Highway 41 near Paso Robles (LOS of E) and Madonna Road in San Luis Obispo (LOS of D). The sections of Highway 101 with the heaviest traffic include Junction with Highway 166 (LOS of D), south Pismo Beach (LOS of E), Avila Road (LOS of D), Santa Fe and Los Osos Valley Road (LOS of E), and Marsh Street through California Boulevard (LOS of D to F). The most congested part of Highway 46 near the pipeline route is at Airport Road (LOS of E) where the two-lane highway is currently being converted to four lanes. Highway 41 is congested at its junction with Highway 101 in Atascadero and at El Camino Real (LOS of E). These are based on 2001 CalTrans traffic counts.

The proposed pipeline route passes by Eureka School on Templeton Road in Atascadero and within one half mile from the Atascadero State Hospital.

5.11.1.3 Future Conditions

Future conditions of the roadways are important in understanding the potential impacts of proposed projects. Most of the routes examined in this document are CalTrans governed and maintained roadways. Traffic data from CalTrans is available for the past 5 years. This data was used to estimate the traffic growth rates over the last 5 years. These growth rates were extrapolated to estimate future traffic conditions on the area roadways. SLO County circulation studies were also used. These studies generally use a traffic model to develop estimates of future roadway traffic volumes to assist in the planning of future projects. The models utilize inputs such as projected land use and increased growth, population projections, and building activity projections; however, circulation is examined only on selected routes. It was assumed that traffic volumes would grow in the area at the same rate as population over the next 10 years (or through 2012).

Table 5.11.3 lists the projected future traffic conditions and LOS for the proposed projects area in the year 2012.

Table 5.11.3 Nacimiento Water Project EIR Traffic/Circulation: Area Routes and Future LOS Classifications – 10 year projection

Road / Route	Class	ADT	Future ADT	Future ADT LOS	ADT LOS*	Peak Hr	Reference
Intake Pump Station to Water Treatment Plant (Sta. 0+00–560+00)							
			1.8% Growth rate				
Nacimiento Lake Dr.	Arterial–2 Lanes	5,175	6,186	D	D	433	2
24th Street	Collector–4 Lanes	15,570	18,611	C			2
Boy Scout Road	Minor–2 Lanes	Traffic data not available					
West Perimeter Road	Minor–2 Lanes	Traffic data not available					
General's Road	Minor–2 Lanes	Traffic data not available					
Water Treatment Plant to Charolais Road/South River Road (Sta. 560+00–1130+00)							
Texas Road	Minor–2 Lanes	Traffic data not available					
Mahoney Road	Minor–2 Lanes	Traffic data not available					
San Marcos Road	Minor–2 Lanes	491	58	A	A	48	2
Wellsona Road	Minor–2 Lanes	208	249	A	A	31	2
Hwy 101	Major–4 Lanes	See below					
Monterey Road	Minor–2 Lanes			A	A		
North River Road	Collector–2 Lanes	1,658	1,982	A	A	159	2
Hwy 46	Major–2 Lanes	See below					
Union Road/Hwy 41	Arterial–2 Lanes	19,710	23,559	F	E	1,971	3
Creston Road	Collector–4 Lanes	14,830	17,726	C	B	288	2, 3
Mohawk Court	Minor–2 Lanes	Traffic data not available					
South River Road	Arterial–2 Lanes	8,610	10,292	B	B	861	2
Niblick Road	Arterial–2 Lanes	19,710	23,559	F	E	1,971	3
Charolais Road	Collector–2 Lanes	3,710	4,435	A	A	257	2
Charolais Road to Vineyard Street Bridge (Sta. 1130+00–1415+00)							
Santa Ysabel Road	Collector–2 Lanes	3,804	4,547	A	A	344	2
Vaquero Drive	Minor–2 Lanes	172	206	A	A	28	2
El Pomar Drive	Minor–2 Lanes	649	776	B	A	62	2
Templeton Road	Collector–2 Lanes	1,576	1,884	A	A	146	2
Vineyard Street	Collector–2 Lanes	4,781	5,715	A	A	438	2
Vineyard Street Bridge to New Hwy 41 (Sta. 1415+00–1635+00)							
Templeton Road	Collector–2 Lanes	1,576	1,884	A	A	146	2
Hwy 41–Salinas River Bridge	Arterial–2 Lanes	5,500	6,574	A	A	560	1
New Hwy 41 to Happy Valley Pump Station (Sta. 1635+00–1830+00)							
Templeton Road	Collector–2 Lanes	1,576	1,884	A	A	146	
Rocky Canyon Road	Minor–2 Lanes	794	949	B	B	73	2
Halcon Road	Minor–2 Lanes		–	A			
Rocky Canyon Road to Santa Margarita (Sta. 18300+00–2150+00)							
Santa Clara Road	Minor–2 Lanes	Traffic data not available					
El Camino Real	Arterial–2 Lanes	5,786	6,916	A	A	468	2

Table 5.11.3 Nacimiento Water Project EIR Traffic/Circulation: Area Routes and Future LOS Classifications – 10 year projection

Road / Route	Class	ADT	Future ADT	Future ADT LOS	ADT LOS*	Peak Hr	Reference
Wilhelmina Avenue	Minor–2 Lanes	605	723	A	A	53	2
Santa Margarita to the Cuesta Tunnel (Sta. 2150+00–2320+00)							
Hwy 101	Major–4 Lanes	See below					
Tassajara Creek Road	Minor–2 Lanes	326	390	A	A	32	2
Cuesta Tunnel to San Luis Obispo Water Treatment Plant (Sta. 2370+00–2520+00)							
Stenner Creek Road	Minor–2 Lanes	Traffic data not available					
San Luis Obispo WTP to Hwy 227/Santa Fe Road (Sta. 2520+00–2935+00)							
Hwy 1	Major–2 Lanes	See below					
Highland Drive	Arterial–2 Lanes	8,900	10,638	B	B		2
Patricia Drive	Collector–2 Lanes	3,900	4,662	A	A		2
Foothill Blvd	Arterial–2 Lanes	6,453	7,713	B	A	966	2
Madonna Road	Arterial–4 Lanes	34,000	40,640	F	D		2
Dalidio Drive	Arterial–2 Lanes	9,000	10,758	B	B		2
Hwy 101	Major–4 Lanes	See below					
Prado Road	Major–4 Lanes	9,000	10,758				2
Hwy 227	Major–2 Lanes	19,000	22,711				2
Santa Fe Road	Collector–2 Lanes	1,529	1,828	A	A	168	2
Buckley Road	Collector–2 Lanes	3,108	3,715	A	A	342	2
Davenport Road	Minor–2 Lanes	Traffic data not available					
Hwy 1							
San Luis Obispo, Foothill Blvd	Major–4 Lanes	34,000	40,640	C	B	3,050	1
Highland Drive (Chorro St)	Major–4 Lanes	34,000	40,640	C	B	2,950	1
Entrance, Los Padres Men's Colony	Major–4 Lanes	26,000	31,078	B	B	2,400	1
Hwy 101							
SLO County Jct. Rte. 166 East	Major–4 Lanes	62,000	77,761	F	D	6,400	1
Tefft Street	Major–4 Lanes	51,000	53,851	C	C	4,500	1
Los Berros Road	Major–4 Lanes	51,000	53,851	C	C	4,700	1
Arroyo Grande, Bridge Street	Major–4 Lanes	51,000	53,851	C	C	6,000	1
Arroyo Grande, Jct. Rte. 227 North, Grand Ave	Major–4 Lanes	45,000	46,875	B	B	5,500	1
Arroyo Grande, Brisco Road	Major–4 Lanes	46,000	47,873	B	B	5,700	1
Pismo Beach, Oak Park Road	Major–4 Lanes	51,000	52,866	C	C	6,400	1
Pismo Beach, Pismo Oaks	Major–4 Lanes	58,000	59,858	D	C	7,400	1
Pismo Beach, South Pismo Beach (Villa Creek)	Major–4 Lanes	66,000	69,808	E	D	8,400	1

Table 5.11.3 Nacimiento Water Project EIR Traffic/Circulation: Area Routes and Future LOS Classifications – 10 year projection

Road / Route	Class	ADT	Future ADT	Future ADT LOS	ADT LOS*	Peak Hr	Reference
Pismo Beach, Jct. Rte. 1 South, North Pismo Beach	Major–4 Lanes	55,000	65,742	D	C	8,400	1
North Shell Beach	Major–4 Lanes	55,000	65,742	D	C	4,750	1
Avila Road	Major–4 Lanes	62,000	72,515	E	D	7,800	1
North Avila Road/San Luis Bay Drive	Major–4 Lanes	58,000	74,032	F	C	6,900	1
Santa Fe	Major–4 Lanes	69,000	87,132	F	E	8,300	1
San Luis Obispo, Los Osos Valley Road	Major–4 Lanes	69,000	100,088	F	E	8,000	1
San Luis Obispo, Madonna Road	Major–4 Lanes	54,000	70,354	E	C	5,500	1
San Luis Obispo, Jct. Rte. 227 South; Marsh St	Major–4 Lanes	75,000	98,558	F	F	8,600	1
San Luis Obispo, Jct. Rte. 1 North, Osos St	Major–4 Lanes	71,000	94,963	F	E	8,000	1
San Luis Obispo, California Boulevard	Major–4 Lanes	62,000	83,782	F	D	7,000	1
San Luis Obispo, Grand Avenue	Major–4 Lanes	54,000	75,167	F	C	6,000	1
San Luis Obispo, Buena Vista	Major–4 Lanes	41,000	55,561	C	B	4,600	1
San Luis Obispo North City Limits	Major–4 Lanes	48,500	60,897	D	B	5,300	1
Jct. Rte. 58 East, Santa Margarita Creek	Major–4 Lanes	40,500	50,593	C	B	4,300	1
Atascadero, Santa Barbara Road	Major–4 Lanes	38,500	48,721	B	B	4,150	1
Atascadero, Santa Rosa Road	Major–4 Lanes	40,500	50,593	C	B	4,450	1
Atascadero, Curbaril Avenue	Major–4 Lanes	41,500	52,946	C	B	4,650	1
Atascadero, Jct. Rte. 41	Major–4 Lanes	41,500	52,946	C	B	4,550	1
Atascadero, Traffic Way	Major–4 Lanes	44,500	54,378	C	B	4,900	1
Atascadero, San Anselmo Road	Major–4 Lanes	47,000	60,956	D	B	5,100	1
Atascadero, Del Rio Rd.	Major–4 Lanes	42,000	45,937	B	B	4,500	1
San Ramon Road	Major–4 Lanes	42,000	45,937	B	B	4,450	1
Vineyard Drive	Major–4 Lanes	44,000	50,151	C	B	4,550	1
Las Tablas Avenue	Major–4 Lanes	42,000	50,672	C	B	3,900	1
Main Street	Major–4 Lanes	42,000	50,672	C	B	3,900	1

Table 5.11.3 Nacimiento Water Project EIR Traffic/Circulation: Area Routes and Future LOS Classifications – 10 year projection

Road / Route	Class	ADT	Future ADT	Future ADT LOS	ADT LOS*	Peak Hr	Reference
Jct. Rte. 46 West	Major–4 Lanes	44,500	55,745	C	B	3,750	1
South Paso Robles	Major–4 Lanes	49,500	61,836	D	B	5,800	1
Paso Robles, 13th Street	Major–4 Lanes	33,500	41,238	B	B	3,950	1
Paso Robles, Jct. Rte. 46 East	Major–4 Lanes	29,000	35,618	B	A	3,450	1
Paso Robles, North Paso Robles	Major–4 Lanes	21,500	30,328	B	A	2,150	1
Huey-Exline Road	Major–4 Lanes	20,000	26,385	A	A	2,400	1
San Marcos Road	Major–4 Lanes	17,500	20,688	A	A	2,000	1
South San Miguel	Major–4 Lanes	18,500	35,274	B	A	2,150	1
San Miguel, 10th Street	Major–4 Lanes	16,500	24,424	A	A	2,100	1
North San Miguel	Major–4 Lanes	16,500	22,640	A	A	2,050	1
South Camp Roberts	Major–4 Lanes	18,000	29,721	B	A	2,100	1
Monterey County Camp Roberts	Major–4 Lanes	18,000	32,235	B	A	2,050	1
East Garrison	Major–4 Lanes	16,500	26,486	A	A	2,150	1
Hwy 46							
Vineyard Drive	Major–2 Lanes	2,900	3,466	A	A	370	1
South Jct. Rte. 101	Major–2 Lanes	5,500	6,574	B	A	570	1
Paso Robles, Airport Road	Major–2 Lanes	21,000	25,101	D	D	2,800	1
Mc Millan Canyon Road	Major–2 Lanes	11,000	13,148	C	C	1,500	1
Jct. Rte. 41 South	Major–2 Lanes	10,700	12,790	C	C	1,400	1
Hwy 41							
Cerro Alto Road	Major–2 Lanes	7,800	9,323	B	A	690	1
Atascadero, Santa Rosa Road	Major–2 Lanes	10,500	12,551	C	B	950	1
Atascadero, Jct. Rte. 101	Major–2 Lanes	21,000	25,101	D	D	2,100	1
El Camino Real	Major–2 Lanes	29,000	34,664	D	D	3,000	1
Salinas River Bridge	Major–2 Lanes	5,500	6,574	B	A	560	1
Templeton Road	Major–2 Lanes	5,500	6,574	B	A	560	1
Jct. Rte. 229 South (to Creston)	Major–2 Lanes	2,500	2,988	A	A	280	1
Mc Millan Canyon Road; Shandon, West	Major–2 Lanes	650	777	A	A	65	1
West Jct. Rte. 46; Shandon, East	Major–2 Lanes	700	837	A	A	75	1

Note: Percent growth based on 1.8% annual population growth predicted for the State of California, which is comparable to San Luis Obispo's 1.4% growth rate between 1990 and 2000 (U.S. Census 2000).

Growth number based on data available from CalTrans over the past 5 years. Ten year growth numbers not available.

V/C=the volume to capacity ratio, capacity is based on roadway class with LOS of E. ADT = Average Daily Traffic.

Source: 1=Caltrans, 2001;2=San Luis Obispo Traffic Volumes 2002, which includes data from as far back as 1993; 3=City of Paso Robles

Annual traffic growth rates range from 2%–8%. Future development and growth in the area over the next 10 years is estimated to worsen the LOS ratings of the following roadways to D or below:

- Union Road/Highway 41
- Niblick Road
- Madonna Road
- Highway 101 at South Paso Robles
- Highway 101 at Atascadero, San Anselmo Road
- Highway 101 at San Luis Obispo northern city limits
- Highway 101 at Grand Avenue
- Highway 101 between San Luis Bay Drive and Avila Road
- Highway 101 at Pismo Oaks
- Highway 101 at Oak Park Road
- Highway 101 at Bridge Street in Arroyo Grande
- Highway 101 at the junction with Highway 166

5.11.1.4 Truck Traffic

Truck traffic affects the LOS of a roadway by affecting traffic flow. Information on truck traffic is available from CalTrans for Highways 101, 1, 46, and 41. Table 5.11.4 lists the truck traffic percentages for each highway segment. For comparison, trucks comprise approximately 2% of traffic on local urban arterial roads under normal conditions. A method for estimating the truck traffic effects on the LOS is included in the Highway Capacity Manual. Essentially, for each 10% increase in truck traffic, the LOS volume rating is decreased by approximately 5%.

Table 5.11.4 Truck Traffic Volumes

Route	Peak Truck Traffic, % of ADT
State Highway 101 – San Luis Obispo, Jct. Rte 227 South; Marsh Street	8.7
State Highway 101 – San Luis Obispo, Jct. Rte 1 North; Los Osos Street	9.8
State Highway 101 – Jct. Rte. 58 East, Santa Margarita Creek	8.0
State Highway 101 – Atascadero, Jct. Rte. 41	9.2
State Highway 101 – Paso Robles, Jct. Rte. 46 East	11.3
State Highway 46 – Jct. Rte. 101 South	20.7
State Highway 46 – Jct. Rte. 41 South	18.2
State Highway 41 – Atascadero, Jct. Rte. 101	4.0
State Highway 41 – El Camino Real	3.6
State Highway 1 – Highland Drive	3.7

Source: CalTrans 2001 Truck Traffic Volumes.

5.11.1.5 Proposed Roadway Projects

According to CalTrans and the Traffic Division of SLO County, there are multiple ongoing or planned roadway projects along or adjacent to the project route over the next several years. CalTrans is presently widening Highway 101 to six lanes at Cuesta Grade, which lies between San Luis Obispo and Highway 58 at Santa Margarita. This construction is expected to last through the Fall 2003. CalTrans has no other highway improvements scheduled in the immediate future. As of June 2002, SLO County is planning road improvements on 16 roadways along the proposed pipeline route, which are listed in Table 5.11.5.

Table 5.11.5 Future Roadway Projects Along Pipeline Route

Roadway	Project	Timeframe
San Marcos Road	Overlay	2004
Wellsona Road	Overlay	2006
North River Road	Overlay	2004
North River Road	Bridge replacement	2005
Creston Road	Overlay easterly mile	2005
South River Road	Overlay	2006
El Pomar Drive	Overlay	2004
Templeton Road	Realign northern 1.5 miles	Within 2002–2007
Vineyard Drive	Widening at 101 interchange between Main Street and Bethel Road	Unknown
Santa Clara Road	Overlay	2003
Wilhelmina Road	Overlay	2003
Stenner Creek Road	Bridge replacement	Within 2002–2007
Foothill Road	Widening by This Old House	Within 2007–2012
Santa Fe Road	Realign northerly quarter mile	Within 2007–2012
Buckley Road	Widening from Santa Fe Road to 0.75 miles east	Unknown

Source: Personal communication with Ryan Chapman, Traffic Division, San Luis Obispo County, June 11, 2002.

5.11.1.6 Rail Facilities

A mainline for the Union Pacific Railroad runs parallel to the proposed pipeline route from Paso Robles to San Luis Obispo. The railway carries both passenger and freight traffic. There are three Amtrak trains per day in each direction and seven regularly scheduled freight trains per day. In addition, there may be other scheduled freight trains on the line in peak demand periods. There are passenger railroad stations in San Miguel, Paso Robles, Templeton, and San Luis Obispo.

5.11.2 Regulatory Setting

The transportation system requirements for the proposed projects are subject to the policies and plans of the cities of Paso Robles and San Luis Obispo, SLO County, and CalTrans.

SLO County outlines policies and standards in the Circulation Element of the SLO County General Plan. The standards provide guidance in defining whether the proposed projects are consistent with established roadway capacity levels and intersection LOS. Project consistency with roadway standards is based on the number of ADTs contributed by the project and the potential for exceeding of acceptable design capacities and the estimated future volumes for roadways in the project area.

Maximum load limits for trucks and safety requirements for oversized vehicles are generally regulated by CalTrans for operation on highways, and by the counties and cities for their roads.

5.11.3 Significance Criteria

Significance criteria are established to determine the level of a project's impact. For projects whose impacts exceed the significance criteria, mitigation measures must be developed. If an impact cannot be mitigated to a level below the significance threshold, the impact is designated *significant* (Class I). If an impact is reduced below the significance threshold, the impact is designated *not significant with mitigation* (Class II).

Transportation/circulation impacts would be considered if one or more of the following conditions were to occur as a result of construction or operation activities. These criteria are based on a review of other EIRs/EISs conducted in California and input from relevant government agencies.

- The addition of the proposed project traffic to an intersection increases the peak hour V/C ratio by the value provided in Table 5.11.6 or sends at least 5, 10, or 15 peak hour trips to a LOS F, E or D, respectively.

Table 5.11.6 Significance Criteria

Peak Hour LOS (including project)	Increase in V/C	Additional Trips
A	0.20	–
B	0.15	–
C	0.10	–
D	–	15
E	–	10
F	–	5

- Proposed project activities would reduce the number of travel lanes during peak traffic periods for roadways with peak hour LOS D or worse, resulting in a disruption of traffic flow and/or traffic congestion.
- A major roadway (arterial or collector classification) would be closed to through traffic as a result of the proposed project's activities with no suitable alternative route available.
- Proposed project activities would restrict access to or from private property or adjacent land uses with no suitable alternative access.
- Proposed project activities would restrict the movements of emergency vehicles (police cars, fire trucks, ambulances, and paramedic units) with no reasonable alternative access.
- Proposed project activities would impede pedestrian movements or bikeways with no suitable alternative pedestrian/bicycle routes.

- An increase in roadway wear in the proposed project vicinity would occur as a result of heavy truck or construction equipment movements or trenching operations, resulting in noticeable deterioration of pavement or roadway surfaces.
- Proposed project activities would change access to major roads, which would create unsafe conditions or create a necessity for a new driveway, a new traffic signal, or a change to an existing traffic signal.
- Proposed project activities would add traffic to a roadway that has design features or receives use that would be incompatible with substantial increases in traffic. This could be indicated by exceeding the Circulation Element Capacity designation for the roadway.
- Proposed project activities would result in safety problems for vehicular traffic, pedestrians, or bicyclists.

5.11.4 Proposed Projects Impacts and Mitigation Measures

This section assesses potential impacts to traffic circulation from construction and operation of the proposed NWP for both the treated water and raw water options.

5.11.4.1 Treated Water Option

Traffic impacts associated with the treated water option would occur during the construction of segments of the distribution system that lie within or adjacent to the road ROW. In general, these impacts would be related to vehicle delays due to construction equipment and personnel blocking all or a portion of the roadway, restricting access to adjoining properties, and traffic safety related to construction zones. The magnitude of the impact would depend on the traffic volumes present on the affected roadways and the terms and conditions contained in the plans and specifications for the various construction projects.

The typical roadway construction for the pipeline project would entail a 750 to 1,000-foot long section of roadway under construction at one time with a 40 to 60-foot width (including the trench). The limits of the construction zone would advance 100 feet per day on average. Additional time would be required at stream, culvert, or bridge crossings.

The special roadway construction methodology identified for the project involves a shorter 300- to 500-foot long section of roadway under construction at one time, with a 30-foot width (including the trench). The limits of the construction zone would advance 50 feet per day on average.

The construction practices associated with the proposed pipeline are common to installation of underground utilities and involve excavating a trench, installing the pipeline, backfilling and compacting the trench, and restoring the trench surface. Because the majority of the pipeline would be installed in the road ROW, the final surface would generally be asphalt paving.

Impact	Impact Description	Residual Impact
T.1	Construction associated with the project would temporarily add to local road traffic.	Class II

Construction traffic would temporarily increase local road traffic by the amounts shown in Table 5.11.7.

Table 5.11.7 Daily Construction Traffic by Project Phase

Construction Project Phase	Daily Trips
Water Treatment Plant	142
Pump Station (each)	76
Water Intake	38
Pipeline (each one of four alignments)	40
Water Storage Tanks (each)	54

The addition of construction traffic on Madonna Road, Highway 227, and sections of Highway 101 between Pismo Beach and San Luis Obispo would exceed the significance threshold of 15 vehicles to roadways with a LOS of D or worse. Therefore, this impact is considered significant.

Mitigation Measures

T-1 *All project-related traffic shall be restricted from travel on roads with a LOS of D or worse between the peak commuting hours of 7:00 a.m. to 9:00 a.m. and from 4:00 p.m. to 7:00 p.m. These include Union Rd./Highway 4; Madonna Road; Highway 227 in San Luis Obispo; Highway 101 at the junction with Highway 166, South Pismo Beach, Avila Road, Santa Fe Road, Los Osos Valley Road, Marsh Street, California Boulevard; and Highway 46 at Paso Robles, Spring Street, 13th Street, Creston Road, Niblick Road, Airport Road and El Camino Real.*

T-2 *A Traffic Control Plan shall be prepared to detail specific roadway construction information, road surface maintenance, pedestrian/bicycle circulation and traffic safety, parking limitations, road use restrictions, emergency response procedures, signing for closures, and public notification identifying location, scheduling, and duration of construction spread. This management plan shall be finalized and approved by the appropriate agencies as designated by the lead agencies.*

Residual Impact

By avoiding peak commute periods, temporary construction traffic would create less impact and would be considered *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
T.2	Pipeline construction would require partial road closures and reduce the number of travel lanes during peak traffic periods for roadways with an LOS of D or worse, resulting in a disruption of traffic flow and/or traffic congestion.	Class II

The pipeline would run beneath or along the shoulder of roadways for much of the route. Table

5.11.8 lists the partial road closures that would result from pipeline construction and the number of lanes that would remain open during the temporary road closure. The traffic volumes on most of these roads are small enough that the impact of partial road closures would be considered insignificant. For Nacimiento Lake Drive, Highway 1, Madonna Road, Foothill Boulevard, and Highway 227 that have relatively high traffic volumes, lane closures could result in significant delays. Other project roadways with high traffic volumes (listed in Table 5.11.1), such as Highway 101, would be jacked and bored under by the pipeline to avoid creating traffic impacts.

Table 5.11.8 Lane Closures and Driveways Blocked during Construction

Roadway	Level of Service	No. of Traffic Lanes Available in Construction Zone	Driveways or Property Entrances/Exits Blocked?
Nacimiento Lake Drive	C	1	Yes
San Marcos Road	A	1	No
Wellsona Road	A	1	Yes
Monterey Road	No data	1	Yes
North River Road	A	1	Yes
South River Road	A	1	Yes
Santa Ysabel Road	A	1	Yes
Vaquero Drive	A	1	Yes
El Pomar Road	A	1	Yes
Templeton Road	A	1	Yes
Rocky Canyon Road	A	1	Yes
Vineyard Drive Bridge (Treated water option)	A	1	No
Santa Clara Road	A	1	Yes
El Camino Real	A	1	Yes
Highway 41 Bridge (Treated water option)	A	1	No
Booster station road	No data	1	No
Tassajara Creek Road	A	1	No
Stenner Creek Road	A	1	Yes
Highway 1	C	Two-way*	No
Highland Drive	B	1	Yes
Patricia Drive	A	1	Yes
Foothill Boulevard	A	1	Yes
Madonna Road	D	Two-way*	Yes
Dalidio Road	B	1	Yes
Prado Road	A	1	Yes
Highway 227	F	Two-way*	Yes
Santa Fe Road	A	1	Yes
Buckley Road	A	1	Yes
Davenport Road	No data	1	No

Note: *Denotes that a minimum of two lanes are available to support bidirectional traffic flow.

Beginning at the Intake Pump Station, the pipeline would cross Nacimiento Lake Drive past the north abutment of the dam. Given the narrow width of this roadway and the heavy recreational traffic experienced during the summer months, significant traffic impacts could result from the temporary road closure. These delays would become significant if the closures occur during periods of heavy recreational traffic, which typically occur on Friday evenings, weekends and holidays during the summer months.

While most of the roadways along the pipeline route would be affected by temporary lane closures, only one road has a LOS of D or worse: Union Road/Highway 41. The pipeline route runs along the narrow western shoulder of North River Drive at the intersection with Union Road/Highway 41 and would require the southbound lane of North River Drive to be closed for several days. Nacimiento Lake Drive, which has an LOS of C and can become congested due to slow moving traffic and high traffic volume on weekends and holidays, would also be affected by lane closure. A lane closure, however, would only last several days and would be on the north side of the dam, beyond the entrance to Lake Nacimiento Resort. Because most of the traffic on Nacimiento Lake Drive originates from the south and is destined for the Resort, the short-lived lane closure would not significantly impact traffic.

Mitigation measures
Implement mitigation measure T-2.

T-3 *Pipeline construction across Nacimiento Lake Drive shall be scheduled to avoid late afternoons, weekends, and holidays during the summer months.*

T-4 *Detours shall be planned around temporary street closures through coordination with local traffic agencies, and signs shall be provided to direct motorists to alternate routes.*

T-5 *The Applicant shall ensure at least one lane remain open during construction along roadways subject to partial closure when feasible.*

T-6 *The Applicant shall provide off-street parking and staging areas for storage of construction equipment, materials, and workers' vehicles.*

Residual Impact
By creating detours and minimizing lane closures, the impact would be *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
T.3	Partial street closures would temporarily restrict access to and from private property and adjacent land uses.	Class II

Partial street closures would temporarily restrict access to and egress from private property and driveways along the pipeline route with no suitable alternative access. Properties on roadways listed in Table 5.11.8 above would be affected by temporary access restrictions. Although the restricted access would last no more than 2 days for most locations, the impact would still be considered significant.

Mitigation measures
Implement mitigation measures T-2 and T-5.

T-7 *The Applicant shall ensure all driveways blocked by construction are provided with suitable means of vehicular access and egress.*

T-8 *All affected parties in the vicinity of construction activities shall be notified a minimum of 30 days in advance of potential obstructions and alternative access provisions prior to the commencement of project activities.*

Residual Impact
By providing suitable means of access and egress to private property and driveways and by providing advance notice to property owners, the impact would be rendered *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
T.4	Construction activities could interfere with emergency response by ambulance, fire, paramedic, and police vehicles.	Class II

The loss of a lane and the increase in congestion could lengthen the response times required for emergency vehicle passing through the construction zone. Moreover, emergency services may be needed at a location where access is temporarily blocked by construction activities. Pipeline construction near Atascadero State Hospital would not affect emergency response. Pipeline construction along Highway 1 between Stenner Creek Road and Highland Street could affect ambulance response from Sierra Vista Medical Center on Casa and Murray Streets. This impact would be potentially significant.

Mitigation measures
Implement mitigation measures T-2 and T-5.

T-9 *The Applicant shall coordinate in advance with emergency service providers to avoid restricting movements of emergency vehicles. The County Sheriff Department, fire departments, ambulance services, and paramedic services shall be notified in advance by the Applicant of the proposed locations, nature, timing, and duration of any construction activities and consulted regarding potential access restrictions that could impact their effectiveness.*

T-10 *At locations where access to nearby property is blocked, provision shall be ready at all times to accommodate emergency vehicles, such as plating over trenches, short detours, and alternate routes.*

Residual Impact
Coordinating in advance of construction with emergency service providers and by providing emergency access, the impact would be rendered *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
T.5	Pedestrian circulation would be affected by project activities if pedestrians are unable to pass through a construction zone.	Class III

The partial closure of streets near residential and commercial areas along the pipeline route could restrict the movement of pedestrian traffic along adjacent sidewalks. Most of the streets affected by the proposed pipeline route do not bear heavy pedestrian traffic, but the sidewalk closures on El Camino Real in Santa Margarita and Highland Drive, Patricia Drive, Foothill Road, and Prado Road may inconvenience pedestrians. At least one sidewalk would be available on these streets, however, so the impact would be considered adverse but not significant.

Mitigation measures
Implement mitigation measure T-2.

T-11 *The Applicant shall designate alternative routes, accessible to disabled persons, when construction activities obstruct pedestrian routes.*

T-12 *At locations where trenching activities cross sidewalks or other established pedestrian routes, plating shall be provided to maintain access to these routes.*

Residual Impact
Pedestrian access in and around the construction areas would be temporarily limited, so the impact would be considered *adverse but not significant* (Class III).

Impact	Impact Description	Residual Impact
T.6	Construction activities could result in physical damage to road surfaces.	Class II

Large construction equipment and improper restoration techniques could result in damage to road surfaces along and adjacent to the pipeline route. Extensive trenching would occur along the entire pipeline route. Poorly restored road surfaces could leave uneven surfaces, creases, or dips in the roadway, leading to poor surface conditions and potential drainage problems. Use of heavy trucks and equipment may also damage existing road surfaces. These impacts would be potentially significant.

Mitigation measures
T-13 *The Applicant shall properly restore all roads disturbed by construction activities to ensure the long term protection of road surfaces and safety of roadway users.*

Residual Impact
The impact would be considered *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
T.7	Operation of WTP, pump stations and pipeline would add truck traffic on local roads.	Class III

Traffic associated with the operation of the WTP would include staff, deliveries of water treatment chemicals and materials, and disposal of sludge residuals. Daily staffing would include 15 employees spread over three 8-hour shifts (9 during the day shift, and 3 during the other two shifts). For treatment chemicals and materials, traffic would include up to 90 trucks per year. Sludge residuals disposal would require an additional 315 to 415 truck loads per year, assuming 20 tons of residuals per truck. The CMC WTP would not require additional operational truck traffic.

The proposed WTP site provides sufficient area for long-term stabilization and drying of residuals (5 acres of drying beds). Alternating the use of different drying beds will allow the plant operators to dewater and compress residuals in order to minimize their volume. Therefore, it is intended that the operators have sufficient area to minimize the quantity of residuals requiring offsite disposal well below the number of truck trips estimated above. For example, it is estimated that a 2-acre drying bed would result in a residual depth of approximately 4 inches per year (dry, non-uniformly distributed). By alternating drying beds yearly, it would be possible to store up to 2 year's residual on-site while significantly reducing the volume of residuals requiring removal. Once completely dry, the total amount of residual could be as low as 2-4 tons/day, requiring approximately 50 trucks/year for removal. This reduction in volume is consistent with other treatment plants where residuals drying beds are used.

Pump station maintenance traffic would be one vehicle per day. In total, operational traffic would add to local road traffic by daily average of 46 one-way vehicle trips and highway traffic by as many as 138 one-way vehicle trips, which would not change the LOS of any roadways. This impact is therefore considered adverse but not significant. Additional traffic safety impacts are discussed in the hazards section of this EIR.

Mitigation Measures

No mitigation measures have been identified.

Residual Impact

The residual impact caused by a small increase in roadway traffic resulting from increased truck transportation would be considered *adverse but not significant* (Class III).

Impact	Impact Description	Residual Impact
T.8	A pipeline failure could disrupt traffic during repairs.	Class II

A pipeline failure could necessitate temporary traffic disruptions for repair and replacement. These disruptions could include temporary road and lane closures and limited access to driveways, private property, and sidewalks. Under a worst case scenario, since the pipeline would be located beneath roadways for much of its route, a pipeline failure could precipitate a roadway failure along sloped areas.

Mitigation Measures
Refer to the pipeline inspection mitigation measure in Section 5.6, Hazards and Hazardous Materials.

T-14 *The pipeline emergency response plan shall include traffic agency and personnel contact protocols and agencies to contact for road closures, alternative traffic routes, CalTrans, SLO County. Construction for pipeline repairs that requires road or lane closures or endanger public safety must comply with the Manual of Traffic Controls for Construction and Maintenance Work Zones is published by CalTrans. The manual provides the basic standards for uniform types of warning signs, lights, and devices to be placed upon any public highway or street by any person engaged in performing work that interferes with or endangers the safe movement of traffic upon such highway or street, in accordance with Section 21400 of the California Vehicle Code.*

Residual Impact
Pipeline inspections would decrease the likelihood of pipeline failure and consequent traffic disruptions. A pipeline failure could occur and result in traffic disruptions for repairs, but it is considered unlikely. Therefore, the impact would be considered *not significant with mitigation* (Class II).

5.11.4.2 Raw Water Option

Impact T.1 – Construction Traffic: The traffic impacts due to construction would be similar to the treated water option. The water treatment plant would not be constructed in Camp Roberts, however, so its 142 daily trips would not occur. The construction of water discharge facilities would add 16 daily trips per day per facility. The same mitigation measures would apply, and the impact would also be considered *not significant with mitigation* (Class II).

Impacts T.2 through T.6 and Impact T.8 would be the same as in the Treated Water Option, the same mitigation measures would apply.

Impact T.7 – Increased Traffic from Operations: Increased traffic from operations would be far less under the raw water option, for the water treatment plant would not be built. Operational traffic would be limited to one vehicle per day for pump station maintenance. Therefore, the impact would be *adverse but not significant* (Class III).

5.11.5 Alternatives Impacts and Mitigation Measures

Detailed descriptions of the various alternatives have been provided in Section 3. This section provides a discussion of the transportation impacts of the various alternatives.

5.11.5.1 No Project Alternative

There would be no new traffic impacts associated with the No Project Alternative. Impacts T.1 through T.8 would not occur because none of these facilities would be built under the No Project Alternative.

5.11.5.2 NWP 1997 EIR Alternative

Impact T.1 – Construction Traffic: Construction traffic would add the same traffic amounts as the proposed project. The traffic would affect several different roadways than the proposed project north of the Cuesta Grade, but the same roadways south of the Grade. The addition of construction traffic on Madonna Road, Highway 227, and sections of Highway 101 between Pismo Beach and San Luis Obispo would exceed the significance threshold of 15 vehicles to roadways with a LOS of D or worse. Therefore, the impact would be *not significant with mitigation* (Class II) following implementation of Mitigation Measures T-1 and T-2.

Impact	Impact Description	Residual Impact
T.2	Pipeline construction would require partial road closures and reduce the number of travel lanes during peak traffic periods for roadways with an LOS of D or worse, resulting in a disruption of traffic flow and/or traffic congestion	Class I

This impact would be more severe than in the proposed project. As with the proposed project, the NWP 1997 EIR pipeline alignment would be buried beneath or along the shoulder of roadways for much of the route. Table 5.11.9 below lists the partial road closures that would result from pipeline construction and the number of lanes that would remain open during the temporary road closure.

Table 5.11.9 Lane Closures and Driveways Blocked during Construction for NWP 1997 EIR Pipeline Alignment

Roadway	Level of Service	No. of Traffic Lanes Available in Construction Zone	Driveways or Property Entrances/Exits Blocked?
Nacimiento Lake Drive	C	1	Yes
Vine Street	A	1	Yes
Cuerno Lago Way	No data	1	No
Ramada Drive	A	1	Yes
Main Street	A-B	1	Yes
Miramon Rd and Sycamore Rd (Hwy 41)	A	1	No
Estrada Avenue	A-B	1	Yes
Wilhelmina Road	A	1	Yes
I Street and El Camino Real	A	1	Yes
Stenner Creek Road	A	1	Yes
Highway 1	C	Two-way*	No
Highland Drive	B	1	Yes
Patricia Drive	A	1	Yes
Foothill Boulevard	A	1	Yes
Madonna Road	D	Two-way*	Yes
Dalidio Road	B	1	Yes
Prado Road	A	1	Yes
Highway 227	F	Two-way*	Yes
Santa Fe Road	A	1	Yes
Buckley Road	A	1	Yes
Los Ranchos Road	A-B	1	Yes
Tank Farm Road	A	1	Yes

Table 5.11.9 Lane Closures and Driveways Blocked during Construction for NWP 1997 EIR Pipeline Alignment

Roadway	Level of Service	No. of Traffic Lanes Available in Construction Zone	Driveways or Property Entrances/Exits Blocked?
Orcutt Road	A	1	Yes

Note: *Denotes that a minimum of two lanes are available to support bidirectional traffic flow.

The traffic volumes on most of these roads are small enough that the impact of partial road closures would be considered insignificant. However, for Nacimiento Lake Drive, Highway 1, Madonna Road, Foothill Boulevard, and Highway 227 that have relatively high traffic volumes, lane closures could result in significant delays during peak travel periods. Other project roadways with high traffic volumes (listed in Table 5.11.1), such as Highway 101, would be jacked and bored under by the pipeline to avoid creating traffic impacts. Lane closures would result in worse traffic impacts than the proposed project, mainly along Nacimiento Lake Drive and would be considered more severe than for the proposed project, *significant* (Class I).

Mitigation Measures

In addition to mitigation measures listed for the proposed project (T-3 through T-6) the following mitigation measures specifically in regards to all roads with LOS of D or worse (e.g., Nacimiento Lake Drive, Madonna Rd., Foothill Blvd., and Highways 1 and 227) shall be implemented (as proposed in the 1997 EIR):

T-15 *The full width of the traveled way shall be available to traffic before 9 a.m. and after 4 p.m., Monday through Friday, and at all times on weekends, and holidays.*

-A maximum delay of 20 minutes shall be permitted, requiring that a minimum of one lane of traffic is available.

-If the contractor is unable to restore or place temporary surface, then the trench shall be covered with steel plates capable of carrying the weight of traffic; and adequate signage, reflectors or other warning devices shall be used to warn motorists of the plated roadway.

T-16 *To minimize construction on roads with LOS of D or worse, the design engineer shall coordinate construction of the pipeline with any roadway or utility work efforts.*

T-17 *For construction on Nacimiento Lake Drive, to the maximum extent possible, construction shall be minimized during the summer period between June 15 and September 15. During the summer period, the full width of traveled way shall be available to traffic before 9 a.m. and after 4 p.m., Monday through Thursday, at all times from 12:00 noon Friday through Sunday and at all times on holidays.*

Impact	Impact Description	Residual Impact
T.3	Partial street closures would temporarily restrict access to and from private property and adjacent land uses.	Class I

Partial street closures would temporarily restrict access to and egress from private property and driveways along the pipeline route with no suitable alternative access. Properties on roadways listed in Table 5.11.9 above would be affected by temporary access restrictions. Although the restricted access would last no more than two days for most locations, the impact would be more problematic than for the proposed project and would be considered *significant* (Class I). The same mitigation measures shall be implemented as for the proposed project – T-7 and T-8.

Impact T.4 – Emergency Response Delays: The loss of a lane and the increase in congestion could lengthen the response times required for emergency vehicle passing through the construction zone. Moreover, emergency services may be needed at a location where access is temporarily blocked by construction activities. Pipeline construction near Atascadero State Hospital would not affect emergency response. Pipeline construction along Highway 1 between Stenner Creek Road and Highland Street could affect ambulance response from Sierra Vista Medical Center on Casa and Murray Streets. The impact would be considered the same as the proposed project: *not significant with mitigation* (Class II).

Impact T.5 – Pedestrian Circulation: Except for El Camino Real in Santa Margarita, this alternative would have the same impact to pedestrian circulation as the proposed project and would be considered *adverse but insignificant* (Class III).

Impact T.6 – Damage to Road Surfaces: Damage to road surfaces would be similar to the proposed project and therefore be considered *not significant with mitigation* (Class II).

Impact T.7 – Increased Traffic from Operations: Increased traffic from operations would be the same as for the proposed project; therefore, the impact would be *adverse but insignificant* (Class III).

Impact	Impact Description	Residual Impact
T.8	A pipeline failure could disrupt traffic during repairs.	Class I

Traffic impacts from a pipeline failure would be very similar to the proposed project for most of the route. However, a failure along Nacimiento Lake Drive would result in substantial traffic delays, with no suitable alternative route available. Therefore, this impact is considered to be more severe than for the proposed project, *significant* (Class I). The same mitigation measure shall be implemented as for the proposed project – T-14.

5.11.5.3 Phased Raw and Treated Water Alternative

Impacts T.2 through T.6, and Impact T.8 would be the same as the proposed project.

Impact T.1 – Construction Traffic: The traffic impacts due to construction would be the same as the proposed project except that the traffic associated with the construction of water treatment facilities would occur later than the traffic for pipeline and pump station construction.

Impact T.7 – Increased Traffic from Operations: Increased traffic from operations would be the same as the proposed project except that water treatment facility operations traffic would begin later.

5.11.6 Cumulative Impacts

Cumulative projects that could impact the current analysis are discussed in Section 4, Cumulative Impacts. The primary project that could result in significant cumulative traffic impacts is the proposed SVWP. This project involves the modification of the spillway of the Nacimiento Dam, which would add construction traffic to Nacimiento Lake Drive, require road and lane closures during the construction period of Nacimiento Lake Drive where it crosses the dam, result in lengthy delays for emergency vehicles, and degrade roadway pavement. If the spillway construction activities of the SVWP coincide with the intake and pump station construction of the proposed project, cumulative traffic impacts due to lane/road closures and delays for emergency vehicle traffic would be *significant* (Class I). The cumulative impacts of additional traffic and pavement degradation would be considered *adverse but not significant* (Class III).

Impact	Impact Description	Residual Impact
T.9	Cumulative impacts associated with the proposed pipeline construction activities occurring after roadway improvements have been completed on the same roads.	Class II

Numerous roadway improvement projects are also noted in Section 4 and in Table 5.11.5 above. In many cases roadway improvements would precede installation of the water pipeline, which would result in potential damage to the newly resurfaced roadway and/or other improvement. In order to avoid cumulative impacts associated with pipeline construction following roadway improvements, a mitigation measure has been included (see below).

Mitigation Measures

T-18 *Coordinate pipeline construction activities with other public works and roadway improvements. Where possible, install pipeline segments in coordination with roadway improvements to avoid damaging the newly improved roadway. A detailed plan showing how Public Works Department will coordinate construction with planned roadway improvements shall be submitted to the County Department of Planning and Building prior to final project approval.*

Residual Impact

The residual cumulative impact associated with concurrent pipeline construction and roadway improvements would be considered *not significant with mitigation* (Class II).

5.11.7 Mitigation Monitoring Plan

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
T-1	All project-related traffic shall be restricted from travel on roads with a LOS of D or worse between the peak commuting hours of 7:00 a.m. to 9:00 a.m. and from 4:00 p.m. to 7:00 p.m. These include Union Rd./Highway 4; Madonna Road; Highway 227 in San Luis Obispo; Highway 101 at the junction with Highway 166, South Pismo Beach, Avila Road, Santa Fe Road, Los Osos Valley Road, Marsh Street, California Boulevard; and Highway 46 at Paso Robles, Spring Street, 13th Street, Creston Road, Niblick Road, Airport Road and El Camino Real.	Include this limitation as part of Traffic Control Plan	Dept of P&B	Periodic site inspections.	During Construction.
T-2	A Traffic Control Plan shall be prepared to detail specific roadway construction information, road surface maintenance, pedestrian/bicycle circulation and traffic safety, parking limitations, road use restrictions, emergency response procedures, signing for closures, and public notification identifying location, scheduling, and duration of construction spread. This management plan shall be finalized and approved by the appropriate agencies as designated by the lead agencies.	Submit the plan to the Lead Agency.	Dept of P&B	Review and approval of the Traffic Control Plan	Before project approval
T-3	Pipeline construction across Nacimiento Lake Drive shall be scheduled to avoid late afternoons, weekends, and holidays during the summer months.	Include this limitation as part of Traffic Control Plan	Dept of P&B	Periodic site inspections.	During Construction.
T-4	Detours shall be planned around temporary street closures through coordination with local traffic agencies, and signs shall be provided to direct motorists to alternate routes	Include this limitation as part of Traffic Control Plan	Dept of P&B	Periodic site inspections.	During Construction.
T-5	The Applicant shall ensure at least one lane remain open during construction along roadways subject to partial closure when feasible.	Include this limitation as part of Traffic Control Plan	Dept of P&B	Periodic site inspections.	During Construction.
T-6	The Applicant shall provide off-street parking and staging areas for storage of construction equipment, materials, and workers' vehicles.	Include this limitation as part of Traffic Control Plan	Dept of P&B	Periodic site inspections.	During Construction.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
T-7	The Applicant shall ensure all driveways blocked by construction are provided with suitable means of vehicular access and egress.	Include this limitation as part of Traffic Control Plan	Dept of P&B	Periodic site inspections.	During Construction.
T-8	All affected parties in the vicinity of construction activities shall be notified a minimum of 30 days in advance of potential obstructions and alternative access provisions prior to the commencement of project activities.	Include this limitation as part of Traffic Control Plan. Make notifications. Combine and present list of all parties to the Lead Agency.	Dept of P&B	Periodic site inspections.	During Construction.
T-9	The Applicant shall coordinate in advance with emergency service providers to avoid restricting movements of emergency vehicles. The County Sheriff Department, fire departments, ambulance services, and paramedic services shall be notified in advance by the Applicant of the proposed locations, nature, timing, and duration of any construction activities and consulted regarding potential access restrictions that could impact their effectiveness.	Include this limitation as part of Traffic Control Plan. Prepare a list of all the emergency services providers to be contacted.	Dept of P&B	Revision of the Traffic Control Plan, verification of the notifications list	Before approval, during Construction.
T-10	At locations where access to nearby property is blocked, provision shall be ready at all times to accommodate emergency vehicles, such as plating over trenches, short detours, and alternate routes.	Include this limitation as part of Traffic Control Plan.	Dept of P&B	Periodic site inspections.	During Construction.
T-11	The Applicant shall designate alternative routes, accessible to disabled persons, when construction activities obstruct pedestrian routes.	Include this limitation as part of Traffic Control Plan.	Dept of P&B	Periodic site inspections.	During Construction.
T-12	At locations where trenching activities cross sidewalks or other established pedestrian routes, plating shall be provided to maintain access to these routes.	Include this limitation as part of Traffic Control Plan.	Dept of P&B	Periodic site inspections.	During Construction.
T-13	The Applicant shall properly restore all roads disturbed by construction activities to ensure the long term protection of road surfaces and safety of roadway users.	Implement	Dept of P&B	Site inspections.	During and after completion of construction.
T-14	The pipeline emergency response plan shall include traffic agency and personnel contact protocols and agencies to contact for road closures, alternative traffic routes, CalTrans, SLO County. Construction for pipeline repairs that requires road or lane closures or endanger public safety must comply	Develop and submit the Emergency Response and Repair Plan to the Lead Agency.	Dept of P&B	Review and approval of the plan. Verify that all regulations are complied with.	Before operations startup.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	with the Manual of Traffic Controls for Construction and Maintenance Work Zones is published by CalTrans. The manual provides the basic standards for uniform types of warning signs, lights, and devices to be placed upon any public highway or street by any person engaged in performing work that interferes with or endangers the safe movement of traffic upon such highway or street, in accordance with Section 21400 of the California Vehicle Code.				
T-15	The full width of the traveled way shall be available to traffic before 9 a.m. and after 4 p.m., Monday through Friday, and at all times on weekends, and holidays. -A maximum delay of 20 minutes shall be permitted, requiring that a minimum of one lane of traffic is available. -If the contractor is unable to restore or place temporary surface, then the trench shall be covered with steel plates capable of carrying the weight of traffic; and adequate signage, reflectors or other warning devices shall be used to warn motorists of the plated roadway.	Implement	Dept of P&B	Site inspections.	During and after completion of construction.
T-16	To minimize construction on roads with LOS of D or worse, the design engineer shall coordinate construction of the pipeline with any roadway or utility work efforts.	Implement	Dept of P&B	Site inspections.	During and after completion of construction.
T-17	For construction on Nacimiento Lake Drive, to the maximum extent possible, construction shall be minimized during the summer period between June 15 and September 15. During the summer period, the full width of traveled way shall be available to traffic before 9 a.m. and after 4 p.m., Monday through Thursday, at all times from 12:00 noon Friday through Sunday and at all times on holidays.	Implement	Dept of P&B	Site inspections.	During and after completion of construction.
T-18	Coordinate pipeline construction activities with other public works and roadway improvements. Where possible, install pipeline segments in coordination with roadway improvements to avoid damaging the newly improved roadway. A detailed plan showing how Public Works Department will coordinate construction with planned	Submit a coordination plan prior to final project approval.	Dept of P&B	Review and approval of the plan.	Prior to Board of Supervisors approval to advertise for construction bids.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	roadway improvements shall be submitted to the County Department of Planning and Building prior to final project approval.				

Note: County PW Dept=Department of Public Works at the SLO County (The Applicant); Dept of P&B=Department of Planning and Building of the SLO County.

5.12 Aesthetics/Visual Resources

The visual resources section evaluates the existing visual resources of the proposed project area and the potential for the proposed project to impact these visual resources.

5.12.1 Environmental Setting

The environmental setting of the study area describes visual resources of the locations that could sustain long-term visual impact from the proposed project. A visual resource is identified as a function of the visual character of the resource itself (Visual Quality or Character), the level of public interest and concern over changes in the quality of the resource (Visual Sensitivity) and the frequency with which the resource is viewed by the public. The assessment of visual sensitivity establishes the most important viewing positions early in the analytical process. The other attribute, visual character, is assessed only in relation to the important, potentially affected views. Visual impacts subsequently are evaluated in the context of the character of these views.

5.12.1.1 Visual Sensitivity

To assess visual sensitivity, indicators of public concern have been identified for the proposed project and sensitivity rated accordingly. The indicators are listed in Table 5.12.1 and reflect the concepts and methods of several federal agencies which treat sensitivity as a function of viewer activity, awareness, values, and goals (U.S. Forest Service 1977; U.S. Department of Agriculture Soil Conservation Service [SCS] 1978; BLM 1986; U.S. Department of Transportation, Federal Highway Administration [FHWA] 1980). Certain activities tend to heighten viewer awareness of scenic resources, while others tend to be distracting. People who are camping, picnicking, or driving for pleasure are more apt to notice the surrounding scenery than those commuting in heavy traffic or working at a construction site. Viewer awareness may also be heightened where areas are formally classified or otherwise designated as being of special interest, such as national historic monuments, national and state parks and forests, scenic routes and overlooks, visitor information centers, and wildlife refuges.

High visual sensitivity is assumed to exist where landscapes, particular views, or the visual characteristics of certain features are protected through policies, goals, objectives, and design controls in public planning documents. Visual significance is not always a function of aesthetic appeal. The public may confer visual significance on landscape components and areas that would otherwise appear unexceptional (FHWA 1980). For example, unexceptional landscapes along tertiary roads may be particularly important to local residents as undesignated open spaces (Kaplan 1979). Other areas may have regional or national cultural significance, but not be especially scenic. Nonetheless, their visual character may be considered important to their cultural value (FHWA 1980).

Three levels of visual sensitivity are defined below.

Table 5.12.1 Indicators of Visual Sensitivity

HIGH SENSITIVITY
• Views of and from areas the aesthetic values of which are protected in laws, public regulations and policies, and public planning documents. • Views of and from designated areas of aesthetic, recreational, cultural, or scientific interest, including national, state, county, and community parks, reserves, memorials, scenic roads, trails, interpretive sites of scientific value, scenic overlooks, recreation areas, and historic structures, sites, and districts. • Views of and from areas or sites of cultural/religious importance to Native Americans. • Views from national- or state-designated scenic highways or roads, or designated scenic highways or roads of regional importance. • Views from resort areas. • Views from urban residential subdivisions • Views from segments of travel routes, such as roads, rail lines, pedestrian and equestrian trails, and bicycle paths near designated areas of aesthetic, recreational, cultural, or scientific interest leading directly to them. Views seen while approaching an area of interest may be closely related to the appreciation of the aesthetic, cultural, scientific, or recreational significance of that destination.
MODERATE SENSITIVITY
• Views from segments of travel routes near highly sensitive use areas of interest, serving as a secondary access route to those areas. • Views from rural residential areas and segments of roads near them which serve as their primary access route. • Views of and from undesignated but protected or popularly used or appreciated areas of aesthetic, recreational, cultural, or scientific significance at the local, county, or state level. • Views from highways or roads locally designated as scenic routes and of importance only to the local population, or informally designated as such in literature, road maps and road atlases. • Views from travel routes, such as roads, trails, bicycle paths, and equestrian trails leading directly to protected or popularly used undesignated areas important for their aesthetic, recreational, cultural, or scientific interest. • Views of and from religious facilities and cemeteries.
LOW SENSITIVITY
• Views from travel routes serving as secondary access to moderately sensitive areas. • Views from farmsteads, or groupings of fewer than four residences. • Views from industrial research/development, commercial, and agricultural use areas.

High Sensitivity

High sensitivity suggests that at least some part of the public is likely to react strongly to a threat to visual quality. Concern is expected to be great because the affected views are rare, unique, or in other ways are special to the region or locale. A highly concerned public is assumed to be more aware of any given level of adverse change and less tolerant than a public that has little concern. A small modification of the existing landscape may be visually distracting to a highly sensitive public and represent a substantial reduction in visual quality.

Moderate Sensitivity
Moderate sensitivity suggests that the public would probably voice some concern over substantial visual impacts. Often the affected views are secondary in importance or are similar to others commonly available to the public. Noticeably adverse changes would probably be tolerated if the essential character of the views remains dominant.

Low Sensitivity
Low sensitivity is considered to prevail where the public is expected to have little or no concern about changes in the landscape. This may be because the affected views are not "public" (not accessible to the public) or because there are no indications that the affected views are valued by the public. For instance, little public concern for aesthetics is assumed to pertain to views from industrial, commercial and purely agricultural areas. There are exceptions: some agricultural areas are prized for their open space value and views of such are highly sensitive. Visual sensitivity is low for views from all sites, areas, travel routes, and sections of travel routes not identified as moderate or high in sensitivity.

5.12.1.2 Visual Character

The visual character of the affected landscape typically is described in terms of its land forms, vegetation, water features, and the "built" features of the environment. There are three objectives in assessing visual character. One is to identify the types of features considered to be inherent to the area. Such features are expressive of the prevailing land uses, for instance, in an urban or rural area; or they would express the ecological processes in a natural appearing landscape. The more defined the landscape is (i.e., totally natural appearing, purely residential, consistently rural), the more opportunity there is for introduced features not part of the prevailing character to noticeably contrast with those defining the landscape.

The second objective in assessing visual character is to identify patterns or distribution of features that are characteristic of the affected setting. For instance, ecotones might define the distribution of vegetation in a natural setting. Architectural styles or density of housing might be defining attributes of a residential area.

The third objective is to describe the existing quality of the visual resources, which varies inversely with how noticeable incongruous features may be within public views. The current visual quality of the physical environment is described as its existing visual condition, which is defined in terms of four Visual Modification Classes (VMCs), noted in Table 5.12.2.

Table 5.12.2 Visual Modification Class (VMC) Definitions

VMC	Definition
1	**Not noticeable** Changes in the landscape are within the field of view but generally would be overlooked by all but the most concerned and interested viewers; they generally would not be noticed unless pointed out (inconspicuous because of such factors as distance, screening, low contrast with context, or other features in view, including the adverse impacts of past activities).
2	**Noticeable, visually subordinate** Changes in the landscape would not be overlooked (noticeable to most without being pointed out); they may attract some attention but do not compete for it with other features in the field of view, including the adverse impacts of past activities. Such changes often are perceived as being in the background.
3	**Distracting, visually co-dominant** Changes in the landscape compete for attention with other features in view, including the adverse impacts of past activities (attention is drawn to the change about as frequently as to other features in the landscape).
4	**Visually dominant, demands attention** Changes in the landscape are the focus of attention and tend to become the subject of the view; such changes often cause a lasting impression of the affected landscape.

The study areas include locations from which the effects of the project (such as permanent aboveground structures like water intake structures, pump stations, and water tanks) could be visible to the public including views from travel routes leading to the affected views. Construction of the pipeline would generate temporary negative visual impacts, however, the Applicant would be required to return the pipeline corridor to its pre-project visual state, therefore there will be no or very minimal visual impacts from construction of the pipeline. The visual resources of the study areas for the proposed project are described below.

SLO County has a unique and diverse scenic beauty that is highly valued by tourists and the county's residents. The area in the vicinity of Lake Nacimiento is characterized by rolling to steep hills vegetated with native grasses and oak, pine, and sycamore trees. The setting in this area is scenic and natural until the outskirts of Paso Robles where the visual character shifts to rural residential. The hills and ridgelines west of Paso Robles are one of the major defining features of the area. The landscape ranges in character from gently sloping Savannah woodlands and meadows to rugged chaparral covered terrain. As is typically found in the central coast rural area, natural woodland occurs at higher elevations with native shrubs and chaparral toward the base.

The proposed project area extending from Paso Robles to Santa Margarita is characterized by varying terrain and chaparral interspersed with low-density residential, commercial, and industrial development, as well as scattered trees and shrubs. Where the pipeline is located in the road ROW in the City of Paso Robles, the project area is typically urbanized. The unincorporated areas portray the rural character typical of the central coast. The area in the vicinity of Cuesta Tunnel is characterized by steep hills covered in chaparral, Jeffery Pine, and oaks. Portions of the area have been recently burned by fire and are in the process of revegetating. The area near San Luis Obispo is characterized as an urbanized area with lower density development at the outer fringes. Below are descriptions of the areas that could be visually impacted by the pipeline construction or proposed project permanent structures, such as storage tanks and pump station buildings.

Lake Nacimiento

The area's visual quality is high because of its generally pristine rural character with few modifications (see Figure 5.12-1). The area immediately adjacent to the Nacimiento Dam has a somewhat lower visual quality because of the existence of the man-made dam and related structures, this area has a VMC between 2 and 3; however Nacimiento Lake Drive is a designated scenic route (SLO County 1974) because the dam can not be seen from most of the points on the route.

The majority of the public that would be able to see the Water Intake structures at the lake are visiting the area on vacation or with recreational purposes. Therefore the usual traveler has higher sensitivity to the natural character of the area than a typical commuter. Nacimiento Lake Drive also serves the residents of Heritage Ranch and Oak Shores. Because these residents choose to live in a rural area, they are sensitive to change in environmental conditions.

On summer and holiday weekends there are at least 4,000 vehicle trips per day traveling on Nacimiento Lake Drive in the vicinity of the lake. These numbers are reduced to approximately 3,100 trips in the winter and 3,500 on summer weekdays. Therefore, the number of people with the potential to view the area of the Water Intake structure is high, and averages 3,300–3,500 per day.

Figure 5.12-1 Lake Nacimiento

Note: View of Lake Nacimiento looking north-east from the southwest side of Nacimiento Dam.

During different seasons throughout the year (dry and wet seasons) Lake Nacimiento changes its water level. The area looks considerably different during the high and low reservoir level. Three-dimensional simulations of the reservoir level at 700 and 760 feet have been done to demonstrate the visual contrast of the area during dry and wet periods (Figures 5.12-2 and 5.12-3).

Figure 5.12-2 Lake Nacimiento at 760 feet Water Level (Wet Period Simulation)

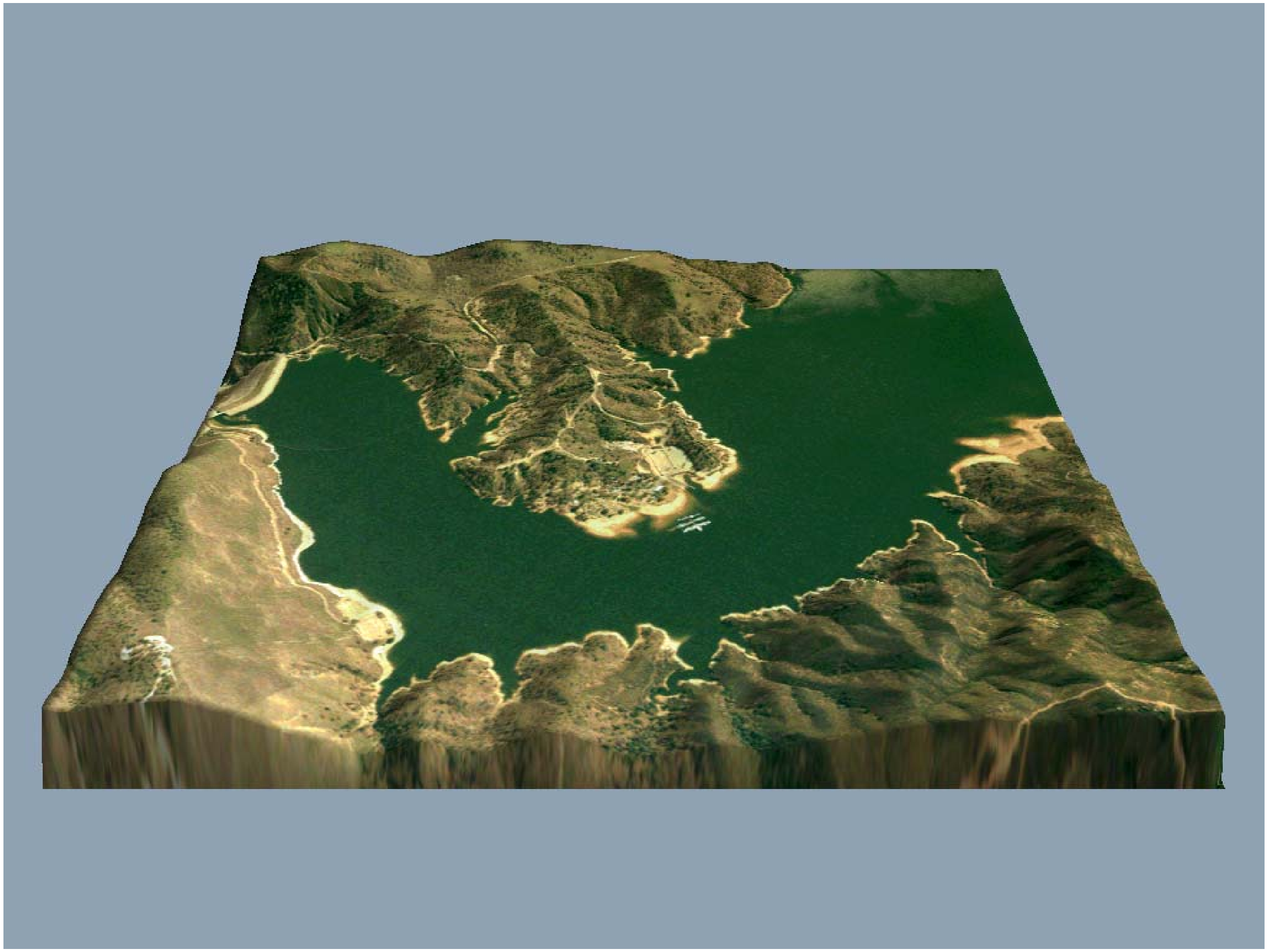
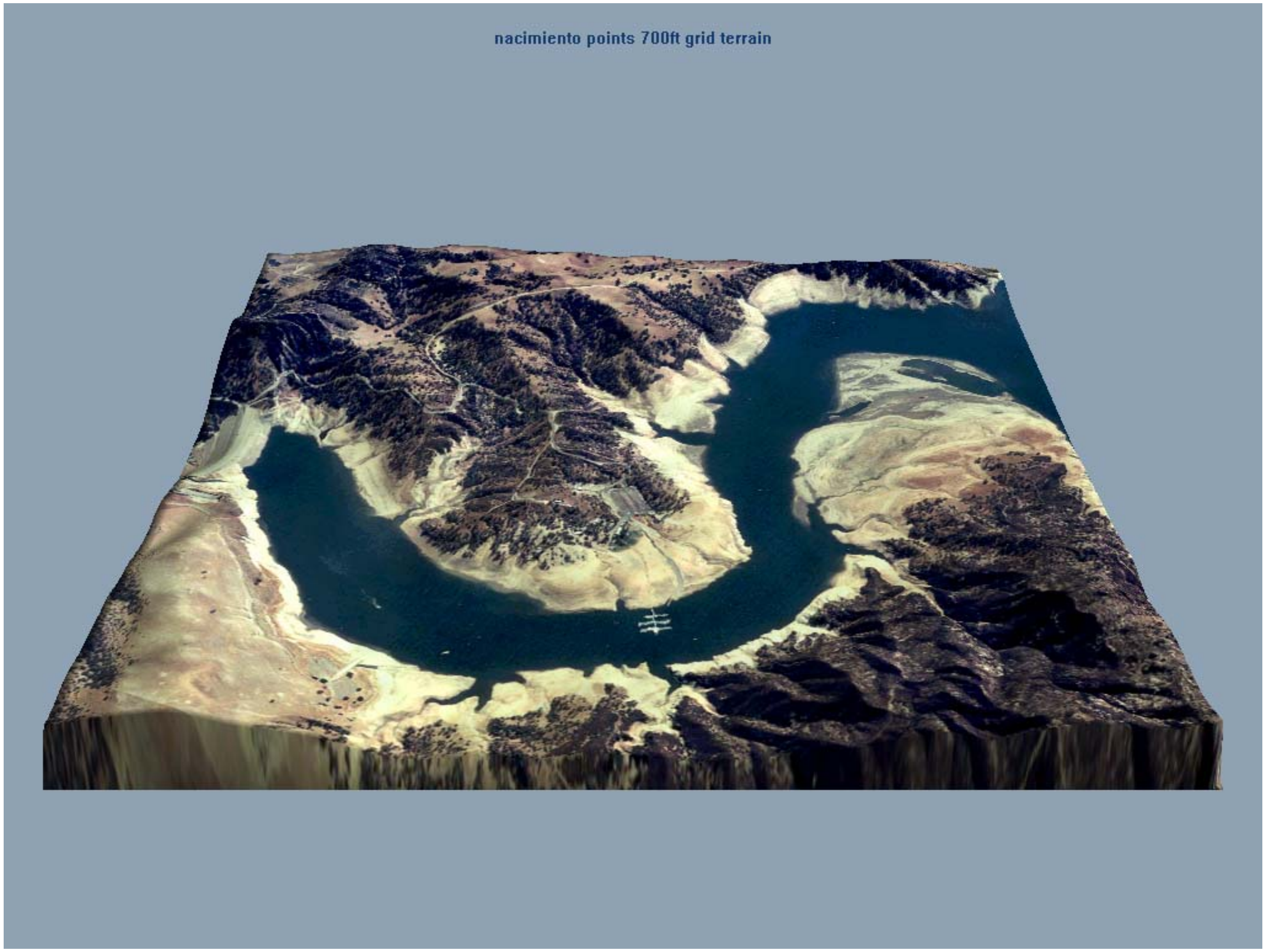


Figure 5.12-3 Lake Nacimiento at 700 feet Water Level (Dry Period Simulation)



Lake Nacimiento to the Cuesta Grade

The visual character of this area is a combination of natural and built environments. Topography varies from rolling hills with oak woodland savannah and open grasslands, to steeply sloping foothills with dense oak woodlands (see Figure 5.12-4). The absence of significant urban development has allowed portions of this area to retain its rural character, providing a visual contrast to the urban centers located along Highway 101 and other travel routes. Most of the views in this area either have not been modified from their original natural state or have a VMC of 1; however views of some areas, such as in the vicinity of the highway have a VMC of 2 or even 3.

Figure 5.12-4 Typical Rural Area of SLO County

Note: View of a typical rural area in the SLO County: undeveloped grazing land, rolling hills covered mostly by brush and oak trees.

The area's visual quality is ranked medium to high. Because the area is not environmentally pristine, the typical traveler would expect to see man-made changes in the scenery (see Figure 5.12-5). However, people who live in North County are generally interested in maintaining the rural scenery and surrounding agricultural areas (see Figure 5.12-6), and support minimizing the visual impacts of future development.

There are a large number of people traveling the U.S. Highway 101 corridor in the project area. According to CalTrans, more than 30,000 people per day use Highway 101 during the summer months. This is significantly higher than any other public roads in the County.

Figure 5.12-5 Typical Rural Area

Note: View of the typical rural area in the Northern SLO County: undeveloped grazing land with a low density of trees, crossed by wire fences and power lines, with rural houses or agricultural structures dominating the views. Photo taken at the intersection of Halcon Road and Rocky Canyon Road.

Figure 5.12-6 Typical Rural Area

Note: View of the typical rural area in the Northern SLO County: agricultural land with machinery. Photo taken in the vicinity of the proposed Salinas River suspended pipeline crossing.

The roads in this area that would be disturbed during pipeline construction include Wellsona Road, Monterey Road, North and South River Roads, Santa Ysabel Road, Vaquero Drive, El Palomar Drive, Templeton Road, Rocky Canyon Road, Vineyard Drive, and El Camino Real, all of which are used primarily for local trips. These roadways experience from 200 to 5,790 trips per day.

The number of people with the potential to view this portion of the proposed project area is considered small to medium. Because the roadways are mainly used for local commuter traffic, travelers are assumed not to be as sensitive to scenic views as the first time traveler.

Cuesta Grade to San Luis Obispo

This portion of the pipeline route covers the Cuesta Grade, Cal Poly and the CMC. Terrain within this area is rugged to rolling hillsides, dotted with oak trees and scrub. This area is one of the most remote of all of the proposed project segments.

The visual quality of this area is considered high because it offers almost pristine views of the natural landscape and provides an open space backdrop to the City of SLO. Roadways in this area include Highways 101 and 1, therefore a large number of people have the potential to view this segment. People traveling in this area do not expect to see development within this remote area, so expectations are also high.

Vicinity of San Luis Obispo and Airport Area

The SLO area is seen as a compact urban community with a shape defined by the hills and mountains that surround it. This is the most urbanized portion of the proposed project area with the pipeline route traveling down the streets of residential subdivisions and through a mixture of light and heavy industrial areas. The natural scenic character of the area is not as high as other portions of the route because of the large amount of existing development, and VMC of this area is usually 3 or 4. The community takes pride in the design of its built environment; therefore, sensitivity levels are considered medium to high. Pipeline construction can be seen from Highland Drive, Foothill Boulevard, Prado Road, and Highway 227. These roadways are all heavily traveled; therefore, many people may potentially view this pipeline segment during construction.

5.12.2 Regulatory Setting

The visual impacts assessment should be conducted in conformance with the CEQA Guideline documentation requirements.

In many areas of SLO County visual attributes and locations are designated as scenic. County policies, such as Open Space Element of the County General Plan, protect the areas from adverse visual impacts. Also, CalTrans has created a State Scenic Highway System, which includes a list of highways that are either eligible for designation as scenic highways or have been so designated. These highways are identified in Section 263 of the California Streets and Highways Code.

5.12.3 Significance Criteria

Appendix G (I b) of the Guide to CEQA (1999) defines a project as having a significant visual effect on the environment if it would have a *"substantial adverse effect on the scenic vista"*. Specifically, Appendix G Part I. (Aesthetics) of this handbook (sample environmental checklist) siting the California Code of Regulations §15387 identifies four areas of concern regarding a project's potential impact on aesthetics:

- Have a substantial adverse affect on a scenic vista.
- Substantially damage scenic resources including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
- Substantially degrade the existing visual character or quality of the site and its surroundings.
- Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

5.12.4 Proposed Project Impacts and Mitigation Measures

The following section discusses potential impacts to visual resources, mitigation measures (where appropriate), and residual impacts associated with the proposed project.

The construction phase of all parts of the project would have negative visual impacts due to the presence of construction machinery at the construction sites and staging areas, clearing and removal of vegetation, and disturbance to road pavement. However, these impacts are temporary, and regrading of disturbed areas to natural contours, revegetating of the cleared areas, and restoration of disturbed road pavement to the pre-project or better conditions are part of the proposed project, therefore long-term visual impacts are not expected to be significant. During construction of the pipeline, construction crews would move along the pipeline route at 200–500 feet per day, therefore not impacting any particular area for more than several days. The longest construction period would be for WTP construction (Treated Water Option), however, the location of the WTP is not in the public line-of-sight, and therefore WTP construction is not likely to significantly impact visual resources in the area.

The permanent aboveground features of the proposed project are more likely to have a visual impact. The following major structures were assumed to have visual impacts: Water Intake and associated structures (both Options), the WTP and the associated structures (Treated Water Option), the WTP storage tanks and Pump Station (both Options), aboveground surge tank (both Options), Rocky Canyon and Cuesta Tunnel Water storage tanks (both Options), Salinas River suspended pipe crossing (both Options), and Happy Valley Pump Station (both Options). Other proposed structures (such as river discharge areas, pressure relief structures that do not include a tank, and stream crossings) although located aboveground, are short and therefore not expected to be dominant visual futures that create significant visual impact.

5.12.4.1 Treated Water Option

Impact	Impact Description	Residual Impact
VR.1	Visual impacts due to long-term presence of water intake structures at Nacimiento Dam.	Class II

The visual character of the area near the Nacimiento Dam is generally one of large simple man-made forms (the dam and lake with related activities) superimposed on a natural landscape of steep hills vegetated by trees and some chaparral. The dam and a small related structure (see Figure 5.12-7a) are not only simple in form but are constructed of natural rock and earth, which are in harmony with the natural context. The forms, while man-made, cannot be characterized as urban, but rather as sloped and angular.

The Water Intake structures (including the pump station building, electric transformer building, surge tank, and electrical pole) would be located on the northern side of the Nacimiento Dam (see Figure 2-3) and will be visible to the travelers on the Nacimiento Lake Drive, which is a designated scenic route (SLO County 1974). The visual sensitivity of the typical viewer will be relatively high since the most common reason for traveling to the area is for recreational purposes. The visual quality of the area is relatively high and a man-made object in the proposed location has the potential to create a negative visual impact since there are very few man-made structures in the adjacent area.

The Nacimiento Area Plan designates Nacimiento Lake Drive as a county Scenic Route with a Sensitive Resource Area (SRA) overlay extending 500 feet from the centerline of the road. The proposed water intake and electrical transformer structures would be located just outside of the designated scenic corridor, although the intake parking lot and the fence would be within the SRA. The structure is not likely to be visible to the boats on the lake because the part of the lake in the vicinity of the dam is off limits to the general public due to safety concerns.

The views of the area before the proposed project and a simulation of the area after the project are given in Figures 5.12-7a and b and 5.12-8a and b. Figures 5.12-7a and b give the view from the south side of the dam. The Intake structures can be seen; however, they are partially screened by the vegetation, there is a significant distance between the viewer and the structures (approximately 1,800 feet), and the area already has man-made structures (e.g., the dam). Therefore the Intake will not significantly impact the views from this position.

Figures 5.12-8a and b give the view from the north side of the dam. The Intake structures can be clearly seen because of the short distance from the road (approximately 500 feet), the most visually incompatible structures are the surge tank and the power pole, other structures (Intake and Pump station building and the transformer station building) would be made of compatible material that is similar to other structures related to the dam and area. Long-term presence of the highly visible structures that are not compatible with the surroundings in the area along the designated scenic route could constitute a significant visual impact. To mitigate this impact the following measures are proposed.

Figure 5.12-7a View of the Water Intake Structure Site – Before Project

Note: View from Nacimiento Lake Drive south side of the dam with the Dam on the right hand side, reservoir in the middle and on the left hand side, service structure is visible in the middle of the dam.

Figure 5.12-7b Simulation of the Water Intake Structure Site – After Project

Note: The Intake structure is in the middle of the background with a tall eucalyptus tree beside it.

Figure 5.12-8a View of the Water Intake Site – Before Project

Note: Site proposed for the Intake. View from the north side of the Nacimiento Dam from Nacimiento Lake Dr.

Figure 5.12-8b Simulation of the Water Intake – After Project

Note: The site will be surrounded with a chain-link fence, which is not shown on the simulation.

Mitigation Measures

The determination on the final design and construction materials of the Water Intake structure has not been made. It is proposed that the following measures be implemented in the final design and construction plan of the Intake structure.

VR-1 *The Water Intake structures shall be visually compatible in materials of construction and color with the surrounding area of the Lake Nacimiento dam incorporating natural rock facing. During construction, the Applicant's contractor shall preserve as much of the existing vegetation (trees and shrubbery) as feasible.*

VR-2 *The structures shall be screened from public views with vegetation to the maximum extent feasible. Landscaping shall be provided in accordance with Section 22.04.186 of the San Luis Obispo County Land Use Ordinance and shall provide vegetation that will adequately screen the facilities.*

VR-3 *The surge tank and power line shall be placed underground.*

Residual Impacts

The view of the Intake structures after implementation of the mitigation measures are shown in Figure 5.12-8c. The proposed mitigation measures would reduce the significant visual impact of the Intake structures, therefore the visual impacts would become *not significant with mitigation* (Class II).

Figure 5.12-8c Simulation of the Water Intake – With Mitigation Measures Implemented

Note: The site will be surrounded with a chain-link fence, which is not shown on the simulation. The power line and the surge tank have been placed underground. The planted brush and trees will grow in 4–5 years to screen the structures from viewers on Nacimiento Lake Drive.

Impact	Impact Description	Residual Impact
VR.2	Visual impacts due to long-term presence of WTP, WTP storage tanks, and the pump station	Class III

The WTP, the pump station, and the water storage tanks are located in the vicinity of the Camp Roberts southern boundary (see Figure 2-6). During the survey of the area where the WTP would be located, it was determined that there are no public locations from where the WTP, the storage tanks or other WTP structures could be seen. This is because the proposed site is screened from any public views by hills and vegetation. The paved access road to the WTP would be seen from Generals Road (within Camp Roberts) and from San Marcos Road which is a public roadway. These roads are not heavily traveled, and the majority of the travelers are local residents and Camp Roberts personnel. Therefore, the access road would have only a minor aesthetic impact, and visual impacts of the WTP structures would be less than significant. Although the visual impact is not expected to be significant, the following mitigation measure is proposed to allow for natural blending of the tanks into the surrounding landscape.

Mitigation Measure

VR-4 *The tanks shall be a neutral or dark, non-contrasting color, and landscape screening shall be provided. Landscaping shall be provided in accordance with Section 22.04.186 of the San Luis Obispo County Land Use Ordinance and shall provide vegetation that will adequately screen the facilities. Landscape material must be consistent with the surrounding area, shown to do well in existing soils and conditions, be fast-growing, evergreen and drought tolerant. Shape and size of landscape material shall be in scale with proposed tanks and surrounding native vegetation. Plans shall show how plants will be watered and what watering schedule will be applied to ensure successful and vigorous growth.*

Residual Impacts

The residual visual impacts are *adverse but not significant* (Class III).

Impact	Impact Description	Residual Impact
VR.3	Visual impacts due to long-term presence of Salinas River suspended pipe crossing.	Class III

The Salinas River crossing would be located in the vicinity of Wellsona Road intersection with Highway 101 and North River Road (see Figure 2-8). Tall trees and thick brush of the river channel would screen the suspended pipe crossing structure across Salinas River from public views from Highway 101, the railroad and other roads on the west side of the pipe crossing. The river crossing will be visible from North River Road, see Figure 5.12-9a and b for before and after project views of the area. This rural road is used mainly by local residents, and is not designated as scenic. Also, there is another suspended pipe crossing structure of similar design and height located on this road approximately quarter mile south – Paso Robles Lift Station (see Figure 2-9). The area is also crossed by multiple electrical lines.

Figure 5.12-9a View of Salinas River Suspended Pipe Crossing Site – Before Project

Note: View from North River Rd. looking south-west, undeveloped field is in the fore and mid-ground, vegetation along the river estuary is in the background. A single story rural-type residence is located on the right hand side.

Figure 5.12-9b Simulation of the Salinas River Suspended Pipe Crossing Site – After Project

Note: The site will be surrounded with a chain-link fence, which is not shown on the simulation.

Figure 5.12-9c Simulation of the Salinas River Suspended Pipe Crossing Site – After Project with Mitigation

Note: The site will be surrounded with a chain-link fence, which is not shown on the simulation and will probably also be screened with vegetation.

Because of these factors, visual impacts of the Salinas River suspended pipe crossing structure would be not significant, however because the local residents value the natural and rural look of the area, the following mitigation measure is proposed.

Mitigation Measure

VR-5 The perimeter of the suspended pipe crossing structural support shall be concealed using vegetation that is compatible with the surrounding area.

Residual Impacts

The residual visual impacts are *adverse but not significant* (Class III).

Impact	Impact Description	Residual Impact
VR.4	Visual impacts due to long-term presence of surge tank in the vicinity of Templeton treated water pipeline turnout site.	Class II

The proposed surge tank would be 32-feet long and 8 feet in diameter, and would be visible from Vineyard Drive (see Figure 2-12). The structure would be painted in colors that would be compatible with the surrounding area to the maximum extent feasible, although compatibility would change throughout the year because the main feature in the area is characterized by vegetation. The view of the site before and after the project is given in Figures 5.12-10a and b.

Vineyard Drive/Templeton Road intersection is undeveloped and can be characterized as a rural, agricultural area with rolling hills and sweeping views of the surrounding area. Although the area is not pristine from the aesthetic point of view, and has several man-made structures (e.g., industrial building across the Salinas River, power poles), the visual impacts of a large tank on any corner of this intersection would be considered potentially significant. To mitigate the visual impacts, the following measure is proposed.

Mitigation Measure

VR-6 *The surge tank shall be constructed underground in a vault to minimize aboveground equipment.*

Residual Impacts

After implementation of these mitigation measure the residual impact would be considered *not significant with mitigation* (Class II). The location would look similar to the "before-project" look (Figure 5.12-10a), only the entire site may be surrounded by a chain-link fence.

Impact	Impact Description	Residual Impact
VR.5	Visual impacts due to long-term presence of Rocky Canyon Road storage tank and Happy Valley pump station.	Class II

The pump station structure would be visible to the public that uses Rocky Canyon Road (see Figure 2-14). The storage tank would be undergrounded as per the proposed project, so the only features that would be visible after the tank construction completion would be the access road, the cut and reinforced hill slopes and the fencing around the site. Rocky Canyon Road is not heavily traveled with an ADT of 794; therefore there will not be many viewers of the storage tank site and pump station structures. There are other structures located along this road, such as residential homes, barns and utility poles. Also, the storage tank site and pump station would be partially screened from views by the existing vegetation, e.g., oak tress located along the road. For the views of the area before and after project see Figures 5.12-11a and b. Following mitigation, the only above-ground equipment would look similar to the structure shown in Figure 5.12-14.

The area immediately surrounding the tank and pump station site is pristine and does not have any man-made structures, except for barbed wire fencing along Rocky Canyon Road, therefore the views are high in visual quality in this rolling hills/agricultural countryside area. Therefore, the presence of the pump station structure could result in significant visual impact.

Figure 5.12-10a View of the Surge Tank Site near Templeton Turnout – Before Project (And Similar After Mitigation)

Note: View from Vineyard Drive looking north, undeveloped field is in the foreground, vegetation along the river estuary is in the mid-ground, an industrial building located on the northern bank of Salinas River is in the background.

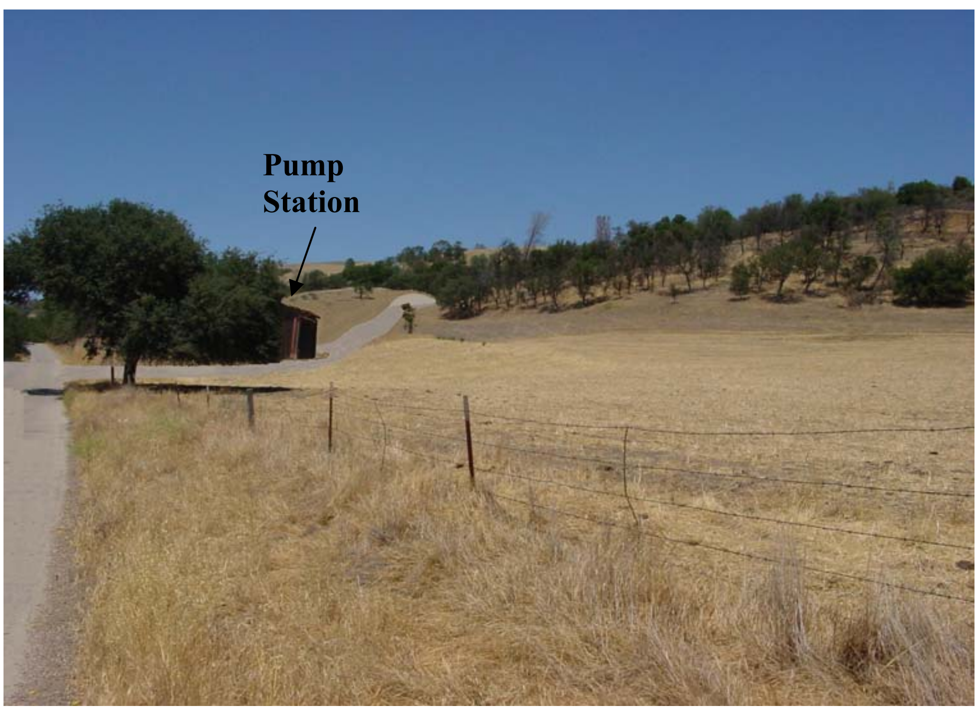
Figure 5.12-10b Simulation of the Surge Tank Site near Templeton Turnout – After Project

Note: The site will be surrounded with a chain-link fence, which is not shown on the simulation.

Figure 5.12-11a View of Rocky Canyon Road Storage Tank Site – Before Project

Note: View from Rocky Road, looking northeast towards the tank site.

Figure 5.12-11b Simulation of Rocky Canyon Road Storage Tank Site – After Project



Note: The site will be surrounded with a chain-link fence, which is not shown on the simulation.

Figure 5.12-11c Simulation of Rocky Canyon Road Storage Tank Site – After Project with Mitigations

Note: The site will be surrounded with a chain-link fence, which is not shown on the simulation.

Mitigation Measures

To further mitigate the adverse visual impacts, the following measures are proposed. The view of the area after the proposed project with the implemented mitigation measures is presented in Figure 5.12-11c.

VR-7 *The pump station structures shall be constructed partially underground to limit the structure height to the equivalent of a one story home or barn typical of the area. The architecture of the pump station shall resemble a home or barn typical of the area.*

VR-8 *No oak trees adjacent to Rocky Canyon Road shall be removed to accommodate the construction of the pump station or storage tank at this location.*

VR-9 *Access roads to and around the facility shall not exceed 20 feet in width.*

VR-10 *All structures at this site shall be screened from public views with vegetation to the maximum extent feasible. Landscaping shall be provided in accordance with Section 22.04.186 of the San Luis Obispo County Land Use Ordinance and shall provide vegetation that will adequately screen the facilities.*

For the tank area where fencing surrounding the tank site would be located, landscape screening shall be provided. Landscape material must be consistent with the surrounding area, shown to do well in existing soils and conditions, be fast-growing, evergreen and drought tolerant. Shape and size of landscape material shall be in scale with proposed tank fencing or other aboveground features and *surrounding native vegetation. Plans shall show how plants will be watered and what watering schedule will be applied to ensure successful and vigorous growth.*

VR-11 *The border of cut slopes and fills accomplished to underground the water storage tank shall be rounded off to a minimum radius of five feet. For any visible slope cuts from Rocky Canyon Road, sufficient topsoil shall be stockpiled and reapplied or re-keyed over these visible cut areas to provide at least 8" of topsoil for the reestablishment of vegetation. As soon as the grading work has been completed, the cut and fill slopes shall be reestablished with non-invasive, fast-growing vegetation.*

Residual Impacts

After implementation of the mitigation measures, visual impacts from the long term presence of the Rocky Canyon Storage Tank and Happy Valley Pump Station would be considered *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
VR.6	Visual impacts due to long-term presence of Cuesta Tunnel Storage Tank	Class III

The visual quality of the Cuesta Grade area, while somewhat diminished from a pristine natural state, still maintains a relatively high visual quality since the visual impact of these man-made activities are relatively small compared to the overall scale of the grade and the natural features.

The sensitivity to visual impact is also considered relatively high because motorists traveling Highway 101 see Cuesta Grade as the major visual separation between the north and south portions of SLO County. It is a visual reference and a landmark area within the county. According to CalTrans there are some 30,000 vehicles with approximately 45,000 viewers traveling Highway 101 each day. In the summer there are more vacationers with higher sensitivities to the visual quality of the area.

The Cuesta Tunnel Storage Tank would be 122 feet in diameter, with a height of approximately 22 feet (see Figures 2-17, 2-18, and 2-35). The tank would be seen from a narrow gravel road that leads to the entry of the Cuesta Tunnel (Figures 5.12-12a and b). Usually this road is not used by the general public; therefore, the visual impact of the tank would not be significant.

During the area survey it has been determined that only small portions of the storage tank could be visible to the travelers on Highway 101, because it is screened by topography and vegetation (see Figures 5.12-13a and b for before and after the project views from the highway). The travelers would be viewing the area from Highway 101 at fairly high speeds, so the viewing time would be very short and in most instances the tank would be unnoticeable. Therefore the visual impact of the tank would be less than significant.

Mitigation Measure

Mitigation measure VR-9 shall be implemented.

VR-12 *The tank shall be a neutral or dark, non-contrasting color, and landscape screening shall be provided. Landscaping shall be provided in accordance with Section 22.04.186 of the San Luis Obispo County Land Use Ordinance and shall provide* *vegetation that will adequately screen the facilities. Landscape material must be consistent with the surrounding area, shown to do well in existing soils and conditions, be fast-growing, evergreen and drought tolerant. Shape and size of landscape material shall be in scale with proposed tank and surrounding native vegetation. Plans shall show how plants will be watered and what watering schedule will be applied to ensure successful and vigorous growth. During construction, the Applicant's contractor shall preserve as much of the existing vegetation (trees and shrubbery) as feasible.*

Residual Impacts
The residual impact of Cuesta Tunnel storage tank is *adverse but not significant* (Class III).

Impact	Impact Description	Residual Impact
VR.7	Visual impacts due to long-term presence of turnouts and air release valves.	Class III

The aboveground portion of an air valve is a valve protection structure that is typically 3–3.5 feet tall by 1.5–2 feet in diameter, and is typically protected from a vehicle impact by short poles. Exact locations of the air release valves have not been determined; however it is still possible to demonstrate visual impact of a valve: Figure 5.12-14 shows an air release valve in a location that is typical for the pipeline route area.

Figure 5.12-14 also shows a simulation of a turnout vault, which is usually either at the same level as the pavement or is raised several inches aboveground if located in an unpaved area.

As can be seen, these small project facilities are not likely to generate significant visual impacts in any area.

Mitigation Measure
No mitigation is necessary.

Residual Impacts
The residual visual impact is *adverse but not significant* (Class III).

Impact	Impact Description	Residual Impact
VR.8	Visual impacts due to change in the Lake Nacimiento water levels resulting from the release of additional water.	Class III

The proposed project would result in more water (16,200 afy) released from Lake Nacimiento than under current conditions. The level of the reservoir on average would be expected to be lower than historical levels. Computer simulations of the reservoir level have been conducted (Boyle 2002), and it has been demonstrated that the proposed project would influence the reservoir level only slightly—during wet or average seasons the reservoir level would be lower than historical by less than 2 feet. During extreme drought, water levels would be lowered by as much as 8-12 feet due to the project, however extreme drought is a rare event.

Figure 5.12-12a View of Cuesta Tunnel Storage Tank Site – Before Project

Note: View northwest from the existing access road which leads to the Cuesta Tunnel entry.

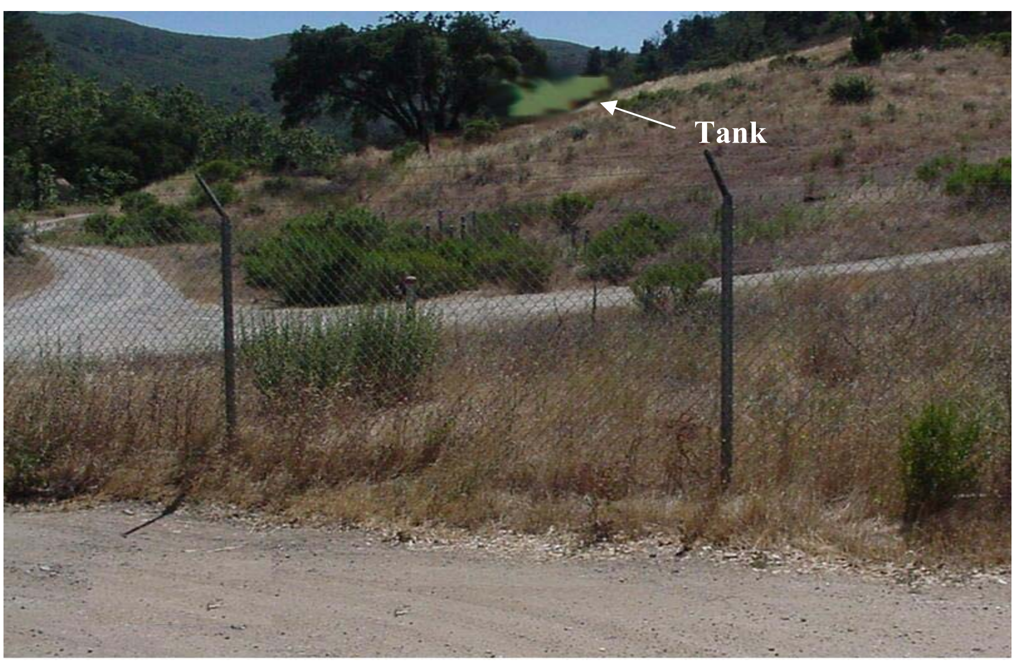
Figure 5.12-12b Simulation of Cuesta Tunnel Storage Tank Site – After Project

Note: The tank site will be surrounded with a chain-link fence, which is not shown on the simulation.

Figure 5.12-13a Cuesta Tunnel Storage Tank Site from Highway 101 – Before Project

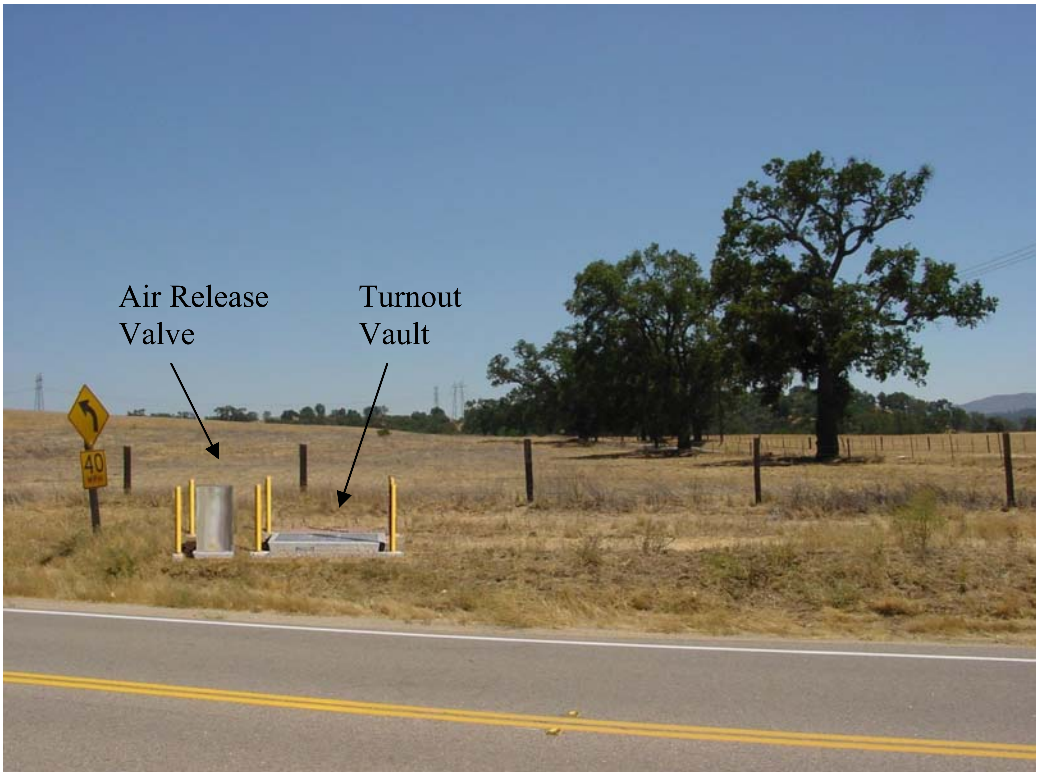
Note: View of the storage tank from Highway 101 looking west towards the entrance to Cuesta Tunnel. The tunnel access road is on the left-hand side.

Figure 5.12-13b Simulation of Cuesta Tunnel Storage Tank Site from Highway 101 – After Project



Note: The tank site will be surrounded with a chain-link fence, which is not shown on the simulation.

Figure 5.12-14 Simulation of Air release Valve and a Pipeline Turnout Vault



Note: View of simulated air release valve and a turnout vault at a non-specified location near a rural road in SLO County.

Under normal operating conditions, water levels in the reservoir fluctuate considerably depending on the season (see Figures 5.12-2 and 5.12-3), with annual lake level difference as much as 60–70 feet on average, and more than 100 feet during several years. Therefore, compared to the yearly reservoir level fluctuations, lake level fluctuations caused by the project are visually small and most likely imperceptible. Because the reservoir normal level fluctuations are usually much more visible and constitute the visual baseline for the project, the lake level fluctuations caused by the proposed project would be visually minor.

Mitigation Measure
No mitigation is necessary.

Residual Impacts
The residual visual impact is *adverse but not significant* (Class III).

5.12.4.2 Raw Water Option

Impacts VR.1 and VR.3 through VR.8 would be the same as for the Treated Water Option because this option would include the same aboveground permanent features: Water Intake and Intake Pump Station, Salinas River suspended pipe crossing, surge tank, Rocky Road Canyon

Storage Tank, Happy Valley Pump Station, and Cuesta Tunnel Storage Tank. The same mitigation measures would also apply (measures VR-1 through VR-3, and VR-5 through VR-12).

Impact VR.2 would be less severe because the WTP would not be constructed in this option, and only the storage tanks and the pump station would be constructed at the southern boundary of Camp Roberts.

Impact	Impact Description	Residual Impact
VR.9	Visual impacts due to long-term presence of river discharge facilities.	Class III

The Raw Water Option also includes three water discharge facilities: Paso Robles, Templeton, and Atascadero. The river discharge ponds would be contained by two-foot high berms. There would be a pipe manifold with a valve on each pond influent pipe and a meter on the main influent line, however all the associated structures would be low to the ground. The area required for these ponds is 3.5 acres for Paso Robles, 0.2 acres for Templeton, and 2.7 acres for Atascadero, with a 30-foot road around each discharge site.

All three discharge facilities would involve no significant structures. The Paso Robles discharge site would be located away from any major public roads. Templeton and Atascadero discharge site could be visible to the travelers using the Union Pacific Railroad; however, due to few visible structures, and presence of vegetation in the river estuary, the discharge areas would not constitute a significant negative visual impact. Therefore, no significant visual impacts would occur.

Mitigation Measure
Measure VR-9 shall be implemented. No other mitigation is necessary.

Residual Impacts
The residual impacts of the river discharge facilities are *adverse but not significant* (Class III).

5.12.5 Alternative Impacts and Mitigation Measures

Detailed descriptions of the various alternatives have been provided in Section 3. This section provides a discussion of the visual resource impacts of the various alternatives.

5.12.5.1 No Project Alternative

Under this alternative, all visual impacts, impacts VR.1 through VR.9, would be eliminated because no new structures associated with both project options would be built.

5.12.5.2 NWP 1997 EIR Alternative

For this alternative, visual impacts associated with the aboveground project structures would be present; however, since all the structures would be in different places as compared to the proposed project the impacts would be different. All the sites with the proposed structures in this Alternative would have similar chain-link fences, and lighting with motion detectors as in the proposed project (although this was not the case in the NWP 1997 EIR). All the proposed buildings would be constructed of the materials and painted with colors that are compatible with their surroundings. Any disturbed areas associated with the pipeline construction would be re-graded to natural contours and re-vegetated, as in the proposed project. The following sections describe the potential impacts associated with this alternative.

Impact	Impact Description	Residual Impact
VR.1	Visual impacts due to long-term presence of water intake structures at Nacimiento Dam.	Class I

The Water Intake structures would be constructed in conjunction with Pump Station No. 1, located close to the dam, near the upstream face adjacent to Nacimiento Lake Drive. The intake and pump station would require up to two acres of disturbed area above the high-water level, and as much as 0.5 acre below the high-water level. Substantial grading is proposed to occur in the development of the intake and pump station.

The Intake and Intake Pump Station would consist of five housed pumps and facilities including a building to house the motor control center, a generator building, an electrical building, a transformer yard, and a parking area. Based on the site plan and elevation provided by the applicant, the generator and electrical buildings combined take up 84 feet of street frontage, contain 3,276 square feet, and would be approximately 17 feet in height.

Approximately 4,000 cubic yards of fill material would be used to fill in the project area between Nacimiento Lake Drive and the lake. All existing trees within this area would be removed. The proposed design would require that vehicles back up onto Nacimiento Lake Drive when exiting the site, thus eliminating the possibility to provide landscape screening between the parking area and the roadway.

It was found in the NWP 1997 EIR that the intake structure, pump station, and related support area can be seen from public roads in three different directions as well as from the water surface of Lake Nacimiento. The existing vegetation would provide partial screening of the proposed structures. Most of the public views of the proposed intake and pump station facility include the dam or its structures. For the travelers moving from the west, the views would be mostly obscured by vegetation. For the traveler traveling to the area form the southeast, the view of the facilities is relatively brief (approximately 6 seconds). The visual context would be that of the road and the dam to the traveler’s right.

For the traveler from the north, the visual context is that of the natural terrain and vegetation in the background and the dam in the foreground. In this case the visual quality is relatively pristine. It would be ranked as higher than the typical rural areas along Highway 101 with their scattered development and some power lines set within a context of agricultural development. In this context any man-made development would have the potential to degrade the visual quality to some extent.

The NWP 1997 EIR estimated that placement of the Intake near the confluence of three roads will place it directly in the view of an estimated 5,000 people per day in the summer months; this figure would be slightly higher now as the number of the travelers has increased over the last several years. The visual context of the intake/pump station is that of a natural setting altered by large simple man-made forms surfaced in natural materials. The viewing time is relatively long for those traveling from the north shore along the crest of the dam. The imposition of a small cluster of masonry and metal clad buildings while relatively small in scale would be clearly visible to the viewer, and would generally not be compatible with either the character of the dam or the natural terrain. It is therefore, classified as being just above the threshold of significance based upon the impact it would create in the visual expectations of the viewer.

Mitigation Measures

VR-13 Redesign the site plan and structures to include the following:

Reduce the pump station's frontage along Nacimiento Lake Drive, reduce views of the paved parking area, and provide an area for landscaping and some screening of proposed structures and fenced areas.

Clad structures in the same stone materials as is used on the small structure on the Nacimiento dam. Utilize non-glare roofing materials

Provide architectural breaks in the façade of the combined electrical/generator building to reduce the effect of large blank walls.

Coat all chain-link fencing with brown or any other compatible color vinyl to reduce glare.

Provide motion-sensitive lighting that would be turned on only when motion is present on site. Direct all lights downwards so that the light visibility from public viewsheds is minimized.

VR-14 Provide a detailed grading and landscaping plan which would include but not be limited to the following:

- *contouring of the new cut and fill slopes to demonstrate a blending with the existing grades;*
- *rounding of all tops of banks in a natural manner;*
- *landscape screening to break-up the visual mass of the structures; vegetation shall be native to the area.*
- *replacement of all trees removed at a ratio of four to one.*

Residual Impacts

After implementation of the outlined mitigation measures the intake structures would still be incompatible with existing views associated with the road views and recreational uses in the immediate vicinity of the facility. Therefore, the residual impact would still be *significant* (Class I).

Impact	Impact Description	Residual Impact
VR.10	Visual impacts due to long-term presence of storage tank 1A and pump station No.2.	Class II

Impacts from storage tank 1A and Pump Station No.2 are discussed here. The storage tank 1A would be 170 feet in diameter and 25-feet high. It would disturb as much as 2 acres of land and require construction of an access road. The tank would be constructed of either steel or concrete and would be located above ground. The tank site would be landscaped and fenced. Colors would be compatible with vegetation in the tank's vicinity.

It has been determined in the 1997 EIR that tank location 1A would not be visible from Nacimiento Lake Drive. The only visible indications of a tank at location 1A would be the access road which would be visible to travelers. However, with the mitigation measure requiring color compatibility and landscaping there will be no significant impacts generated by this location.

The pump station would be located in an open area near the Salinas River, near the southeast corner of the intersection of Santa Clara Road and Sandoval Road, in the Garden Farms area of Atascadero. According to the site plan and elevation provided by the applicant, the 12,000 square foot pump station facility would include a 2,500 square foot building, 15-feet in height, to house five pumps. A stand-by generator would be housed in a separate 22- by 24-foot enclosure. An area of approximately 910 square feet would be needed for electrical transformers. Approximately 6,000 square feet would be needed for construction of an access road and parking lot.

Pump station No.2 is located away from any major public roads. The structures involved would be relatively small and are located within the context of rural and farm structures of a similar size. Therefore, visual impacts would be *adverse but not significant* (Class III). No mitigation is necessary.

Mitigation Measures
Measures VR-13 and VR-14 that require compatible color scheme, mitigated lighting and landscaping shall be implemented for both tank 1A and pump station No.2.

Residual Impacts
The residual impacts would be *not significant with mitigation* (Class II).

Impact VR.6 – Storage Tank No. 2 at Cuesta Pass
As it is discussed for Impact VR.6 of the proposed project, the visual quality of the Cuesta Pass area is relatively high. The sensitivity to visual impact is also considered relatively high since Cuesta Pass is a major visual landmark for travelers on Highway 101.

The potential of Storage Tank No. 2 to generate visual impacts is relatively small, however, because it could be viewed only from the northbound lanes of Highway 101 for 3–5 seconds. The tank site is hidden from the southbound lanes by the embankment of the northbound lanes. The most notable impact would be due to the removal of existing vegetation and the grading-related to the installation of the recessed storage tank. The NWP 1997 EIR have found that mitigation would be necessary to reduce this small but adverse visual impact. It was concluded that in an unmitigated condition with the large amount of grading and tree removal, and with the higher number and sensitivity of the typical traveler, a significant Class I impact would occur. Distance from the viewer and short viewing time would not diminish this impact. With the mitigation measures identified below this impact can be mitigated to insignificance.

Mitigation Measures

VR-15 *Re-grade the site to approximate the original contours in order to preserve the general character of the ridgeline as viewed from Highway 101.*

VR-16 *The Applicant shall implement a landscaping plan to screen the tank form viewers on Highway 101. The plan shall include re-vegetation of the disturbed area with a combination of native fast and slow growing trees which visually replace those removed during construction; and replacement of the ground cover to maintain visual continuity with the adjacent hillsides.*

Residual Impacts

The residual impact would be considered *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
VR.11	Visual impacts due to long-term presence of California Mens Colony (CMC) WTP	Class III

The CMC has an existing water treatment plant that is operating at less than capacity. To accommodate the added NWP water flow the CMC WTP would require a major upgrade (Carollo 2002). Buildings materials and colors would be visually compatible with the surroundings, and vegetation would be preserved as feasible.

The CMC WTP is located in a remote area that is not visible to any major public roads. While the facility would be visible to hikers and perhaps railroad passengers, the viewing distances from the train and the small number of hikers, the WTP upgrades are not expected to result in significant visual impacts.

Mitigation Measures

No mitigation measures are necessary.

Residual Impacts

Residual impacts would be *adverse but insignificant* (Class III)

Impact	Impact Description	Residual Impact
VR.12	Visual impacts due to long-term presence of Templeton WTP	Class II

The Templeton WTP would be located in an agricultural area in the foothills north of Templeton (at an elevation of approximately 900-feet asl) off Highway 101. The visual character of the area is that of a typical rural agricultural community. Access to the WTP would be provided from an existing unnamed frontage road that winds west for approximately one-half mile along a tributary canyon that is planted in blue oak woodland. The WTP would be located approximately one-third mile north of the end of the access road. The proposed WTP parcel is currently utilized for agricultural cultivation; adjoining parcels include agricultural fields, vineyards and orchards. Several oak trees are also located in the vicinity. The site is surrounded with several single-family residences and outbuildings at rural residential densities, including a few residences located on adjacent hilltops that could overlook the proposed WTP site.

Construction of the WTP would result in approximately 15 acres of disturbed area (including 11 acres of facilities) plus improvements to the access road. Cut and fill material would be balanced onsite. Buildings materials and colors would be visually compatible with the surroundings, and vegetation would be preserved as feasible. Depending on the final site topography, natural or formed berms could also provide a visual buffer as needed between the WTP site and its surroundings.

The visual analysis conducted in the NWP 1997 EIR concluded that construction and operation of the proposed Templeton WTP would not create significant impacts to Highway 101 where the number of potential viewers is greatest (approximately 45,000 travelers), because all public views of the WTP site are two-thirds of a mile or more away, and are visible only for a few seconds. Depending on how the WTP is designed, the buildings could appear similar to agricultural structures when viewed from a distance. While the overall impact of locating a WTP on the proposed site is determined not to be significant, a supplemental visual analysis based on final site plans should be required prior to acquisition of the property. This mitigation would allow decision-makers and the public to review how the building would function on the proposed site, including issues of building mass, architectural design features, driveway access, and lighting.

Mitigation Measure

VR-17 Articulate the architectural mass to appear consistent with agricultural structures or single family homes in the surrounding area. Limit the height of structural elements to 24 feet; use appropriate colors, landscape with tall trees to soften building edges, minimize night lighting with the use of motion sensors, and ensure light fixtures are hooded and directional. Final site design plans should be prepared by a licensed architect and reviewed by a qualified visual resource specialist prior to approval of a General Plan Conformity Report.

Residual Impacts

Residual impact would be *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
VR.13	Visual impacts due to long-term presence of Santa Margarita WTP.	Class II

One WTP would be constructed to serve both the community of Santa Margarita and Santa Margarita Ranch, its location would be approximately 2,000 feet south of the point where Highways 101 and 58 converge. Potential visual impacts of this WTP were evaluated in the 1997 EIR. Drivers going in the southward direction on Highway 101 and Highway 58, and public at El

Camino Real north of Santa Margarita near Garden Farms would be able see the WTP facilities. The WTP site becomes visible from Highway 101 approximately 1.3 miles to the north from the WTP site, and is continuously visible until approximately 1,000 feet north of the Highways 101 and 58 intersection.

The proposed WTP buildings would be small in proportion to the graded areas. The color and smooth texture of the exposed earth cuts and fills would make the site visible when contrasted with the surrounding tree canopy and natural vegetation.

The existing visual character of the Santa Margarita WTP site is varied and relatively unchanged by human activity (VMC 1). It is classified as of high visual quality. There are significant numbers of travelers on Highways 101 and 58, as well as El Camino Real that would be able to view the WTP and would be sensitive to the visual changes due to the WTP. Therefore, visual impacts of the Santa Margarita WTP would be significant. However, the proposed mitigation measures can reduce this impact to insignificant level.

Mitigation Measures

VR-18 *Minimize removal of the existing trees that can screen the WTP. One method would be not to construct the earth berm in front of the facility (the action that would require removal of trees). Prepare a comprehensive landscaping plan that includes:*

- identification of the existing trees that would be preserved, and reestablishment and maintenance of potentially affected by the construction oaks, pines and other trees;

- listing and location plan of the trees that would be planted to further screen the WTP facilities;

- revegetation plan that requires placement of native forbs and shrubs over the cut and fill banks as soon as possible after grading is completed.

VR-19 *The WTP structures plan shall be revised to articulate the architectural mass of the buildings to appear more similar to a house or commercial structure; avoid large blank walls and single horizontal parapets. Move the large building to the rear of the WPT site, rather than facing El Camino Real and Highway 101. Use color scheme that reduces the visual mass of the structure (e.g., avoid pure white).*

Residual Impacts

After implementation of the mitigation measures the impact would be *not significant with mitigation* (Class II).

5.12.5.3 Phased Raw and Treated Water Alternative

This alternative would be very similar to the proposed project; however various parts of the project would take place over a longer period of time. This alternative would not change the visual impacts or their level of significance because the same aboveground structures would be constructed in the same locations as for the proposed project; these structures would be constructed at a later time however. Therefore, impacts VR.1 (Intake structure), VR.3 (Salinas River suspended pipe crossing), VR.4 (surge tank), VR.5 (Rocky Road tank), VR.6 (Cuesta

Tunnel tank), VR.7 (turnouts and air release valves), VR.8 (Lake Nacimiento water level), VR.9 (river discharge areas) would all be the same. Impact VR.2 would be delayed, since construction of the WTP would be conducted at a later date under this alternative. All the mitigation measures outlined for the proposed project would be applicable under this alternative (measures VR-1 through VR-12).

5.12.6 Cumulative Impacts

5.12.6.1 Salinas Valley Water Project (SVWP)

Impact	Impact Description	Residual Impact
VR.14	The cumulative water withdrawals from Lake Nacimiento would result in more frequent instances of lake level below 748 feet, and would result in significant unavoidable adverse impacts to visual resources.	Class I

In addition to short-term construction impacts, the proposed project would have long-term visual impacts in the vicinity of Nacimiento Dam due to lowered water level of the reservoir; this impact has been characterized as significant and unavoidable in the SVWP EIR given the magnitude of lake level changes that would result from reoperation of the lake. The proposed project would result in insignificant impacts to lake levels (see Impact VR.8). However, given the magnitude of lake level fluctuations from the SVWP, and the additional contribution from the NWP, the two projects would have a cumulatively significant impact on the visual appearance of lake levels (Class I).

There are no other areas where the SVWP would be in the vicinity of any activities due to the proposed project. Therefore, the two projects would have no other cumulatively significant visual impacts.

5.12.6.2 Other Development Projects

Several other development projects were identified and are listed in Section 4, Cumulative Projects Description. While each of these projects would potentially result in some degree of visual impact, a majority of the projects would not occur at the same time as the proposed project and would not have any long-term visual impacts. Those projects where long-term visual impacts could occur would not contribute to the impacts identified for the proposed project. Therefore, potential cumulative impacts would be considered less than significant.

5.12.7 Mitigation Monitoring Plan

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
VR-1	The Water Intake structures shall be visually compatible in materials of construction and color with the surrounding area of the Lake Nacimiento dam incorporating natural rock facing. During construction, the Applicant's contractor shall preserve as much of the existing vegetation (trees and shrubbery) as feasible.	Develop and submit to the Lead Agency the buildings and landscaping plan that includes color scheme.	Dept of P&B	Review and approve the plan.	Prior to Board of Supervisors approval to advertise for construction bids.
VR-2	The structures shall be screened from public views with vegetation to the maximum extent feasible. Landscaping shall be provided in accordance with Section 22.04.186 of the San Luis Obispo County Land Use Ordinance and shall provide vegetation that will adequately screen the facilities.	Develop and submit to the Lead Agency the buildings and landscaping plan.	Dept of P&B	Review and approve the plan. Site visit to verify compliance	Prior to Board of Supervisors approval to advertise for construction bids. On completion of the project
VR-3	The surge tank and power line shall be placed underground.	Develop and submit to the Lead Agency the final facilities design or plan.	Dept of P&B	Review and approve the design or plan.	Prior to Board of Supervisors approval to advertise for construction bids.
VR-4	The tanks shall be a neutral or dark, non-contrasting color, and landscape screening shall be provided. Landscaping shall be provided in accordance with Section 22.04.186 of the San Luis Obispo County Land Use Ordinance and shall provide vegetation that will adequately screen the facilities. Landscape material must be consistent with the surrounding area, shown to do well in existing soils and conditions, be fast-growing, evergreen and drought tolerant. Shape and size of landscape material shall be in scale with proposed tanks and surrounding native vegetation. Plans shall show how plants will be watered and what watering schedule will be applied to ensure successful and vigorous growth.	Develop and submit to the Lead Agency the final facilities design or plan including color scheme and landscape plan.	Dept of P&B	Review and approve the design or plan.	Prior to Board of Supervisors approval to advertise for construction bids.
VR-5	The perimeter of the suspended pipe crossing structural support shall be concealed using vegetation that is compatible with the surrounding area.	Develop and submit the vegetation plan.	Dept of P&B	Review and approve the plan. Visit the site and verify	Prior to Board of Supervisors approval to advertise for construction

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
				compliance.	bids. After completion of construction at the site.
VR-6	The surge tank shall be constructed underground in a vault to minimize aboveground equipment.	Develop and submit to the Lead Agency the final facilities design or plan.	Dept of P&B	Review and approve the design or plan.	Prior to Board of Supervisors approval to advertise for construction bids.
VR-7	The pump station structures shall be constructed partially underground to limit the structure height to the equivalent of a one story home or barn typical of the area. The architecture of the pump station shall resemble a home or barn typical of the area.	Develop and submit to the Lead Agency the final facilities design or plan.	Dept of P&B	Review and approve the design or plan.	Prior to Board of Supervisors approval to advertise for construction bids.
VR-8	No oak trees adjacent to Rocky Canyon Road shall be removed to accommodate the construction of the pump station or storage tank at this location.	Develop and submit to the Lead Agency the final facilities construction plan.	Dept of P&B	Review and approve the plan, verifying that no oak trees would be removed.	Prior to Board of Supervisors approval to advertise for construction bids.
VR-9	Access roads to and around the facility shall not exceed 20 feet in width.	Develop and submit to the Lead Agency the final facilities design or plan.	Dept of P&B Coordinate with County Fire Department	Review and approve the design or plan.	Prior to Board of Supervisors approval to advertise for construction bids.
VE-10	All structures at this site shall be screened from public views with vegetation to the maximum extent feasible. Landscaping shall be provided in accordance with Section 22.04.186 of the San Luis Obispo County Land Use Ordinance and shall provide vegetation that will adequately screen the facilities. For the tank area where fencing surrounding the tank site would be located, landscape screening shall be provided. Landscape material must be consistent with the surrounding area, shown to do well in existing soils and conditions, be fast-growing, evergreen and drought tolerant. Shape and size of landscape material shall be in scale with proposed tank fencing or other aboveground features and surrounding native	Develop and submit to the Lead Agency the final facilities design or plan.	Dept of P&B	Review and approve the design or plan.	Prior to Board of Supervisors approval to advertise for construction bids.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	vegetation. Plans shall show how plants will be watered and what watering schedule will be applied to ensure successful and vigorous growth.				
VR-11	The border of cut slopes and fills accomplished to underground the water storage tank shall be rounded off to a minimum radius of five feet. For any visible slope cuts from Rocky Canyon Road, sufficient topsoil shall be stockpiled and reapplied or re-keyed over these visible cut areas to provide at least 8" of topsoil for the reestablishment of vegetation. As soon as the grading work has been completed, the cut and fill slopes shall be reestablished with non-invasive, fast-growing vegetation.	Develop and submit to the Lead Agency the final grading and landscaping plan.	Dept of P&B	Review and approve the plan. Site visit to verify compliance	Prior to Board of Supervisors approval to advertise for construction bids. On completion of the project
VR-12	The tank shall be a neutral or dark, non-contrasting color, and landscape screening shall be provided. Landscaping shall be provided in accordance with Section 22.04.186 of the San Luis Obispo County Land Use Ordinance and shall provide vegetation that will adequately screen the facilities. Landscape material must be consistent with the surrounding area, shown to do well in existing soils and conditions, be fast-growing, evergreen and drought tolerant. Shape and size of landscape material shall be in scale with proposed tank and surrounding native vegetation. Plans shall show how plants will be watered and what watering schedule will be applied to ensure successful and vigorous growth. During construction, the Applicant's contractor shall preserve as much of the existing vegetation (trees and shrubbery) as feasible.	Develop and submit to the Lead Agency the final grading and landscaping plan.	Dept of P&B	Review and approve the plan. Site visit to verify compliance	Prior to Board of Supervisors approval to advertise for construction bids. On completion of the project
VR-13	Redesign the site plan and structures to include the following: Reduce the pump station's frontage along Nacimiento Lake Drive, reduce views of the paved parking area, and provide an area for landscaping and some screening of proposed structures and fenced areas. Clad structures in the same stone materials as is used on the small structure on the Nacimiento dam. Utilize non-glare roofing materials Provide architectural breaks in the façade of the combined electrical/generator building to reduce the effect of large blank walls.	Develop and submit to the Lead Agency the final facilities design or plan.	Dept of P&B	Review and approve the design or plan.	Prior to Board of Supervisors approval to advertise for construction bids.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	Coat all chain-link fencing with brown or any other compatible color vinyl to reduce glare. Provide motion-sensitive lighting that would be turned on only when motion is present on site. Direct all lights downwards so that the light visibility from public viewsheds is minimized.				
VR-14	Provide a detailed grading and landscaping plan which would include but not be limited to the following: - contouring of the new cut and fill slopes to demonstrate a blending with the existing grades; - rounding of all tops of banks in a natural manner; - landscape screening to break-up the visual mass of the structures; vegetation shall be native to the area. - replacement of all trees removed at a ratio of four to one. Re-grade the site to approximate the original contours in order to preserve the general character of the ridgeline as viewed from Highway 101.	Develop and submit to the Lead Agency the final landscaping plan.	Dept of P&B	Review and approve the design or plan.	Prior to Board of Supervisors approval to advertise for construction bids.
VR-15	Re-grade the site to approximate the original contours in order to preserve the general character of the ridgeline as viewed from Highway 101.	Develop and submit to the Lead Agency the final grading and landscaping plan.	Dept of P&B	Review and approve the plan. Site visit to verify compliance	Prior to Board of Supervisors approval to advertise for construction bids. On completion of the project
VR-16	The Applicant shall implement a landscaping plan to screen the tank form viewers on Highway 101. The plan shall include re-vegetation of the disturbed area with a combination of native fast and slow growing trees which visually replace those removed during construction; and replacement of the ground cover to maintain visual continuity with the adjacent hillsides.	Develop and submit to the Lead Agency the final grading and landscaping plan.	Dept of P&B	Review and approve the plan. Site visit to verify compliance	Prior to Board of Supervisors approval to advertise for construction bids. On completion of the project

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
VR-17	Articulate the architectural mass to appear consistent with agricultural structures or single family homes in the surrounding area. Limit the height of structural elements to 24 feet; use appropriate colors, landscape with tall trees to soften building edges, minimize night lighting with the use of motion sensors, and ensure light fixtures are hooded and directional. Final site design plans should be prepared by a licensed architect and reviewed by a qualified visual resource specialist prior to approval of a General Plan Conformity Report.	Develop and submit to the Lead Agency the final grading and landscaping plan.	Dept of P&B	Review and approve the plan. Site visit to verify compliance	Prior to Board of Supervisors approval to advertise for construction bids. On completion of the project
VR-18	Minimize removal of the existing trees that can screen the WTP. One method would be not to construct the earth berm in front of the facility (the action that would require removal of trees). Prepare a comprehensive landscaping plan that includes: - identification of the existing trees that would be preserved, and reestablishment and maintenance of potentially affected by the construction oaks, pines and other trees; - listing and location plan of the trees that would be planted to further screen the WTP facilities; - revegetation plan that requires placement of native forbs and shrubs over the cut and fill banks as soon as possible after grading is completed.	Develop and submit to the Lead Agency the final grading and landscaping plan.	Dept of P&B	Review and approve the plan. Site visit to verify compliance	Prior to Board of Supervisors approval to advertise for construction bids. On completion of the project
VR-19	The WTP structures plan shall be revised to articulate the architectural mass of the buildings to appear more similar to a house or commercial structure; avoid large blank walls and single horizontal parapets. Move the large building to the rear of the WPT site, rather than facing El Camino Real and Highway 101. Use color scheme that reduces the visual mass of the structure (e.g., avoid pure white).	Develop and submit to the Lead Agency the final building plan.	Dept of P&B	Review and approve the plan.	Prior to Board of Supervisors approval to advertise for construction bids.

Notes: County PW Dept=SLO County Department of Public Works (The Applicant); Dept of P&B=SLO County Department of Planning and Building (The Lead Agency).

5.13 Agricultural Resources

5.13.1 Environmental Setting

The proposed NWP pipeline and related facilities are located adjacent to and within various types of agricultural lands and operations. Some areas are used for cattle grazing and other livestock, while other locations are planted with row crops such as wine grapes and vegetables. The installation and construction methods of the proposed project have the potential to create temporary compatibility conflicts with agricultural resources within the Salinas River Valley and adjacent areas. The construction process of the proposed project is expected to occur in several stages throughout various times of the year. During this time, some agricultural areas may experience short-term impacts associated with construction methods due to trenching, construction noise, and removal of infrastructure such as roads, driveways and fencing. It is anticipated there will be no long-term residual impacts to agricultural resources following the completion of construction, if measures are implemented to ensure noxious weed seeds are not inadvertently transported to non-infested areas. The location of agricultural preserves, agricultural uses, and prime soils within and adjacent to proposed project areas will be used in evaluating the project's impacts to agricultural resources. The following is a discussion of the agricultural environmental setting in San Luis Obispo County in general, including those areas along the specific reaches of the proposed project route.

5.13.1.1 Agricultural Lands

SLO County, the California Department of Conservation, and the U.S. Department of Agriculture (USDA) utilize nine different land mapping categories to describe farmland and non-farmlands, as follows.

Prime Farmland – Land with the best combination of physical and chemical features able to sustain long-term production of agricultural crops. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields.

Farmland of Statewide Importance – Land similar to Prime Farmland that has a good combination of physical and chemical characteristics for the production of agricultural crops. This land has minor shortcomings, such as greater slopes or less ability to store soil moisture than Prime Farmland.

Unique Farmland – Lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California.

Farmland of Local Importance – Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee. SLO County considers dairies, dry land farming, aquaculture, and uncultivated areas with soils as qualifying for Prime Farmland and Farmland of Statewide Importance.

Local Potential – These are areas with soils that qualify for Prime or Statewide Importance designations, but which are not cultivated or irrigated. Only certain counties, such as San Luis Obispo, have chosen to use the Local Potential designation.

Grazing Land – Land on which the existing vegetation is suited to the grazing of livestock. This category is used only in California and was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing.

Urban and Built-Up Land – Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately six structures to a 10-acre parcel.

Other Land – Land that does not meet the criteria of any other category.

Water – Water areas with an extent of at least 40 acres.

The SLO County General Plan Agricultural and Open Space Element (1998) contains a general description of the main types and uses of agricultural land within the County. These include the general headings of irrigated lands and dry farmlands. Irrigated lands include row crops terrain and soils as well as specialty crops/forage lands, while dry farm lands consist of mixed croplands, dry croplands, and ranchlands for grazing. The definitions of these types of farmland are as follows.

Row Crops Terrain and Soils – Various types of vegetables, seed crops, orchards, and other irrigated specialty crops characterize these lands. Property sizes generally range from 10 acres to hundreds of acres with soils mainly in land capability Classes I and II.

Specialty Crops and Forage Lands – These areas are characterized by irrigated orchards and vineyards such as wine grapes, avocados, citrus, and apples. Irrigated uses such as alfalfa and pasture may be found in these areas. Property sizes generally range from 20 acres to a few hundred acres with soils mainly in land capability Classes III and IV.

Mixed Croplands – Dry farm orchards and vineyards and specialty or high value field crops characterize mixed croplands. Property sizes generally range from 40 acres to several hundred acres with soils consisting mainly of land capacity Classes III and IV.

Dry Croplands – These areas are characterized by grain and hay production. Barley, wheat, and oat hay are the principal crops. Other crops include dry beans and safflower. Dry croplands may also include grain stubble fields and intervening non-cultivated areas that provide seasonal forage for livestock. Property sizes generally range from 80 to several thousand acres with soils consisting mainly of land capacity Classes III and IV. Class VI land has also been commonly used for grain production.

Ranchlands for Grazing – Grazing land accounts for a large percentage of the privately owned land in the County, with cattle ranching being the predominant use on these lands. The topography is mainly rolling and on steep slopes between 30 and 75%. Rangeland may also include small intervening valleys and ridge tops that have limited use or potential as farmland. The soils consist mainly of land capacity Classes IV, V and VI. Property sizes generally range from 100 acres to thousands of acres, depending on the carrying capacity of the rangelands.

5.13.1.2 Agricultural Production

Through 2002, cropland, grazing land, and other agricultural production land involved approximately 1,177,988 acres, or approximately 55% of the total County area (2,124,240 acres) (SLO County 2002). San Luis Obispo County continually ranks in the top 20 of California counties for agricultural production and in the top 100 out of approximately 3,300 counties in the Country. Table 5.13.1 provides additional information about SLO County's agricultural production.

Table 5.13.1 San Luis Obispo County Agriculture Statistical Summary

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total Crop Value (Actual $Millions)	277.7	291.3	298.2	316.8	325.8	381.8	358.8	395.5	487.7	489.8
Percent (%) change	6.9	4.9	2.4	6.2	2.8	17.2	-6.0	10.2	23.3	0.4
Total Crop Value (1996 $Millions)	298.4	305.3	308.3	322.6	325.8	375.8	348.2	375.0	447.6	435.0
Percent (%) change	3.2	2.3	1.0	4.6	1.0	15.3	-7.3	7.7	19.4	-2.8
Total Ag. Acreage (100s of acres)	1,206.4	1,231.2	1,240.6	1,231.8	1,231.1	1,203.4	1,206.8	1,195.2	1,176.2	1,180.1
Total Harvested Acreage (100s of acres)	125.8	128.7	128.2	126.6	128.9	112.5	117.3	114.8	109.7	112.4
Pasture Acreage (100s of acres)	1,080.6	1,102.5	1,112.4	1,105.3	1,102.2	1,090.9	1,089.5	1,080.4	1,066.5	1,067.7
Earnings per Harvested Acre (Actual $)	2,207	2,264	2,327	2,503	2,527	3,393	3,059	3,446	4,444	4,357
Earnings per Harvested Acre (1996 $)	2,372	2,373	2,406	2,549	2,527	3,339	2,969	3,268	4,080	3,870
Employment in Ag. (Jobs)	2,558	3,075	3,267	3,025	3,900	4,842	4,617	4,292	4,775	5,325
Average Salary in Ag. ($ per worker)	15,634	15,119	14,436	15,832	15,404	15,848	17,682	18,558	18,935	18,546
Number of Farm Proprietors	2,106	2,188	2,182	2,220	2,206	2,249	2,338	2,325	2,285	2,485
Farm Proprietor Income ($Millions)	44.9	50.4	46.3	44.2	33.2	73.1	50.2	64.4	96.4	101.6

Source: University of California at Santa Barbara (UCSB) Economic Forecast Project 2002.

Acreage of agricultural land in SLO County has declined slightly, however, total agricultural production valuations from 1992 to 2001 have increased by over $121 million, from approximately $278 million in 1992 to almost $490 million in 2001 (refer to Table 5.13-2). The County's agriculture continues to undergo dramatic change. While the harvested value of the County's most important crop, wine grapes, continued to climb in 2001, the inflation-adjusted value of the grapes actually fell as yields per acre fell dramatically (UCSB 2002). The value of SLO County's cattle yield showed a strong increase, while values of two other important crops, broccoli and head lettuce, showed sharp declines in 2001. Despite these changes, the total valuation of agricultural products produced in San Luis Obispo County has continued to increase because of product demand and the industry's ability to adapt to new markets and technologies. This trend is expected to continue as the industry moves toward higher investment and return per acre of production. The top twenty value crops for 2001 are shown in Table 5.13-3.

Table 5.13.2 Comparison of Valuation of Major Groups for 1992 through 2001 (in Dollars)

Year	Animal	Field	Nursery & Seed	Fruit & Nut	Vegetable	Total
1992	28,419,000	18,575,000	37,749,000	56,619,000	136,324,000	277,686,000
1993	33,102,000	20,666,000	39,783,000	60,353,000	137,316,000	291,220,000
1994	31,431,000	21,020,000	45,517,000	65,476,000	134,784,000	298,228,000
1995	26,188,000	21,340,000	50,534,000	70,975,000	147,771,000	316,808,000
1996	24,513,000	22,445,000	55,889,000	88,932,000	134,047,000	328,075,000
1997	29,223,000	18,056,000	65,486,000	120,912,000	148,129,000	381,806,000
1998	28,665,000	17,614,000	70,296,000	109,351,000	132,895,000	358,821,000
1999	36,031,000	16,296,000	85,353,000	122,450,000	135,393,000	395,523,000
2000	35,881,000	16,180,000	93,171,000	166,779,000	175,643,000	487,654,000
2001	46,517,000	17,025,000	91,295,500	182,415,000	152,531,000	489,783,500

Source: San Luis Obispo County Department of Agriculture Weights and Measures 2001.

In SLO County, vegetable production occurs primarily in the coastal valleys (mostly lettuce and cole crops) while irrigated field crops (mostly alfalfa and irrigated pasture) are predominate in the interior valleys. The high cost of pumping water has resulted in the gradual conversion to higher value crops such as vegetables and wine grapes. The expansion of vineyards from land used for dry farm grain production has been a major change in agricultural patterns. From 1991 to 2001 acreage of harvested vineyards has increased from approximately 8,000 acres to more than 21,000 acres. Vineyards occur mostly on gently rolling land east of Paso Robles, west of Templeton and Paso Robles, and in the Edna Valley. Avocados, lemons and some other subtropical fruits are grown in the coastal foothills. Production of high value nursery stock and crop seed has also steadily increased, and includes propagation of fruit and nut trees and vegetable seedlings, as well as the production of cut flowers, indoor decoratives, and ornamental trees and shrubs.

Most dry farm grain and hay is produced in the interior valleys and uplands in the northern and eastern parts of the county, including the rural areas between and surrounding Paso Robles, Templeton, Creston, Shandon, and the northerly Carrizo Plain. Major crops are barley, grain hay, and wheat, although grain and grain hay are also produced in the coastal valleys.

It is anticipated that there will be continuing conversion of dry farm lands to vineyards and orchards where sufficient groundwater is available for irrigation.

Table 5.13.3 Top Twenty Value Crops in 2001 (in Dollars)

Crop	Value ($)
Wine Grapes	138,054,000
Cattle & Calves	42,697,000
Broccoli (All)	35,911,000
Lettuce, Head	30,481,000
Indoor Decoratives	27,290,000
Vegetable Transplants	21,358,000
Strawberries	17,707,000
Peas, Edible Pod	16,093,000
Cut Flowers (Greenhouse)	16,020,000
Celery	11,844,000
Lettuce, Leaf	11,302,000
Avocados	10,819,000
Bedding, Sod, & Ground Cover	10,349,000
Cauliflower	9,967,000
Cut Flowers (Field)	9,124,000
Oriental Vegetables	9,105,000
Rangeland	6,528,000
Grain Hay	4,960,000
Cabbage	4,623,000
Outdoor Ornamentals	4,263,000

Source: San Luis Obispo County Department of Agriculture Weights and Measures 2001.

Most almond and walnut orchards in the county are dry farmed and occur mainly on the east slopes and foothills of the northerly Santa Lucia Range and between Atascadero and Creston. Due to competition with extensive irrigated orchards in California's Central Valley, local dry farm production is expected to decrease in production acreage. Many of these lands are now being pressured for conversion to rural residential homesites.

Rangelands for livestock grazing occur countywide; raising cattle and calves is the principal livestock operation. The best grazing land is on the open coastal slopes of the Santa Lucia Range in the North Coast area. The diversity of animal raising activities has increased and the raising of horses contributes a significant portion of agricultural income in the county.

5.13.1.3 Agricultural Preserves

SLO County's agricultural preserve program was created to implement the California Land Conservation Act (LCA) of 1965. It identifies areas where the County is willing to enter into a LCA (Williamson Act) contract with property owners based on an approved set of criteria (SLO County 1998). Lands that enter into the County's agricultural preserve program are subject to zoning restrictions including parcel size restrictions ranging from 40 acres for prime land and 100 acres for nonprime land. An LCA contract is a legal contract between a landowner and a land-regulating agency under the LCA (i.e., the County). Under LCA contract, the property owner agrees not to develop the property for a period of 10 to 20 years in exchange for property tax reductions based on the property's value as open space or agricultural, rather than developable, land. The contract automatically renews each year for a new 10-year period unless the owner files a Notice of Non-renewal to indicate his or her intention to terminate the contract at the end of the current 10-year period. LCA contracts may also be terminated by a public agency if the property under contract is being acquired for another purpose in the public's interest under eminent domain or other public acquisition procedures.

Implementation of the proposed pipeline would potentially affect properties in the County's agricultural preserve program, under LCA contract.

5.13.1.4 Agricultural Soils

The USDA Soil Conservation Service surveys soils and assigns a soil capability classification that is used to determine whether the soil is a prime or non-prime agricultural soil. Soils with a capability Class I are soils that have few limitations that restrict their use. Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices (USDA 1983). Soils with a capability Class of I or II are generally considered to be "prime agricultural soils". Prime soils indicate the presence of Prime Farmland. According to the USDA, Prime Farmland is land best suited for producing food, feed, forage, fiber and oilseed crops and is also available for cropland, pastureland, rangeland, and forestland. It has the soil quality, growing season and moisture supply needed to produce sustained high yields of crops economically when treated and managed, including water management, according to modern farming methods. As of 2000, the total area of Prime Farmland located within San Luis Obispo County was 41,386 acres, approximately 3 percent of the total area inventoried (1,302,172 acres) countywide (California Department of Conservation, 2002).

5.13.1.5 Noxious Weed Species

SLO County Department of Agriculture identifies several noxious weed species that may exist within the pipeline corridor and could be spread by construction activities. The weeds include, but are not limited to, purple starthistle (*Centaurea calcitrapa*), yellow starthistle (*Centaurea solstitialis*) and skeleton weed (*Chondrilla juncea*). Purple starthistle is an invasive biennial (2-year life cycle) native to southern Europe that produces sharp, stout spines. In California, purple starthistle invade rangelands and open grasslands, degrading the forage quality and hindering access for both humans and livestock. In SLO County, this plant is a common invader in the areas west of the Santa Lucia Mountains, and just over the Cuesta Grade near Santa Margarita. Yellow starthistle is an annual plant that has become one of the most prominent noxious weeds in California, infesting more than 12 million acres throughout the State. This native of Eurasia is extremely competitive, invading cropland, pastures, and rangeland, increasing farming costs and reducing productivity. In addition, yellow starthistle is toxic to horses. Yellow starthistle is common throughout most of SLO County. Skeleton weed exists in scattered locations along the proposed pipeline route. Skeleton weed is a weed pest of quarantine significance to SLO County and California and its potential spread is controlled by a set of quarantine regulations.

Spread of noxious weeds has the potential to occur during the construction phase of the proposed project as trenching and other equipment is transferred from one area of the project to another.

5.13.2 Regulatory Setting

Numerous properties along the proposed project corridor are currently designated Agriculture. Due to the short-term nature of potentially direct impacts associated with the project, three regulatory considerations are prominent in the regulatory setting of the project—the Agriculture and Open Space Element of the San Luis Obispo County General Plan, the California Land Conservation Act of 1965 and SLO County's "Right-to-Farm Ordinance."

5.13.2.1 San Luis Obispo County Agriculture and Open Space Element

The Agriculture and Open Space Element of the San Luis Obispo County General Plan provides a background on agricultural and open space resources within the county. Through the goals, policies, implementation programs and measures provided within the document, the county's intent is:

> *"To promote and protect the agricultural industry of the County, to provide for a continuing sound and healthy agriculture in the county, and to encourage a productive and profitable agricultural industry."*

5.13.2.2 California Land Conservation Act of 1965

California Land Conservation Act of 1965, also known as the Williamson Act, encourages and enables local governments to enter into contracts with private landowners to restrict specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments that are much lower than normal because they are based on farming uses rather than full market value. Local governments receive a subsidy for forgone property tax revenues from the State via the Open Space Subvention Act of 1971.

5.13.2.3 San Luis Obispo County "Right-to-Farm" Ordinance

The SLO County "Right-to-Farm" Ordinance states that the use of real property for agricultural operations is a high priority and favored use.

Ordinance No. 2561 (August, 1992), added Chapter 5.16 to Title 5 of the San Luis Obispo County Code relating to Agricultural Lands, Operations, and The Right To Farm.

Paragraph "b" of Section 5.16.020 (Findings and Policy) states:

> *"Where non-agricultural land uses occur near agricultural areas, agricultural operations frequently become the subjects of nuisance complaints due to lack of information about such operations. As a result, agricultural operators may be forced to cease or curtail their operations. Such actions discourage investments in*

> *farm improvements to the detriment of agricultural uses and the viability of the county's agricultural industry as a whole. It is the purpose and intent of this ordinance to reduce the loss to the County of its agricultural resources by clarifying the circumstances under which agricultural operations may be considered a nuisance."*

An additional purpose of this ordinance (paragraph "c") is to promote a good neighbor policy by advising purchasers of residential property, and owners of other property in the County, of the inherent potential problems associated with the purchase of such property. Such concerns may include, but are not limited to, the noises, odors, dust, chemicals, smoke, and hours of operation that may accompany agricultural operations. It is intended that, through mandatory disclosures, purchasers and users will better understand the impact of living near agricultural operations and be prepared to accept attendant conditions as the natural result of living in or near rural areas.

Pre-existing agricultural uses are not a nuisance (Section 5.16.030). California Civil Code Section 3479 defines a "nuisance" as anything which is injurious to health, is indecent or offensive to the senses, or is an obstruction to the use of property, so as to interfere with the comfortable enjoyment of life or property. San Luis Obispo County has determined that the use of real property for agricultural operations is a high priority and favored use to the County, and those inconveniences or discomforts arising from legally established agricultural activities or operations, as defined in the SLO County Code, or State law, shall not be or become a nuisance. Therefore, the proposed project is and will continue to be subject to those inconveniences or discomforts arising from adjacent and surrounding agricultural operations, which if conducted in a manner consistent with State law and County code, shall not be or become a nuisance.

5.13.3 Significance Criteria

This proposed project is primarily an underground construction project with primarily short-term agricultural impacts. However, construction activities will potentially conflict with agricultural land uses if significant temporary impacts are not mitigated. According to the Revised Appendix G of the CEQA guidelines, a project will normally have a significant effect on agricultural resources if it will:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract; or
- Involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland, to non-agricultural use.

Therefore, for the purposes of this project, any project activity resulting in an impedance of agricultural activities for a period of greater than one day or potentially resulting in a substantial loss of agricultural productivity will be considered a potentially significant impact.

5.13.4 Proposed Project Impacts and Mitigation Measures

The proposed NWP pipeline alignment would be located within areas where agriculture is a widespread land use. Each urban area (including Paso Robles, Templeton, Atascadero, Santa Margarita, and San Luis Obispo) is separated by agricultural lands including Class I and II lands (prime agricultural soils). The following section describes potential impacts to agricultural resources as a result of construction of the proposed pipeline and related facilities.

The project is not proposing to permanently convert Farmland to non-agricultural uses or involve other changes in the existing environment that could result in conversion of Farmland to non-agricultural use. Therefore, the focus of this analysis is to determine the proposed project's potential for agricultural compatibility impacts on surrounding agricultural lands or to surrounding agricultural uses.

Temporary, short-term compatibility impacts discussed in the following section include:

- Removal of fencing allowing livestock to escape;
- Injury to animals falling into trenches during construction;
- Damage to agricultural land soil profile due to trenching;
- Impeded access to farm and ranch roads;
- Interference with agricultural harvesting and maintenance activities due to construction activities; and,
- Wind-borne dust in crop lands.

Potential long-term compatibility impacts to agricultural resources include:

- Spread of noxious weeds.

Easements for the pipeline through vineyards or other agricultural lands would not convert farmland or preclude all agricultural activities. Agricultural practices within easement areas would have some additional restrictions (i.e. no orchards). This is considered a right-of-way issue rather than an agricultural impact.

The impacts and mitigation measures discussed below would apply equally to all agricultural lands, including those that may be located within the County's agriculture preserve program and/or under LCA contract.

5.13.4.1 Treated Water Option

Impact	Impact Description	Residual Impact
AG.1	Water pipeline construction within the roads ROW has the potential to adversely impact access to and maintenance of agricultural operations.	Class II

The Applicant proposes to access the pipeline route using established access roadways that are currently traveled by farm equipment and/or railroad personnel accessing the rail. Transport of construction equipment and personnel could cause conflicts with current traffic, having a short-term impact on access routes used for crop harvesting or agricultural maintenance by impeding access and slowing agricultural traffic.

Mitigation Measures

AG-1 *Prior to and during construction, the Applicant shall coordinate construction activity time schedules with all owners of agricultural operations adjacent to the construction site. All property owners shall be notified 30-days in advance of the construction activities occurring in the vicinity of their operations.*

Residual Impact

Implementation of the above mitigation measure will result in agricultural compatibility impacts considered *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
AG.2	Water pipeline construction (including fence removal and trenching) along property boundaries has the potential to impact ranching and livestock operations.	Class II

Because the proposed pipeline route follows the Union Pacific Railroad (UPRR) right-of-way, state highways, county roads, and city roads along parcel boundaries of agricultural lands, the proposed project is likely to require temporary fence removal and other disturbances in some areas that are used for cattle grazing, thoroughbred horse operations, and other ranching operations. The construction trenching and excavation will create open trenches that could be hazardous for grazing animals if fence removal allows access to the construction area. The proposed project would disturb areas currently used for the grazing of cattle thereby creating potentially significant impacts.

Mitigation Measures

AG-2 *Prior to construction, the Applicant shall coordinate with landowners to discuss the timing of pipeline construction through agricultural areas containing livestock. Subject to negotiations with livestock owners, the Applicant shall either provide ample time for the livestock to be relocated during the pipeline construction, or construct a temporary fence around the pipeline corridor to keep livestock from entering the areas during construction.*

AG-3 *During construction, where construction activities require removal of existing fencing adjacent to grazing lands, a temporary fence shall be installed and maintained by the Applicant to keep grazing animals away from construction activities and trenching. Trenches shall be filled, covered, or enclosed by fencing at the end of each workday to reduce chances of animal injuries. Following construction, fences and posts shall be replaced.*

Residual Impact

Implementation of the above mitigation measures will result in agricultural compatibility impacts considered *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
AG.3	Water pipeline construction and placement of staging areas on agricultural lands have the potential to permanently impact soils on grazing and croplands due to improper soil replacement and/or reseeding efforts.	Class II

Proposed trenching and excavation activities have the potential to disturb the soil on or adjacent to grazing and croplands where construction areas extend outside designated UPRR and road right-of-ways. Loss or improper replacement of topsoil and improper reseeding of disturbed areas may have short- and long-term effects on adjacent agricultural areas. Erosion and loss of topsoil could occur also due to storm water runoff from impervious surfaces at the project facilities (see also Impact DE.6 in Section 5.3).

Placement of staging areas on agricultural lands would also disturb or damage crops or topsoil, which is considered an adverse impact to agriculture.

Mitigation Measures

AG-4 *During construction, trenches shall be backfilled by the Applicant in such a manner as to retain the topsoil characteristics. Where soil is disturbed on lands used for agricultural purposes, topsoil shall be stockpiled and replaced on top of trenches and excavations after the backfill operations to allow rapid revegetation of these lands following construction.*

AG-5 *Upon completion of construction, areas disturbed by the project (including trenching or placement of staging areas) within agricultural grazing areas shall be re-seeded by the Applicant with a seed mixture acceptable to affected landowners.*

AG-6 *All offsite staging areas shall be restricted to areas already disturbed, when feasible, and where staging would be compatible with existing land uses.*

Implementation of Measures DE-8, DE-12, DE-18 and DE-19 (see Section 5.3, Drainage, Erosion and Sedimentation) would further reduce this impact.

Residual Impact

Implementation of the above mitigation measure will result in agricultural compatibility impacts considered *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
AG.4	Water pipeline construction activities have the potential to adversely impact agricultural lands through the spread of noxious weeds or wind-borne dust.	Class II

SLO County's Department of Agriculture identifies several noxious weed species that may exist within the pipeline corridor that could be spread by construction activities. The weeds include but are not limited to, purple starthistle, yellow starthistle and skeletonweed. These noxious weeds have the potential to invade rangelands and open grasslands, degrading the forage quality and hindering access for both humans and livestock. Spread of noxious weeds has the potential to occur during the construction phase of the project as trenching and other equipment is transferred from one area of the project to another (such as from public road right-of-ways onto private land).

Mitigation Measures
Implement mitigation measures AQ-1 and AQ-2 to minimize the airborne transport of seeds.

AG-7 *Prior to construction, the Applicant shall coordinate with the Agricultural Commissioner's Office to conduct a pre-construction site evaluation for purple thistle, yellow thistle and skeletonweed.*

- Based on the pre-construction survey, the Applicant shall prepare a map showing areas of noxious weed infestation on lands both within and adjacent to the proposed project corridor, corridor access routes, and staging areas.

- The Applicant shall implement equipment wash stations and other pertinent noxious weed control recommendations based on the above required map.

- The Applicant shall perform post-construction surveys during the spring growing season immediately following each phase of project construction to verify whether the spread of noxious weeds has occurred.

- If the post-construction survey identifies spread of noxious weeds, the Applicant shall coordinate with the affected landowner and the County Department of Agriculture to implement an appropriate eradication program.

AG-8 *During construction, topsoil shall be segregated and replaced relative to its original distribution. To the maximum extent feasible, excavated materials shall be replaced in the same location they were removed from, and shall not be transported offsite.*

AG-9 *Prior to construction, the Applicant will enter into a Quarantine Compliance Agreement with the San Luis Obispo County Agricultural Commissioner's Office for the prevention of movement of skeleton weed.*

Residual Impact
Implementation of the above mitigation measure will result in agricultural compatibility impacts considered *not significant with mitigation* (Class II).

5.13.4.2 Raw Water Option

Agricultural resources impacts associated with the Raw Water Option are similar to those for the Treated Water Option – Impacts AG.1 through AG.4. All outlined mitigation measures (Measures AG-1 through AG-9) shall be implemented to mitigate the impacts to insignificant levels. Implementation of these mitigation measures will result in agricultural compatibility impacts considered *not significant with mitigation* (Class II) for the Raw Water Option as well as for the Treated Water Option.

5.13.5 Alternatives Impacts and Mitigation Measures

5.13.5.1 No Project Alternative

With the No Project Alternative, agricultural practices along the pipeline corridor would remain unimpeded. Therefore, no adverse impacts to agricultural resources are anticipated as a result of the No Project Alternative.

5.13.5.2 NWP 1997 EIR Alternative

Impacts from this alternative would be similar to the proposed project - Impacts AG.1 through AG.4. There is an additional impact expected under this alternative, it is described below.

Impact	Impact Description	Residual Impact
AG.5	The pipeline alignment would displace some vineyards and orchards during construction.	Class III

The project corridor goes through areas with orchards and vineyards. Some of the plants in these areas would need to be removed to accommodate the pipeline ROW. Once the pipeline is in place, replacement of these crops within a 30-foot permanent easement would likely not be possible because the root systems of the plants could interfere with the operation of the pipeline. The loss of portions of orchards and vineyards is adverse impact, however because only a small amount of acreage would be affected, the potential long-term loss of orchards and vineyards would be considered *adverse but not significant* (Class III).

Mitigation Measures
No mitigation measures are necessary.

Residual Impacts
The residual impacts would be insignificant (Class III).

5.13.5.3 Phased Raw and Treated Water Alternative

This alternative would be constructed in a phased approach, starting out as a raw water project as described in Section 2.4.2 (Figure 2-2). Upon completion, it would transition into a treated water project as described in Section 2.4.1 (Figure 2-1). Impacts associated with this alternative would be identical to the impacts identified for the proposed project. Refer to discussions of impacts AG.1 through AG.4, and implement mitigation measures AG-1 through AG-9.

5.13.6 Cumulative Impacts

Over a period of time, cumulative impacts may collectively create more significant impacts than can be seen with a single project. Several other projects have been identified for their similarity in impacts and their locality within the local region as appropriate under the cumulative development scenario.

The projects outlined in the cumulative development scenario include the Monterey County Salinas Valley Water Project, and several small roadway or development projects that would not adversely impact agricultural resources. There is the potential for one or more of the projects to be constructed in conjunction with each other – thereby cumulatively increasing potential agricultural compatibility concerns along the proposed project route. However, no farmland would be lost during construction of the NWP pipeline system. Therefore, the proposed project would not contribute cumulatively to a loss of farmland in California.

5.13.7 Mitigation Monitoring Plan

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
AG-1	Prior to and during construction, the Applicant shall coordinate construction activity time schedules with all owners of agricultural operations adjacent to the construction site. All property owners shall be notified 30-days in advance of the construction activities occurring in the vicinity of their operations.	Submit lists of owners to the agency	Dept of P&B or approved monitor	On-site monitoring. Review of the notices to the owners. Review complaints if any.	Prior and periodically during construction
AG-2	Prior to construction, the Applicant shall coordinate with landowners to discuss the timing of pipeline construction through agricultural areas containing livestock. Subject to negotiations with livestock owners, the Applicant shall either provide ample time for the livestock to be relocated during the pipeline construction, or construct a temporary fence around the pipeline corridor to keep livestock from entering the areas during construction.	Submit plans for stock relocation, and/or construction of temporary fences.	Dept of P&B or approved monitor	Review of the plans. Presence at the meeting(s) with the owners. Site visits to verify compliance.	Before construction During the meetings Periodically during construction.
AG-3	During construction, where construction activities require removal of existing fencing adjacent to grazing lands, a temporary fence shall be installed and maintained by the Applicant to keep grazing animals away from construction activities and trenching. Trenches shall be filled, covered, or enclosed by fencing at the end of each workday to reduce chances of animal injuries. Following construction, fences and posts shall be replaced.	Implement	Dept of P&B	Site visits to verify compliance	Periodically and after construction finish
AG-4	During construction, trenches shall be backfilled by the Applicant in such a manner as to retain the topsoil characteristics. Where soil is disturbed on lands used for agricultural purposes, topsoil shall be stockpiled and replaced on top of trenches and excavations after the backfill operations to allow rapid revegetation of these lands following construction.	Implement	Dept of P&B	Site visits to verify compliance	Periodically and after construction finish
AG-5	Upon completion of construction, areas disturbed by the project (including trenching or placement of staging areas) within agricultural grazing areas shall be re-seeded by the Applicant with a seed mixture acceptable to affected landowners.	Implement	Dept of P&B	Site visits to verify compliance	Periodically and after construction finish
AG-6	All offsite staging areas shall be restricted to areas already disturbed, when feasible, and where staging would be compatible with existing land uses.	Submit final plans for the placement of staging areas	Dept of P&B	Verify that the staging areas are located on already disturbed areas	Prior to Board of Supervisors approval to advertise for construction bids.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
AG-7	Prior to construction, the Applicant shall coordinate with the Agricultural Commissioner's Office to conduct a pre-construction site evaluation for purple thistle, yellow thistle and skeletonweed. Based on the pre-construction survey, the Applicant shall prepare a map showing areas of noxious weed infestation on lands both within and adjacent to the proposed project corridor, corridor access routes, and staging areas. The Applicant shall implement equipment wash stations and other pertinent noxious weed control recommendations based on the above required map. The Applicant shall perform post-construction surveys during the spring growing season immediately following each phase of project construction to verify whether the spread of noxious weeds has occurred. If the post-construction survey identifies spread of noxious weeds, the Applicant shall coordinate with the affected landowner and the County Department of Agriculture to implement an appropriate eradication program.	Present documentation of the communications with the Agricultural Commissioner's Office. Implement measure.	Dept of P&B	Verify during site visits	Periodically during construction, and after construction finish
AG-8	During construction, topsoil shall be segregated and replaced relative to its original distribution. To the maximum extent feasible, excavated materials shall be replaced in the same location they were removed from, and shall not be transported offsite.	Implement	Dept of P&B	Site visits to verify compliance	Periodically and after construction finish
AG-9	Prior to construction, the Applicant will enter into a Quarantine Compliance Agreement with the San Luis Obispo County Agricultural Commissioner's Office for the prevention of movement of skeleton weed.	Present a copy of Agreement documentation to the agency	Dept of P&B	Review of the Agreement	Prior to Board of Supervisors approval to advertise for construction bids.

Note: County PW Dept=Department of Public Works at the SLO County (The Applicant); Dept of P&B=Department of Planning and Building of the SLO County.

5.14 Recreational Resources

5.14.1 Environmental Setting

The proposed project has the potential to affect areas used for recreation in two primary locations: Lake Nacimiento, where domestic water would be drawn from, and various public trails and bike paths along the pipeline construction route. The recreational resources for all portions of the proposed project are described below.

5.14.1.1 Lake Nacimiento

Nacimiento Dam was constructed in 1957 by the Monterey County Flood Control and Water Conservation District (now Monterey County Water Resources Agency (MCWRA)). The dam and the reservoir continue to be operated by the MCWRA. Lake Nacimiento water is collected from a 324 square mile watershed. The principal inflow is from the Nacimiento River but southern drainages such as Las Tablas Creek also contribute significant amounts of runoff. At full capacity, Lake Nacimiento is 18 miles long and has 165 miles of shoreline. It covers an area of 5,727 acres and contains 377,900 af of water at its maximum elevation of 800-feet above sea level.

Reservoir Operations

MCWRA operates the dams at Lake Nacimiento and nearby Lake San Antonio to maximize conservation releases for groundwater recharge in the Salinas Valley. According to MCWRA, Agency staff considers the following priorities when developing reservoir release schedules: 1) Provide maximum groundwater recharge for the entire Salinas Valley; 2) Operate lakes to provide recreation benefits; 3) Provide for the needs of fish and wildlife; 4) Waste as little water as possible to evaporation or to the ocean. Table 5.14.1 shows the reservoir release schedule for both lakes for 2002.

The Federal Energy Regulatory Commission requirements for the operation of the power generating hydroelectric facility downstream of Nacimiento Dam dictate use of a conservative flood control rule. Because of this, under existing conditions, the amount of lake water held in Nacimiento Dam varies greatly depending on the time of year. The flood rule curve used by MCWRA since 1988 and shown in Table 5.14.2 stipulates the maximum allowable amount of water (in acre feet) that can currently be retained in Lake Nacimiento by month throughout the year. By October 1, for a 6-month period, water is released from Nacimiento Dam in order to create sufficient space to collect runoff from an extreme rainfall event.

Recreational Activities

In addition to its operations as a flood control and water supply facility, Lake Nacimiento provides a benefit as a recreational facility. The lake is popular for a multitude of recreational activities including bass and other recreational sport fishing, water skiing, swimming, camping, and hiking. Lake Nacimiento draws visitors from many areas for its recreational sport fishing opportunities.

Table 5.14.1 Reservoir Release Schedule for 2002

	Combined Releases (cfs)[c,d]	Nacimiento[a] Total Flow (cfs)	Nacimiento[a] Net Flow (cfs)	San Antonio[b] Total Flow (cfs)	San Antonio[b] Net Flow (cfs)	Nacimiento Storage (af)	Nacimiento Elev. (feet)	San Antonio Storage (af)	San Antonio Elev. (feet)
1-Jan[e]						205,281	764.65	290,937	771.8
	53	57	50	9	3				
1-Feb[e]						219,375	768.1	299,567	773.5
	111	60	44	84	67				
1-Mar[e]						219,375	768.1	297,507	773.1
	250	48	25	248	225				
1-Apr						223,630	769.1	288,665	771.3
	343	310	293	69	50				
1-May						209,050	765.6	286,407	770.8
	410	233	190	275	220				
1-Jun						196,775	762.5	274,900	768.5
	523	262	262	327	261				
1-Jul						178,795	757.9	256,760	764.7
	584	435	382	273	202				
1-Aug						151,845	750.3	239,852	760.8
	560	444	400	221	160				
1-Sep						124,313	741.6	226,151	757.6
	525	430	400	171	125				
1-Oct						98,496	732.5	215,918	755.1
	440	417	400	70	40				
1-Nov						72,624	721.7	211,604	754.0
	325	312	305	36	20				
1-Dec[c]						53,885	712.1	209,446	753.4
	200	54	50	159	150				
1-Jan-03[c]						50,533	710.2	199,573	750.9
					SUBTOTALS:	154,748		91,364	
					Total Losses[f]:	**305,505 af**			
					Reservoir Releases[g]:	**263,990 af**			

Notes:

[a] Nacimiento Dam and Lake Nacimiento, Storage Capacity 377,900 acre-feet.
[b] San Antonio Dam and Lake San Antonio, Storage Capacity 335,000 acre-feet.
[c] Reservoir operation committee will make recommendations to reduce releases prior to Memorial Day, 4th of July, and Labor Day holiday periods to benefit recreation.
[d] Conservation releases will end for season when natural flow occurs in the Salinas River channel.
[e] Periods when elevations are often influenced by inflow/runoff.
[f] Total losses are the average for the period, includes evaporation and releases, and may vary on any given day.
[g] Reservoir releases are the average for the period, include flow from only dam outlets, and may vary on given day.

cfs=cubic feet per second; af=acre feet

Source: Monterey County Water Resources Agency, 2002

Table 5.14.2 Nacimiento Rule Curve, 1994 – California Division of Safety of Dams (DSOD) Certificate of Approval

Date	Elevation
October 1	800.0
October 15	795.0
November 15	792.0
December 15	787.0
January 1	782.5
February 1	782.5
March 1	782.5
April 1	800.0

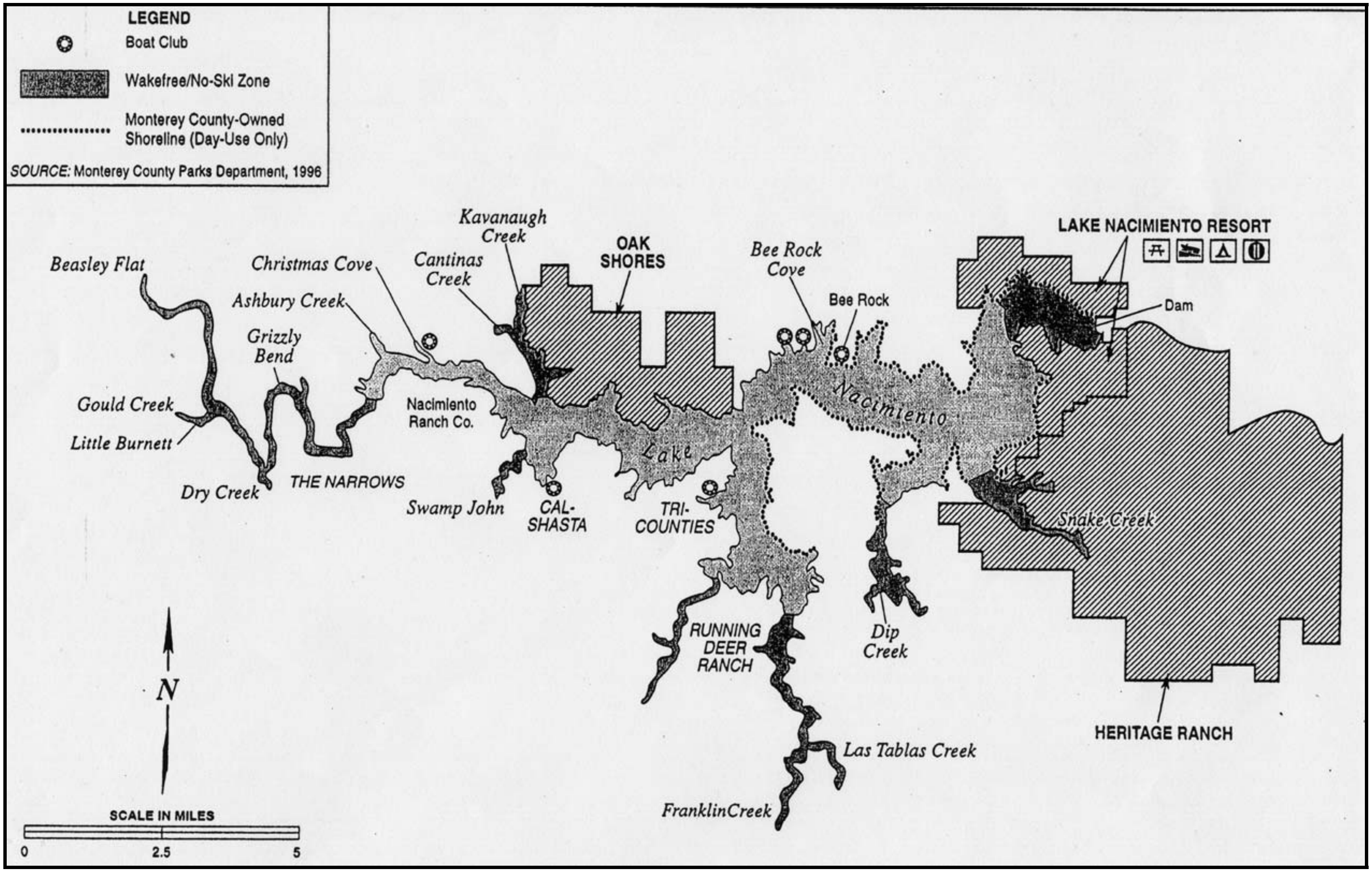
Source: Boyle Engineering 2002

There are several types of desirable species of fish found in the lake, which predominantly include white bass, largemouth bass, smallmouth bass, black crappie, and bluegill. Lake Nacimiento allows most kinds of boating, (e.g., power boating, water skiing, sailing, fishing) within the restrictions of state boating laws. Various private and public developments provide recreational opportunities along the 165 miles of Lake Nacimiento shoreline. General public access to the lake for recreation is limited almost exclusively to the Lake Nacimiento Resort area, although there are approximately 20 authorized ramps and 150 licensed docks around the shore (refer to Figure 5.14-1) In addition, the scenic and natural amenities of the lake and the surrounding countryside provide a recreational attraction for area residents and tourists.

Recreational activities at Lake Nacimiento can be influenced by lake levels. As a result of flood control and conservation operations, there are dramatic fluctuations in lake levels throughout the year. Precipitation also greatly influences reservoir elevation and annual fluctuations on the order of half the total volume of the reservoir are not uncommon (Final EIR, Lake Nacimiento Resort Specific Plan, 1984 [taken from NWP 1997 EIR]). For mixed-use boating, the California Department of Parks and Recreation recommends a maximum density of one boat for every 4 or 5-acres of water surface area. At maximum pool surface the lake can accommodate 1,145 boats at one time. Towards the end of the peak summer season, the pool surface diminishes as the water level drops, and the number of boats which can be accommodated safely is reduced. Historically, the pool surface on Labor Day weekend is typically between 4,500 acres and 4,600 acres and can accommodate approximately 900 boats at one time (Final EIR Lake Nacimiento Resort Specific Plan [taken from NWP 1997 EIR]). Although still accessible to recreation users, drawdowns below 748 feet diminish the quality of the lake’s recreation, including boating accessibility, sport fish abundance, and shoreline use.

NWP 1997 EIR]). When lake levels reach 777-feet, the dock near the condominiums (Condo Dock) cannot be used (Johnson 1996 [taken from NWP 1997 EIR]). The Main Launch ramp at Lake Nacimiento Resort can be utilized until lake levels reach 767 feet, at which time the ramp is moved to a launching area that can access the lake to its 10,000 af minimum pool (Heath 1996 [taken from NWP 1997 EIR]).

Figure 5.14-1 Lake Nacimiento Recreation Areas



Source: NWP 1997 EIR.

The nature of the boat launch ramps at Lake Nacimiento naturally limits the number of boats that can access the lake as the elevation decreases. Monterey County Parks Department (MCPD) operates both a high lake level and low lake level boat launch (McMahon 1996 [taken from Owners of property at Heritage Ranch and Oak Shores and their guests may use the marinas and lake access facilities at those developments. The boat launch ramp at Heritage Ranch can function until lake levels reach 735 feet. Oak Shores launch is constructed to function until the lake elevation drops to 725 feet. MCPD's North Ramp cannot be used once lake elevations drop to 719 feet. Other area residents with property around the lake and several private boat clubs also provide lake access. Table 5.14.3 lists existing major public and private boat launches and the minimum lake level elevation at which they can continue to function.

Table 5.14.4 compares elevation, capacity, and surface area of the lake; this table also provides an explanation for particular elevations as they are discussed throughout the remainder of this section.

The Monterey County Department of Parks tracks reservoir usage on a weekly basis and issues an annual Revenue and Attendance Report. On average, Lake Nacimiento receives approximately 200,000 visitors each year (San Luis Obispo County Flood Control and Water Conservation District 2002). Figure 5.14-2 shows the areas which would become dry lake bed at lake levels of 760 feet to 740 feet and when the lake reaches "minimum pool".

Minimum pool is defined as the amount of water required to remain in storage in the lake. The 1959 Agreement that affects use of Lake Nacimiento by the San Luis Obispo County Flood Control and Water Conservation District states:

> *"In order to assure the San Luis Obispo District of its rights and entitlements to water under the provisions of this agreement, Monterey District shall maintain a minimum storage pool above the present low level outlet works at Nacimiento Dam of 12,000-acre-feet in extent on September 30th of each year; and that in no event shall Monterey District make downstream releases from Nacimiento Reservoir at any time the total quantity of water in storage above the elevation of the low level outlet works is equal to, or less than, 12,000-acre-feet; provided that, in those years in which the deliveries of water to San Luis Obispo District are less than 17,500 acre-feet, Monterey District shall not be required to maintain a minimum pool above the elevation of the present low level outlet works in excess of 50% of the projected seasonal demand for water by San Luis Obispo District."*

Minimum pool, for purposes of the 1959 Agreement, is considered to be 22,000 af (12,000 af reserve for San Luis Obispo County Flood Control and Water Conservation District and 10,000 af minimum pool).

Figure 5.14-3 displays the relationship between historical lake level elevations and the number of visitors at Lake Nacimiento over a 16-year period (1968–2001).

Although historical data shows that there is not always a direct correlation between lake levels and the number of lake visitors, there appears to be a general trend that suggests visitation decreases as lake levels decrease.

Table 5.14.3 Water Surface Elevations at which Boat Docks Can No Longer Function

Boat Launch Area	Lake Level Elevation (in feet above sea level)
MCPD Condo Dock (public)	777
MCPD – Lake Nacimiento Resort Main Launch (public)	767
Heritage Ranch (private)	735
Oak Shores (private)	725
MCPD North Ramp (public)	719
MCPD – Lake Nacimiento Resort Main Launch (public)	680

Source: Monterey County Parks Department 1996 (taken from NWP 1997 EIR).

Table 5.14.4 Surface Area and Reservoir Capacity by Elevation at Lake Nacimiento

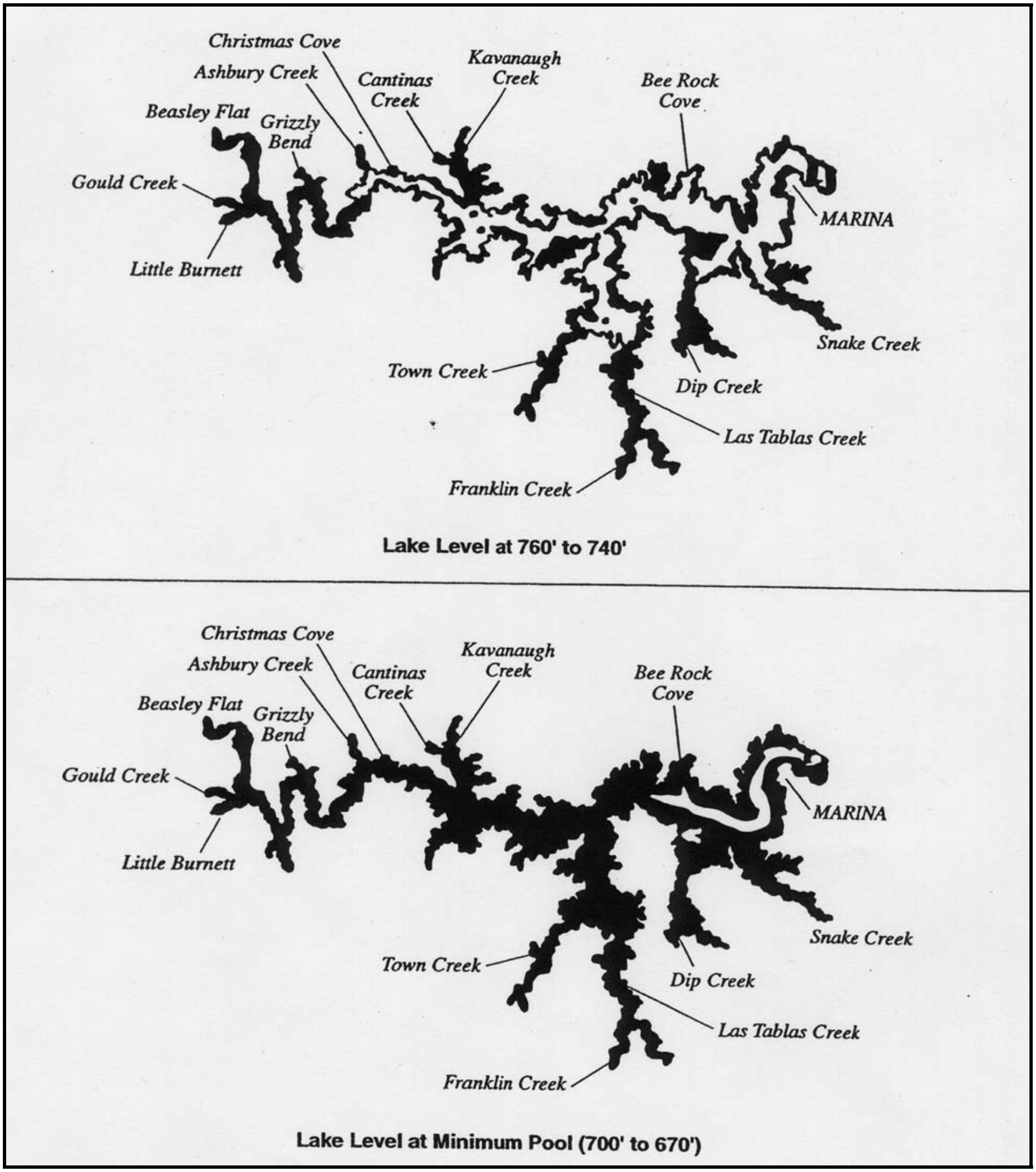
Elevation (feet)	Capacity (af)	Surface Area (acres)
800[a]	377,900	5,727
790	323,050	5,244
780	272,900	4,786
770[b]	227,500	4,289
760[c]	186,950	3,829
750	150,950	3,362
740[d]	119,450	2,939
730[e]	92,150	2,520
720	69,000	2,108
710	50,150	1,670
700	35,450	1,292
690[f]	24,300	960
680	16,150	680
670[g]	10,300	520

Notes:

[a] Spillway elevation.
[b] During winter months, maximum elevation is slightly above 780 feet, due to flood rule curve.
[c] Approximate elevation of primary public boat launches is 766 feet.
[d] Elevation 748 and below is considered a "drought condition" per agreement between MCWRA and the California Department of Fish and Game.
[e] Elevation above which most boat launches are operational.
[f] "Minimum pool" is at elevation 687.8; lowest elevation at which water is available to release to MCWRA.
[g] Location of Low Level Outlet Works at Nacimiento Dam.

Source: Nacimiento Water Supply Project: Report on Recreational Use at Lake Nacimiento, June 2002.

Figure 5.14-2 Areas Affected by Lake Level Fluctuations



Source: NWP 1997 EIR.

5.14.1.2 Proposed Pipeline Route

The main component of the proposed project is a pipeline system that would deliver water from Lake Nacimiento to various water purveyors. The proposed pipeline parallels or traverses bicycle lanes, public trails, and parks along various public roads throughout SLO County.

Public Parks and Trails

SLO County provides recreational opportunities in park settings in various locations throughout the County (SLO County 1996) and is home to several miles of multiple use public trails. The following is a summary of proposed and existing recreational facilities are located within or near the proposed pipeline route corridor (SLO County 1991).

Lake Nacimiento Loop Trail – Proposal is for a trail encircling Lake Nacimiento coordinated with the alignment of Lakeview Drive along much of its route. The trail could connect to the private trail systems within Oak Shores, Heritage Ranch, and other private residential developments around the lake. There are no permanent facilities associated with the proposed project that would interfere with the proposed route of the Lake Nacimiento Loop Trail.

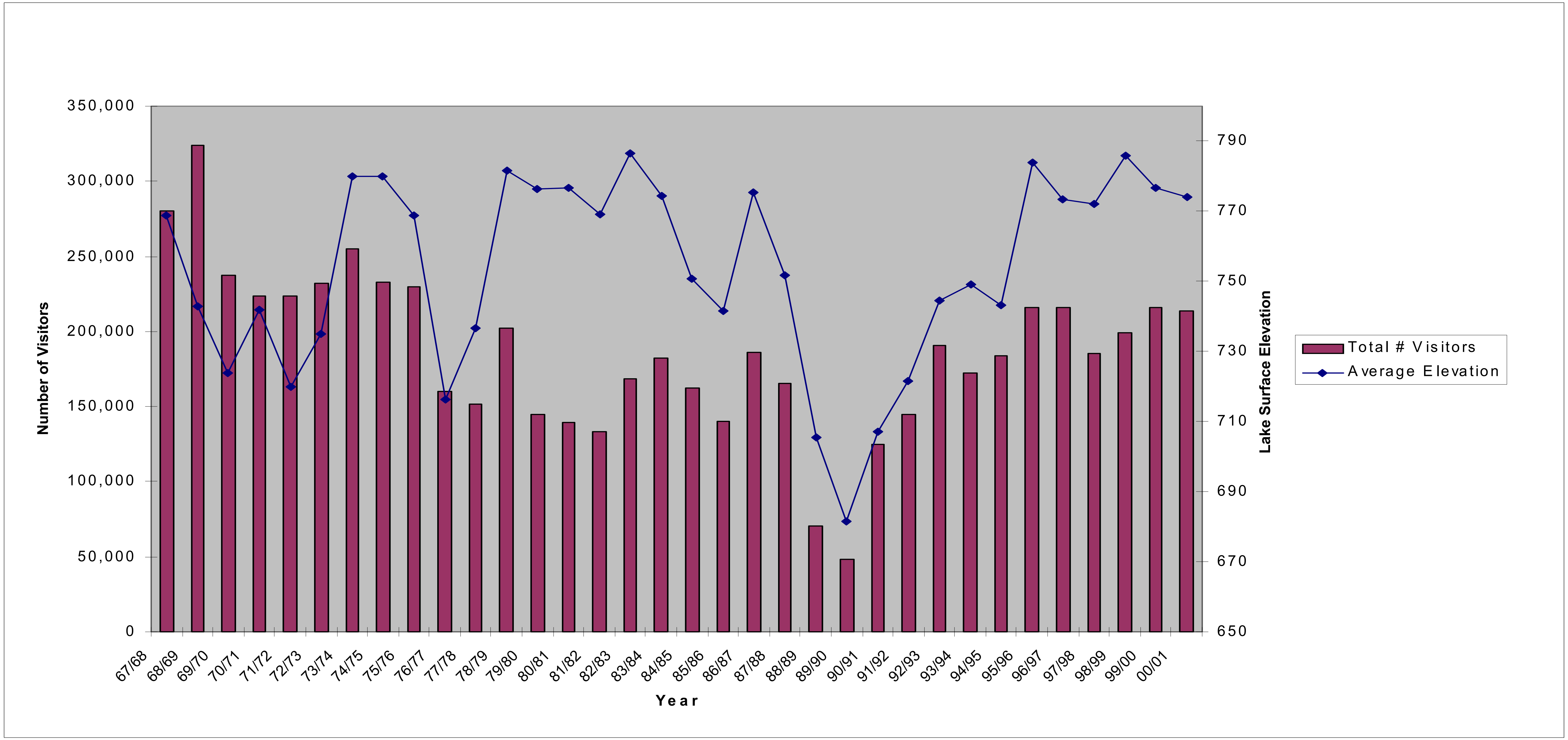
San Juan Bautista de Anza Historic Trail – SLO County contains a portion of this designated National Historic Trail, which stretches 1,300 miles from Arizona to San Francisco. Within the County, the route follows Highway 1 north until Price Canyon, turning inland until it reaches San Luis Obispo and Highway 101, which it follows to Paso Robles. From this point the trails turns northwest and enters Monterey County near San Antonio Dam, with a majority of the route traversing Camp Roberts property. This adopted trail would not be impacted by permanent infrastructure facilities associated with the proposed project. In the portions located near Lake Nacimiento, the trail is located primarily located along Nacimiento Lake Drive and not near the proposed pipeline corridor.

Salinas River Trail System – Proposal for a trail from Santa Margarita Lake to the Monterey County line. Segments could include: Santa Margarita Lake to Santa Margarita, Santa Margarita to Garden Farms, Garden Farms to Atascadero, Atascadero to Templeton, Templeton to Paso Robles, Paso Robles to San Miguel and San Miguel to the Monterey County line. Several portions of this adopted trail system are located along both sides of the Salinas River in areas proposed for river discharge facilities (in the Raw Water Option).

Bicycle Lanes

Bicycle lanes can be classified into three different categories. Class I bicycle lanes are separate from public road lanes and are usually designated specifically for non-vehicular traffic only. Class II bicycle lanes are located within a public roadway, separated by a striped line on the outside right edge of the pavement.

Figure 5.14-3 Lake Usage and Lake Elevation Relationship



Sources:
Monterey County Parks Department 2003; Lake Nacimiento and Lake San Antonio Annual Revenue and Attendance Report 1968 through 2001;
D.L. Hardan and C. Alakel 2002; Nacimiento Reservoir- Reliability as a Water Source for San Luis Obispo County.

Class III bicycle lanes include those routes that may be frequented by bicycle traffic, however, there is no specified bike lane and bicyclists often are forced to ride along the shoulders of public roads. The pipeline reaches containing bicycle lanes are described below.

From Rocky Canyon Road to Santa Margarita (Sta. 1830+00-2150+00): This reach leaves the pump station at Rocky Canyon Road and Halcon Road and primarily follows El Camino Real right of way (ROW) before it reaches Wilhelmina Avenue in Santa Margarita. Class II bicycle lanes are located on both sides of El Camino Real and are used by both commuter and recreational bicyclists.

Santa Margarita to the Cuesta Tunnel (Sta. 2150+00-2320+00): Within this reach, the pipeline continues on El Camino Real and crosses Highway 101 to the west. The pipeline then parallels the west side of Highway 101 where it joins the existing Nacimiento pipe prior to the north entrance of Cuesta tunnel. Along this reach, the pipeline stays on the left (eastern) side, within the shoulder of El Camino Real. Class II bicycle lanes are located on both sides of El Camino Real and are used by both commuter and recreational bicyclists.

Cuesta Tunnel to San Luis Obispo WTP (Sta. 2370+00-2520+00): Several sections of this reach of pipeline would traverse and run down the center of Stenner Creek Road. Stenner Creek Road runs through California Polytechnic (Cal Poly) State University property and is used for a variety of recreational activities including hiking, bicycling, and horseback riding.

San Luis Obispo WTP to Highway 227/Santa Fe Road (Sta. 2520+00-2935+00): Within this reach, the main pipeline continues down Stenner Creek Road, turns easterly and parallel to Highway 1 (N. Santa Rosa Street) for a short distance, crossing Highway 1 onto Highland Drive, turns left (south) onto Patricia Drive, and then right (west) onto Foothill Boulevard. Class II bicycle lanes are located along Highway 1 and along Foothill Boulevard. Highland Drive and Patricia Drive are located within residential neighborhoods and do not have designated bicycle lanes, however, due to the proximity to Cal Poly State University, the above roads are all considered heavily used bike routes. From Foothill, the route turns easterly across open fields and goes through Laguna Lake Community Park before crossing Madonna Road onto Dalidio Drive. Here it crosses Highway 101, continuing on Prado Road extension, then enters an open area adjacent to Highway 227. It turns south on Highway 227 for a short distance to the intersection of Highway 227 and Santa Fe Road. Bicycle routes along this stretch of the proposed pipeline corridor include Class II bicycle lanes located on both sides of Highway 227.

Highway 227 (Sta. 2935+00-3037+00): The main line serving Fiero Lane Water Company and Edna Valley MWC follows Highway 227 down to the Edna Valley MWC turnout. The pipeline would be located on the right (western) shoulder of the highway. Class II bicycle lanes are located along the western shoulder of Highway 227. In addition, a Class I separate bicycle path is located along the Highway in between Crestmont Drive and Los Ranchos Road.

5.14.2 Regulatory Setting

5.14.2.1 Lake Nacimiento

MCWRA owns Lake Nacimiento and leases land to Lake Nacimiento Resort (Water World Resorts, Inc.). The Resort and its operations are bound by the conditions of their lease agreement with MCWRA. The Heritage Ranch Owners Association Rules and Regulations regulate activities within their community. MCWRA also owns parcels of land around the lake, although few have lake access. Most of the land surrounding the lake is privately owned and is zoned for either residential, recreation, or permanent open space. Recreation on Lake Nacimiento and within the Resort is governed by SLO County Ordinance 1650, which is codified in Title 11 of the San Luis Obispo County Code. Title 11 addresses various matters of conduct at Lake Nacimiento such as maintaining boat standards, establishing speed zones, regulating fireworks usage, trash disposal, etc.

Boat ramps and docks on the lake must be licensed by MCWRA. Boat permits are issued by MCPD, which is responsible for monitoring and controlling boat use on the lake under an SLO County Ordinance that describes a policing agreement between the SLO County Sheriff and MCPD. In addition to boat permits, the Homeowners' Associations at Heritage Ranch and at Oak Shores issue one-day and annual launching permits for the facilities at those developments.

The State of California Department of Health Services (DHS) regulates the public health and safety of public water supplies. Historically, swimming and water-skiing have existed at Lake Nacimiento because the reservoir is not used directly as a water source for domestic water use. On September 28, 1997 Assembly Bill (AB) 1460 was approved by the Governor to amend Section 115825 of, and to add Section 115841 to, the Health and Safety Code, relating to water. Section 115825 was amended to read:

> *Except as provided in Sections 115840 and 115841, recreational uses shall not, with respect to a reservoir in which water is stored for domestic use, include recreation in which there is bodily contact with the water by any participant.*

Section 115841 was added to allow for Lake Nacimiento water to be used for human consumption while still allowing for recreational activity in which there is bodily contact with the water by participants, provided certain requirements are met, as follows:

> *Recreational activity in which there is bodily contact with the water by any participant shall continue to be allowed in Nacimiento Reservoir in accordance with all of the following requirements.*

These requirements, which do not affect recreation at the lake, include provisions dealing with water treatment, water discharge into groundwater basins, and other regulation compliance. Therefore, the project would not place any limits on recreational use of Lake Nacimiento. Appendix D provides the entire text of AB 1460, including the mandatory requirements.

The DHS relies on *Public Health Guidelines for Recreational and Other Development at Reservoirs Used as Sources of Domestic Water Supply* (1974), and the Draft *Guidelines for Evaluating Applications for Recreational Use Permits at Domestic Water Supply Reservoirs* (2000) to provide guidance for managers of domestic water supply reservoirs which have existing or proposed recreational uses. The MCWRA Water Rights Permit (Number 10137) is for the purpose of irrigation, domestic, municipal, industrial, and recreational uses. The MCWRA operated Lake Nacimiento for all of these uses. In response to DHS requirements and in order to facilitate the revision of the Water Supply Permit of each participant, the SLO County Flood Control and Water Conservation District prepared a recreation plan for Lake Nacimiento (SLOFCWCD 2002). This plan, *Nacimiento Water Supply Project: Report on Recreational Use* *at Lake Nacimiento* (refer to Appendix D), reviewed the existing and potential lakeside uses at Lake Nacimiento and identified appropriate monitoring criteria. This report, approved by the DHS, did not identify any limitations to existing or potential recreational activities as a result of public health requirements.

5.14.2.2 Proposed Pipeline Route

The San Luis Obispo County General Plan Parks and Recreation Element identifies the goals, objectives, policies, and programs related to the provision of parks, trails, beach access, golf courses, and natural areas countywide. In addition, many jurisdictions, including Federal, State, County, and municipal governments are involved in planning, developing, and operating public trails within SLO County. Federal and State governments have adopted legislation to protect existing trails and to provide new trails and related facilities. The National Trails System Act of 1968 plans a nationwide system of interstate riding and hiking trails. At the State level, the Department of Parks and Recreation has prepared the California Recreational Trails System Plan. At the local level, SLO County has developed the County Trails Plan to ensure coordination with State and Federal plans.

5.14.3 Significance Criteria

Section 15064.7 of CEQA states that each public agency is encouraged to develop thresholds that the agency uses in the determination of the significance of environmental effects. The section further states that “A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant.” Appendix G of the CEQA Guidelines defines a project as having a significant recreational impact on the environment if the proposed project conflicts with established recreational use of an area.

For the purposes of this analysis, recreational resources were considered to result in a significant impact if the proposed project would result in any of the following:

<u>Criteria 1:</u> An interruption of recreational uses at existing facilities at Lake Nacimiento during the peak recreational use season (May 1 though September 30) due to the lowering of the lake to levels below 748 feet an additional 5.5 days, for a total period of 60.5 days or greater. The following is a detailed explanation of how the above threshold was established:

- For the purposes of this analysis the significance criteria for effects to recreational resources at Lake Nacimiento is based on measured surface water elevation. The California Department of Fish and Game (CDFG) uses a threshold of 748 feet as minimum elevation, below which recreational opportunities can be substantially reduced. 748 feet is the surface water elevation level which indicates a period of sustained drought, as defined by the Memorandum of Agreement By and Between CDFG and MCWRA, dated November 13, 1985. In addition to defining periods of sustained drought, the water surface elevation of 748 feet indicates the limits of operation of public boat launches at Lake Nacimiento. Once lake levels reach the 748-foot threshold, two of the main public boat launches at Lake Nacimiento are not able to function for recreational or other purposes. Several of the remaining boat launches are inoperable at elevations just below the 748-foot threshold. Furthermore, the spawning success of many species of fish could be reduced when the lake level drops below non-drought levels and fish that spawn in and use emergent plants are no longer able to rely on this vegetation.

– As previously discussed, current annual reservoir operations and variable annual precipitation cause the surface elevation of Lake Nacimiento to fluctuate each year. Depending on precipitation and reservoir operation, water levels frequently drop below the 748-foot recreational threshold under existing conditions. Historical lake elevation data, from 1959 through 2000, shows that the lake level drops below the 748-foot threshold an average of 146 days per year (or approximately 40% of each year). Of these 146 days, the lake level drops below the threshold, on average, approximately 55 days during the peak recreation season (May 1 through September 30). For the purposes of this analysis, recreational impacts were considered to be significant if this recreation season average of 55 days was exceeded by 10% or more. In other words, recreation impacts are significant if the lake levels drop below the 748-foot threshold by an additional 5.5 days or more (for a total of 60.5 days or greater) during the peak recreation season.

<u>Criteria 2:</u> Significant diminishment of lake surface, where recreation occurs, as a result of the infrastructure improvements (such as the installation of a log boom near the inlet area) required for the proposed project.

<u>Criteria 3:</u> A temporary disruption of land-based recreational resources (such as access to public parks, trails, or bicycle lanes) for a period of more than 2 days, for which there is no mitigation:

– Some of the primary recreational resources along the proposed project route are the numerous Class II bicycle lanes along County and City roadways. The threshold of significance for impacts to these recreational resources would be if the bicycle lanes along major roadways were closed for duration greater than 2 days to allow construction of the proposed project. A significant impact to recreational resources would also result if any bicycle lanes were to be damaged (pavement or paint) on a long-term basis as a result of the project.

<u>Criteria 4:</u> Permanent displacement of existing or proposed, adopted County trails:

– The County Trails Plan (1991) and the Draft Parks and Recreation Element (1996) identify several trail systems that have either been adopted or are being proposed. The threshold of significance for impacts to these recreational resources would be if any adopted public trails would have to be permanently relocated as a result of the proposed project and any of its components or infrastructure.

Timing is critical to determining the level of impact to recreational resources. Proposed project implementation (i.e., withdrawal of water) may occur during months when the recreational use of all facilities is high (May 1 through September 30). The timing of project construction activities and the subsequent scheduled timing of reservoir releases has the potential to result in greater disruption to recreational resources and facilities than during those months of the year when lake use is typically lower and fewer recreational bicyclists are anticipated to use the bicycle lanes along the proposed project route (i.e., during the wet season).

5.14.4 Proposed Project Impacts and Mitigation Measures

The following sections discuss potential impacts to recreation, mitigation measures (where appropriate), and residual impacts associated with the proposed project options. Impacts of the proposed water pipeline were assessed based on an inventory of the existing recreational resources and past and current resource use patterns occurring along the project corridor - compared to the schedule, duration, and timing of construction as well as the timing of water releases from the reservoir.

5.14.4.1 Treated Water Option

Impact	Impact Description	Residual Impact
REC.1	The partial relocation of a log boom 500 feet from the intake location would prohibit all recreational activity on approximately 2 additional acres of lake surface area.	Class III

Assembly Bill 1460, approved September 28, 1997, authorizes recreational activity in which there can be bodily contact with the water in Lake Nacimiento, in accordance with certain requirements. These requirements include protection of the water supply by providing a closed zone, 500 feet from the intake location, within which all recreational use is prohibited. This area would be marked with buoys and a cable line to prevent boats from entering the closed area. The shoreline extending 500 feet on either side of the intake would be closed to entry by fencing, posting notices, and security patrols.

The current location of the log boom prohibits recreational uses on approximately 25 acres of lake surface area. Partial relocation of the log boom 500 feet from the intake location would result in a recreational loss of approximately 2 additional acres of lake surface area in which no boating, fishing, or swimming could occur (SLO County, 2003). Average historic elevations at Lake Nacimiento from 1958 to 2001 were approximately 752-feet, which is the equivalent to a lake surface area of approximately 3,458-acres. Two acres represents less than 0.06% of the total average lake surface area available for recreation, therefore, impacts to recreation due to partial relocation of the proposed log boom are adverse but not significant.

Mitigation Measures
No mitigation measures have been identified.

Residual Impact
Because of the small percentage of surface area potentially excluded from recreational activities, recreation impacts due to the installation of a log boom 500 feet from the intake location are *adverse but not significant* (Class III).

Impact	Impact Description	Residual Impact
REC.2	Implementation of the proposed project could result in adverse impacts to recreational resources at Lake Nacimiento, as compared to historic conditions, due to the additional lowering of water levels to elevations below 748 feet during periods of drought.	Class III

In a study entitled, *Nacimiento Reservoir – Reliability As a Water Source for San Luis Obispo County* (2002), Boyle Engineering Corporation prepared a computer model, forecasting theoretical drawdown effects with the proposed project using data for the period of October 1958 to October 2001. The data points are plotted in the graph shown in Figure 5.14-4. This data is used in this section to illustrate and compare what effects the proposed project might have had on historic lake level fluctuations; in other words, if SLO County had taken its entitlement of 17,500 afy for the time period starting in 1958 through October of 2001.

The 2002 study developed assumptions based on historical reservoir operation patterns. Annually, Monterey County releases more than 230,000 afy from Lake Nacimiento in order to recharge downstream aquifers. Examination of the historical Nacimiento River gage data shows reservoir releases typically occur during the summer months. Using this data, Boyle Engineering evaluated the potential impacts that would have occurred to historic reservoir levels had the bulk of the SLO County water entitlement been released during the summer months. It was assumed that the full 16,200 af would be removed from Lake Nacimiento by the proposed project on the following seasonally adjusted delivery schedule (refer to Table 5.4.5).

Table 5.14.5 Proposed Project Seasonal Delivery Schedule

Month	% of Entitlement
January	7.4
February	7.5
March	7.5
April	7.5
May	8.5
June	7.5
July	11.6
August	9.5
September	8.5
October	8.5
November	7.5
December	8.5
Total	**100**

Source: Nacimiento Reservoir- Reliability as a Water Source for San Luis Obispo County 2002.

A similar study, entitled *Reliability Evaluation for the Nacimiento Water Supply Project*, was released in 1996 based on the previous Nacimiento Water Project design. The 1996 study used a smaller sample size and was based on different computer models with different assumptions and a different reservoir release schedule; consequently, it would not be appropriate to directly compare the results of these two studies.

The 2002 theoretical lake level model indicates that during wet and average rainfall periods, water deliveries associated with the proposed project would have resulted in water level differences of 2 feet or less. During periods of sustained drought conditions, the proposed project would result in lake elevation decreases of up to 12 feet. However, it should be noted that during severe drought years lake level decreases would be limited by the minimum pool elevation where NWP water deliveries would be suspended.

Figure 5.14-4 shows the impact of the proposed project on historic lake levels. Historical lake levels were summarized by Boyle Engineering (2002) and have shown that, in 196 months of 517 months, or approximately 38% of the time, lake elevations dropped to 748 feet or below (refer to Section 5.14.3 for discussion of significance criteria). Assuming implementation of the proposed project, 200 months of 517 months or 4 additional months during a 41-year period, lake elevations would be reduced to elevations of 748 feet or below. This represents an approximately 0.75% increase in the number of months that lake level elevations dropped below the 748-foot threshold.

Looking at a smaller sample size of only those months during the peak recreation season (May 1–September 30) yields the following results (refer to Table 5.14.6):

Under the existing setting, 2,241 days out of 6,426 days during the entire 41-year study period, lake elevations dropped to 748 feet or below during the peak recreation seasons.

Lake elevations dropped to 748 feet or below, during the peak recreation season, an average of 54.7 days.

Assuming implementation of the proposed project, 2,253 days out of 6,426 days during the entire 41-year study period, lake elevations would have dropped to 748 feet or below during the peak recreations seasons.

Table 5.14.6 Existing Conditions/Proposed Project as Compared to Significance Criteria

	Historical Conditions	Historical Conditions w/ Proposed Project	Increase/ Difference
Total Number of Days in Study Period[a]	6426	6426	N/A
Total Number of Days With Elevations At or Below 748-feet[b]	2241	2253	12
Yearly Average Number of Days With Elevations At or Below 748-feet[b]	54.7	55.0	0.3
Significance Criteria (days)	***N/A***	***60.5***	***5.5***

Notes:

[a] October 1958 through October 2001, days during the peak recreation season (May 1–September 30) only.
[b] Days during the peak recreation season (May 1- September 30).

Source: Nacimiento Reservoir – Reliability as a Water Source for San Luis Obispo County 2002.

Had the proposed project been implemented, lake elevations would have dropped to 748 feet or below during the peak recreation season an average of 55.0 days.

This represents an approximate 0.3-day increase in the average number of days lake levels would have reached elevations of 748 feet or below, well below the significance criteria of 5.5 additional days.

Based on the above evaluation, as compared to the historic setting, the proposed project would result in adverse but insignificant impacts to recreational resources. Although the proposed project would have increased the number of times that lake levels at Lake Nacimiento were below 748 feet from a historical standpoint, the lake levels would *not* have dropped below the 748-foot threshold by an additional 5.5 days or more (for a total of 60.5 days or greater) during the peak recreation season.

Mitigation Measures
No mitigation measures have been identified.

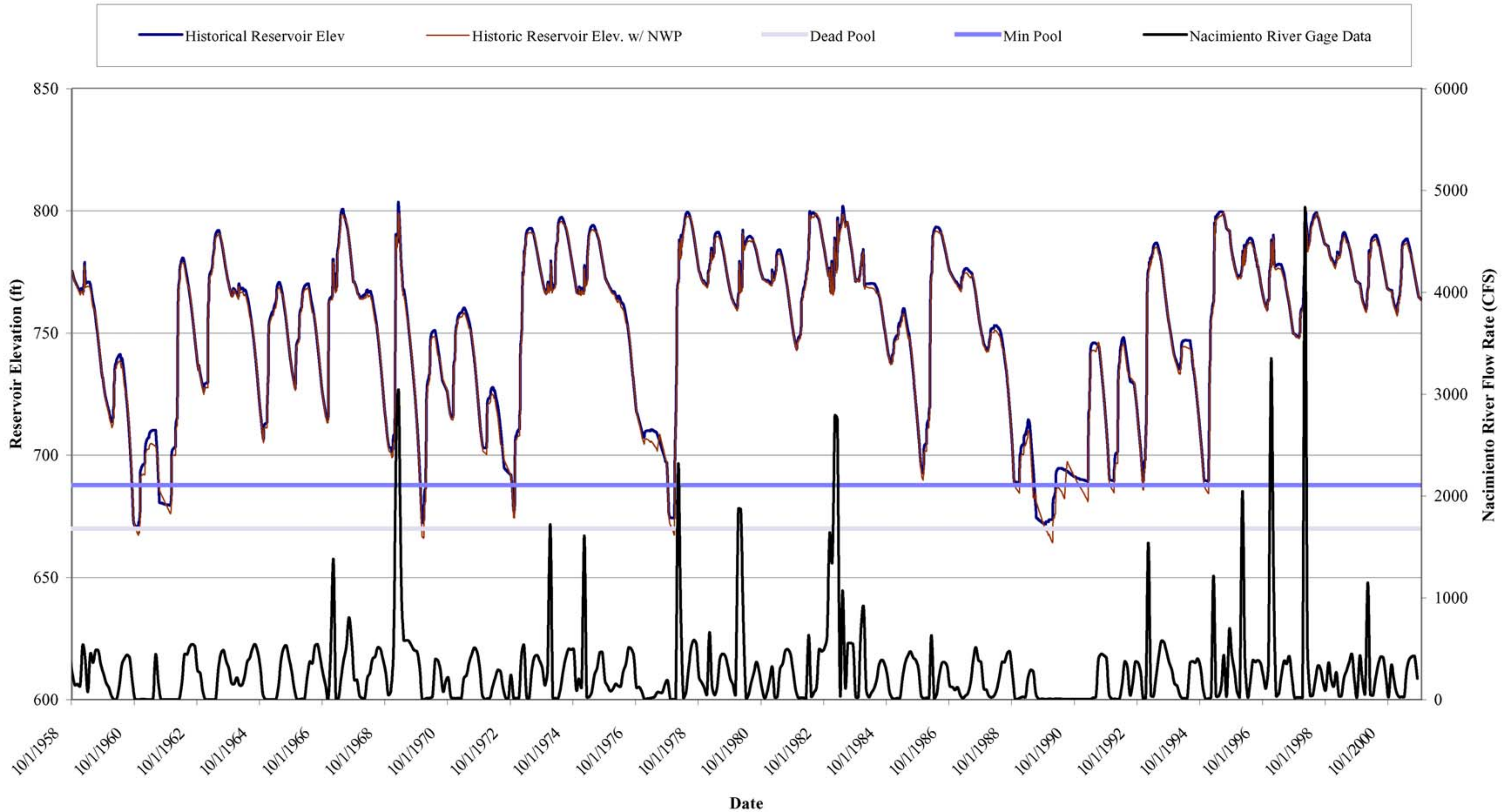
Residual Impact
Due to the insignificant increase in the number of days that lake level elevations dropped below the 748-foot threshold during the peak recreation season, recreation impacts associated with the proposed project's delivery schedule and subsequent lowering of lake level elevations are *adverse but not significant* (Class III).

Impact	Impact Description	Residual Impact
REC.3	Open trench construction along the following reaches would result in short-term impacts to bicyclists: Rocky Canyon Road to Santa Margarita, Santa Margarita to the Cuesta Tunnel, Cuesta Tunnel to San Luis Obispo WTP, San Luis Obispo WTP to Highway 227/Santa Fe Road, and Highway 227.	Class II

<u>Rocky Canyon Road to Santa Margarita:</u> There would be temporary impacts to commuter and recreational bicyclists from the construction along El Camino Real in the community of Santa Margarita. The bicycle lanes would primarily remain open during the construction of the route; however, short portions of the bicycle lane may be closed for brief (6 hour) periods in some locations to allow for the open trench construction. Bicyclists would be subject to traffic control through the construction zone, along with vehicular traffic. For safety purposes, bicyclists would not share a lane with motorists, but would be routed by flaggers either before or after the vehicular traffic passed the construction zone.

<u>Santa Margarita to the Cuesta Tunnel:</u> Temporary impacts would occur to recreational resources within this reach along El Camino Real as a result of the trenching construction. The bicycle lanes would primarily remain open during the construction of the route; however, short portions of the bicycle lane may be closed for brief (6 hour) periods in some locations to allow for the open trench construction. Bicyclists would be subject to traffic control through the construction zone, along with vehicular traffic. For safety purposes, bicyclists would not share a lane with motorists, but would be routed by flaggers either before or after the vehicular traffic passed the construction zone.

Figure 5.14-4 Actual Historical and Modeled Lake Levels (NWP)



Historic Reservoir Elev w/ NWP (Nacimiento Project): Simulates the delivery of 16200 acre-ft/ year on historical reservoir elevations, and accounts for seasonal variations in delivery. This model assumes that the annual SLO County entitlement (16200 acre-ft) will be withheld from the Nacimiento River Releases during the month of June.
Nacimiento River Gage Data: Provided by USGS. Flow rates in Nacimiento River just downstream of the Nacimiento Dam.
Reservoir Level w/ SVWP (Salinas Valley Water Project) & NWP: Simulated monthly reservoir elevations for Lake Nacimiento . The model was prepared and maintained by MCWRA and includes draw for SVWP and NWP.
Min Pool: The upper Minimum Pool boundary (687.8 ft) as established by MCWRA. At or below this level the MCWRA will stop all reservoir releases, including fish releases.
Dead Pool: The dead pool boundary (Reservoir Outlet Elevation) (670 ft).

Source: D.L. Hardan and C. Alakel 2002; Nacimiento Reservoir – Reliability as a Water Source for San Luis Obispo County.

Cuesta Tunnel to San Luis Obispo WTP: Sections of this reach of pipeline would traverse and run down the center of Stenner Creek Road. Stenner Creek Road runs through Cal Poly State University property and is used for a variety of recreational activities including hiking, biking, and horseback riding. Temporary impacts would occur to recreational resources along Stenner Creek Road as a result of the trenching associated with pipeline construction.

San Luis Obispo WTP to Highway 227/Santa Fe Road: The proposed project would result in temporary impacts to recreational resources along this reach in the areas of Highway 1, Highland Drive, Patricia Drive, Foothill Boulevard, Madonna Road, Dalidio Drive, and Highway . The bicycle lanes would primarily remain open during the construction of the route; however, short portions of the bicycle lane may be closed for brief (6 hour) periods in some locations to allow for the open trench construction. Bicyclists would be subject to traffic control through the construction zone, along with vehicular traffic. For safety purposes, bicyclists would not share a lane with motorists, but would be routed by flaggers either before or after the vehicular traffic passed the construction zone.

Highway 227: Temporary impacts would occur to recreational resources along the western shoulder of Highway 227 where pipeline construction would occur. The bicycle lanes would primarily remain open during the construction of the route; however, short portions of the bicycle lane may be closed for brief (6 hour) periods in some locations to allow for the open trench construction. Bicyclists would be subject to traffic control through the construction zone, along with vehicular traffic. For safety purposes, bicyclists would not share a lane with motorists, but would be routed by flaggers either before or after the vehicular traffic passed the construction zone.

Mitigation Measures

REC-1 *Prior to initiating construction, the Applicant shall coordinate with the San Luis Obispo County Department of Public Works and provide signage along the length of all affected roads advising bicyclists of the temporary construction and the estimated period of construction along these routes. The signage should also alert bicyclists and vehicular traffic of the need to exercise caution.*

REC-2 *During construction of segments at the edge of or off pavement, the construction crews shall keep all pot hole and bore equipment and trenching equipment off of the paved roadway to the maximum extent feasible to allow bicyclists to continue to use the road. (Note: Exceptions to this measure shall include situations where sensitive habitat is located adjacent to roadways and where safety issues exist.)*

REC-3 *During construction when equipment is located in the roadway, the Applicant shall provide one flag person to separately guide bicyclists and motor vehicles past the construction zone.*

REC-4 *Upon completion of construction within this subsection, the Applicant shall replace all bicycle lanes that have been damaged by the construction process to County standards (or other jurisdictional standards such as the various Cities if applicable) for Class I and Class II bicycle lanes, as appropriate. In addition, if any paint is scuffed, the Applicant shall repaint the affected bicycle lane markings.*

Residual Impact
Due to the short-term duration of construction along various reaches and the resulting number of limited bicyclists therefore impacted along the pipeline route, implementation of the above mitigation measures would reduce recreational resource impacts to a level considered *not significant with mitigation* (Class II).

Impact	Impact Description	Residual Impact
REC.4	Partial loss of access to recreational opportunities at Laguna Lake Park due to water pipeline installation activities along Reach No. 10 (Sta. 2520+00-2935+00) near Dalidio Drive in San Luis Obispo.	Class II

Laguna Lake Community Park is located within the City of San Luis Obispo and consists of 375 acres of open space surrounding Laguna Lake with picnicking and barbequing facilities, volleyball courts, and several miles of fitness trails. Primary park access is located on Dalidio Drive. Access to the park may be temporarily partially impeded during pipeline installation activities entering into and along Dalidio Drive.

Mitigation Measures

REC-5 *Prior to authorization to proceed or issuance of permits, the Applicant shall coordinate with the City of San Luis Obispo Parks and Recreation Department (SLOPRD) for the project schedule so that the SLOPRD can minimize conflicts with any special events that are scheduled during the construction period.*

REC-6 *Prior to authorization to proceed or issuance of permits, the Applicant shall coordinate with the SLOPRD and City of San Luis Obispo Public Works Department to provide signage directing traffic around construction activity.*

Residual Impact
Because of the short-term duration of construction along Dalidio Drive and the resulting number of limited recreational users therefore impacted along the pipeline route, implementation of the above mitigation measures would reduce recreational resource impacts to a level considered *not significant with mitigation* (Class II).

5.14.4.2 Raw Water Option

Impacts REC.1 through REC.4 would be the same as for the Treated Water Option, the same mitigation measures would apply. Additional impact for the Raw Water Option is discussed below.

Impact	Impact Description	Residual Impact
REC.5	Portions of the adopted Salinas River Trail System may need to be re-routed due to the construction of water discharge facilities.	Class II

The Salinas River Trail System is an adopted trail route along the Salinas River from Santa

Margarita Lake to the Monterey County line. The trail is proposed to be a multi-use route with opportunities for bicyclists, hikers and equestrians. The proposed project's raw water option would involve the construction of three water discharge facilities located along the Salinas River in Paso Robles, Templeton, and Atascadero. The water discharge facilities would either have a pond or a subsurface pipe design and would require various areas to be set aside for water discharge activities. The area required for the subsurface pipe design would be 8.0 acres for Paso Robles, 1.0 acre for Templeton, and 6.0 acres for Atascadero. The area required for the pond configurations would be 4.0 acres for Paso Robles, 0.3 acre for Templeton, and 3.1 acres for Atascadero. Depending on their design configuration, these water discharge facilities may be located on or near areas designated for portions of the Salinas River Trail System, which would result in recreational resource impacts requiring mitigation.

Mitigation Measures

REC-7 Prior to construction, the water purveyor responsible for the individual discharge facility construction shall provide for a 25-foot wide trail corridor easement, subject to County review, to connect those impacted portions of the Salinas River Trail System.

Residual Impact

Because the proposed trail is not yet constructed and existing recreational patterns would not be impeded, implementation of the above mitigation measure would reduce recreational resource impacts to a level considered *not significant with mitigation* (Class II).

5.14.5 Alternative Impacts and Mitigation Measures

5.14.5.1 No Project Alternative

With the No Project Alternative, lake levels at Lake Nacimiento would continue to fluctuate based on existing reservoir operations and annual fluctuations in precipitation. Bicycle lanes, public trails and public parks along the proposed pipeline corridor would remain unimpeded. Therefore, there are no adverse impacts to recreational resources anticipated as a result of the No Project Alternative.

5.14.5.2 NWP 1997 EIR Project Alternative

The impacts associated with this alternative were analyzed previously in the NWP 1997 EIR. One impact the NWP 1997 EIR identified was the potential restriction on recreational use at Lake Nacimiento if the State Department of Health Services conditions regarding bodily contact with a public water supply were imposed. With the passage of AB 1460, amending the Health and Safety Code to allow for continued recreational use involving bodily contact with the water at Lake Nacimiento (refer to Section 5.14.2.1 for further discussion), this impact and its associated mitigation measure is no longer applicable.

In the 1997 NWP EIR, potential impacts to recreation were considered significant based on the proposed NWP water delivery schedules and MCWRA reservoir flood rule curve operations. At that time, the NWP project would have led to a significant increase in low water levels during critical recreational periods. However, the recently-approved MCWRA reservoir reoperation serves to minimize potential impacts associated with the NWP release schedule.

Based on the above evaluation for the proposed project, as compared to the historic setting, the 1997 EIR Alternative would result in adverse but insignificant impacts to recreational resources. Although the proposed project would have increased the number of times that lake levels at Lake Nacimiento were below 748 feet from a historical standpoint, the lake levels would *not* have dropped below the 748-foot threshold by an additional 5.5 days or more (for a total of 60.5 days or greater) during the peak recreation season.

Due to the insignificant increase in the number of days that lake level elevations dropped below the 748-foot threshold during the peak recreation season, recreation impacts associated with the 1997 EIR Alternative's delivery schedule and subsequent lowering of lake level elevations are *adverse but not significant* (Class III).

5.14.5.3 Phased Raw and Treated Water Alternative

This alternative would be constructed in a phased approach, starting out as a raw water option as described in Section 2.4.2 (Figure 2-2), and upon completion, would be a treated water option as described in Section 2.4.1 (Figure 2-1). Impacts associated with this alternative would be identical to the impacts identified for the proposed project. Refer to discussions of impacts REC.1 through REC.4, and implement mitigation measures REC-1 through REC-7.

5.14.6 Cumulative Impacts and Mitigation Measures

The section below describes the impacts associated with the cumulative development scenario. The following projects were identified as components of this cumulative development scenario: Section 4.0 lists numerous development projects, including the Monterey County Salinas Valley Water Project. Cumulative impacts associated with these projects would be considered insignificant, with the exception of potential cumulative impacts associated with the Monterey County Salinas Valley Water Project. The remainder of this section focuses on potential cumulative recreation impacts at Lake Nacimiento.

Impact	Impact Description	Residual Impact
REC.6	The cumulative development scenario would result in increased lake drawdowns below recreational threshold levels of 748 feet, and would result in significant unavoidable adverse impacts to recreational resources on and around Lake Nacimiento.	Class I

The 2002 Lake Nacimiento report by Boyle Engineering Corporation analyzed the cumulative impacts of Monterey County's SVWP and the proposed project. This report used models provided by the MCWRA in addition to those models specifically generated by Boyle Engineering Corporation for the proposed project in order to illustrate the Lake Nacimiento level impact of both projects cumulatively. Figure 5.14-5 shows the proposed project-only model and the MCWRA's model for the combined SVWP and the proposed project (this model, entitled

"Salinas Valley Integrated Ground Water and Surface Water Model" is owned and maintained by the MCWRA). The report compared these two models and concluded that the "NWP is not a significant contributor to the lake level changes as compared to historic records." Under the existing setting, according to the MCWRA model, in 93 months of 230 months (October 1948–September 1994), or approximately 40.4% of the time, lake elevations dropped to 748-feet or below during the peak recreation season (May 1–September 30). Assuming implementation of the SVWP and the proposed project, 122 months of 230 months, or approximately 29 additional months during the peak recreation seasons in a 46-year period, lake elevations would be reduced to elevations of 748 feet or below.

This represents an approximately 12.6% increase in the number of months that lake level elevations dropped below the 748-foot threshold during the peak recreation season. Cumulatively, based on the thresholds established above, the projects would have significant, unavoidable adverse impacts to recreational resources.

Mitigation Measures
No mitigation measures have been identified.

Residual Impact
Because feasible mitigation measures have not been identified to reduce the severity of this impact, cumulative impacts to recreational resources are considered *significant* (Class I).

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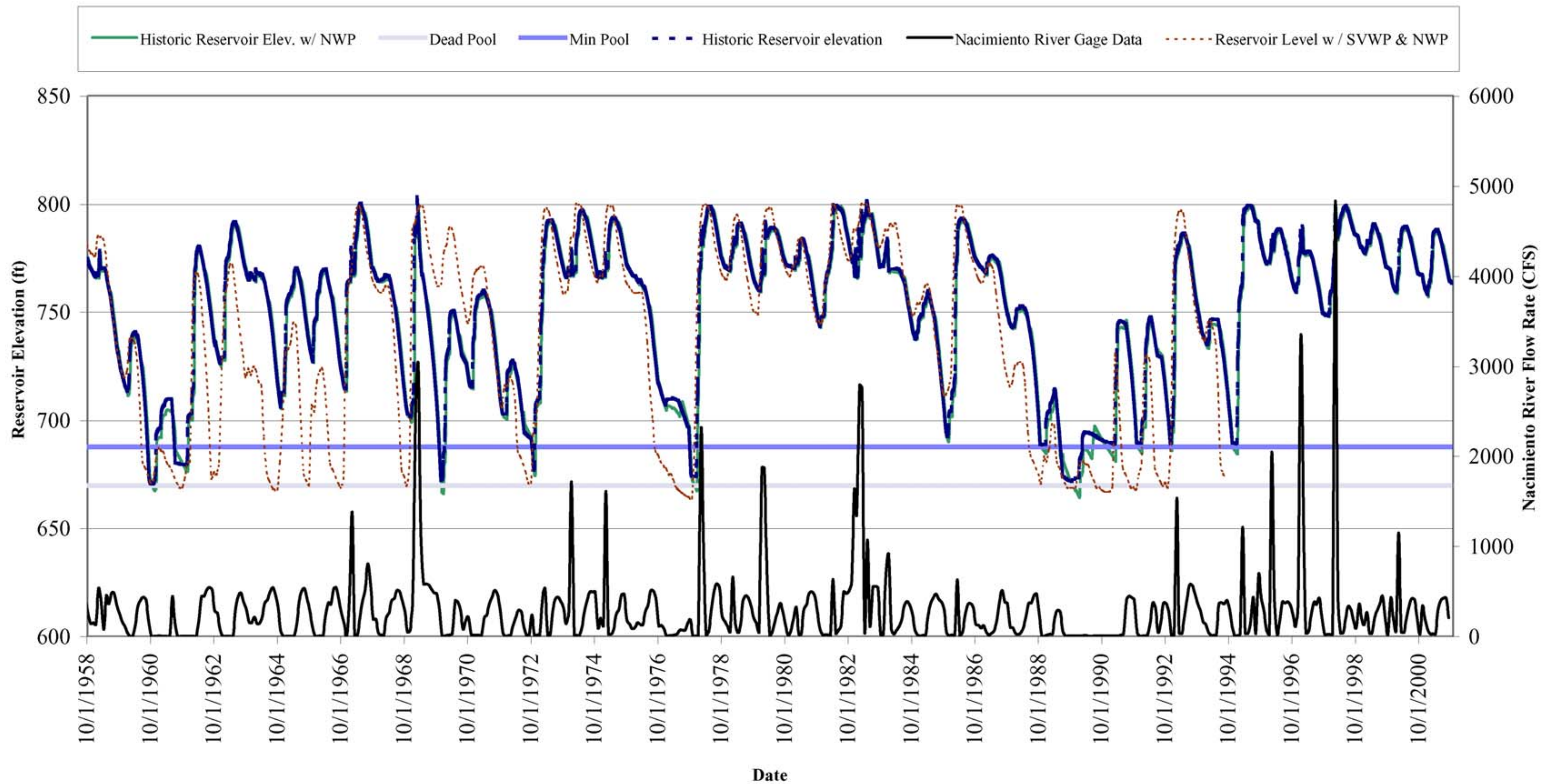
Figure 5.14-5 Modeled Lake Levels (NWP and SVWP)



Historic Reservoir Elev w/ NWP (Nacimiento Project): Simulates the delivery of 16200 acre-ft/ year on historical reservoir elevations, and accounts for seasonal variations in delivery. This model assumes that the annual SLO County entitlement (16200 acre-ft) will be withheld from the Nacimiento River Releases during the month of June.
Historical Reservoir Elevation: The Historical Reservoir Elevations are the actual reservoir elevations as recorded by the MCWRA.
Nacimiento River Gage Data: Provided by USGS. Flow rates in Nacimiento River just downstream of the Nacimiento Dam.
Reservoir Level w/ SVWP (Salinas Valley Water Project) & NWP: Simulated monthly reservoir elevations for Nacimiento under 1995 conditions. The model was prepared and maintained by MCWRA and includes draw for SVWP and NWP.
Min Pool: The upper Minimum Pool boundary (687.8 ft) as established by MCWRA. At or below this level the MCWRA will stop all reservoir releases, including fish releases.
Dead Pool: The dead pool boundary (Reservoir Outlet Elevation) (670 ft).

Source: D.L. Hardan and C. Alakel, 2002; Nacimiento Reservoir- Reliability as a Water Source for San Luis Obispo County.

5.14.7 Mitigation Monitoring Plan

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
REC-1	Prior to initiating construction, the Applicant shall coordinate with the San Luis Obispo County Department of Public Works and provide signage along the length of all affected roads advising bicyclists of the temporary construction and the estimated period of construction along these routes. The signage should also alert bicyclists and vehicular traffic of the need to exercise caution.	Procure the signage. Implement.	Dept of P&B	Review availability of signage. Verify posting of the signage during site visits.	Prior to Board of Supervisors approval to advertise for construction bids. Once each site
REC-2	During construction of segments at the edge of or off pavement, the construction crews shall keep all pot hole and bore equipment and trenching equipment off of the paved roadway to the maximum extent feasible to allow bicyclists to continue to use the road. (Note: Exceptions to this measure shall include situations where sensitive habitat is located adjacent to roadways and where safety issues exist.)	Implement	Dept of P&B	Verify compliance during site visits	Periodical
REC-3	During construction when equipment is located in the roadway, the Applicant shall provide one flag person to separately guide bicyclists and motor vehicles past the construction zone.	Implement	Dept of P&B	Verify compliance during site visits	Periodical
REC-4	Upon completion of construction within this subsection, the Applicant shall replace all bicycle lanes that have been damaged by the construction process to County standards (or other jurisdictional standards such as the various Cities if applicable) for Class I and Class II bicycle lanes, as appropriate. In addition, if any paint is scuffed, the Applicant shall repaint the affected bicycle lane markings.	Implement	Dept of P&B	Verify compliance during site visits of specific locations	After completion of the project
REC-5	Prior to authorization to proceed or issuance of permits, the Applicant shall coordinate with the City of San Luis Obispo Parks and Recreation Department (SLOPRD) for the project schedule so that the SLOPRD can minimize conflicts with any special events that are scheduled during the construction period.	Submit the documentation to the SLOPRD	Dept of P&B	Verify that approval has been granted by the SLOPRD	Prior to Board of Supervisors approval to advertise for construction bids.
REC-6	Prior to authorization to proceed or issuance of permits, the Applicant shall coordinate with the SLOPRD and City of San Luis Obispo Public Works Department to provide signage directing traffic around construction activity.	Submit the documentation to the SLOPRD and the City of SLO	Dept of P&B	Verify that approval has been granted by the SLOPRD and the City	Prior to Board of Supervisors approval to advertise for construction bids.
REC-7	Prior to construction, the water purveyor responsible for the individual discharge facility construction shall provide for a 25-foot wide trail corridor easement, subject to County review, to connect those impacted portions of the Salinas River Trail System.	Develop and submit the plans to the Dept of P&B	Dept of P&B	Review and approval of plans to construct the trail corridor	Prior to Board of Supervisors approval to advertise for construction bids.

Notes: County PW Dept=Department of Public Works at the SLO County (The Applicant); Dept of P&B=Department of Planning and Building of the SLO County.

5.15 Socioeconomic Resources

5.15.1 Introduction

The purpose of this socioeconomic evaluation is to address, per CEQA requirements, the physical effects related to socioeconomic impacts resulting from the proposed project. Emphasis has been placed on the potential for the proposed project to cause an effect, or draw down of lake elevation, on population, housing and economic characteristics of the area. Subsequent to potential impacts on the local economy, CEQA requires an analysis of the physical changes to the environment that result from potential changes in local socioeconomic conditions, which is typically interpreted to as an area becoming blighted (i.e., the physical change in the environment).

5.15.1.1 Background

In terms of background, when the 1997 Draft EIR on the NWP was prepared on an alternative to the proposed NWP pipeline route, it did not include a specific socioeconomics section. As a result, a number of comments were received during the public comment period on the Draft EIR that were related to economic and fiscal issues.

Generally, the comments on the 1997 Draft EIR requested that the County prepare economic and fiscal studies that provide, with and without the project, a comparison and an analysis of water rates, property values, revenues from tourism, and other impacts to the local economy. These are all important issues that need to be considered, both by the purveyors when they ultimately sign agreements with the flood control district, and also by the Board of Supervisors when they make their decision on the viability of the project.

However, CEQA indicates that social and economic issues "shall not be treated as significant effects on the environment." CEQA also goes on to state that "An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes." What this means is that, if implementing the project would cause businesses to close and people to abandon their homes, which *in turn* would result in a physical change to the environment, such as an area becoming blighted, then socioeconomic information may be included in the EIR. No evidence has been brought forward to date that would indicate that the NWP would result in blighted communities, with boarded-up houses and businesses.

- Section 15021(d) of the CEQA Guidelines recognizes that in determining whether and how a project should be approved, a public agency, such as the County Board of Supervisors, has an obligation to balance a variety of public objectives, including economic, environmental, and social factors and in particular the goal of providing a decent home and satisfying living environment for every Californian. Water rate increases, property values and personal financial hardships to individuals within the Lake Nacimiento area are important issues for the Board of Supervisors to consider *along with* environmental issues, but they are not environmental issues requiring analysis under CEQA.

The proposed NWP also has the potential to have beneficial economic impacts on the county, although beneficial economic impacts also are not discussed under CEQA. While NEPA allows discussion of beneficial effects, these are not addressed in this document because they are fiscally related (increase in jobs and benefits to purveyors).

5.15.1.2 Previous Socioeconomic and Economic Studies

Several socioeconomic or fiscal-related studies have been prepared on the proposed project and the Monterey project that provide additional background information on this topic. The Salinas Valley Water Project Final EIR contained a socioeconomic analysis of the cumulative impacts of both projects, looking at local economic conditions and property value effects. This information is contained as a reference in Appendix E of this EIR. Since fiscal issues are not normally addressed in an EIR, and since the County is aware of the community concern regarding fiscal issues, a separate analysis was commissioned to address economic and fiscal considerations to the County as a whole (thus meeting NEPA allowance for discussion of beneficial effects). The social and economic effects of the proposed NWP on water supplies and the resultant impacts on affected sectors of the economy in normal and drought years were analyzed in Economic Impacts of the Nacimiento Water Supply Project, prepared by Northwest Economic Associates. It is available for public review by contacting the San Luis Obispo County Department of Public Works, (805) 781-1229.

To briefly summarize the Northwest Economic Associates report, it concluded that the Nacimiento Water Supply Project (NWSP) would provide an important enhancement to regional water supplies. Direct impacts from construction of the project were calculated using an input-output model of the San Luis Obispo County economy. The model is based on IMPLAN and captures the extensive interrelationships among economic sectors in the county. For the raw water alternative, the total output impacts of the project in the first two years would average $50,000,000 per year and would support an average of 626 new jobs. Total project output impacts in the third and fourth year would average $52,000,000 per year and would support an average of 554 new jobs. For the treated water alternative, total output impacts would average $65,000,000 per year in the first two years and would support an average of 802 new jobs. Total output impacts would average $67,000,000 per year in the third and fourth years and support an average of 714 new jobs. For the first 16 years after construction is completed, the output and employment impacts associated with annual operation and maintenance activities would be more than offset by the negative economic effect of debt service. Subsequently, the output and employment impacts would be positive other than in the two later years in which large bond principal repayments would be due.

Northwest Economic Associates also indicates that over the thirty years of analysis, the net present value of total output impacts for the raw water alternative would be $119,239,061 in 2003 dollars. The impacts for the treated water alternative would be $152,551,509. The large positive impacts during the first four of the thirty years would outweigh the discounted value of the high face value of the bonds which would be repaid in years 24 and 30. The raw water alternative would increase sales taxes in the county by about $2,200,000 over the tour-year construction period and the treated water alternative would increase them by about $2,800,000 over the same period.

5.15.1.3 Socioeconomic Analysis Approach

The environmental setting considers the population, housing and income, economic characteristics of the census tracts around Lake Nacimiento and in Paso Robles, and evaluates potential physical effects resulting from draw down of the lake elevation on visitor characteristics, housing demand, and businesses in the area, and the socioeconomic effect on environmental justice issues. Once the social and economic setting has been defined, the physical effects related to socioeconomic impacts resulting from the proposed project can be evaluated.

The main focus of the analysis is related to evaluating the potential socioeconomic impacts associated with a higher frequency of lower lake levels. Other components of the proposed project include construction of a pipeline route and two distinct methods of transporting water from Lake Nacimiento by treating prior to conveying the water (Treated Water Option) or treating the water at the purveyor (Raw Water Option). The installation and construction methods of the proposed project have the potential to create temporary compatibility conflicts within the project study area. The construction process of the proposed project is expected to occur in several stages throughout various times of the year. During this time, some urban businesses and agricultural production areas may experience temporary, short-term impacts associated with construction methods due to trenching, construction noise, and removal of infrastructure such as roads, driveways and fencing. Long-term operational impacts to socioeconomic resources along the pipeline route are not anticipated if the Applicant implements the recommended mitigation measures contained in the Environmental Analysis section of this EIR.

5.15.2 Study Area Definition

5.15.2.1 Lake Nacimiento

The proposed project potentially affects three planning areas in SLO County (refer to Figure 5.15-1), and information gathered for the economic analysis is reported primarily in three forms: by planning area, community, and census tract. Analysis of the socioeconomic environment focuses on the Nacimiento planning area (including the communities of Oak Shores, Running Deer Ranch and Heritage Ranch), the Adelaida planning area, and parts of the Salinas River planning area (including the communities of Paso Robles, Templeton, Atascadero, and Santa Margarita) within the regional context of SLO County. These areas are included within 2000 Census Tracts 100, 101, 102.01, 102.02, and 102.03 and 1990 Census Tracts 100, 101, and 102. The U.S. Census Bureau divided the area into smaller segments for the 2000 Census based on changes in population. Figures 5.15-2 and 5.15-3 show the Nacimiento, Adelaida, and Salinas River planning areas and the various communities within these areas and how these areas fit into the different census tract schematics. The following analysis will present data both by census tract and by planning area, where available.

5.15.2.2 Proposed Pipeline Route

The installation and construction methods of the proposed project have the potential to create temporary compatibility conflicts with socioeconomic resources within various communities along the proposed pipeline corridor (refer to Figures 2-1 and 2-2). The following analysis will discuss the socioeconomic environment of these communities in the context of SLO County in general.

5.15.3 Environmental Setting

The proposed project has the potential to affect socioeconomic resources in two primary locations: 1) The communities immediately surrounding Lake Nacimiento and directly servicing Lake Nacimiento users; and 2) Various urban businesses and agricultural production areas along the pipeline construction route. The socioeconomic resources for all portions of the proposed project are described below.

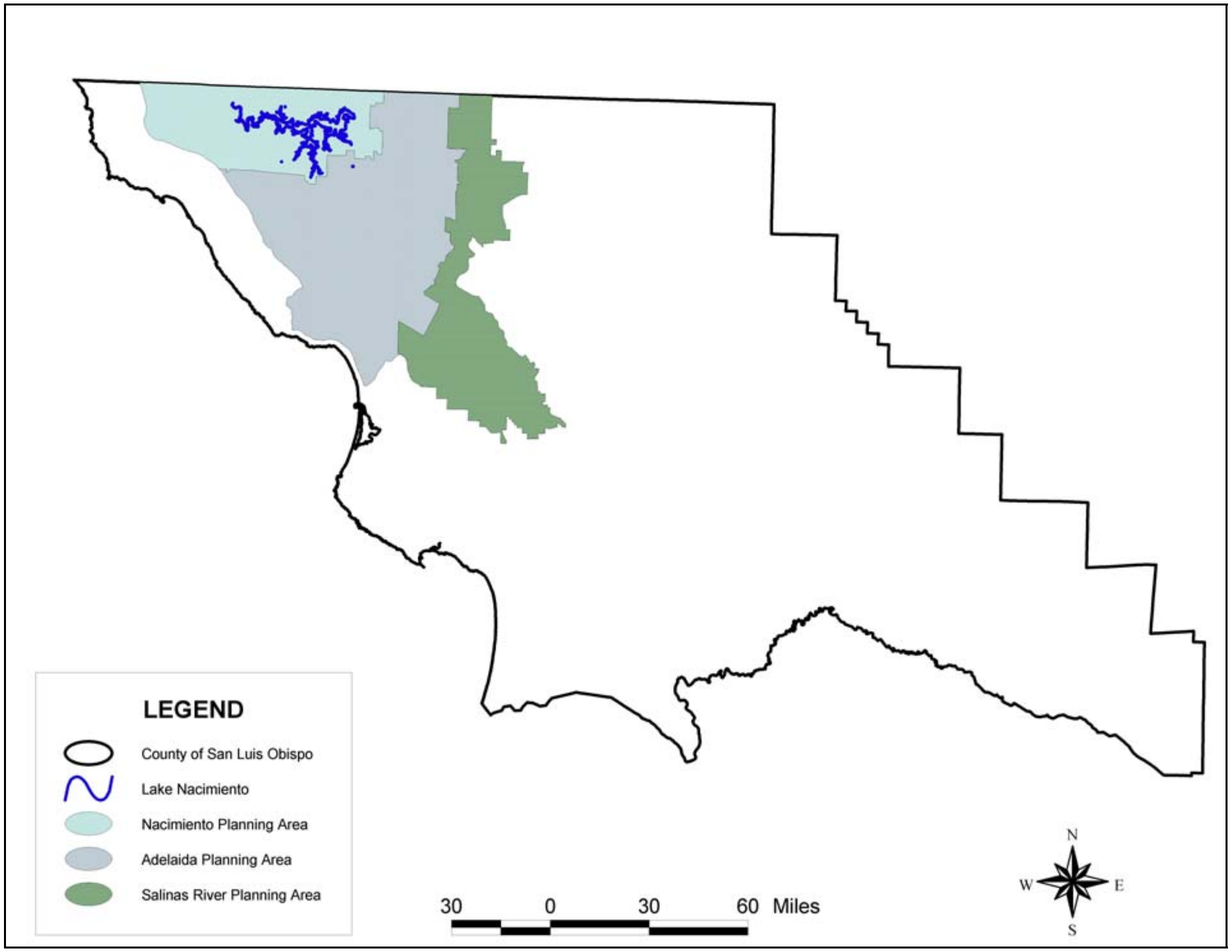
The Nacimiento planning area occupies 153 square miles (97,665 acres) bounded by the western slopes of the Santa Lucia mountain range, by Camp Roberts to the east, Monterey County to the north, and the Adelaida planning area to the south (SLO County 1996a). The center of the planning area is Lake Nacimiento. Nacimiento Dam was constructed in 1957 by the Monterey County Flood Control and Water Conservation District (now Monterey County Water Resources Agency [MCWRA]). The Dam and the Lake continue to be operated by MCWRA. Lake Nacimiento water is collected from a 324 square foot watershed. The principal inflow is the Nacimiento River but southern drainages such as Las Tablas Creek also contribute significant amounts of runoff. At full capacity, Lake Nacimiento is 18 miles long and has 165 miles of shoreline. It covers an area of 5,727-acres and contains 377,900 acre-feet (af) of water at its maximum elevation of 800 feet (above sea level (asl).

The Adelaida planning area occupies 325 square miles (208,008 acres), encompassing the central northwest portion of SLO County, bounded to the east by the urban corridor along Highway 101 and to the west by the western slope of the Santa Lucia Mountains (SLO County 1997). In 1990 the planning area was expanded to include the western slopes of the Santa Lucia Mountains easterly of the coastal zone located between the southern boundary of the Nacimiento planning area and the northern extent of Morro Creek watershed.

The Salinas River planning area occupies 135 square miles (86,561 acres) outside the cities of Paso Robles and Atascadero. Those two cities consist of 10,700 acres and 15,600 acres, respectively. This part of the County extends from the north county line south to the Cuesta Grade, along the Salinas River, Highway 101, and the Southern Pacific Railroad corridors (SLO County 1996b).

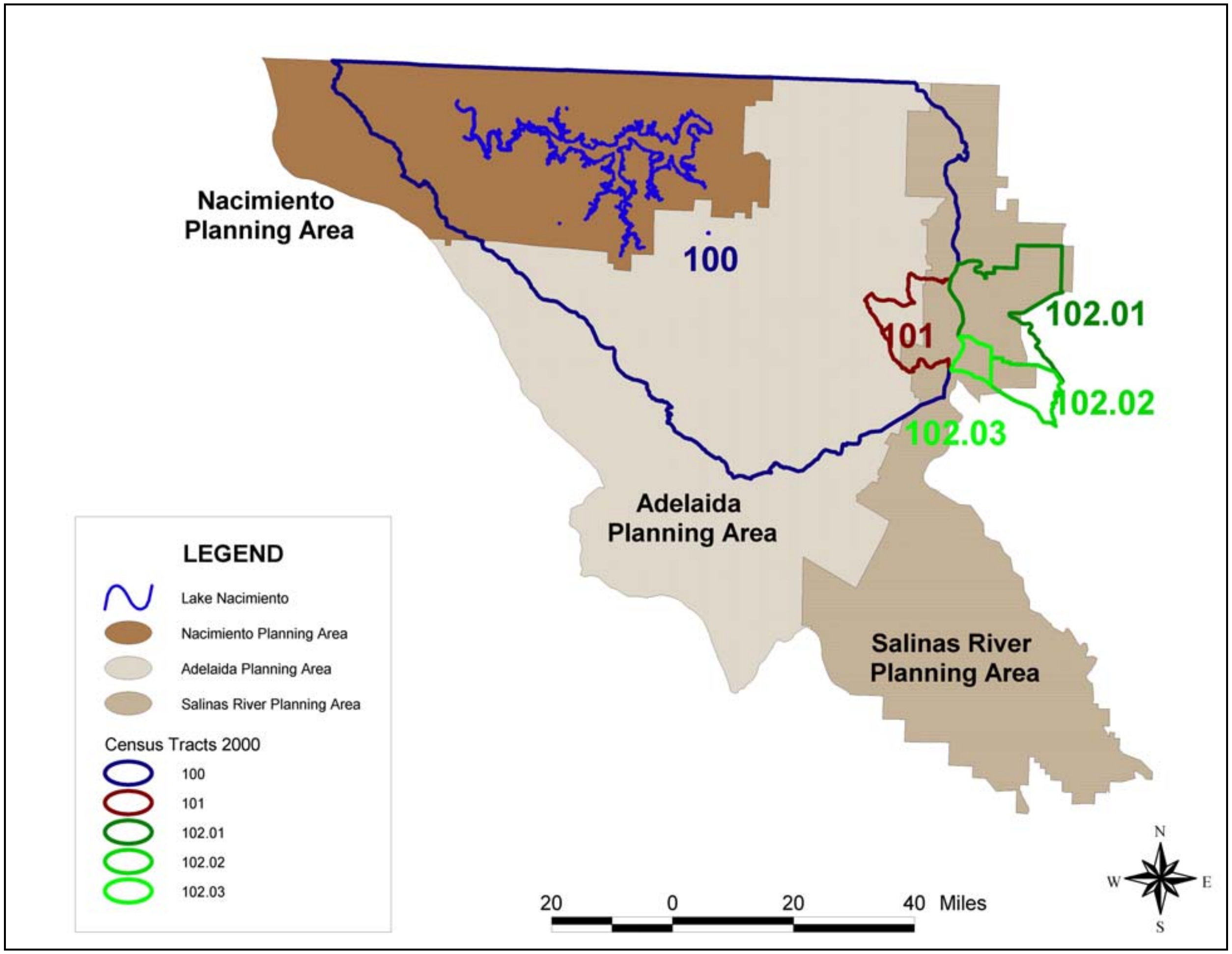
The following section describes the existing lake uses, land use and development patterns, population, housing and employment characteristics of the study area. Information contained in this section was obtained primarily from the U.S. Census Bureau, the California Department of Finance, the State Board of Equalization, the California Employment Development Department-Labor Market Information Division, local planning documents, and regional economic studies.

Figure 5.15-1 Study Area Location Map



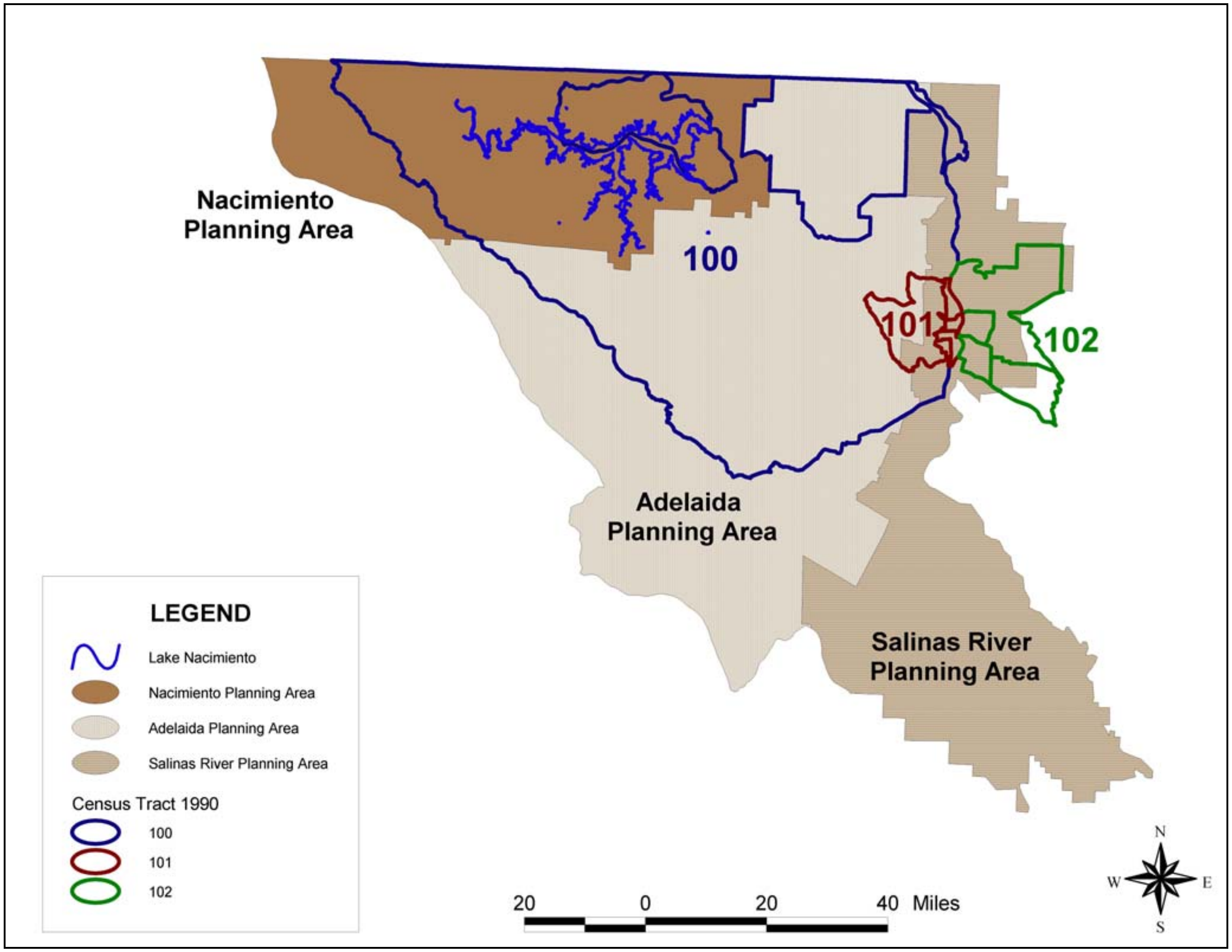
Source: SLO County Department of Planning and Building 2003.

Figure 5.15-2 Planning Areas and 2000 Census Tracts



Source: SLO County Department of Planning and Building 2003.

Figure 5.15-3 Planning Areas and 1990 Census Tracts



Source: SLO County Department of Planning and Building 2003.

5.15.3.1 Land Use and Development

Existing Lake Uses
Although Lake Nacimiento was created primarily for water conservation, and replenishment of the Salinas River groundwater Basin, it also provides a benefit as a recreational facility. The Lake is popular for a multitude of recreational activities including bass and other recreational sport fishing, water-skiing, swimming, camping, and hiking. Lake Nacimiento draws visitors from many areas for its recreational sport fishing opportunities. There are several types of desirable species of fish found in the reservoir, which predominantly include white bass, largemouth bass, smallmouth bass, black crappie, and bluegill. Lake Nacimiento allows most kinds of boating, (e.g., power boating, water-skiing, sailing, fishing) within the restrictions of State boating laws.

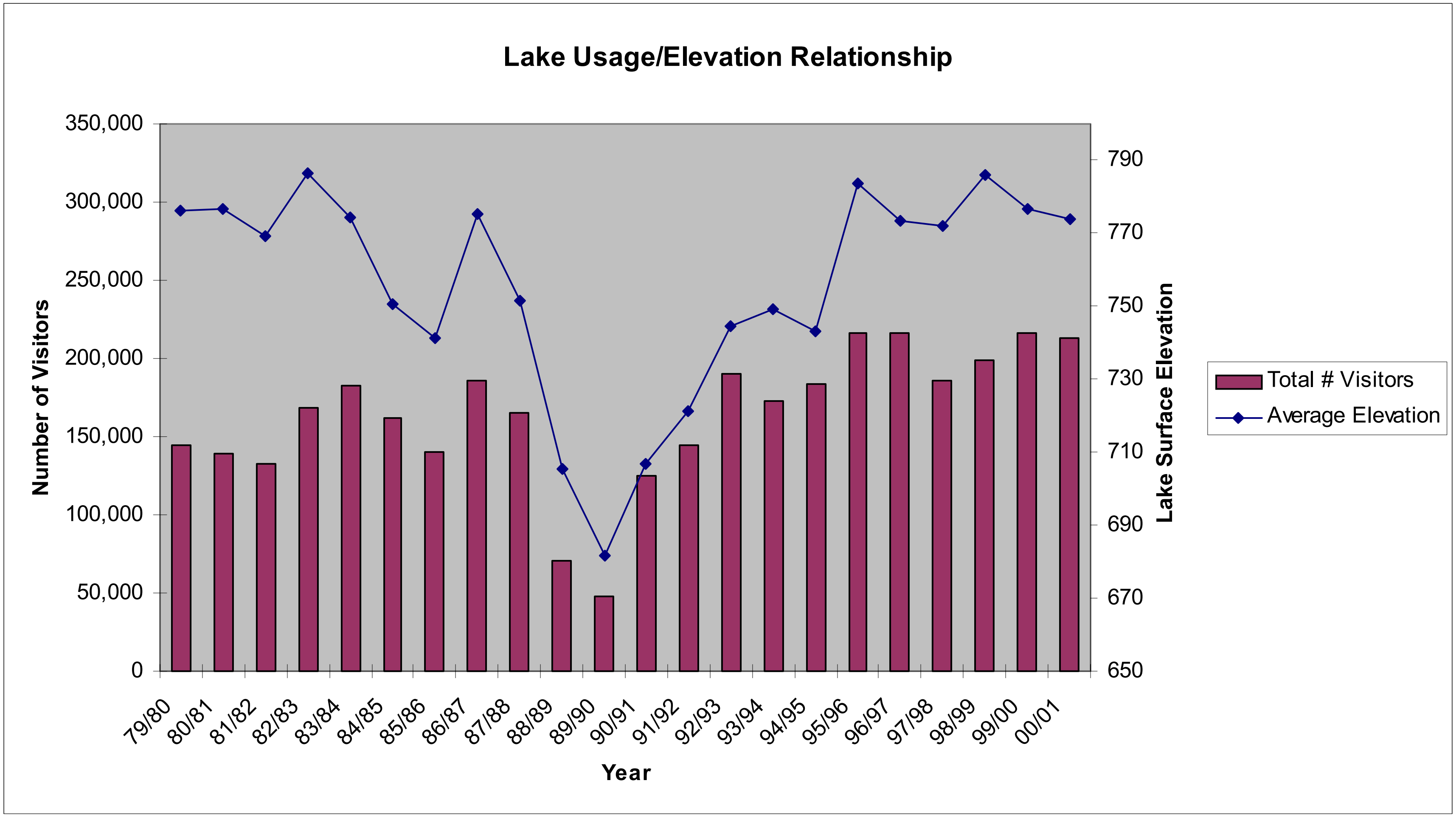
Attendance at Lake Nacimiento can be influenced by lake levels. There are dramatic fluctuations in lake levels throughout the year as a result of flood control and conservation operations. Precipitation also greatly influences reservoir elevation and annual fluctuations on the order of half the total volume of the Lake are not uncommon (Final EIR, Lake Nacimiento Resort Specific Plan, 1984 [taken from Ogden 1997]). The Monterey County Department of Parks tracks lake usage weekly and issues an annual Revenue and Attendance Report.

Figure 5.15-4 displays the relationship between historical lake-level elevations and the number of visitors at Lake Nacimiento over a 20-year period (1980–2000). Although historical data shows that there is not always a direct correlation between lake levels and the number of lake visitors, there appears to be a general trend that suggests visitation decreases as lake levels decrease.

The lake usage and elevation relationship graph begins evaluation in 1980 when several worldwide influences were occurring. This included OPEC control of world oil availability and increased price of gasoline, high inflation in the United States with the prime interest rate at 20 percent and home mortgage rates at 15.5 percent. This may have influenced lake attendance at the time, but other factors including the provision of housing around the lake would have influenced visitor statistics. Usage at this time was less than 150,000 visitors. In addition, the County had received a considerable amount of rain in the late 1970's that contributed to high lake elevations.

Average lake elevations dipped between 1987 through1991 and 1994 through 1996 and then rose back to higher levels in 1997. During this period there was a fluctuation of visitor usage that may have been influenced by a number of factors independent of lake levels, although attendance declined when lake levels declined. During this period, California raised taxes four times on gasoline and diesel fuel, Iraq invaded Kuwait, the U.S. invaded Iraq, there was a decline in index of leading indicators (economic decline), there was the first bomb blast on the New York World Trade Center, businesses and military bases closed, TWA declared bankruptcy, and generally the economy took a downturn during this period (refer to California Economic Indicators from California Department of Finance). These and a number of other similar factors could have affected the tourist attendance at the lake in addition to the change in lake levels.

Figure 5.15-4 Lake Usage and Lake Elevation Relationship



Source: Monterey County Parks Department 2003; Lake Nacimiento and Lake San Antonio Annual Revenue and Attendance Report 1968 through 2001. Hardan and C. Alakel 2002.

Also of interest is that even with the rise in lake levels from 1996 to the present, the total number of visitors to the lake appears to have stabilized between 175,000 to 200,000 visitors annually, and this may be due to the prevailing tendency for visitors to spend their vacations locally rather than travel, the high cost of gasoline and declining income may make the lake a more attractive destination for Californians, or just that the visitor capacity at the lake has reached its maximum at about 200,000 visitors a year based on lake facilities, regardless of lake levels.

Existing Land Use Patterns

San Luis Obispo County divides land uses within all planning areas into various categories. The County Land Use Element official maps separate out all land use categories within planning areas and define regulations for land uses, density, and intensity of use.

The Nacimiento Area Plan (SLO County 1996a) designates lands within the planning area as Open Space, Agriculture, Rural Lands, Recreation, Residential Rural, Residential Single Family, Residential Multi-Family, Commercial Retail, and Public Facilities (refer to Table 5.15.1). As shown in this table, open space, rural lands, and agriculture are the predominant land uses. Residential and recreation uses account for less than 1% of the land uses, and the commercial use category is less than 1% of the land use.

Table 5.15.1 Land Use Category Acreages – Nacimiento Planning Area

Land Use Category	Rural Area	Heritage Village	Oak Shores	Planning Area Total	% of Planning Area
Open Space	9,954	3,520	1,074	14,548	14.9
Agriculture	36,049	–	–	36,049	36.9
Rural Lands	31,334	–	-	31,334	32.0
Recreation	2,725	1,453	48	4,226	4.3
Residential Rural	2,363	1,533	–	3,896	4.0
Residential Suburban	–	–	–	–	0.0
Residential Single Family	–	1,194	421	1,615	1.7
Residential Multi-Family	–	325	17	342	<1
Office & Professional	–	–	–	–	–
Commercial Retail	2	71	4	77	<1
Commercial Service	–	–	–	–	–
Industrial	–	–	–	–	–
Public Facilities	–	166	12	178	<1
Lake Surface	–	–	–	5,400	5.5
Total Acres	***82,427***	***8,262***	***1,576***	***97,665***	***100***

Source: SLO County, Nacimiento Area Plan Revised November 1996

The Adelaida Area Plan (SLO County 1997) designates lands within the planning area as Agriculture, Open Space, Public Facilities, Recreation, Residential Rural, and Rural Lands (refer to Table 5.15.2). Adelaida is predominantly agricultural and rural lands (approximately 86%) with public facilities use (approximately 13%).

The Salinas River Area Plan (SLO County 1996b) designates lands within the planning area as Agriculture, Rural Lands, Recreation, Open Space, Residential Rural, Residential Suburban, Residential Single Family, Residential Multi-Family, Office & Professional, Commercial Retail, Commercial Service, Industrial, and Public Facilities (refer to Table 5.15.3). Again, this planning area contains predominantly agriculture and open space land uses (approximately 74%) with greater area in residential rural, suburban, and single-family land uses (approximately 16%) than the other land uses

Table 5.15.2 Land Use Category Acreages – Adelaida Planning Area

Land Use Category	Planning Area Total	% of Planning Area
Agriculture	152,715	73.4
Commercial Retail	–	–
Commercial Service	–	–
INDUSTRIAL	–	–
Office and Professional	–	–
Open Space	1,352	<1
Public Facilities	26,146	12.6
Recreation	277	<1
Residential Multi-Family	–	–
Residential Rural	777	<1
Residential Suburban	–	–
Residential Single-Family	–	–
Rural Lands	26,711	12.8
Total Acres	***207,978***	***100***

Source: SLO County, Adelaida Area Plan Revised January 1997

Table 5.15.3 Land Use Category Acreages – Salinas River Planning Areas

Land Use Category	Rural Area	Atascadero	Paso Robles	Planning Area Total	% of Planning Area
Agriculture	52,954	–	153	53,231	58.6
Rural Lands	7,945	–	–	7,945	8.7
Recreation	664	194	40	958	1.1
Open Space	13,630	–	–	13,630	15.0
Residential Rural	5,530	1,156	430	7,795	8.6
Residential Suburban	82	2,135	1,334	5,033	5.5
Residential Single Family	22	–	–	510	<1
Residential Multi-Family	–	–	–	75	<1
Office & Professional	–	–	2	109	<1
Commercial Retail	5	–	20	284	<1
Commercial Service	87	–	–	176	<1
Industrial	20	–	–	177	<1

Table 5.15.3 Land Use Category Acreages – Salinas River Planning Areas

Land Use Category	Rural Area	Atascadero	Paso Robles	Planning Area Total	% of Planning Area
Public Facilities	86	625	34	900	1.0
Total Acres	***81,025***	***4,110***	***2,013***	***90,823***	***100***

Source: SLO County, Salinas River Area Plan Revised November 1996

5.15.3.2 Population and Housing

The 1980, 1990 and 2000 U.S. Census data is the primary data source used throughout because it is the most consistently available source of information throughout the study area. Appendix E contains additional data regarding population and housing.

Population

Information on population, ethnic distribution, and housing was gathered from the 1980, 1990, and 2000 U.S. Census data and the 2001 San Luis Obispo County Annual Resource Summary Report projections (SLO County 2001). Data was captured at various levels to provide different degrees of detail, including county, study area, communities, and census tract groups. Refer to Figure 5.15-1 for the study area and community locations.

SLO County experienced steady growth during the 1970s and 80s. In the 1980s, growth rates averaged approximately 2%; however, growth controls and the California economy limited growth to approximately 1% during the 1990s. The most recent growth information for SLO County and the communities within the study area is summarized in Table 5.15-4. SLO County had a population of just over 250,000 in January 2002, and showed a population growth rate of 1.6%. The unincorporated portion of the County had the largest population, 170,727 people, or 43% of the County's total population. This region also had a relatively high growth rate of 1.8% in 2001.

Table 5.15.4 SLO County Population

	Population as of 1/1/01	Population as of 1/1/02	Percent Change
Atascadero	26,644	16,294	2.0
Paso Robles	24,966	25,812	3.4
SLO County	249,664	253,555	1.6
Unincorporated Area	105,787	107,727	1.8

Source: UCSB Economic Forecast Project, The 2003 San Luis Obispo County Economic Outlook

Atascadero and Paso Robles both showed growth rates well above the County average. Atascadero is the second largest city in SLO County with just under 27,000 people, and saw 2.0% growth in 2001. The City of Paso Robles has a population of almost 26,000 and in 2001 saw the County's highest population growth rate of 3.4%.

Appendix E provides additional detail of the demographics of the population within the study area including the gender distribution of the population of the study area, which remains relatively static and evenly distributed throughout the 30-year period evaluated, the average age of the SLO County population, and the minority population and distribution. Although the county population is becoming more ethnically diversified overall, it is important to note that this minority population growth is not as prevalent within the project study area. Table 5.15.5 displays population projections for communities within the project study area.

Table 5.15.5 Population Projections

Planning Area	2000	2005	2010	2015	2020	2025	2030
Adelaida	3,114	3,547	4,041	4,603	5,244	5,974	6,805
Nacimiento	2,852	2,885	2,918	2,952	2,986	3,020	3,055
Salinas River	61,906	67,410	73,362	79,738	86,804	94,644	103,350
Atascadero	**25,079**[a]	26,254	27,484	28,772	30,120	31,531	33,009
Paso Robles	**23,517**	26,491	29,841	33,614	37,864	42,652	48,045
San Miguel	1,420	1,646	1,908	2,212	2,564	2,972	3,445
Santa Margarita	1,258	1,322	1,424	1,534	1,653	1,781	1,919
Templeton	4,607	5,551	6,435	7,210	8,078	9,051	10,141
Salinas River (Rural)	6,025	6,146	6,270	6,396	6,525	6,657	6,791
County Total (Households Only)	232,587	248,615	267,018	286,843	308,447	332,014	357,752
Incorporated Cities	**138,687**	147,526	157,043	167,300	178,368	190,325	203,258
Unincorporated Area	93,900	101,089	109,975	119,543	130,079	141,689	154,494
Group Quarters[b]	15,571	16,609	17,717	18,899	20,160	21,505	22,940
Incorporated Cities	4,816	5,137	5,480	5,846	6,236	6,652	7,096
Unincorporated Area	10,755	11,472	12,237	13,053	13,924	14,853	15,844
County Total (Households and Group Qtrs.)	**248,158**	265,224	284,735	305,742	328,607	353,519	380,692

Note:

[a] Numbers in bold are from the California State Department of Finance.

[b] Group quarters include nursing homes, school dormitories, military barracks, prisons, jails, hospitals, etc.

Source: SLO County, Department of Planning and Building, September 2001

Housing

According to the most recent census data, approximately 93.7% of the County population lives within households, and the total number of housing units within the County is 102,275 as compared to 90,200 in 1990 and 66,780 in 1980 (refer to Tables 5.15.6, 5.15.7, and 5.15.8). Occupied units made up 90.7% of the total housing stock in the County. Of the 90.7%, 55.7% were owner-occupied and 34.9% were renter-occupied units. Average household size consisted of 2.49 occupants.

Of particular interest to this study is the number of seasonal and recreational homes located within the County. From 1980 to 2000 the number of seasonal homes in SLO County increased from 710 to 4,234, and the number of seasonal homes within the study area increased from 181 to 1230.

As of 2000, the project study area, including Census Tracts 100, 101, 102.01, 102.02, and 102.03, contained approximately 20% of all seasonal, recreational, and occasional use homes in the County, Census Tract 100 (Lake Nacimiento area) accounted for approximately 97% of these.

Table 5.15.6 U.S. Census 2000 Housing Data

Category	2000					
	County	100	101	102.01	102.02	102.03
Total No. Housing Units	102,275	3,922	3,371	1,455	1,481	3,013
Single Family	–	2,911	–	–	–	–
Multi-Family	–	1,011	–	–	–	–
Mobile Homes	10,337	861	76	229	–	10
Seas, Rec, or occasional use	6,179[a]	1,182[b]	26	6	–	16
Number of Occupied Units	102,275	2,637	3,255	1,407	1,445	2,940
Owner Occupied	92,739	1,951	1,183	1,171	1,109	1,940
Renter Occupied	35,738	686	2,072	236	336	1,000
Number of Vacant Units	9,536	1,285	116	48	36	73
Median Housing Unit Value	$230,000	$155,000	$169,300	$206,200	$134,100	$168,700
Median Contract Rent	$654	$553	$510	$593	$648	$689

Note:

[a] Seasonal use homes account for 6% of all housing units within the County.

[b] Seasonal use homes account for 30% of all housing units within Census Tract 100.

Source: U.S. Census Bureau 2003

Table 5.15.7 U.S. Census 1990 Housing Data

Category	1990			
	County	100	101	102
Total No. Housing Units	90,200	3,144	3,364	4,641
Single Family	–	2,109	–	–
Multi-Family	–	1,035	–	–
Mobile Homes	10,725	824	126	230
Seas, Rec, or occasional use	4,234[b]	865[a]	21	30
Number of Occupied Units	80,281	1,973	3,105	4,287
Owner Occupied	48,035	1,414	1,214	2,953
Renter Occupied	32,246	559	1,891	1,334
Number of Vacant Units	9,919	1,171	259	354
Median Housing Unit Value	$215,300	$153,400	$153,700	$157,000
Median Contract Rent	$510	$420	$ 406	$ 453

Note:

[a] Seasonal use homes account for 28% of all housing units within Census Tract 100.
[b] Seasonal use homes account for 5% of all housing units within the County.

Source: U.S. Census Bureau 2003

Table 5.15.8 U.S. Census 1980 Housing Data

Category	1980			
	County	100	101	102
Total No. Housing Units	66,780	2,162	2,695	1,724
Single Family	43,424	1,316	719	1,485
Multi-Family	15,095	706	839	180
Mobile Homes	7,664	542	122	20
Seas, Rec, or occasional use	710[b]	176[a]	2	3
Number of Occupied Units	58,204	1,140	2,457	1,529
Owner Occupied	35,002	796	1,098	1,182
Renter Occupied	23,202	344	1,369	372
Number of Vacant Units	7,866	846	226	167
Median Housing Unit Value	$82,500	$60,900	$62,800	$67,200
Median Contract Rent	$250	$165	$209	$263

Note:

[a] Seasonal use homes account for 8% of all housing units within Census Tract 100.

[b] Seasonal use homes account for 1% of all housing units within the County.

Source: U.S. Census Bureau 2003

Within Census Tract 100, 30% of all housing units were seasonal, recreational, and occasional use homes. This is surprising because local and regional sentiment indicates that the Lake Nacimiento area is predominantly seasonal, with the majority of the housing utilized for seasonal, recreation purposes only. Seasonal home use did increase from 1980 to 1990 and from 1990 to the present. It represented 8% of total housing units in 1980, 28% of total housing units in 1990, and 30% of total housing units in 2000. As of 2000, the community consisted of 70% year-round housing. This points towards a trend for seasonal use, but indicates that year round housing predominates within the Nacimiento area. Countywide, the increase in seasonal use homes has not been as significant, representing 1% in of total housing units 1980, 5% in 1990, and 6% in 2000.

Over the past decade, home prices within SLO County have risen steadily and are projected to continue this trend (UCSB 2002). Table 5.15.9 presents median residential prices and the number of home sales in the County as well as within the study area from 1989 through 2002. Some of the numbers vary from data presented above. This can be attributed to variations in source data as well as different methods of price adjustment.

Median home prices in SLO County were estimated to be approximately 15% higher in 2002 than they were in 2001. However, median family income was only 0.2% higher in 2002 than it was in 2001. This ratio of income to housing costs makes SLO County homeownership virtually unattainable for a large percentage of the population. The affordability index, or percentage of residents who could afford to buy the median priced SLO County home, was approximately 24% in 2001 and 2000, down dramatically from 33% in 1999 and 39% in 1998.

Table 5.15.9 Home Sales and Median Prices

Year	Number of Home Sales				Median Home Prices (2000 Dollars)*				
	100	101	102	County	100	101	102	County	Percent Change
1989	171	123	458	6,219	$131,549	$138,142	$163,310	$195,393	–
1990	82	58	223	3,544	$162,355	$169,010	$188,821	$229,062	17.23
1991	61	53	162	2,995	$139,102	$131,411	$167,549	$211,751	-7.56
1992	55	40	159	3,031	$162,896	$152,692	$171,424	$191,102	-9.75
1993	75	35	150	3,071	$153,895	$137,025	$153,112	$185,642	-2.86
1994	71	55	176	3,443	$148,189	$149,445	$139,193	$177,688	-4.28
1995	88	70	123	2,806	$154,383	$111,385	$137,048	$168,579	-5.13
1996	70	59	155	3,187	$143,132	$137,977	$130,948	$167,902	-0.40
1997	86	49	191	3,964	$130,793	$132,566	$136,768	$176,098	4.88
1998	78	71	222	5,110	$135,255	$127,280	$145,370	$181,585	3.12
1999	101	92	281	5,445	$164,234	$131,847	$159,443	$196,174	8.03
2000	114	146	318	5,309	$167,375	$187,938	$184,125	$225,563	14.98
2001	102	196	297	5,075	$197,339	$206,701	$208,659	$261,160	15.78
2002	97	134	289	5,419	$235,694	$252,611	$241,732	$300,371	15.01

Note: * Median Housing Prices were adjusted to 2000 dollars, for comparison purposes, using GDP deflator information (refer to Appendix F) from the USDA Economic Research Service (Shane 2003).

Source: DataQuick Information Systems 2003

The prohibitive costs of owning homes within the County indicate an increase in the demand of rental units throughout the County. In 2000, the median contract rental rate reported in SLO County for all unit types combined was $654, which represented a 28.2% increase from the median contract rent of $510 reported in 1990.

5.15.3.3 Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires agencies to identify and to address any disproportionately adverse effects on the human environment of minority and low-income populations resulting from proposed actions. The EPA's Office of Environmental Justice defined environmental justice as, "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies."

The demographic analysis of the study area indicates a relatively small percentage of low-income and minority residents. The proposed pipeline would not permanently fragment any segment of the population. In the short-term, construction activities could temporarily impact nearby residents because travel within the area would be affected by traffic delays and standard business practice may be impeded by construction activities. These impacts would be minor and short-term and would not be disproportionate to the rest of the population. The cohesiveness of the community, to the extent that it exists, would not be affected. Please refer to Section 5.16 for a complete evaluation of environmental justice issues.

5.15.3.4 Economic Conditions

The data in this section was obtained from the State of California Employment Development Department (CA Employment Development Department 2002), The 2003 San Luis Obispo County Economic Outlook (UCSB Economic Forecast Project 2002b), The 2002 City of Paso Robles Economic Update (UCSB Economic Forecast Project 2002a), the Nacimiento Area Plan (SLO County 1996a), and the Salinas River Area Plan (SLO County 1996b).

Regional Business Activity

San Luis Obispo County's economy is based largely on tourism and education; as a result, services, government and retail trade are significant industries in the County. The service industry is the largest industry in the County and it provides 25,242 jobs countywide or approximately 25% of employment. Health services and other services account for the largest concentration of jobs. Nonfarm industry projections for 1999–2006 indicate services will see an increase of close to 20% over the 7-year period. Government, the second largest industry, makes up a little over 22% of all employment, with 22,900 jobs reported. The majority of government jobs in SLO County are in the local government sector, primarily education and city and county government. Industry projections estimate that within government, local government should experience the greatest amount of growth, forecasting an increase of 15.3% or 1,800 jobs. The retail trade industry contributes more than 21% of the County's jobs. Within the retail trade, eating and drinking places and other retail each posted total employment over 8,000 in the year 2001. Projections for retail trade indicate the industry could grow by almost 12% during the forecast period 1999–2006.

Agriculture, one of the County's smaller industries, experienced growth of 10% in 2001 with a resultant record gross agricultural value of almost $490 million. Leading agriculture products include wine grapes, cattle, broccoli, lettuce, houseplants, and strawberries.

Study Area Business Activity

The opportunities for businesses in the communities immediately surrounding Lake Nacimiento area are confined to a few scattered retail establishments and marine equipment shops. The commercial activities around the lake are mostly visitor-serving and oriented toward peak use periods.

Despite the rugged terrain of most of the Nacimiento planning area and the concentration of recreational activities at the lake, the economy of the region surrounding Lake Nacimiento remains based in agriculture (SLO County 1996a). Grazing is the primary agricultural pursuit, though some dry farming occurs in limited areas. Vineyards and small wineries are increasing within the area as this industry continues to grow in the County.

The urban community nearest Lake Nacimiento is the City of Paso Robles, located within the Salinas River planning area and within Census Tract 102. The primary business activity within this community takes place within 5 miles of the U.S. Highway 101 corridor. The Paso Robles economy has an intensity of activity in the manufacturing sector, retail trade sector, and the finance, insurance, and real estate sector, which make up 23.2%, 19.6%, and 11.96% of the Paso Robles economy, respectively (UCSB Economic Forecast Project 2002a). There are several businesses within Paso Robles that serve Lake Nacimiento visitors through the peak recreation season. These include various marine shops, service stations, grocery and liquor stores, restaurants, and hotels. These businesses are located primarily along the U.S. Highway 101 corridor, receiving much of their patronage from peak season highway travelers.

Paso Robles business activity can be further analyzed by reviewing historic sales tax information for the area (refer to Table 5.15.10). This data is not available for Census Tract 100, specifically because, due to confidentially restrictions, sales tax information cannot be accessed for areas with fewer than 100 businesses. Tract 100 sales would be reflected in countywide statistics (refer to Appendix E).

Employment and Income

Since 1997, the annual average unemployment rate for SLO County has been consistently lower than California's employment rate. During the period from 1997 to 2001, SLO County's unemployment rate dropped 1.9%, from a high of 4.7% in 1997 to a low of 2.8% in 2001. The unemployment rate in 2002 was just over 3%, a slight increase attributed primarily to the national recession.

Table 5.15.10 City of Paso Robles Taxable Sales

Type of Business	1980		1990		2000	
	Permits	Taxable Transactions*	Permits	Taxable Transactions*	Permits	Taxable Transactions*
Apparel Stores	17	3,515	21	5,297	17	5,023
General Merchandise Stores	12	6,005	8	18,702	15	91,002
Drug Stores	4	1,269	5	3,039		
Food Stores	10	7,065	13	19,428	21	22,131
Packaged Liquor Stores	6	2,160	5	2,032	–	–
Eating and Drinking Places	28	8,956	65	20,879	81	41,784
Home Furnish. and Appliances	15	1,868	29	5,948	34	11,976
Bldg. Material. and Farm Implements.	18	9,556	23	24,796	24	35,344
Auto Dealers and Supplies	11	6,063	19	25,323	30	67,855
Service Stations	24	13,683	22	33,354	15	39,736
Other Retail Stores	46	5,780	90	17,477	166	50,298
Retail Stores Total	191	65,920	300	176,275	403	365,149
All Other Outlets	248	15,067	426	34,749	723	66,642

Note: [1] Taxable transactions in thousands of dollars.

Source: State Board of Equalization, 1980–2000

The median family income in SLO County was $48,107 in 2002. This number is down from $49,148 in 2001, and well below California's median of $58,150 (refer to Table 5.15.11). According to the 2000 census, the median family income in Census Tracts 100 and 101 (communities within and adjacent to the study area) were $46,754 and $34,916, respectively. This reflects these areas' dependence on agricultural industries, which are traditionally among the lowest wage sectors in SLO County. Census Tracts 102.01, 102.02, and 102.03 reported slight higher median family incomes, averaging $49,683.

Table 5.15.11 Real Median Family Income

Real Median Family Income* (2000 dollars)	1995	1996	1997	1998	1999	2000	2001	2002
California	$50,888	$51,844	$52,527	$54,569	$55,294	$55,200	$57,176	$58,150
Percent change		1.88	1.32	3.89	1.33	-0.17	3.58	1.70
SLO County	$46,192	$46,381	$46,014	$47,929	$49,060	$48,000	$49,148	$48,107
Percent change	–	0.41	-0.79	4.16	2.36	-2.16	2.39	-2.12

Note: * Reported Median Family Income estimates were adjusted to 2000 dollars, for comparison purposes, using GDP deflator information (refer to Appendix F) from the USDA Economic Research Service (Shane 2003).

Source: California Department of Finance

5.15.4 Regulatory Setting

Both the NEPA and CEQA and the regulations and guidelines that implement these laws, require consideration of social and economic impacts of projects in the preparation of environmental documents. NEPA and CEQA policies state that consideration should be given to qualitative factors and unquantifiable environmental amenities and values, along with economic and technical considerations in decision-making that may affect the environment.

Effects analyzed under CEQA must be related to a physical change in the environment (Guidelines sec. 15358(b)). Economic and social effects are not considered environmental effects under CEQA. These effects need to be considered in EIRs only if they would lead to an environmental effect. For instance, an EIR is not required to analyze the economic effect on small business of construction of a large shopping mall; however, the Lead Agency should analyze the environmental effect of the change in traffic patterns that would result from closing of the small businesses and opening of the shopping mall. The evaluation of economic or social effects is generally treated as optional; agencies may, but are not required to evaluate them (CEQA Guidelines sec. 15131). According to CEQA, socioeconomic effects in themselves are not considered impacts on the environment; however an EIR may trace a chain of cause and effect from a proposed project, through anticipated economic and social changes resulting from the project, to physical changes on the environment (CEQA Guidelines Section 15131).

NEPA differs somewhat from CEQA with regard to the requirement to evaluate social and economic impacts. NEPA Regulations Section 40CFR 1508.14 states, "…economic or social effects are not intended by themselves to require preparation of an environmental impact statement. When an environmental impact statement is prepared and economic or social and natural or physical environmental effects are interrelated, then the environmental impact statement will discuss all of these effects on the human environment." NEPA's requirement to consider socioeconomic impacts is slightly broader that CEQA's; in practice federal agencies generally include more economic and social information in EISs than state or local agencies include in EIRs.

5.15.5 Significance Criteria

Under CEQA standards (refer to Appendix G, Environmental Checklist Form attached to the CEQA Guidelines), a project is generally considered to have a significant socioeconomic impact on the environment if it:

- Results in unanticipated economic hardship on the surrounding community;
- Induces substantial growth or concentration of population (either residential or commercial);
- Displaces a large number of people; or
- Displaces substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; or
- Disrupts or divides the physical arrangement of an established community, or isolates a specific economic group.

Under NEPA, cumulative analysis for a number of social and human community structures is required (refer to CEQ Guidance Regarding Cumulative Effects, Appendix G, The NEPA Book):

- Overburdened social services due to sudden, unplanned population changes as a secondary effect of multiple projects and activities; or
- Unstable labor markets resulting from changes in the pool of eligible workers during “boom” and “bust” phases of development; or
- Disruption of community mobility and access as a result of infrastructure development; or
- Change in community dynamics by incremental displacement of critical community members as part of unplanned commercial development projects; or
- Loss of neighborhoods or community character, particularly those valued by low-income and minority populations, through incremental development.

For the purposes of this report, it is evident that many of the NEPA cumulative thresholds are not pertinent to this project. For instance, the project will not result of any unplanned population changes as a secondary effect of the project nor will it result in any “boom” or “bust” phenomena, nor will it involve any unplanned commercial development projects or loss of any neighborhoods, since the project does not contain any commercial or housing development. Therefore, the evaluation of significant effects on the environment will follow the CEQA significant criteria.

5.15.6 Proposed Project Impacts and Mitigation Measures

The following sections discuss potential short-term and long-term impacts to socioeconomic resources, mitigation measures (where appropriate), and residual impacts associated with the proposed project options.

5.15.6.1 Treated Water Option

Short-term
The following section describes potential impacts to socioeconomic resources as a result of construction of the proposed pipeline and related facilities. The focus of this analysis is to determine the proposed project's potential for socioeconomic compatibility impacts on surrounding businesses or to surrounding agricultural production areas.

Impact	Impact Description	Residual Impact
SE.1	Water pipeline construction activities located within the road ROWs near business centers (Paso Robles, Santa Margarita, and San Luis Obispo) have the potential to cause adverse impacts to industries located within and adjacent to project areas by impeding standard business practices. The majority of businesses that would be affected for the short-term are those located within or adjacent to construction areas on North River Road, El Camino Real in Santa Margarita, at the intersection of Dalidio Drive and Madonna Road, along Dalidio Drive, Prado Road extension, and Highway 227. These businesses may experience short-term impedance to business caused by road closures in front of businesses, some difficulties accessing store fronts, and nuisance to patrons from construction activities. This impedance to business would average one to two days during construction (based on construction of 50 to 100 feet of pipeline per day).	Class III

There are various industries and retail businesses located along the proposed pipeline corridor. Many of these sites would only require temporary access during periods of construction, resulting in short-term, adverse but mitigable impacts to land uses if business practices are impeded or if construction activities are incompatible with existing practices. Construction activities located within and adjacent to urban road ROWs may cause disruption to standard business practices in several different ways, including impeding access to store fronts and creating construction zones, which may give the appearance of businesses being closed. In addition, construction equipment located onsite has the potential to occupy space normally utilized by industry vehicles and working operations. Traffic mitigations T-1, T-2, T-3, T-7, T-8, T-11 and T-12 found in Section 5.11 are adequate to address these adverse impacts.

Mitigation Measures
No additional measures are required.

Residual Impact
Implementation of the above mitigation measures will result in socioeconomic resource impacts that would be considered *less than significant* (Class III).

Long-term
The purpose of the following analysis is to evaluate the potential secondary social and economic impacts of the proposed project that may result from changes in water levels at Lake Nacimiento and perceived changes in quality of life for permanent residents and seasonal visitors. These changes could result in reductions or increases to business viability, changes in recreational values due to lowering of the lake, and resultant changes in recreational patterns (or lake visits)

during seasonal changes in lake levels. Changes in lake levels can also change the type of uses and usage patterns of the lake and this could also enhance or decrease the property owners or visitors perception regarding social value.

Impact	Impact Description	Residual Impact
SE.2	Implementation of the proposed project would result in insignificant adverse impacts to businesses that rely on tourism/recreational activities at Lake Nacimiento, as compared to historic conditions, due to the additional lowering of water levels to elevations below 748 feet.	Class III

There are three businesses in the Lake Nacimiento area that have goods and services; these are the Lake Nacimiento Resort that has a restaurant, motel, convenience store and boat rentals, Bee Rock Store and Al's Boat Repair. Residents of the Lake Nacimiento Area must shop outside the area for the majority of their goods and services.

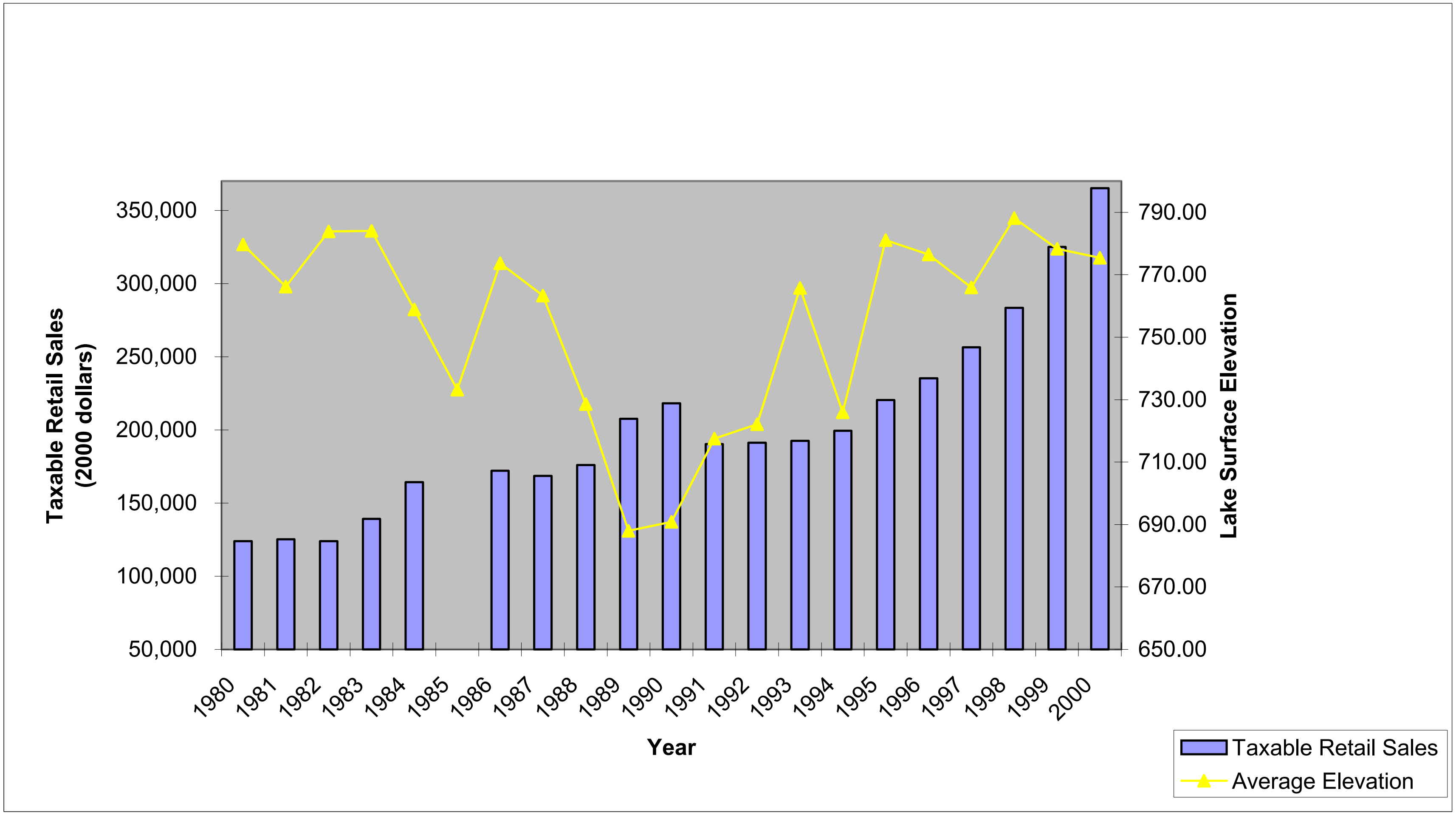
The urban community nearest Lake Nacimiento is the City of Paso Robles, located within the Salinas River planning area and within Census Tract 102. Census Tracts 100, 101, 102, and northern SLO County as a whole utilize Paso Robles as the regional market center.

There are several businesses within Paso Robles that serve Lake Nacimiento visitors through the peak recreation season. These include various marine shops, service stations, grocery and convenience stores, restaurants, and hotels. Taxable sales data for businesses within the Paso Robles area was acquired from the State Board of Equalization. Figures 5.15-5 through 5.15-9 visually depict the relationship between retail sales of various commodities traditionally associated with lake usage and historic lake level elevations.

Additional information in Figures 5.15-5 through 5.15-9 shows retail sales and boat sales countywide, as compared to historic lake level elevations. Historic lake level elevation was chosen for comparison because, as shown in Figure 5.15-4, there appears to be a general trend that suggests visitation decreases as lake levels decrease.

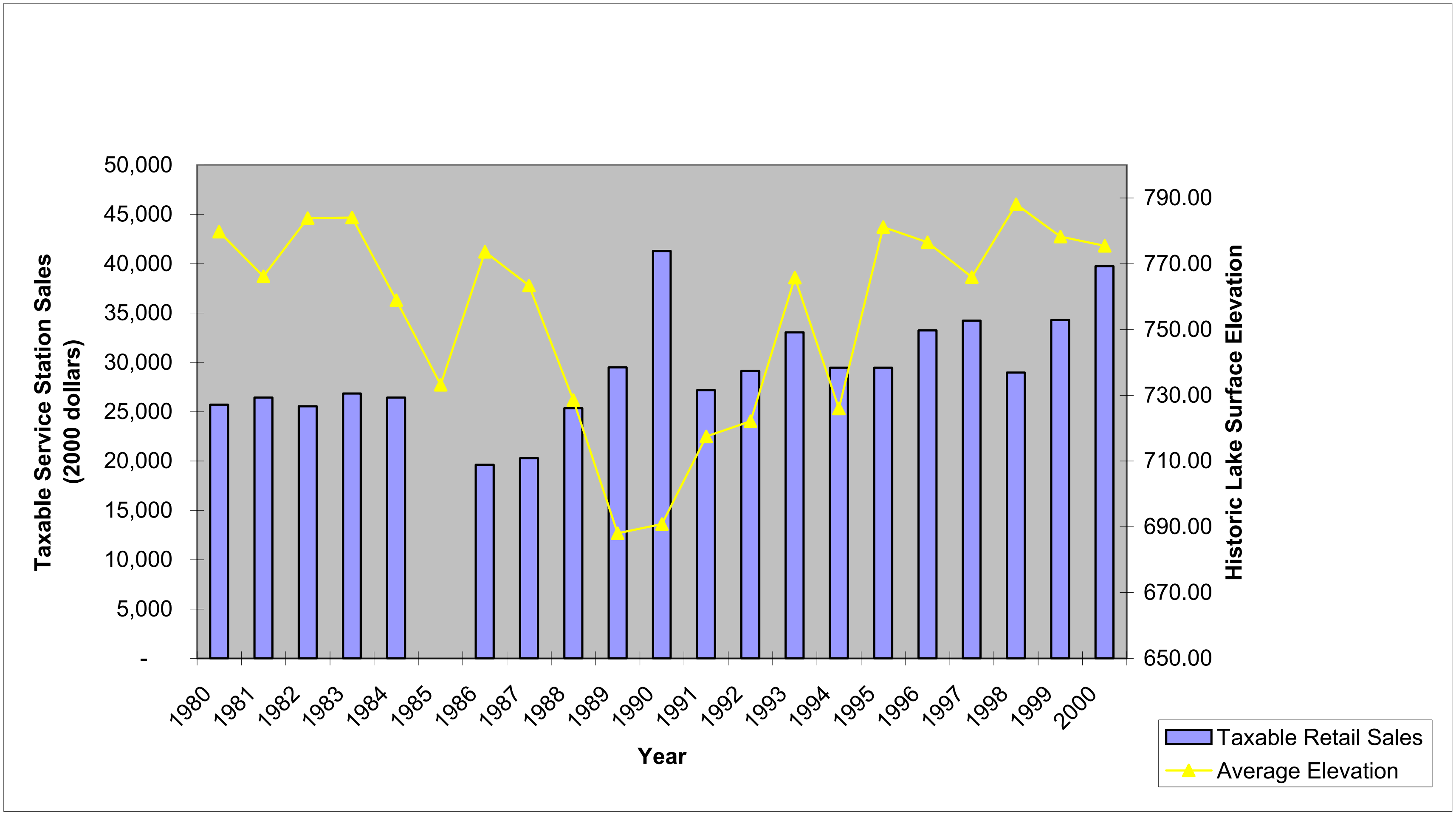
Analysis of Figures 5.15-5 through 5.15-9 indicates that while businesses located within Paso Robles provide services to Lake Nacimiento visitors, they do not rely solely on recreation users for their income. This is particularly evident in the years 1989 through 1991 when Lake Nacimiento reported record low levels while, conversely, retail sales in the Paso Robles area, in many instances, peaked. This helps to show that a variety of factors, other than lake levels and visitor usage of Lake Nacimiento, contribute to the economic health of the study area. Paso Robles is a regional market as well as a visitor destination point for visitors drawn to the area because of the numerous wineries and wine festivals in the area. Paso Robles also hosts the Mid-State Fair, which draws a substantial number of tourists during the month of August. The Mid-State Fairgrounds also hosts annual events such as mineral and gun shows, stock shows and sales, home fairs and other events that draw visitors statewide. Paso Robles also serves travelers along the U.S. Highway 101 corridor, which services a steady flow of peak season highway travelers.

Figure 5.15-5 Paso Robles Retail Sales and Lake Elevation Relationship



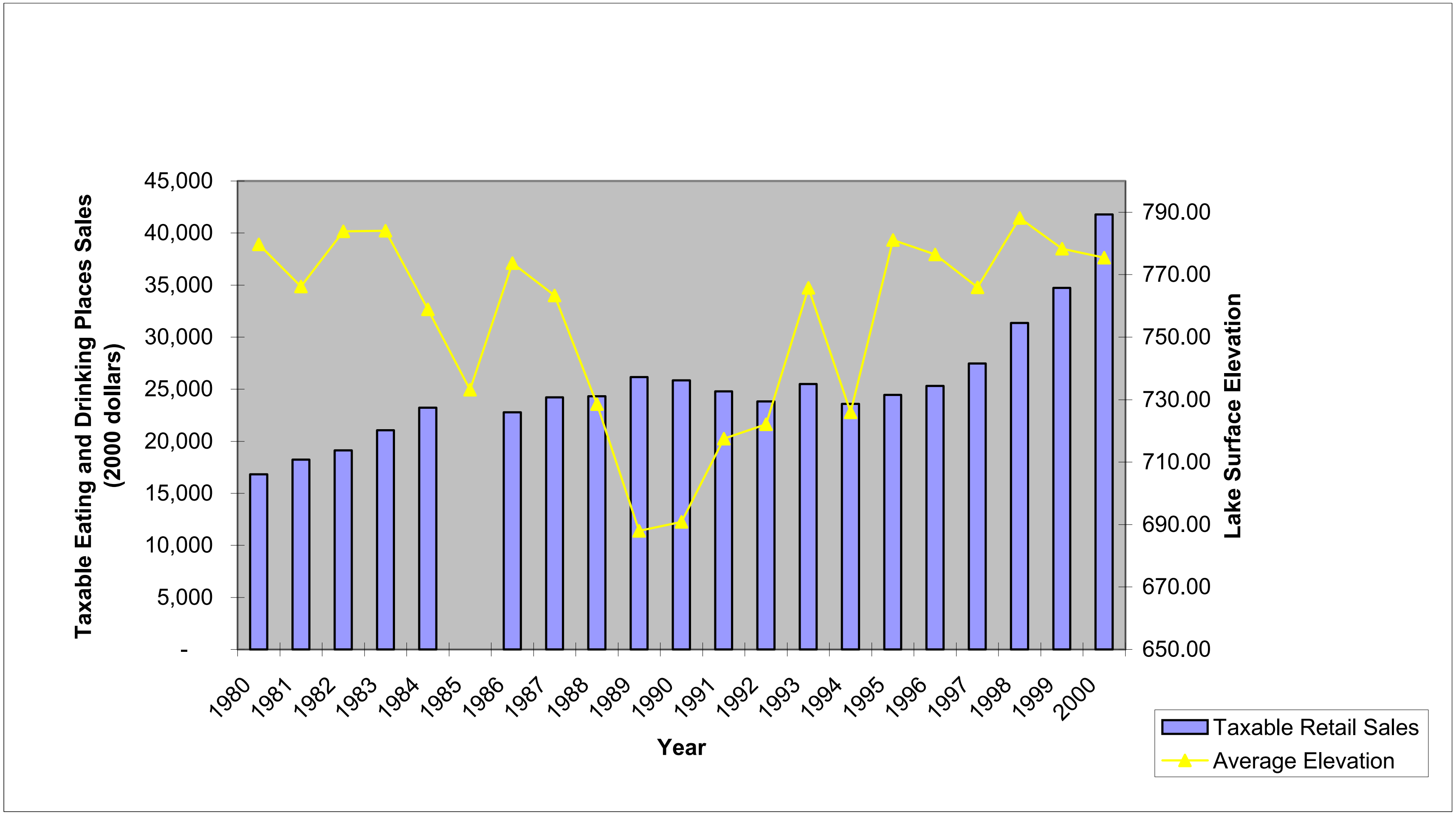
Source: California State Board of Equalization, Taxable Sales in California (Sales and Use Tax), 1980–2000. Hardan and C. Alakel 2002.

Figure 5.15-6 Paso Robles Service Station Sales and Lake Elevation Relationship



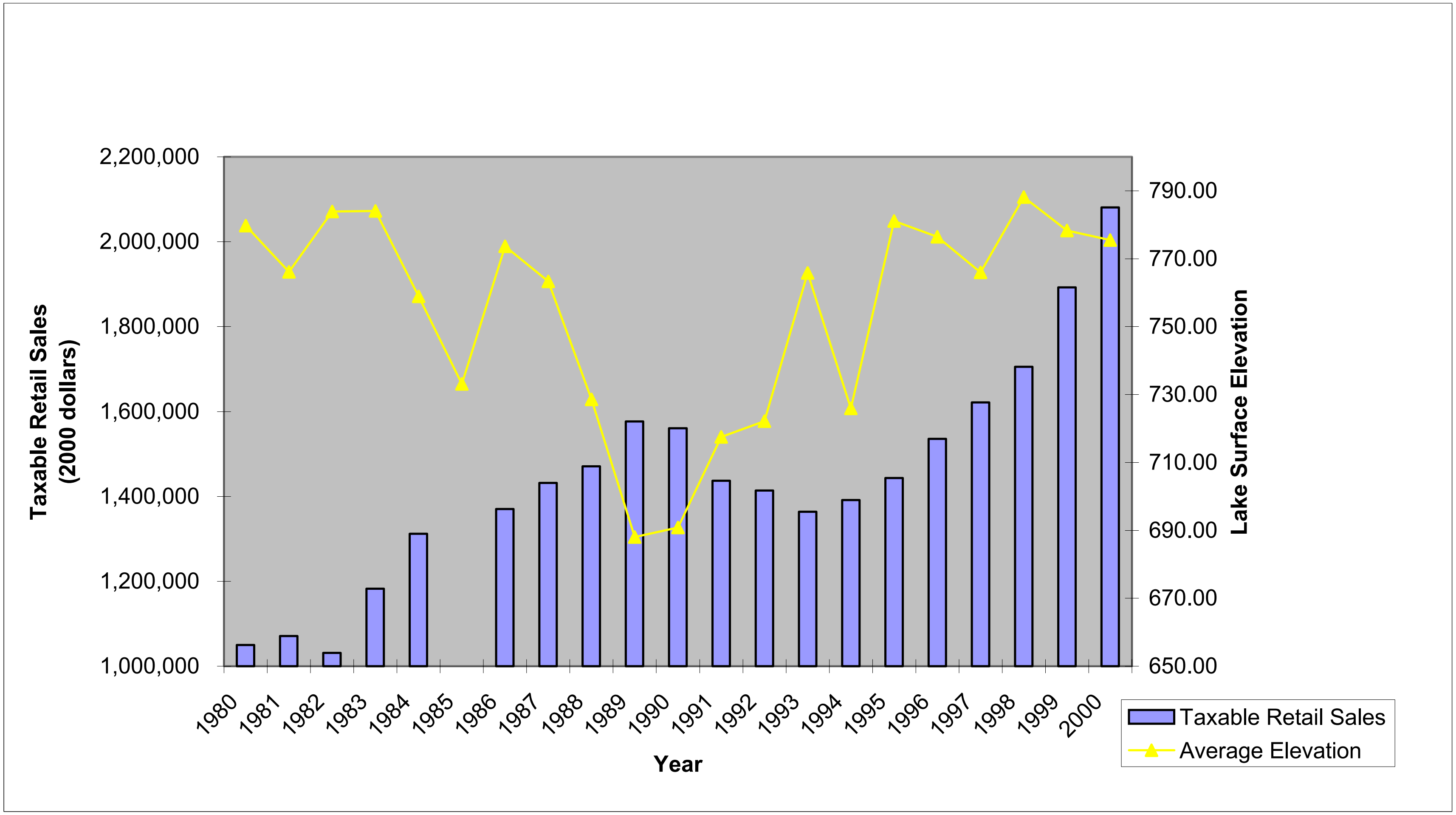
Source: California State Board of Equalization, Taxable Sales in California (Sales and Use Tax), 1980–2000. Hardan and C. Alakel 2002.

Figure 5.15-7 Paso Robles Restaurant Sales and Lake Elevation Relationship



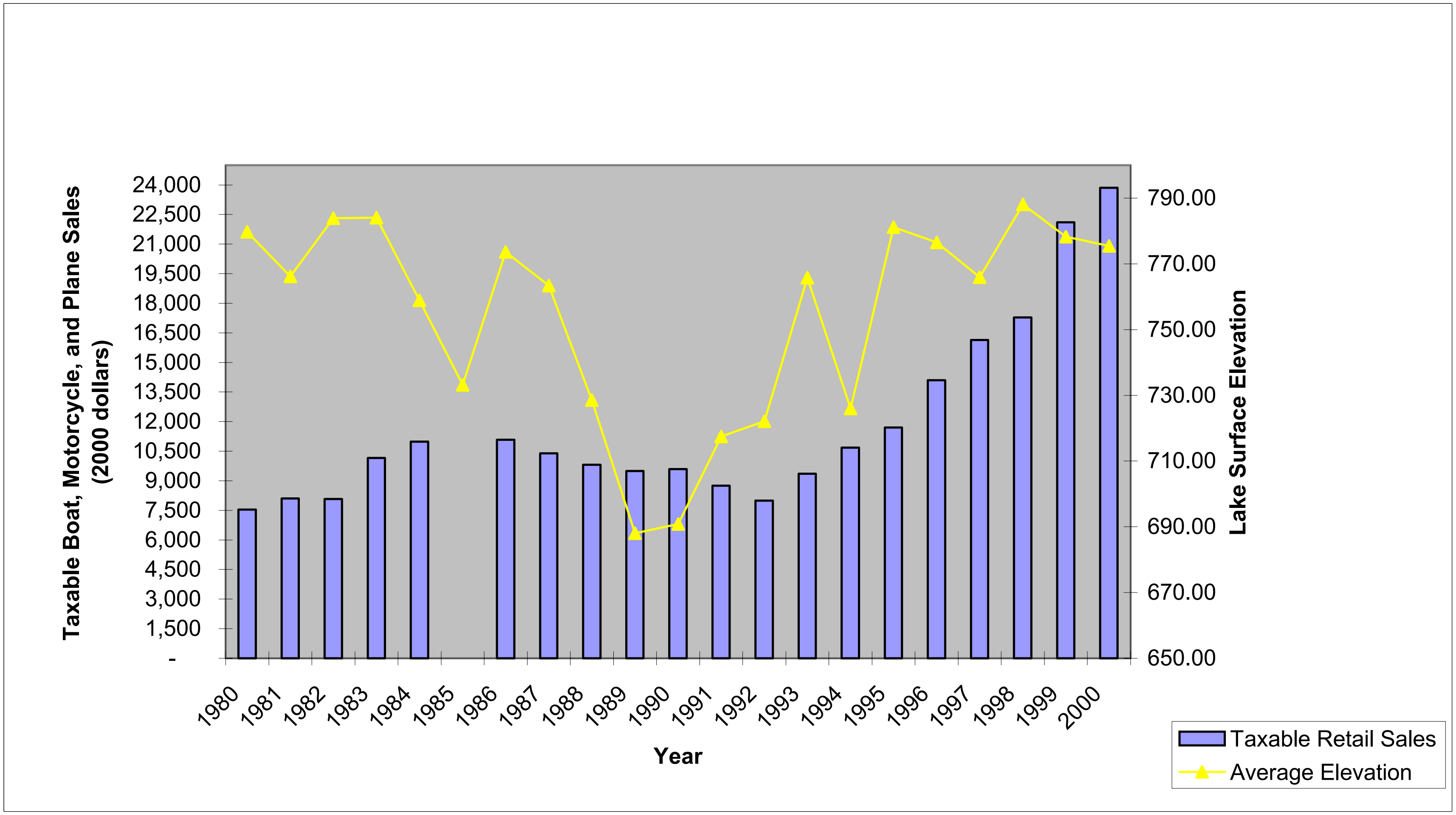
Source: California State Board of Equalization, Taxable Sales in California (Sales and Use Tax), 1980–2000. Hardan and C. Alakel 2002.

Figure 5.15-8 County Retail Sales and Lake Elevation Relationship



Source: California State Board of Equalization, Taxable Sales in California (Sales and Use Tax), 1980–2000. Hardan and C. Alakel 2002.

Figure 5.15-9 County Boat Sales and Lake Elevation Relationship



Source: California State Board of Equalization, Taxable Sales in California (Sales and Use Tax), 1980–2000. Hardan and C. Alakel 2002.

Unlike the community of Paso Robles and SLO County as a whole, the communities immediately surrounding Lake Nacimiento may be more directly influenced by water management activities. Taxable sales data for the businesses within Census Tract 100 (Lake Nacimiento environs), specifically, were not available from the State Board of Equalization due to confidentiality restrictions that require a minimum number of businesses to be present in order to report data. Consequently, the relationship between taxable sales in those businesses immediately surrounding Lake Nacimiento and historic lake level elevations is not analyzed. The businesses in the communities immediately surrounding Lake Nacimiento area are confined to a very few scattered retail establishments (including but not limited to Al's Marine and Bee Rock Store) in addition to the Lake Nacimiento Resort.

These commercial activities are mostly visitor serving, and are oriented toward peak use periods, relying directly on Lake Nacimiento tourism revenue from recreational activities. A reduction in recreational uses at Lake Nacimiento could result in long-term socioeconomic effects to these establishments. Despite potential setbacks, businesses could recover in the long run by shifting their target market and catering more to permanent residents and travelers who are visiting the area for purposes other than lake recreation. Bee Rock Store traditionally shifts its goods and services to local residents during the winter months when tourism is slow, and gears sales towards tourism in the summer months. Al's Marine provides a variety of services that would cater to year round residents as well as tourism. Normally, boat sales and repair occur near a visitor's home as opposed to their destination, due to a variety of factors including convenience, the location of various boating manufacturers near urban centers and large recreational areas (e.g., southern California coastal areas and the San Francisco Bay area). Lake Nacimiento Resort was unavailable for comment. However, it is apparent from observed spring weekday usage, when only the store was open and use was extremely low, that the resort is a seasonal facility and caters to tourists.

Year-round residential use, which makes up approximately 70% of all Nacimiento area residences, may in fact play a greater role in supporting retail businesses than has typically been perceived, particularly during non-peak seasons. This trend towards year-round residential use has encouraged a major developer to apply for County approval to construct a commercial center near Oak Shores and Heritage Ranch (personal communication, County Planning Department).

In a study entitled, Nacimiento Reservoir – Reliability As a Water Source For San Luis Obispo County (2002), Boyle Engineering Corporation prepared a computer model, forecasting theoretical drawdown effects with the proposed project using data for the period of October 1958 to October 2001. This data was used to illustrate and compare what effects the proposed project might have had on historic lake level fluctuations; in other words, if SLO County had taken its entitlement of 17,500 acre feet per year (afy) for the time period starting in 1958 through October of 2001. Comparisons of the computer model drawdown effects versus actual historic lake levels showed that the proposed project would result in an approximate 0.3-day increase in the average number of days lake levels would have reached elevations of 748 feet or below during the peak recreation season, May 1–September 30, (refer to Section 5.14.4.1, Impact REC.2 for a detailed discussion). This 0.3-day increase is well below the significance criteria of 5.5 additional days as given for potential impacts to recreation, Refer to Recreation section of this EIR for further information. However, housing and economic resources are not totally dependent on recreational use of the lake, since there is a dominant trend for year round housing and not all of this housing has lake views or is oriented towards lake uses.

Mitigation Measures
No mitigation measures have been identified.

Residual Impact
Due to the insignificant increase in the number of days that lake level elevations dropped below the 748-foot threshold during the peak recreation season, socioeconomic impacts associated with the proposed project's delivery schedule and subsequent lowering of lake level elevations are *adverse but not significant* (Class III).

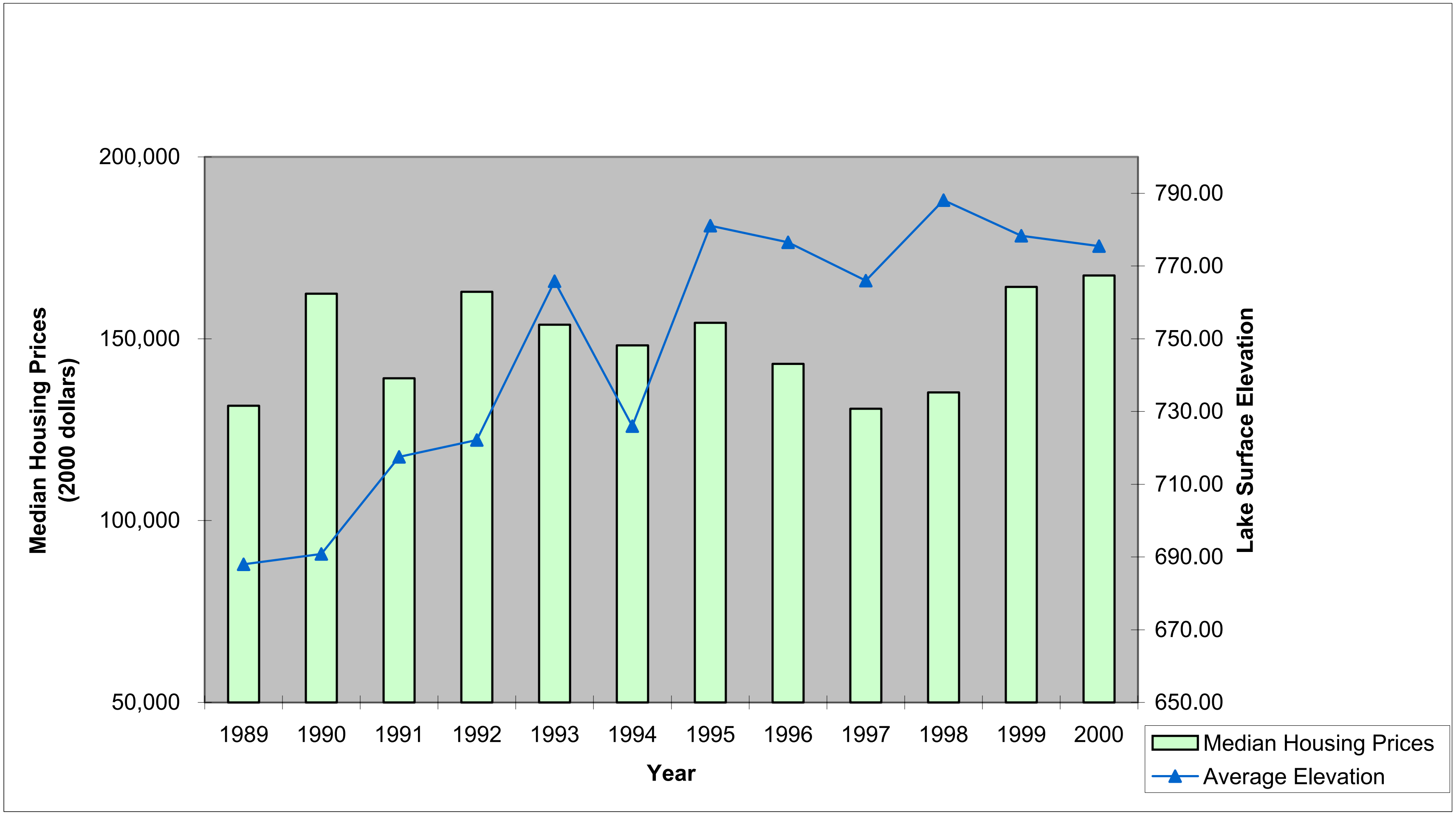
Impact	Impact Description	Residual Impact
SE.3	Implementation of the proposed project would result in insignificant adverse impacts to property values surrounding Lake Nacimiento resulting from changes in lake levels.	Class III

The property value analysis was conducted by evaluating historical median housing price information for Census Tracts 100, 101, 102. Historical property sales data (1989–2000) were correlated with historic lake levels to evaluate the relationship between these variables (refer to Figures 5.15-10 through 5.15-12). Countywide median housing price information is included to show the similarities in housing price trends within the County as compared to the specific Census Tracts (refer to Figure 5.15-13).

Housing prices throughout the County appeared to peak in the early 1990s; this is also true of the median home prices within the study area. Prices peaked when lake levels were at their lowest elevations. Conversely, in the mid-1990s the real estate market dipped when lake levels had climbed back up to higher levels. This helps to show that a variety of factors, other than lake levels and the attractiveness of Lake Nacimiento, contribute to the value of homes within the study area. For example, as interest rates decrease, buying a home becomes more affordable for many people. This increases demand for housing, often resulting in higher home prices as demand continues to exceed supply. Also, given the increase in numbers of housing units over the past 30 years and the stable rate of seasonal housing versus year-round housing (70% in year round housing and 30% in seasonal housing), there appears to be a strong attractiveness in year-round housing. This trend indicates that other amenities in addition to lake proximity (not all housing within the Nacimiento area is oriented to the lake, lake views, or boating access) would likely survive changes in lake operations and focus on the rural, open space, agricultural areas and recreational enjoyment of the area.

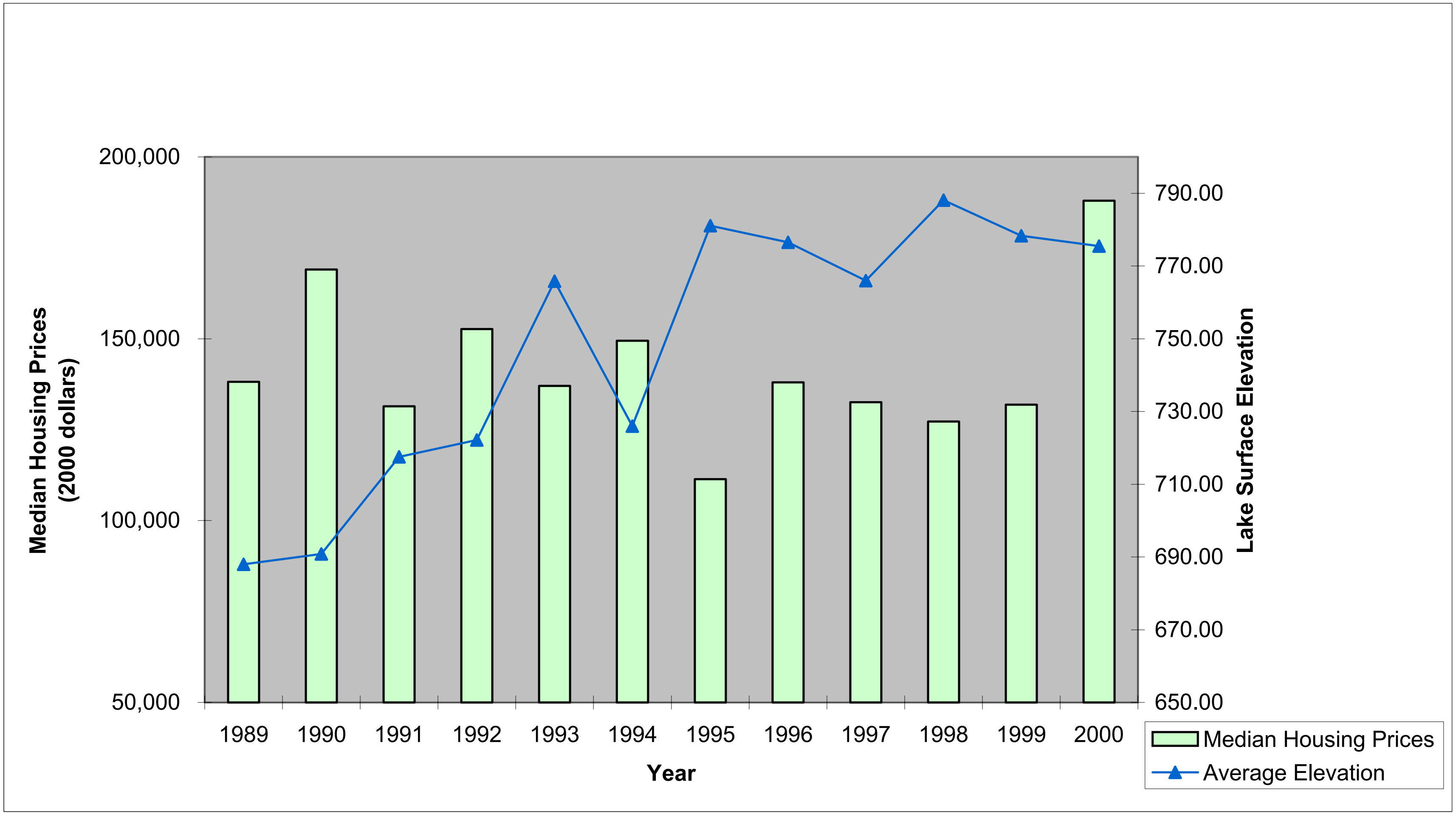
It should be noted that housing sales are still strong in the Lake Nacimiento area, and with the increased prices of housing in San Luis Obispo, the pricing of housing in Census Tracts 100 and 101 is favorable, particularly with relatively short commutes to Paso Robles and San Luis Obispo (when compared to the urban areas of Los Angeles and San Jose where commutes are greater than two hours). Although pumping of the lake water as proposed would lower lake levels at certain times of the year, the levels during the winter and spring months would still be high and would be an attractive amenity to buyers. The anticipated impact of 0.3 days increase of lower lake levels should not be significant to reduce housing sales.

Figure 5.15-10 Census Tract 100 Historical Property Price and Lake Elevation Relationship



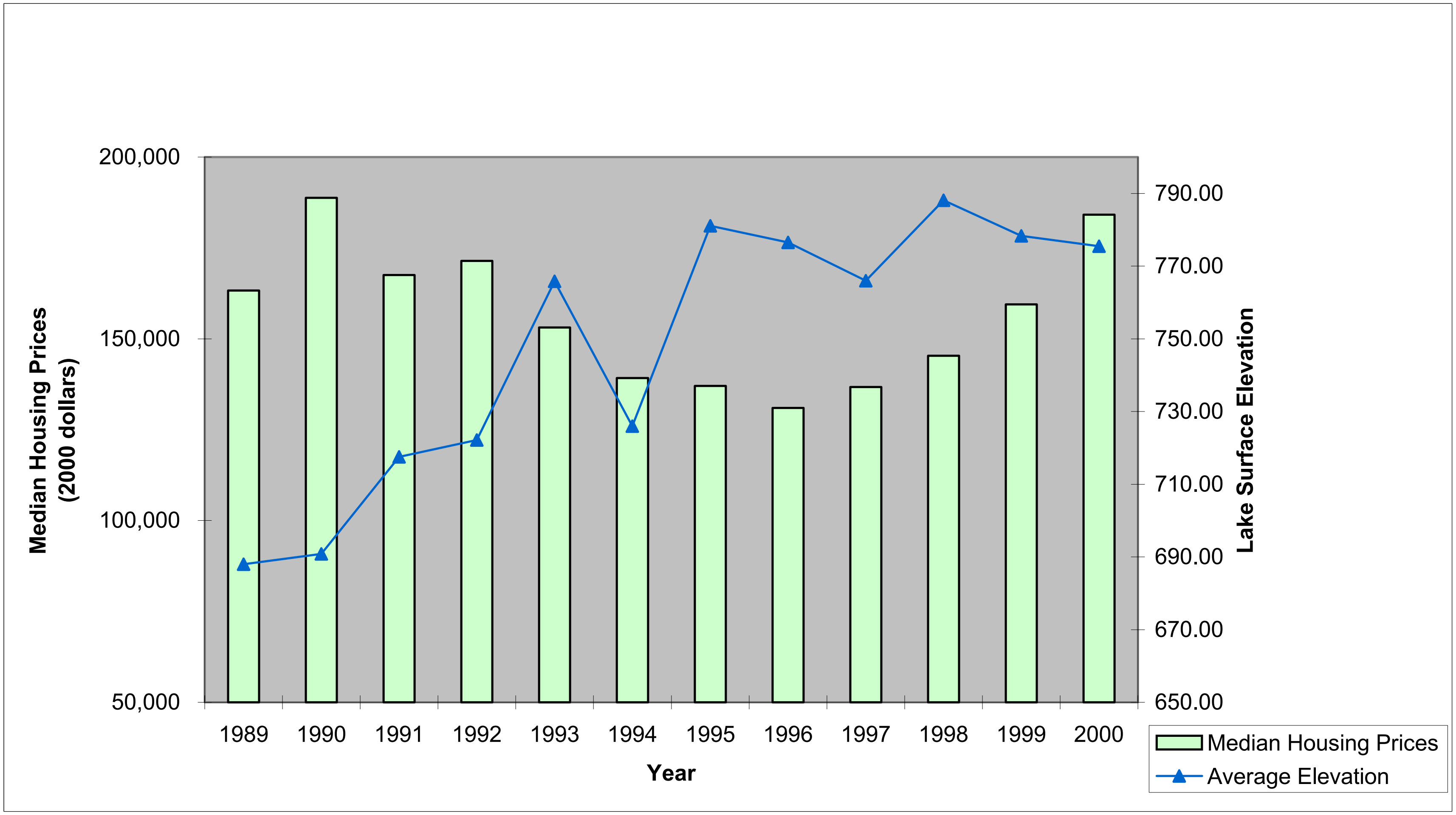
Source: Data Quick Information Systems 2003 D.L. Hardan and C. Alakel 2002.

Figure 5.15-11 Census Tract 101 Historical Property Price and Lake Elevation Relationship



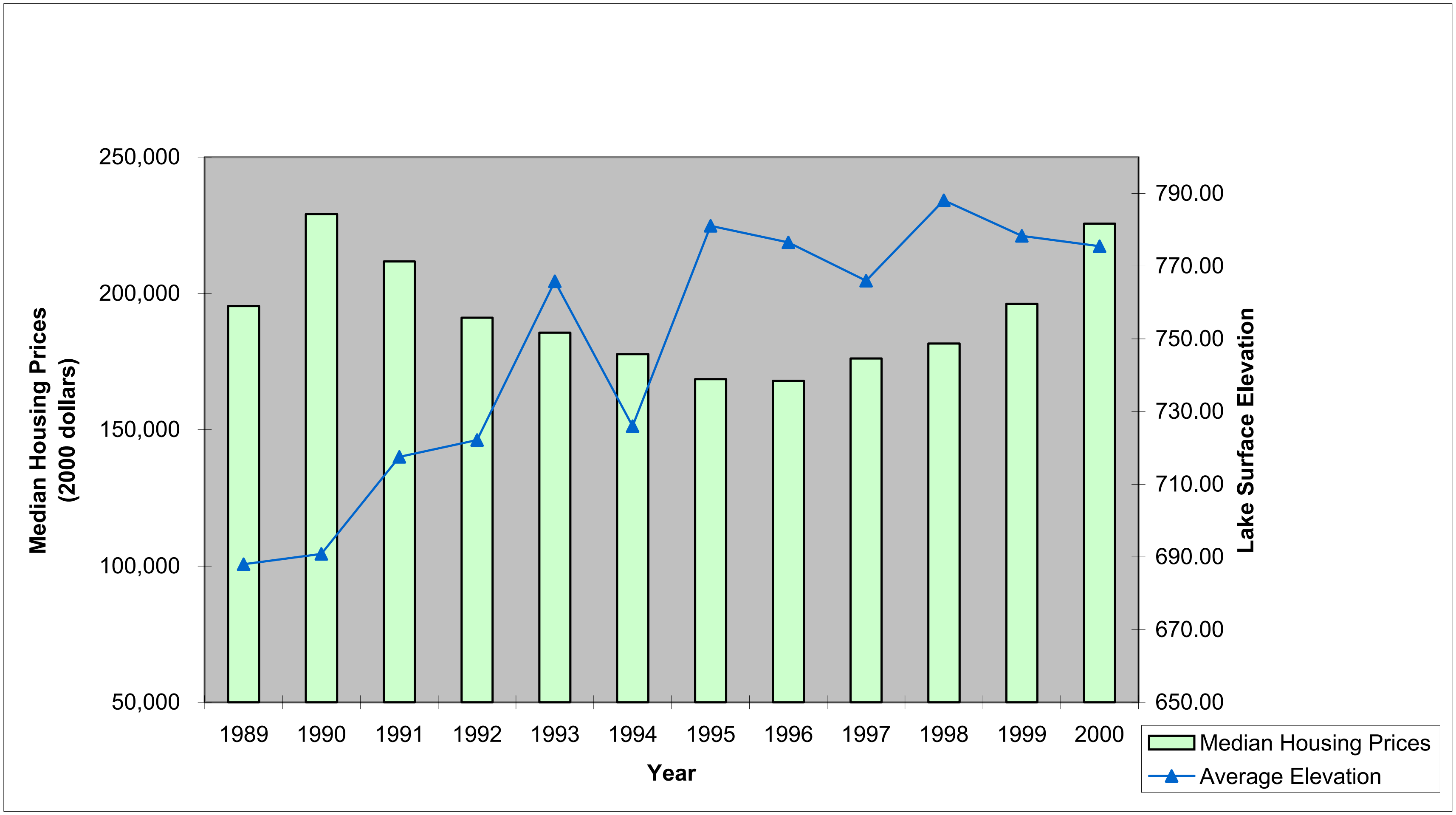
Source: Data Quick Information Systems 2003 Hardan and C. Alakel 2002.

Figure 5.15-12 Census Tract 102 Historical Property Price and Lake Elevation Relationship



Source: Data Quick Information Systems 2003. Hardan and C. Alakel 2002.

Figure 5.15-13 County of San Luis Obispo Historical Property Price and Lake Elevation Relationship



Source: Data Quick Information Systems 2003. Hardan and C. Alakel 2002.

Mitigation Measures
No mitigation measures have been identified.

Residual Impact
Due to the insignificant correlation between lake levels and historical median home prices of properties within the Lake Nacimiento area, socioeconomic impacts associated with the proposed project's delivery schedule and subsequent lowering of lake level elevations are *adverse but not significant* (Class III).

5.15.6.2 Raw Water Option

Socioeconomics resources impacts associated with the Raw Water Option are similar to those for the Treated Water Option. Impacts SE.1 (short-term) and SE.2 and SE.3 (long-term) would be the same as for the Treated Water Option. Mitigation Measures SE-1 and SE-2 shall be implemented.

5.15.7 Alternative Impacts and Mitigation Measures

5.15.7.1 No Project Alternative

With the No Project Alternative, lake levels at Lake Nacimiento would continue to fluctuate based on existing lake operations and annual fluctuations in precipitation. In addition, urban businesses and agricultural production areas along the proposed pipeline corridor would remain unimpeded. Therefore, there are no adverse impacts to socioeconomic resources anticipated as a result of the No Project Alternative.

5.15.7.2 NWP 1997 EIR Alternative

The socioeconomic impacts associated with this alternative were not analyzed previously in the NWP 1997 EIR. This alternative pipeline would follow a different route than the proposed project. The route would mainly follow public ROW, such as city and county roads, resulting in greater impacts to residents and business owners along the proposed pipeline right-of-way. These impacts would be similar to SE.1 although they have a greater likelihood of occurrence. Implementation of project mitigation measures SE-1 and SE-2 would reduce socioeconomic impacts to less-than-significant levels.

5.15.7.3 Phased Raw and Treated Water Alternative

This alternative would be constructed in a phased approach, starting out as a raw water project as described in Section 2.4.2 (Figure 2-2), and upon completion, would be a treated water project as described in Section 2.4.1 (Figure 2-1). Impacts associated with this alternative would be identical to the impacts identified for the proposed project. Refer to discussions of impacts SE.1 through SE.3, and implement mitigation measures SE-1 and SE-2.

5.15.8 Cumulative Impacts and Mitigation Measures

The section below describes the impacts associated with the cumulative development scenario. The following significant project was identified as a component of this cumulative development scenario: Monterey County Salinas Valley Water Project (SWVP). Numerous other smaller projects were identified in Section 4.0, but these projects would not have socioeconomic impacts that occur at the same time and/or location as the proposed project, or would have only negligible cumulative impacts.

Impact	Impact Description	Residual Impact
SE.4	The cumulative development scenario would result in increased lake drawdowns but this would not impact overall social and economic characteristics within the Lake Nacimiento area.	Class III

The social and economic characteristics of the Lake Nacimiento area are more aptly characterized as a year round residential area with secondary usage as a lake resort, allowing for a 30% of seasonal housing directed toward lake usage. With minimal commercial and other retail services, Lake Nacimiento relies on Paso Robles as its major urban center. Goods and services are predominately acquired in Paso Robles area with relatively few businesses in the lake area providing for short-term and recreational needs. Therefore, the cumulative impacts of the proposed project combined with the SVWP would be the same as for the proposed project.

The cumulative project would have an unknown impact on the three local businesses (Bee Rock, Al's Marine and Lake Nacimiento Resort) for an additional 122 months of 230 months, or approximately 29 additional months during the peak recreation seasons in a 46-year period, when lake elevations would be reduced to elevations of 748 feet or below. It is probable that Bee Rock and Al's Marine would shift their marketing during this period to serve local residents, since the trend is evident that year-round residents are capable of supporting these two facilities. However, it is unknown whether the Lake Nacimiento Resort would be able to withstand the increase in the number of days of lowered lake levels since economic information was not available for review as part of this study (refer to Appendix E for information regarding communications with Lake Nacimiento Resort). It also should be noted that although lake levels would change with the proposed cumulative development, the lake would still be a viable recreational area during the times when lake levels were within the historic (or pre-cumulative project) levels.

Mitigation Measures
No mitigation measures have been identified.

Residual Impact
The socioeconomic impacts associated with the cumulative development scenario would be similar to that of the proposed project (Class III), with the exception of an unknown cumulative economic impact to the Lake Nacimiento Resort. Regardless of potential economic impacts to Lake Nacimiento Resort, however, overall cumulative socioeconomic impacts would be considered *less than significant* (Class III).

5.15.9 Mitigation Monitoring Plan

No Mitigation Monitoring Plan is necessary as there are no impacts or mitigation measures for the Socioeconomic Resources issue area.

5.16 Environmental Justice

This section provides an analysis of environmental justice. While it is not required under CEQA, it has been prepared as an Environmental Impact Statement (EIS) portion of this document. It is included in this document to provide the reader with a summary of the issues related to environmental justice.

In this section, environmental justice issues within the framework of the NEPA EIS process for the proposed NWP are discussed. The Council on Environmental Quality (CEQ) NEPA guidance regulation, Section 1502, details the required approach for the development of EIS documents. This guidance defines the areas to be examined as: (1) the impacts of the proposed project and alternatives; (2) the affected environment; and (3) the environmental consequences.

Many of the areas specified in Section 1502 have been addressed in other parts of this EIR. These include energy requirements, natural resources, cultural and historic resources, air quality, land use and planning policies, and public safety.

5.16.1 Approach

The President's directive, subsequent memos, and EPA documents frame the issues that are addressed in the analysis. These issues included the following:

- Minority population impacts associated with the proposed project and alternatives, including demographic analysis and comparisons to other applicable regional areas;
- Social impacts, such as income, housing, employment, and population densities;
- Safety issues, such as the location of businesses that have toxic materials, and the potential impact to consumption products are addressed; and
- Access to public information and an opportunity for public participation.

The approach used in this study for determining impacts utilizes data obtained from the Census Bureau. Data for the proposed project area have been compared with similar demographic information for other applicable regions. The project area is defined as the area within San Luis Obispo County between Lake Nacimiento and the San Luis Obispo "airport area," and including affected coastal areas between Morro Bay and Cayucos. Regional demographics include the demographics of the cities, counties, and state in which the project is proposed. The concept behind the approach is to identify any disparities between the demographics of the proposed project area and the average demographics of the region.

5.16.2 Regulatory Setting

On February 11, 1994, President Clinton issued an Executive Order directing each Federal agency to identify and address disproportionately high and adverse human health or environmental effects on minority and low income populations. This Executive Order was followed by a memo to the heads of all Federal departments describing the intentions of the Executive Order and some general guidelines for administration of the order.

The President's Executive Order provides for:

1. The establishment of an interagency working group.
2. The development of agency strategies.
3. Research, data collection and analysis in relation to human health impacts on a diverse range of the population.
4. Analysis of consumption patterns of environmentally sensitive food products.
5. Public participation and access to information.

Subsequent to the order, the EPA has issued an Environmental Justice Strategy. The EPA strategy addresses areas such as public participation, research, data collection and analysis, Native American concerns, and model projects. In addition, the EPA established an Office of Environmental Justice and a separate National Environmental Justice Advisory Council (NEJAC). The NEJAC provides independent advice to EPA on matters relating to environmental justice. It consists of 23 members appointed from environmental justice constituencies, including community-based groups; business and industry; academic and educational institutions; state, tribal, and local governmental agencies; non-governmental organizations; and environmental groups.

In addition, the CEQ is in the process of developing directives to address the President's Executive Order. The CEQ also establishes regulations for the implementation of NEPA, under whose guidelines this document has been prepared.

The precedent of disproportionate treatment based on minority status has been well established over the years, particularly with the adoption of Title VI of the Civil Rights Act of 1964. Title VI directs that each Federal agency shall ensure that all programs or activities receiving Federal financial assistance that affect human health or the environment do not directly, or through contractual or other arrangements, use criteria, methods, or practices that discriminate on the basis of race, color, or national origin.

Since the Civil Rights Act, precedents established through the courts have produced a complicated system of civil "common" laws that direct the determination of "disparity" in regards to race and sex. These cases have established precedents particularly in the areas of employment, as well as law enforcement and criminal proceedings. The Federal Civil Rights Commission provides direction on these issues.

5.16.3 Significance Criteria

In order to determine if impacts exist due to the proposed project or alternatives, a set of significance criteria has been developed. The significance criteria are based on direction given by the Executive Order, the Executive Memorandum, the EPA Environmental Justice Strategy, and the EPA Office of Environmental Justice 1994 Annual Report. These directives essentially present four issue areas associated with environmental justice analysis, as follows:

- Minority population impacts based on race;
- Social impacts based on income, employment, housing, etc.;

- Safety impacts; and
- Public access impacts related to information access and public participation.

Impacts on the basis of race can be determined by examining the demographics of the community of the proposed project. The Census Bureau publishes data based on the 1990 census which indicates concentrations of persons based on race by block groups, census tracts, and zip codes.

Impacts on the basis of social condition are also assessed using the Census Bureau 2000 census data. These issues include income of persons, levels of employment, housing issues, and population densities. Safety impacts addressed in this section include impacts to groups who are already subject to a potentially disproportionate level of risk due to the location of toxic materials in the community.

The thresholds of significance for impacts due to race and social condition can be estimated by comparing the demographics of the proposed project with the demographics of the region.

Significance criteria developed for this project are listed below:

- Significant impacts exist if demographics of the proposed project area demonstrate a difference in minority population of greater that 20 percentage points between the project location and the region.
- Significant impacts exist if demographics of the proposed project area indicate that there is a difference in social conditions of greater than 20 percentage points between the project area and the region.
- Significant impacts exist if the proposed project presents a relatively high safety concern as measured by the project being in a location where a significant population density exists, and there is a relatively high number of hazards associated with the use and discharge of toxic materials.
- Significant impacts exist if the project Applicant has not made a sincere attempt to provide an opportunity for public participation and access to information. The project Applicant should also provide this information in the languages of the proposed project area if the percent that speak that language as their only language is in excess of five% of the population.

5.16.4 Proposed Project Impacts and Mitigation Measures

This section presents the project impacts and proposed mitigation measures.

5.16.4.1 Treated Water Option

Impact	Impact Description	Residual Impact
EJ.1	Construction and operational impacts would adversely impact disadvantaged segments of the population in SLO County.	Class III

Potential impacts to minority and economically disadvantaged populations are summarized below. Table 5.16.1 contains a summary of Census data for the County and various County parts. This data is discussed below in detail.

Minority Population Impacts

Disproportionate impacts to minority populations by the proposed project were determined by conducting a demographics analysis of the proposed project area. The Census Bureau 2000 census data were used to evaluate the concentration of minorities near the project site and on a regional basis (see Table 5.16.1).

Minorities are defined in this document by using a combination of both race and ancestry. The Census Bureau classifies race as White, Black, American Indian/Alaskan, Asian, or Other. Persons who declared being of two or more races make the difference between the sum of the races and the total population in an area; these persons are also included as part of minority population. Persons of Hispanic ancestry are classified by origin, as Hispanic is not considered a race. However, discrimination exists both based on race and on origin. Therefore, the definition of minority as used in this section includes all non-white races and all Hispanics, including Hispanics classified as white Hispanics.

The racial and ancestral makeup of the populations both within the State of California, SLO County (defined here as the project area), and the various cities and areas in the County that are part of the project area were evaluated and compared to determine potential disparate impacts to disadvantaged segments of the population. The particular areas reviewed were SLO City, Morro Bay City, Paso Robles City, Templeton Census Demographic Profile (CDP), San Miguel CDP, and Cayucos CDP. The total population in California is reported to be 33,871,648 persons. White persons make up 59.5% of the population in the State, Black persons 6.7%, Asian 10.9%, American Indian/Alaskan 1.0%, and Other races 16.8%, with total minority population (non-white) of 40.5% (some persons declare as to having two or more races). Persons of Hispanic ancestry total 32.4% of the population in the project area (25.0% originate in Mexico).

By comparison, minority percentages on a statewide basis are 40.5%, on a countywide basis are 15.4% and in the local cities/CDPs of the project range from 6.2% (Cayucos CDP) to 36.7% (San Miguel CDP). The largest variation is between the SLO County (15.4%) and the Cayucos CDP (6.2%), with a 9.2 percentage point difference. This difference is 25.1 percentage points between the State and the SLO County.

The results of the comparison analysis, therefore, demonstrate that there is no indication of significant impacts on minorities for the proposed project.

Table 5.16.1 Summary of Census Data for SLO County and Various County Parts

Factor	Population Group	California State Number (%)	SLO County Number (%)	SLO City Number (%)	Morro Bay City Number (%)	Cayucos CDP Number (%)	Paso Robles City Number (%)	Templeton CDP Number (%)	San Miguel CDP Number (%)
Race[a]	White	20,170,059 (59.5)	208,699 (84.6)	37,155 (84.1)	9,257 (89.4)	2,761 (93.8)	18,393 (75.7)	3,906 (83.3)	903 (63.3)
	Black/African American	2,263,882 (6.7)	5,002 (2.0)	644 (1.5)	70 (0.7)	7 (0.2)	806 (3.3)	55 (1.2)	21 (1.5)
	American Indian/Alaskan	333,346 (1.0)	2,335 (0.9)	287 (0.6)	98 (0.9)	11 (0.4)	316 (1.3)	33 (0.7)	39 (2.7)
	Asian	3,697,513 (10.9)	6,568 (2.7)	2,331 (5.3)	187 (1.8)	37 (1.3)	458 (1.9)	43 (0.9)	6 (0.4)
	Other race	5,682,241 (16.8)	15,312 (6.2)	2,130 (4.8)	424 (4.1)	62 (2.1)	3,325 (13.7)	170 (3.6)	340 (23.8)
Gender	Male	(49.8)	(51.4)	(51.4)	(47.7)	(47.8)	(50.7)	(48,2)	(51.2)
	Female	(50.2)	(48.6)	(48.6)	(52.3)	(52.2)	(49.3)	(51.8)	(48.8)
Poverty status, 1999	Unemployment	1,110,274 (4.3)	6,911 (3.4)	1,760 (4.6)	179 (2.0)	36 (1.5)	652 (3.6)	79 (2.2)	42 (3.8)
	Families	845,991 (10.6)	3,991 (6.8)	555 (7.1)	213 (8.1)	18 (2.4)	656 (10.7)	83 (6.3)	26 (6.1)
	Individuals	4,706,130 (14.2)	29,775 (12.8)	11,407 (26.6)	1,312 (13.0)	237 (8.2)	3,153 (13.6)	434 (9.1)	153 (10.2)
Language	English only	19,014,873 (60.5)	200,112 (85.3)	36,637 (86.1)	8,810 (88.3)	2,627 (93.7)	16,795 (74.4)	4,036 (88.8)	1,084 (77.2)
Income, 1999	Number of households	11,512,020	92,732	18,656	5,045	1,314	8,581	1,607	571
	Household Median income	$47,493	$42,428	$31,926	$34,379	$42,841	$39,217	$53,438	$33,264
	Per capita	$22,711	$21,864	$20,386	$21,687	$26,525	$17,974	$19,671	$15,444
Housing Units	Owner-occupied	6,546,334 (56.9)	57,001 (61.5)	7,805 (41.9)	2,770 (55.6)	797 (56.7)	5,008 (58.5)	1,150 (74.3)	233 (49.8)
	Renter-occupied	4,956,536 (43.1)	35,738 (38.5)	10,834 (58.1)	2,216 (44.4)	608 (43.3)	3,548 (41.5)	398 (25.7)	235 (50.2)
House value	Median owner-occupied	$211,500	$230,000	$278,800	$245,500	$305,500	$166,000	$219,500	$119,300
	Value-to-income ratio[b]	$4.5	$5.4	$8.6	$7.1	$7.1	$4.2	$4.1	$3.6
Education	High School/higher	(76.8)	(85.6)	(91.1)	(90.5)	(95.7)	(78.6)	(90.8)	(71.3)
	Bachelor's degree/higher	(26.6)	(26.7)	(40.9)	(27.8)	(29.6)	(17.4)	(30.2)	(9.3)

Note: **a** The difference between 100% and sum of the percentages is percentage of persons of two or more races

b Computed by Marine Research Specialists.

Source: U.S. Bureau of the Census 2000.

Native American Impacts

Impacts to Native Americans are specifically mentioned in the EPA Environmental Justice Strategy. The direction given in the EPA document is to assess the impacts to Native American "... cultural use of natural resources." Past environmental studies of the area indicate that the area was heavily used by Native Americans. Several sites potentially containing human remains or significant natural resources important to the Native American culture have been identified in the proposed project area, therefore there is a potential that Native Americans would be affected as a racial minority due to the impacts to their heritage and culture. For additional information regarding cultural resources, refer to Section 5.8, Cultural and Paleontological Resources.

Social Impacts

Social impacts are typically indicated by a disparate impact on persons of low income, high unemployment, high poverty rates, non-English speakers; and by areas with lower valued housing or renters. Project impacts are examined for these areas in the following sections.

Income, Unemployment, Poverty, and Language Ability

The impacts of the project in relation to social factors are specifically mentioned in the Executive Order only in regards to low income areas. However, the directive does indicate that analysis should address the effects, including human health, economic and social effects and that "... other readily accessible and appropriate information ..." be analyzed. This report attempts, therefore, to capture the potentially large range of impacts on a community by examining not only income of the project area relative to the region, but the additional factors of unemployment, poverty levels, language ability, housing issues, and education levels.

The approach to determining the level of impacts is the same as used for determining the impact to minorities. The census data in relation to poverty status, language ability, income, and employment for the project area and the regions of comparison were evaluated to determine potential impacts of the project. Income levels in the project area are summarized by the number of persons below the poverty line as defined by the Federal government. Poverty levels in the SLO County are 6.8% of the households and 12.8% of population as individuals, similar to the state of California, which is about 14.2% of the individuals as population. The poverty levels in the separate project areas are between 8.2% (Cayucos CDP) to a high of 26.6% of the population in the City of San Luis Obispo, which has a disproportionate number of college students. The poverty levels in the proposed project area are generally equal to or below those of the State.

The unemployment rate in the project area runs at about 3.4% (for the SLO County), ranging from 1.5% (Cayucos CDP) to 4.6% (SLO City). This compares relatively favorably to the State of California that has an unemployment rate of 4.3%.

Language ability can play a significant role in the development of a safe and environmentally just project. Emergency response activities, community awareness, and community participation issues can be significantly inhibited if appropriate plans and activities are not understandable to a significant portion of the population. Of persons older than 4 years, about 5.9% of persons in the SLO County speak English less than "very well." These numbers compare favorably to the whole State where the number of non-English speakers is 20%.

Housing and Education

Although housing issues and education are not specifically mentioned in the Executive Order, social issues are directed to be examined. Housing issues include the concentration of housing units that are occupied by renters verses owners. Renters normally do not have as significant a stake in the community as owners, and normally may not become aware of a proposed project in their area as easily. Therefore, renters could easily be subject to human health risks disproportionately to persons who own their housing. The percentage of rental units has been used as an indicator of the disparity levels. The range of rental units as a percentage of total units for the region and the proposed project area were evaluated. In the SLO County project area, 38.5% of units are rentals ranging from 25.7% in Templeton CDP to 58.1% in the city of San Luis Obispo (again reflecting the disproportionate number of college students), and compares favorably to 43.1% on a statewide basis.

In addition, the mean house values in the project area and region were evaluated. As housing values are not necessarily a direct indication of standard of living, the average household income is also included and a ratio of the two is provided. The house-value-to-income ratio provides an indication of the level of wealth in an area in such a way that straight per capita income, household income or poverty levels do not. The ratio of house value to annual income for the SLO County project area is about $5.4 and ranges from $8.7 (SLO City) to $3.6 (San Miguel CDP) in other parts of the project area, while the statewide number is $4.5.

Education levels are also addressed as a potential social issue. Populations with less education may be more subject to human health risks due to their lack of reading ability or awareness of public issues. Education levels indicating that some college experience has been obtained was used as the threshold level. In the SLO County, about 26.7% of the population older than 25 years has some exposure to college. This is very similar to the statewide number of 26.6%.

Safety Impacts

Safety impacts are addressed in two ways: (1) an increase in risk to a population that is currently exposed to a relatively large amount of risk as defined by a qualitative examination of population densities and hazardous businesses; and (2) the propensity for contamination by the proposed project to the food chain for persons utilizing fish and wildlife as their primary source of food. Although the issue of safety is not specifically addressed in the Executive Order and subsequent documents, the issue of contamination of the food chain, particularly related to fish and other consumables taken directly from the environment, is specifically mentioned. Impacts were qualitatively determined through the examination of population densities and the location of the facilities that present hazards. Those hazards include:

- Acute health hazards due to an accidental toxic material release.
- Chronic health hazards due to toxic material discharges to the atmosphere, land or water.
- Potential health hazard due to previous industrial activity.
- Proximity to populations who utilize fish and wildlife as a food source.

The location of the above listed types of activities has been identified through the use of publicly available databases gathered as part of existing Federal and State regulations.

The EPA (Superfund Amendments and Reauthorization Act) SARA Title III activities require registration of all businesses that maintain an inventory of toxic materials above a specified quantity. SARA Title III also requires submission of a Form R registering the quantity of material discharged to the air, water, land or transferred for disposal. The compilation of this data is made available in the form of the toxic release inventory (TRI) database.

Under the California Air Toxics "Hot Spots" Act (AB2588), stationary sources are required to report the type and quantity of certain substances their facilities routinely release into the air. To date, more than 700 substances have been identified. Air releases of interest are those that result from the routine operation of a facility, or that are predictable, including but not limited to continuous and intermittent releases and process upsets or leaks.

A facility is subject to the Air Toxics "Hot Spots" Act if the facility:

- Manufactures, formulates, uses, or releases a listed substance (or substance which reacts to form a listed substance) and emits 10 tons or more per year of total organic gases, particulate matter, nitrogen oxides or sulfur oxides; or
- Is listed in any existing toxics use or toxics air emission survey, inventory or report released or compiled by a regulatory district; or
- Manufactures, formulates, uses, or releases a listed substance (or substance which reacts to form a listed substance) and emits less than 10 tons per year of criteria pollutants and is subject to emission inventory requirements.

The Federal Superfund Act (or CERCLA) was established in 1980 and addresses sites with contamination of soils and groundwater. The data developed as a part of this Act are compiled into the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). EPA has identified 1,236 hazardous waste sites as the most serious in the Nation. These sites comprise the "National Priorities List," sites targeted for cleanup under the Superfund Act.

The Executive Order requires an assessment of the potential impact on the populations with differential patterns of subsistence consumption of fish and wildlife. This issue is primarily applicable to populations that rely on fish or other wildlife as food sources that could be impacted by emissions of toxic materials or other hazardous activities. No populations were identified in the project area that have special consumption patterns of fish or wildlife that should be addressed.

Aside from the contamination that is the subject of this portion of the EIR and the currently inactive Unocal tank farm and marine terminal, no other hazardous facilities have been identified in the proposed project area.

Public Access

A clear part of the Executive Order is to "ensure greater public participation" (1-103(a)(2)) and to "translate...[documentation]...for limited English speaking populations" (Sec. 5-5(a)). The subsequent memorandum states that a part of the program is to "provide minority communities and low-income communities access to public information on, and an opportunity for public participation in, matters relating to human health or the environment".

As part of the NEPA and CEQA process for this EIR, a series of public workshops and hearings were held to allow for public participation. Additional public meetings will also be held in the future. These hearings were sufficient to meet the requirement of the Executive Order.

As a part of the development of the project, public participation, and dissemination of information is achieved through the NEPA and CEQA processes. To meet this requirement, the Draft EIR that includes discussion of NEPA issues, has been and will be made publicly available.

Summary of Impacts
Based on the significance criteria established in Section 5.16.3, impacts of the proposed Nacimiento Water Project are not considered significant as shown below.

Criteria	Impact Level	Determination
Impact to ***minorities above 20 percentage points***	-25.1 percentage points	Less than significant impact
Impact to ***social situations above 20 percentage points***	Impacts ranging from -14 to -1 percentage points for language, poverty (-7.4), and unemployment	Less than significant impact
Impact to ***public safety***	Project is not located in a high risk area	Less than significant impact
Impact to ***public participation and language***	Public participation encouraged through distribution of EIR and EIR hearings	Less than significant impact

As indicated above, the proposed project does not present any significant impact to minority or low income/socially disadvantaged populations.

Mitigation Measures
Since impacts are considered insignificant, no mitigation measures have been identified.

Residual Impacts
Residual impacts are considered to be *adverse but not significant* (Class III).

5.16.4.2 Raw Water Option

Impacts under the raw water option would be nearly identical to the treated water option and are considered *adverse but not significant* (Class III).

5.16.5 Alternatives Impacts and Mitigation Measures

Detailed descriptions of the various alternatives have been provided in Section 3.0, Alternatives. This section provides a discussion of the impacts to utilities and public services of the various alternatives.

5.16.5.1 No Project Alternative

Under the No Project Alternative, no construction or operational activities would occur and the population of San Luis Obispo County would not be exposed to any potential impacts.

Impact	Impact Description	Residual Impact
EJ.2	The failure to develop the NWP water resources could lead to future water shortages and water rate increases.	Class III

While somewhat conjectural, it is possible that under this alternative, the loss of the NWP water availability could result in future rate increases as existing local water resources are strained, either by growing population and usage, or during drought periods.

Mitigation Measures
Because impacts are considered insignificant, no mitigation measures have been identified.

Residual Impacts
Residual impacts are considered to be *adverse but not significant* (Class III).

5.16.5.2 NWP 1997 EIR Alternative

Impacts under the NWP 1997 EIR alternative would be nearly identical to the proposed project and are considered *adverse but not significant* (Class III).

5.16.5.3 Phased Raw and Treated Water Alternative

Impacts under the phased raw and treated water alternative would be nearly identical to the proposed project and are considered *adverse but not significant* (Class III).

5.16.6 Cumulative Impacts

Several projects were identified in Section 4.0 that would have the potential to result potentially significant cumulative impacts if activities were to disproportionately impact disadvantaged sections of the population. A review of these projects shows that they are fairly well distributed amongst the general population and do not disproportionately impact disadvantaged segments of the population. Therefore, potential cumulative impacts are considered *adverse but not significant* (Class III).

5.16.7 Mitigation Monitoring Plan

No mitigation measures have been identified to address the less than significant impacts associated with environmental justice.

6.0 CEQA Environmentally Superior Alternative/NEPA Preferred Alternative/LEDPA

This section summarizes the environmental advantages and disadvantages associated with the proposed project and the alternatives. Based on this discussion, the environmentally superior alternative is identified as required by CEQA. The CEQA Guidelines, Section 15126 (d)(4) state that if the environmentally superior alternative is the No Project Alternative, then the next most environmentally superior alternative must also be identified. NEPA requires that all reasonable alternatives, including the alternative of no action, should be analyzed, and the NEPA Lead Agency's preferred alternative, or alternatives, should be identified unless another law prohibits the expression of such a preference. Issuance of a Department of the Army permit, under Section 404 of the Clean Water Act, is prohibited unless the Army Corps of Engineers (ACOE) has determined that the project constitutes the Least Environmentally Damaging Practicable Alternative (LEDPA). In this context, "practicable" means "available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes."

6.1 Comparison of Proposed Project and Alternatives

To facilitate a clear understanding of the relative merits of the various alternatives, this section highlights the major differences between the impacts of the alternatives and proposed project. The project-specific alternatives that were evaluated in Section 5.0 included the two proposed project options (raw and treated water) and three main alternatives. Alternatives evaluated included:

- Proposed Project – Treated Water Option
- Proposed Project – Raw Water Option
- No Project Alternative
- NWP 1997 EIR Alternative
- Phased Treated and Raw Water Alternative

The EIR includes an analysis of the No Project Alternative, as required by CEQA and NEPA guidelines. However, pursuant to CEQA Guidelines, Section 15126 (d)(4) and the requirements of NEPA Section §1502.14, the No Project Alternative may not be legally feasible to be identified as the CEQA or Federal agency's preferred alternative.

Table 6.1 provides a summary of the impacts for the proposed project and alternatives. Table 6.2 provides an overview of the environmentally preferred alternative for each issue area, the duration of the predominant adverse impacts, and the rationale for identifying the CEQA environmentally superior alternative. In weighing the relative merits of the proposed project and alternatives, long-term impacts received a much higher weighting than short-term impacts. As a result, some issue areas may have favored one particular alternative based on a number of short-term impacts, but another alternative for only one or two long-term impacts.

Table 6.1 CEQA Comparison of Project Alternatives by Issue Area

Impact Summary	Proposed Project Treated Water Option	Proposed Project Raw Water Option	1997 NWP EIR Project Alignment Alternative	Phased Raw and Treated Water Alternative
Hydrology and Water Quality (Section 5.1)				
WQ.1 – Potentially significant impact of degradation of surface water quality and groundwater quality due to contamination by fuel or other materials related to construction activities.	Class II	Class II	Class II	Class II
WQ.2 – Increased turbidity impacts from construction work within the water bodies. OR WQ.10 – For the 1997 south side intake location and design, there would be an increased potential for turbidity in discharges from the MCWRA power plant during NWP intake construction.	Class III	Class III	 Class I	Class III
WQ.3 – Potentially significant impact from interruption or reduction of water deliveries during drought and resulting water shortages to the participants.	Class II	Class II	Class II	Class II
WQ.4 – Potential impact of prolonged (over one week) shutdown of releases from Lake Nacimiento during minimum pool conditions, resulting in water shortages at Water World Resorts and Heritage Ranch.	Class II	Class II	Class II	Class II
WQ.5 – Significant impacts to groundwater from sea water intrusion in Salinas Basin.	Class II	Class II	Class II	Class II
WQ.6 – Potential degradation of groundwater quality resulting from aquifer discharge using Lake Nacimiento water containing elevated metals concentrations.	No Impact	Class II	Class II, more severe than for the Raw Water Option due to an additional discharge area	Class II, this impact will cease after the WTP starts its operation
WQ.7 – Potential nuisances caused by the presence of vegetation in the ponds and/or eutrophication.	No Impact	Class II	Class II, more severe than for the Raw Water Option due to an additional discharge area	Class II, this impact will cease after the WTP starts its operation
WQ.8 – Impacts from lack of sufficient capacity of the Paso Robles Discharge Area to take full NWP deliveries.	No Impact	Class II	Class II	Class II, this impact will cease after the WTP starts its operation
WQ.9 – Impacts from lack of sufficient capacity of the City of Paso Robles' Thunderbird well field to extract the total combined water right to Salinas River underflow after adding the NWP water right.	No Impact	Class II	Class II	Class II, this impact will cease after the WTP starts its operation

Table 6.1 CEQA Comparison of Project Alternatives by Issue Area

Impact Summary	Proposed Project Treated Water Option	Proposed Project Raw Water Option	1997 NWP EIR Project Alignment Alternative	Phased Raw and Treated Water Alternative
Geology, Seismicity, and Soils (Section 5.2)				
GS.1 – Ground rupture along the Rinconada fault could damage project facilities.	Class II	Class II	Impact lessened due to less potential to be directly astride of Rinconada Fault	Class II
GS.2 – Locating the Rocky Canyon Water Storage Tank and Happy Valley Pump Station near the Rinconada fault zone may result in poor foundation conditions.	Class II	Class II	Impact lessened due to less potential to be directly astride of Rinconada Fault	Class II
GS.3 – Excavation in rock or soils containing asbestos may cause risk to human health.	Class II	Class II	Class II	Class II
Drainage, Erosion, and Sedimentation (Section 5.3)				
DE.1 – Potentially significant impact of changes to surface water flow patterns during construction.	Class II	Class II	Class II, potentially more adverse impact due to larger number of stream crossings	Class II
DE.2 – Potentially significant impact of damage to construction sites if flood flows occur while a pipeline is being installed in a streambed.	Class II	Class II	Class II, potentially more adverse impact due to larger number of stream crossings	Class II
DE.3 – Potentially significant impacts to surface waters of increased turbidity and sedimentation, and to groundwater recharge in streams crossed and paralleled due to clearing, grading, trenching, and backfilling activities.	Class II	Class II	Class II, potentially more adverse impact due to larger number of stream crossings	Class II
DE.4 – Potentially significant impact of erosion and downstream sedimentation from a pipeline rupture.	Class II	Class II	Class II, potentially more adverse impact due to larger number of stream crossings	Class II
DE.5 – Potentially significant impact of scouring occurring in stream channels that expose buried pipeline or undermine pipeline bridge abutments or cable caissons.	Class II	Class II	Class II, potentially more adverse impact due to larger number of stream crossings	Class II
DE.6 – Potentially significant impact of increased or concentrated storm runoff flowing onto erodible soils from impervious surfaces.	Class II	Class II	Class II, potentially more adverse impact due to larger number of stream crossings	Class II
DE.7 – Potentially significant impact of high river flow or bank erosion resulting in damage to branch pipelines or discharge piping in the three discharge areas.	No impact	Class II	Class II	Class II until the WTP starts operation and water discharge areas stop operating

Table 6.1 CEQA Comparison of Project Alternatives by Issue Area

Impact Summary	Proposed Project Treated Water Option	Proposed Project Raw Water Option	1997 NWP EIR Project Alignment Alternative	Phased Raw and Treated Water Alternative
Air Quality (Section 5.4)				
AQ.1 – Construction activities would generate air emissions that would impact air quality in the area.	Class I	Class I	Class I, potentially more severe	Class I, potentially less severe
AQ.2 – Operations of the project facilities would generate air emissions that could impact air quality in the area.	Class II	Class III, significantly lessened because the WTP would not operate	Class II	Class II
AQ.3 – Increased emissions of toxic compounds due to the project could result in increased health risks.	Class III	Class III, significantly lessened because the WTP would not operate	Class III	Class III
AQ.4 – Project Conformity with the Clean Air Act.	Class III	Class III	Class III	Class III
AQ.5 – Project Consistency with the County Clean Air Plan.	Class III	Class III	Class III	Class III
Noise (Section 5.5)				
N.1- Construction noise would temporarily increase ambient daytime noise levels along the pipeline route and near the pump station and WTP sites.	Class II	Class II	Class I	Class II
N.2 – Operations noise from pumps would increase long-term ambient noise levels.	Class III	Class III	Class III	Class III
N.3 - Periodic testing and emergency use of generators would increase short-term ambient noise levels near the pump stations.	Class II	Class II	Class II	Class II
Hazards and Hazardous Materials (Section 5.6)				
HM.1 – During construction of the proposed pipeline on the Camp Roberts property, unexploded military ordnance could be encountered, which could expose construction workers to explosion hazards	Class III	Class III	Impact avoided	Class III
HM.2 – Earth-moving operations during construction could uncover contaminated soils and other hazardous materials, including naturally occurring asbestos, creating health risks to construction workers and public.	Class II	Class II	Class II	Class II
HM.3 – During construction, hazardous utilities could be damaged by construction equipment. This could expose construction workers and public to hazardous materials transported by the damaged pipelines..	Class II	Class II	Class II	Class II
HM.4 – Releases of hazardous or flammable materials during construction could pose risks of fire or contamination.	Class III	Class III	Class III	Class III

Table 6.1 CEQA Comparison of Project Alternatives by Issue Area

Impact Summary	Proposed Project Treated Water Option	Proposed Project Raw Water Option	1997 NWP EIR Project Alignment Alternative	Phased Raw and Treated Water Alternative
HM.5 – Contaminated materials in the soil could enter into the pipeline expose water users to contamination and pose health risks.	Class III	Class III	Class III	Class III
HM.6 – During operation of the WTP, the employees and public could be exposed to the hazardous chemicals transported to, used, and stored at the plant.	Class II	Impact avoided	Class II	Class II
HM.7 – Accidental release of large quantities of treated water into a fresh water body could be harmful to the organisms in the water body.	Class III	Impact avoided	Class III	Class III
Biological Resources (Section 5.7)				
BR.1 – Potentially significant impacts to terrestrial biological resources from heavy construction machinery and various construction activities..	Class II	Class II	Class II (Impact avoided on Camp Roberts)	Class II
BR.2 – Impacts to riparian, water, and wetlands habitats and their biological resources from construction activities..	Class II	Class II	Class II (Impact avoided for Salinas River Crossings)	Class II
BR.3 – Impacts to wildlife from noise due to the project construction and operation phases.	Class II	Class II	Class II	Class II
BR.4 – Impacts to wildlife in drainages due to erosion, sedimentation and dewatering.	Class II	Class II	Class II	Class II
BR.5 – Impacts to plants from dust emission due to the project construction phase.	Class II	Class II	Class II	Class II
BR.6 – Impacts to aquatic life from treated water spills in case the treated water pipeline ruptures during operational phase of the project.	Class III	No Impact	Class III	Class III
BR.7 – Impacts to fish in Lake Nacimiento due to pumping through the water intake during operational phase of the project.	Class III	Class III	Class III	Class III
BR.8 – Impacts to fisheries during operational phase of the proposed project.	Class III	Class III	Class III	Class III
BR.9 – Impacts to riparian habitat due to construction of the water discharge areas in the vicinity of Salinas River.	No Impact	Class II	Class II	Class II
Cultural Resources (Section 5.8)				
CR.1 – Soil moving construction activities (e.g., trenching, excavating) could impact significant and important paleontology resources.	Class II	Class II	Class II	Class II
CR.2 – Soil moving construction activities (e.g., trenching, excavating) could impact significant and important geology resources.	Class III	Class III	Class III	Class III

Table 6.1 CEQA Comparison of Project Alternatives by Issue Area

Impact Summary	Proposed Project Treated Water Option	Proposed Project Raw Water Option	1997 NWP EIR Project Alignment Alternative	Phased Raw and Treated Water Alternative
CR.3 – Soil moving construction activities (e.g., trenching, excavating) could impact significant and important geomorphology resources.	Class II	Class II	Class II	Class II
CR.4 – Soil moving construction activities (e.g., trenching, excavating) could impact significant and important prehistoric cultural resources.	Class II	Class II	Class II	Class II
CR.5 – Soil moving construction activities (e.g., trenching, excavating) could impact significant and important historical cultural resources.	Class II	Class II	Class II	Class II
CR.6 – Construction of the proposed project adjacent to or in the vicinity of archaeological or historical sites may result in the looting, vandalism or destruction of cultural resources by construction employees or persons visiting the construction site.	Class II	Class II	Class II	Class II
Land Use (Section 5.9)				
No Impacts to Land Use have been identified				
Utilities and Public Services (Section 5.10)				
UP.1 – Impacts to Water Services during construction.	Class III	Class III, reduced in severity	Class III	Class III
UP.2 – Impacts to Water Services during operation.	Class IV	Class IV	Class IV	Class IV
UP.3 – Impacts to Energy Resources.	Class III	Class III, reduced in severity	Class III, slightly more severe	Class III
UP.4 – Impacts to Fire Protection and Emergency Response Services.	Class II	Class II, reduced in severity	Class II	Class II
UP.5 – Impacts to Law Enforcement.	Class III	Class III, reduced in severity	Class III	Class III
UP.6 – Impacts to Waste Disposal Services.	Class III	Class III, reduced in severity	Class III, slightly more severe	Class III
UP.7 – Impacts to School facilities.	Class III	Class III, reduced in severity	Class III, slightly more severe	Class III
UP.8 – Impacts to roads and road maintenance.	Class III	Class III, reduced in severity	Class III	Class III
Transportation/Circulation (Section 5.11)				
T.1 – Construction associated with the project would temporarily add to local road traffic	Class II	Class II	Class II	Class II
T.2 – Pipeline construction would require partial road closures and reduce the number of travel lanes during peak traffic periods for roadways with an LOS of D or worse,	Class II	Class II	Class I	Class II

Table 6.1 CEQA Comparison of Project Alternatives by Issue Area

Impact Summary	Proposed Project Treated Water Option	Proposed Project Raw Water Option	1997 NWP EIR Project Alignment Alternative	Phased Raw and Treated Water Alternative
resulting in a disruption of traffic flow and/or traffic congestion				
T.3 – Partial street closures would temporarily restrict access to and from private property and adjacent land uses.	Class II	Class II	Class I	Class II
T.4 – Construction activities could interfere with emergency response by ambulance, fire, paramedic, and police vehicles.	Class II	Class II	Class II	Class II
T.5 – Pedestrian circulation would be affected by project activities if pedestrians are unable to pass through a construction zone.	Class III	Class III	Class III	Class III
T.6 – Construction activities could result in physical damage to road surfaces.	Class II	Class II	Class II	Class II
T.7 – Operation of WTP, pump stations and pipeline would add truck traffic on local roads.	Class III	Class III	Class III	Class III
T.8 – A pipeline failure could disrupt traffic during repairs.	Class II	Class II	Class I	Class II
Aesthetics/Visual Resources (Section 5.12)				
VR.1 – Visual impacts due to long-term presence of water intake structures at Nacimiento Dam.	Class II	Class II	Class I	Class II
VR.2 – Visual impacts due to long-term presence of WTP, WTP storage tanks, and the pump station	Class III	Class III, less severe	Class II	Class III,
VR.3 – Visual impacts due to long-term presence of Salinas River suspended pipe crossing..	Class III	Class III	No Impact	Class III
VR.4 – Visual impacts due to long-term presence of surge tank in the vicinity of Templeton treated water pipeline turnout site.	Class II	Class II	No Impact	Class II
VR.5 – Visual impacts due to long-term presence of Rocky Canyon Road storage tank and Happy Valley pump station.	Class II	Class II	No Impact	Class II
VR.6 – Visual impacts due to long-term presence of Cuesta Tunnel Storage Tank	Class III	Class III	Class II	Class III
VR.7 – Visual impacts due to long-term presence of turnouts and air release valves.	Class III	Class III	Class III	Class III
VR.8 – Visual impacts due to change in the Lake Nacimiento level resulting from the release of additional water.	Class III	Class III	Class III	Class III
VR.9 – Visual impacts due to long-term presence of river discharge facilities.	No Impact	Class III	Class III	Class III
VR.10 – Visual impacts due to long-term presence of California Men's Colony (CMC) WTP	No Impact	No Impact	Class III	No Impact
VR.11 – Visual impacts due to long-term presence of	No Impact	No Impact	Class II	No Impact

Table 6.1 CEQA Comparison of Project Alternatives by Issue Area

Impact Summary	Proposed Project Treated Water Option	Proposed Project Raw Water Option	1997 NWP EIR Project Alignment Alternative	Phased Raw and Treated Water Alternative
Templeton WTP				
VR.12 – Visual impacts due to long-term presence of Santa Margarita WTPs.	No Impact	No Impact	Class II	No Impact
Agricultural Resources (Section 5.13)				
AG.1 – Water pipeline construction within the road right-of-way has the potential to adversely impact access to and maintenance of agricultural operations.	Class II	Class II	Class II	Class II
AG.2 – Water pipeline construction (including fence removal and trenching) along property boundaries has the potential to impact ranching and livestock operations.	Class II	Class II	Class II	Class II
AG.3 – Water pipeline construction has the potential to permanently impact soils on grazing and croplands due to improper soil replacement and/or reseeding efforts.	Class II	Class II	Class II	Class II
AG.4 – Water pipeline construction activities have the potential to adversely impact agricultural lands through the spread of noxious weeds or wind-borne dust.	Class II	Class II	Class II	Class II
AG.5 – The pipeline alignment would displace some vineyards and orchards during construction.	No Impact	No Impact	Class III	No Impact
Recreation Resources (Section 5.14)				
REC.1 – The partial relocation of a log boom 500 feet from the intake location would prohibit all recreational activity on approximately 2 additional acres of lake surface area.	Class III	Class III	Class III	Class III
REC.2 – Implementation of the proposed project would result in insignificant adverse impacts to recreational resources at Lake Nacimiento, as compared to historic conditions, due to the additional lowering of water levels to elevations below 748 feet.	Class III	Class III	Class III	Class III
REC.3 – Open trench construction along the following reaches would result in short-term impacts to bicyclists: Rocky Canyon Road to Santa Margarita, Santa Margarita to the Cuesta Tunnel, Cuesta Tunnel to San Luis Obispo WTP, San Luis Obispo WTP to Highway 227/Santa Fe Road, and Highway 227.	Class II	Class II	Class II	Class II
REC.4 – Partial loss of access to recreational opportunities at Laguna Lake Park due to water pipeline installation activities along Reach No. 10 (Sta. 2520+00-2935+00) near Dalidio Drive in San Luis Obispo.	Class II	Class II	Class II	Class II
REC.5 – Portions of the adopted Salinas River Trail System may need to be re-routed due to the construction of water	No Impact	Class II	No Impact	Class II

Table 6.1 CEQA Comparison of Project Alternatives by Issue Area

Impact Summary	Proposed Project Treated Water Option	Proposed Project Raw Water Option	1997 NWP EIR Project Alignment Alternative	Phased Raw and Treated Water Alternative
recharge facilities associated with the raw water option.				
Socioeconomic Resources (Section 5.15)				
SE.1 – Water pipeline construction activities located within the road ROWs near business centers (Paso Robles, Santa Margarita, and San Luis Obispo) have the potential to cause adverse impacts to industries located within and adjacent to project areas by impeding standard business practices. The majority of businesses that would be affected for the short-term are those located within or adjacent to construction areas on North River Road, El Camino Real in Santa Margarita, at the intersection of Dalidio Drive and Madonna Road, along Dalidio Drive, Prado Road extension, and Highway 227. These businesses may experience short-term impedance to business caused by road closures in front of businesses, some difficulties accessing store fronts, and nuisance to patrons from construction activities. This impedance to business would average one to two days during construction (based on construction of 50 to 100 feet of pipeline per day).	Class III	Class III	Class III	Class III
SE.2 – Implementation of the proposed project would result in insignificant adverse impacts to businesses that rely on tourism/recreational activities at Lake Nacimiento, as compared to historic conditions, due to the additional lowering of water levels to elevations below 748 feet.	Class III	Class III	Class III	Class III
SE.3 – Implementation of the proposed project would result in insignificant adverse impacts to property values surrounding Lake Nacimiento resulting from changes in lake levels.	Class III	Class III	Class III	Class III

Table 6.2 CEQA Comparison of the Superior Alternative by Issue Area

Issue Area	Duration of Adverse Impacts	Superior Alternative	Discussion of Rationale for Superior Alternative
Hydrology and Water Quality	Long-Term	Proposed Project Treated Water Proposed Project Raw Water	• The Treated Water Option would avoid impacts associated with all other alternatives with a raw water discharge component where degradation of groundwater quality could occur. However, while improvements in water quality under the raw water alternative would not be as great as the treated water alternative, potential impacts of raw water discharges would be considered negligible. • Construction of the Lake Nacimiento intake structure under the 1997 EIR Alternative would result in significant increases in lake turbidity levels and impacts on MCRWA power plant facilities.
Geology, Seismicity and Soils	Long-Term	None Superior	• All alternatives would be somewhat susceptible to impacts from earthquakes. • All alternatives would require excavation in rock or soils containing asbestos, thus increasing potential health risks.
Drainage, Erosion, and Sedimentation	Short-Term	None Superior	• Impacts associated with all alternatives are similar. However, the Treated Water Option would avoid impacts associated with all other alternatives with a raw water discharge component where high river flow would impact facilities associated with water discharge basins and pipelines. However, damage to project facilities is not an environmental impact and can be avoided through proper project design and construction.
Air Quality	Short-Term	Proposed Project Raw Water	• The Raw Water Option would avoid construction and toxic air contaminant emission associated with the Treated Water Option WTP. • 1997 EIR Alternative and Phased Raw/Treated Alternatives would have higher emissions due to greater construction activities associated with discharge and WTP construction activities.
Noise	Short-Term	Proposed Project Treated Water Raw Water Phased Alt.	• Construction noise impacts associated with the 1997 EIR Alternative would be significant due to noise increases above ambient levels in sensitive receptor areas adjacent to the Templeton and Santa Margarita WTP sites. • Construction noise levels associated with the proposed project (Treated and Raw Water Options), and Phased Raw/Treated Alternative can be mitigated to a level that is less than significant. • Mitigated operational noise impacts associated with all alternatives would be mitigated to a level that is less than significant.
Hazards and Hazardous Materials	Long-Term	Proposed Project Raw Water	• Raw Water Option would avoid the need to transport, store and utilize hazardous chemicals associated with water treatment at new WTP sites.
Biological Resources	Short-Term	Proposed Project Raw Water	• Pipeline and facility construction impacts very similar for all alternatives, although the raw water option would avoid construction of the WTP in an area designated as kit fox habitat. • Alternatives with raw water and river discharge component would have added impact of the

Table 6.2 CEQA Comparison of the Superior Alternative by Issue Area

Issue Area	Duration of Adverse Impacts	Superior Alternative	Discussion of Rationale for Superior Alternative
	Long-Term		loss of riparian habitat (Raw Water Option, 1997 EIR Alternative, Phased Raw/Treated Water Alternative), although replacement of riparian habitat at a 3:1 ratio completely offsets any potential adverse impact associated with the project. • Alternatives with raw water component would avoid impacts associated with pipeline failures and chlorinated water spill impacts on sensitive biota (Raw Water Option, 1997 EIR and Phased Raw/Treated Water Alternatives prior to use of water treatment). While it is unlikely that a significant chlorinated water spill could occur, it is still possible. Under the raw water option, portions of the pipelines would contain chlorinated water, but a majority of the water transported would not be chlorinated, thus substantially reducing the potential for a chlorinated spill and associated impacts. • Alternatives with both raw and treated water components would have impacts due to riparian habitat loss and chlorinated water spill impacts on sensitive biota (1997 EIR Alternative and Phased Raw/Treated Water Alternative).
Cultural Resources	Long-Term	1997 EIR Alternative	• All alternatives would have the potential to impact important paleontology, geomorphology, and prehistoric/historical cultural sites. However, the 1997 EIR Alternative would utilize a more urban route and impact fewer previously undisturbed sites.
Land Use	Long-Term	None Superior	• All alternatives would be consistent with current land use plans.
Utilities and Public Services	Short-Term	None Superior	• Impacts would be about the same for all alternatives and would be less than significant. The Raw Water Option would have slightly lower impacts on police and fire services through the avoidance of hazardous material use at the proposed WTP. However, this impact is reflected in the discussion of Hazardous Materials above, and is considered less than significant.
Transportation/ Circulation	Short-Term	Proposed Project Treated Water Raw Water Phased Alt.	• Construction impacts associated with the proposed project (Treated and Raw Water Options), and the Phased Raw/Treated Water Alternative would be about the same. • The 1997 EIR Alternative would follow a more urban route and have a substantial impact on numerous roads, temporarily reducing the level of service to unacceptable levels and resulting in substantial delays to traffic on Nacimiento Lake Drive.
Aesthetics/Visual Resources	Long-Term	Proposed Project Raw Water	• All alternatives have short- and long-term impacts associated with construction activities and project facilities that are considered less than significant. • The Treated Water Option avoids visual impacts associated with river discharge facilities. • The Raw Water Option avoids visual impacts associated with the WTP. • 1997 EIR Alternative intake structure on south side of Nacimiento Dam would result in significant visual impact to visitors to Lake Nacimiento Resort.
Agricultural Resources	Short-Term	Proposed Project Treated Water	• Impacts are nearly identical for all alternatives. • The 1997 EIR Alternative would result in the temporary destruction of portions of some

Table 6.2 CEQA Comparison of the Superior Alternative by Issue Area

Issue Area	Duration of Adverse Impacts	Superior Alternative	Discussion of Rationale for Superior Alternative
		Raw Water Phased Alt.	vineyards and orchards during construction.
Recreation Resources	Long-Term	Proposed Project Treated Water	• Impacts on recreational resources are very similar for all alternatives. • Raw Water Option and Phased Raw/Treated Alternative would impact recreational activities along portions of the adopted Salinas River Trail System.
Socioeconomic Resources	Long-Term	None Superior	• Project construction impacts nearly identical for all alternatives. • All alternatives would have similar socioeconomic impacts during project operation, mainly resulting from the lowering of Lake Nacimiento water levels and concurrent impact on recreational/tourism activities.

In this case, the environmentally preferred alternative for this issue area would be the one based on the more favorable long-term impact.

For some issue areas, impacts associated with the proposed project were similar to that for the alternatives, so no superior alternative was identified for that issue area. In addition, the identification of the superior alternative for each issue area does not necessarily indicate that the potential impacts would not be adverse, but only less adverse than the other alternatives. While there may have been some slight differences between the proposed project and alternatives for these issue areas (i.e., differences in impacts that would generally be imperceptible), impacts were generally adverse and of short duration. Therefore, issue areas with similar adverse short-term impacts for the proposed project and alternative were dropped from the comparison of alternatives.

6.1.1 Proposed Project *vs.* No Project/No Action Alternative

Numerous potentially significant impacts were identified for the proposed project, most of which could be mitigated to a level considered less than significant (Class II). One significant (Class I) impact was identified for the proposed project, both the Treated and Raw Water Options, and is summarized below. Significant (Class I) impacts are associated, in general, with only one aspect of the proposed project: the significant air pollutant emissions in the region that would occur during construction and as summarized as follows:

- Air Quality

  AQ.1 Construction activities would generate air emissions that would impact air quality in the area. Air pollutant emissions during pipeline and facility construction would exceed the San Luis Obispo County Air Pollution Control District's significance thresholds, even after implementation of all feasible mitigations. This impact would only last during the construction of the project, with air quality impacts during project operations being less than significant.

Because the No Project/No Action Alternative would avoid this potentially significant impact, this alternative is considered environmentally superior to the proposed project.

6.1.2 Proposed Project *vs.* 1997 NWP EIR Alternative

The proposed project Treated and Raw Water Options are clearly superior to the NWP 1997 EIR Alternative due to the avoidance of several Significant Class I Impacts. In addition to the Significant Class I Impacts identified above for the proposed project, the NWP 1997 EIR Alternative would result in the following significant impacts:

- Hydrology and Water Quality

  WQ.10 For the 1997 EIR Project south side intake location and design, there would be an increased potential for turbidity in discharges from the MCWRA power plant during NWP intake construction. Under the 1997 EIR Alternative, the intake was proposed to be tunneled from the south side of the dam, as opposed to the proposed project north side tunneling plan. In addition, the lowest level inlet was positioned at 660 feet elevation (10 feet below the current plan) and included a dredged channel leading into the inlet. This would result in an increased potential for turbidity in discharges from the MCWRA power plant during NWP intake construction.

- Noise

N.1 Construction noise would temporarily increase ambient daytime noise levels along the pipeline route and near the pump station and WTP sites. Short-term sound levels would exceed acceptable levels at nearby sensitive receptors during construction of the project facilities.

- Transportation/Circulation

T.2 Pipeline construction would require partial road closures and reduce the number of travel lanes during peak traffic periods for roadways with an LOS of D or worse, resulting in a disruption of traffic flow and/or traffic congestion. This impact would be more severe than in the proposed project due to the proposed route, and especially along Nacimiento Lake Drive.

T.3 Partial street closures would temporarily restrict access to and from private property and adjacent land uses. Limited route alternatives along Nacimiento Lake Drive would result in substantial delays and impede access to private property.

T.8 A pipeline failure could disrupt traffic during repairs. A failure along Nacimiento Lake Drive would result in substantial traffic delays, with no suitable alternative route available.

- Aesthetics/Visual Resources

V.1 Visual impacts due to long-term presence of the pump station and water intake structures at Nacimiento Dam adjacent to Nacimiento Lake Drive and Lake Nacimiento Resort.

Because the proposed project would avoid these impacts, as well as several other impacts that can be mitigated to a level of insignificance, the proposed project is clearly environmentally superior to the NWP 1997 EIR Alternative.

6.1.3 Proposed Project *vs.* Phased Raw and Treated Water Alternative

Because this alternative is a combination of the co-equal project options of a Raw or Treated Water Project, all of the significant (Class I) impacts associated with the proposed project would occur under this alternative. The Phased Raw/Treated Water Alternative would result in all of the impacts that are unique to the proposed project Treated or Raw Water Options, thus combining the less desirable aspects of each option. Therefore, the proposed project would also be environmentally superior to the Phased Raw/Treated Water Alternative.

6.1.4 Proposed Project Treated Water *vs.* Raw Water Option

Distinguishing the differences between the proposed project Treated and Raw Water Options was much more subtle. Both options would result in the same impacts that have been identified as significant and for which adequate mitigation has not been identified. Therefore, the identification of a superior alternative needs to be based on an evaluation of the unique less-than-significant impacts identified for each option.

Table 6.3 provides a comparison of the differences between the proposed project Treated and Raw Water Options. This table indicates that the Treated Water Option would avoid some environmental impacts unique to the Raw Water Option in several areas including:

- Hydrology and Water Quality,
- Drainage, Erosion, and Sedimentation,
- Aesthetics/Visual Resources, and
- Recreational Resources.

Likewise, the Raw Water Option would avoid or lessen impacts unique to the Treated Water Option in several areas including:

- Air Quality,
- Hazards and Hazardous Materials,
- Biological Resources,
- Utilities and Public Services, and
- Aesthetics/Visual Resources.

In the area of biological resources, the Treated Water Option would avoid impacts to riparian habitat associated with the Raw Water Option discharge facilities, although this impact was completed mitigated under the Raw Water Option. The Raw Water Option would substantially lessen impacts associated with the spill of chlorinated water in the event of a pipeline failure, since water treatment would only occur on two end portions of the pipeline (second pipeline from Atascadero to Santa Margarita; CMC WTP to Airport Area).

The Raw Water Option avoids more impacts numerically, although each of the impacts it avoids is considered less than significant. The main differentiating factors between the two options are in the areas of biological resources, air quality and hazardous materials, where the Raw Water Option is superior to the Treated Water Option, while still enhancing the project goals of improving water quality in the area. Therefore, the Raw Water Option is considered environmentally superior to the Treated Water Option.

6.2 CEQA Environmentally Superior Alternative

The No Project Alternative was clearly found to be the environmentally superior alternative. This alternative would eliminate all of the Significant Class I impacts associated with the proposed project. However, with no action, groundwater overdraft in SLO County is expected to continue to increase, resulting in lowered groundwater levels, deteriorating water quality, potential aquifer subsidence and damage, and increased pumping costs, and increased competition between agricultural interests and domestic users. Supply shortages during drought periods could occur in some communities.

Table 6.3 Comparison of Proposed Project Options by Impact Differences

Impact Summary	Proposed Project Treated Water Option	Proposed Project Raw Water Option
Hydrology And Water Quality (Section 5.1)		
WQ.6 – Potential degradation of groundwater quality resulting from aquifer discharge using Lake Nacimiento water containing elevated metals concentrations.	No Impact	Class II
WQ.7 – Potential nuisances caused by the presence of vegetation in the ponds and/or eutrophication.	No Impact	Class II
WQ.8 – Impacts from lack of sufficient capacity of the Paso Robles Discharge Area to take full NWP deliveries.	No Impact	Class II
WQ.9 – Impacts from lack of sufficient capacity of the City of Paso Robles' Thunderbird well field to extract the total combined water right to Salinas River underflow after adding the NWP water right.	No Impact	Class II
Drainage, Erosion, and Sedimentation (Section 5.3)		
DE.7 – Potentially significant impact of high river flow or bank erosion resulting in damage to branch pipelines or discharge piping in the three discharge areas.	No impact	Class II
Air Quality (Section 5.4)		
AQ.1 – Construction activities would generate air emissions that would impact air quality in the area. Air pollutant emissions during pipeline and facility construction would exceed the San Luis Obispo County Air Pollution Control District's significance thresholds, even after implementation of all feasible mitigations.	Class I	Class I, lessened because the WTP would not be constructed.
AQ.2 – Operations of the project facilities would generate air emissions that could impact air quality in the area.	Class II	Class III, lessened because the WTP would not operate
AQ.3 – Increased emissions of toxic compounds due to the project could result in increased health risks.	Class III	Class III, lessened because the WTP would not operate
Hazards and Hazardous Materials (Section 5.6)		
HM.6 – During operation of the WTP, the employees and public could be exposed to the hazardous chemicals transported to, used, and stored at the plant.	Class II	No Impact
HM.7 – Accidental release of large quantities of treated water into a fresh water body could be harmful to the organisms in the water body.	Class III	No Impact
Biological Resources (Section 5.7)		
BR.6 – Impacts to aquatic life from treated water spills in case of the treated water pipeline rupture during operational phase of the project.	Class III	No Impact
BR.9 – Impacts to riparian habitat due to construction of the water discharge areas in the vicinity of Salinas River.	No Impact	Class II
Utilities and Public Services (Section 5.10)		
UP.4 – Impacts to Fire Protection and Emergency Response Services.	Class II	Class II, lessened because WTP would not be built.
UP.6 – Impacts to Waste Disposal Services.	Class III	Class III, lessened because no waste products from WTP operation.
Aesthetics/Visual Resources (Section 5.12)		
VR.2 – Visual impacts due to long-term presence of WTP, WTP storage tanks, and the pump station.	Class III	Class III, lessened because only storage tanks would be build

Table 6.3 Comparison of Proposed Project Options by Impact Differences

Impact Summary	Proposed Project Treated Water Option	Proposed Project Raw Water Option
		and no WTP
VR.9 – Visual impacts due to long-term presence of river discharge facilities.	No Impact	Class III
Recreation Resources (Section 5.14)		
REC.5 – Portions of the adopted Salinas River Trail System may need to be re-routed due to the construction of water recharge facilities associated with the raw water option.	No Impact	Class II

The No Project Alternative would also not meet the Applicant's objectives of the project, which is to provide a reliable supplemental water source for a variety of uses within SLO County by supplementing the local ground and surface water supplies with a new surface water source. CEQA Guidelines Section 15126.6(e)(2) states "If the environmentally superior alternative is the no project alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." The proposed project with mitigation would be the next environmentally superior alternative. The EIR includes an analysis of the No Project Alternative, as required by CEQA and NEPA guidelines. However, pursuant to the requirements of NEPA Section §1502.14, the No Project Alternative may not be legally feasible to be identified as the Federal agency's preferred alternative.

As noted above, the proposed project is clearly superior to the NWP 1997 EIR Alternative as a result of avoiding several Significant Class I Impacts. The proposed project would also be environmentally superior to the Phased Raw/Treated Water Alternative, because this alternative combines the less desirable aspects of each proposed project option.

Because the Raw Water Option numerically avoids or lessens more impacts identified for the Treated Water Option, and avoids or lessens potential impacts in the sensitive environmental areas of biological resources, air quality and hazardous materials, the Raw Water Option was selected over the Treated Water Option. Based on the CEQA requirement to identify an environmentally superior alternative from the remaining alternatives, the proposed project Raw Water Option was identified as the Environmentally Superior Alternative.

6.3 NEPA Preferred Alternative

NEPA requires that all reasonable alternatives, including the alternative of no action, should be analyzed, and the NEPA Lead Agency's preferred alternative, or alternatives, should be identified unless another law prohibits the expression of such a preference. Alternatives were evaluated for those areas within ACOE jurisdiction.

As with the analysis under CEQA, the No Project/No Action Alternative would constitute the NEPA Preferred Alternative. However, under NEPA Section §1502.14 the No Action Alternative may not be legally feasible to be identified as the CEQA or Federal agency's preferred alternative. Therefore, the NEPA Preferred Alternative was selected from the remaining alternatives.

Given the fact that the NWP 1997 EIR Alternative would avoid Camp Roberts' lands and many of the river/stream crossings associated with the proposed project, this alternative would appear to be superior to all other alternatives for the areas within the ACOE jurisdiction. However, selecting a preferred alternative based only on potential impacts within the ACOE's jurisdiction would ignore potential impacts that would occur in other areas as a result of ACOE's actions on the project. Therefore, the proposed project Raw Water Option is considered the NEPA Preferred Alternative based on overall project impacts, as well as the avoidance of the need to construct the WTP that is proposed for Camp Roberts under the Treated Water Option.

6.4 Least Environmentally Damaging Practicable Alternative

Issuance of a Department of the Army permit, under Section 404 of the Clean Water Act, is prohibited unless the ACOE has determined that the project constitutes the LEDPA. In this context, "practicable" means "available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes."

The LEDPA is based on the analyses described in the Draft Environmental Impact Report and input received from citizens and governmental agencies (i.e., local government officials and Federal and State environmental regulatory and resource agencies). While the public participation process has not been completed, the proposed project Raw Water Option has been identified as the LEDPA.

7.0 Growth Inducement

7.1 Introduction

The California Environmental Quality Act (CEQA) Guidelines Section 15126 (g) states that an EIR must discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment, using a reasonable worst case analysis. It specifically states that projects which would remove obstacles to population growth (such as bringing supplemental water supplies to an area), may "further tax" other existing community service facilities, and this impact must be addressed. The secondary impacts of growth inducement include reducing the service capacities of roads, sewer, schools and other necessary public services which are needed to accommodate additional development. Removing what was previously a constraint to development, by supplying supplemental water, could also affect the expected rate of growth in a community, unless adopted growth management policies exist to regulate the amount of development.

The analysis in this EIR recognizes the following facts:

1. Water is presently a constraining factor to growth in the communities of Templeton, Santa Margarita (Santa Margarita Ranch), City of San Luis Obispo (SLO), SLO Airport Areas (CSA 22, and Fiero Lane Water Company), Edna Valley (Edna Valley Mutual Water Company), and Cayucos.
2. Water may not be the only constraining factor to growth in these or other communities.
3. For some purveyors in SLO County, present water supplies could be reduced in the future due to factors outside their control.
4. The extent to which a community can grow depends, at least in part, upon existing and future water demand and supplies, based on projected population growth that may or may not be regulated by local jurisdictions.
5. Certain communities or jurisdictions have implemented growth management ordinances, traffic fees, public facilities fees, and/or school fees to help alleviate such overtaxing of resources.
6. Any additional water sources [other than the Nacimiento Water Project (NWP)] a community considers or approves could also be growth-inducing.
7. Analysis of growth-inducing impacts is complex, and there is disagreement among experts regarding what is or is not growth-inducing.

The analysis in the EIR makes the following assumptions:

1. The NWP, by supplying supplemental water, would remove an obstacle to growth, and lead to increased growth in SLO County communities and cities;
2. Growth in any area cannot be assumed to be beneficial, detrimental, or of little significance to the environment [CEQA Guidelines Sec. 15126.2(d)].

3. Growth inducement is an indirect project impact, which has secondary effects that could be significant;
4. It is recognized that roads, schools, air quality, water, sewer systems, and other resources in SLO County have become overtaxed. These resources could be impacted by growth resulting from the proposed project and would be considered secondary impacts.

Water supply and demand are not static entities, nor is the population in a particular community. In order to predict the extent to which a project will be growth-inducing in the future, water supply and demand must be examined. This EIR presents such an analysis, based on tables that present estimates of water demand and supply at build-out. “Build-out,” is defined as development on all available vacant land within an urban planning boundary. The time frame in which build-out could occur can vary based on the rate of growth. The analysis is also based on information available from General Plans (Area Plans) and associated EIRs related to build-out, using the SLO County Resources Management System Annual Summary Reports, SLO County Master Water plan and various studies.

The data sources for the community population estimates and water supply and demand include existing Area Plans prepared by the SLO County Department of Planning & Building, County Public Works Department, and information provided by local water purveyors. By necessity, the water supply and demand tables contain many assumptions and have certain limitations. The study can be used with the following qualifications.

- The analysis relies on population and water demand calculations projected twenty years ahead. Population growth will continue to occur after “build-out”.
- Estimated groundwater quantities are to be considered as an order of magnitude, meaning that they are rough approximations.
- Groundwater supply estimates for each community cannot be considered as “safe yield” supplies. Investigations requiring review of historic pumpage and evaluation of the groundwater basin’s characteristics are required before reasonable and accurate assessments can be made of each community’s share of a basin’s safe yield.

The CEQA Guidelines indicate that it is reasonable to conclude that if, as a result of a project, water is removed as a constraint to growth in a community, the project can be considered growth-inducing. Also, recognizing that communities sometimes tend to grow even when resources are highly constrained and that growth is a function of each jurisdiction’s General Plan, this EIR maintains that if a project results in a community having a surplus of water at build-out, that surplus water could be growth-inducing with secondary significant impacts, as surplus water generally allows for accelerated growth under a community’s General Plan. The rate and perhaps the significance of such growth will depend on the existing situation in the community and local decisions regarding the use of water. However, many communities need to plan for growth beyond the projected date of build-out to ensure that adequate water supplies exist for the future.

The tables presented in Section 7.1 and the service-area discussions in Section 7.2 represent the best estimate of the consequences of providing supplemental water from the NWP to individual communities.

7.1.1 Background

The Growth Inducement analysis contained in the State Water Project (SWP) Coastal Branch (Phase II) local Distribution Lines and Facilities EIR (SLO EIR) used population and water demand estimates generally tied to the year 2010. SLO County Public Works Department provided water supply and demand data that attempted to quantify the water resources necessary to meet anticipated population growth by the year 2010. The focus of the discussion in the SLO EIR was on the impact of State Water supplies on population growth, particularly as it relates to existing and projected groundwater use to satisfy urban water demand.

In the SLO EIR, SLO County Public Works Department staff commented that it is the responsibility of the various water purveyors to provide the water which is needed to accommodate the adopted growth plan of the service area. It was also acknowledged that other supplemental water supply options (such as NWP) could be as growth accommodating or growth-inducing as SWP water. However, if project supplies are not developed, anticipated population growth may very well be accommodated by increased reliance on groundwater. In addition, some water purveyors in SLO County face the potential that present water supplies could be reduced as a result of natural or legal limitations in the future (SLO EIR).

The finding of the SLO EIR was that importation of water to the communities where growth has been constrained by the lack of sufficient water resources would result in an increased rate of growth. Supplemental water from any source that provides for growth under the General Plan can be considered growth-inducing. Depending on local decisions regarding how water sources are used, there is the possibility of exceeding population targets. This was considered a significant unavoidable impact of the importation of State Water.

The County Board of Supervisors adopted the following mitigation which was contained in the certified final SLO EIR (ED 90-749):

> *"5.6b The governing body of each water purveyor accepting SWP water shall adopt a water management plan or program, the goal of which shall be to demonstrate that its project water shall be used first to offset its proportionate share of groundwater basin overdraft, if any, and to improve water quality for its consumers, if appropriate, and to provide an appropriate reserve available for a period of reduced water supply before being made available for other purposes. Such commitment may be manifested by the adoption of an ordinance or by the adoption of a resolution or by the adoption of a water management plan or program which brings its proportionate share of groundwater supply and demand into balance."*

Under mitigation measure 5.6b of the SLO EIR, each purveyor was required to develop an ordinance, resolution, or water management plan or program which would (1) require SWP to be used first to offset its prorated share of a groundwater basin's overdraft, and (2) balance its proportionate share of groundwater supply and demand. Due to the uncertainty regarding how this mitigation measure would have been implemented by local water purveyors, growth-inducing impacts of SWP were determined to remain significant. This mitigation measure was very controversial during the public hearing process and was not included in the purveyor agreements.

7.1.2 Recent Legislation

Under new legislation which took effect in January 2002, most large development projects in California are required to comply with a new set of rules intended to assure that the adequacy of the water supply to serve the project has been addressed before the project wins approval. These new laws require an increased effort to identify and assess the reliability of the anticipated water supplies, and envision an increased level of communication between municipal planning authorities and local water suppliers. The new laws also require additional documentation and set specific criteria in order to demonstrate the adequacy of the water supply. The new “water management” legislation includes Senate Bill 221 (SB-221, Kuehl) and Senate Bill 610 (SB-610, Costa).

SB-610 builds on Senator Costa’s 1995 water supply legislation (then known as “SB-901”) and recites a legislative intent to “strengthen the process” to assure that water supply issues are thoroughly considered as part of the environmental review process. Whereas SB-901 currently requires detailed water supply assessments only as to a narrow spectrum of major planning activities (such as general plan amendments or specific plans which require a full EIR and which result in increased density), new SB-610 applies these water assessment requirements to a much-expanded range of land use planning and development actions. Under SB-610, if a city or county determines that any project (as broadly defined under the Water Code) is subject to the CEQA it must comply with the water supply assessment procedure as detailed in Part 2.10 of the Water Code. This applies to residential projects of more than 500 units, and to specified commercial and industrial projects, or any project which would demand as much water as a 500 unit residential development. Thus any non-exempt project that requires any form of CEQA review must include a water supply assessment – containing specified information – from the local public water supply system(s) likely to provide water in the project area. Projects which were previously covered by a water supply assessment containing the detailed information described in the legislation may be exempt from further assessments. However, that exemption is not available if significant changes in the water demands of the project or the water supplies available to serve the project have occurred, or if new information regarding water availability has arisen.

For the broad range of projects which will now be subject to this regime, the statutory “water supply assessment” must be requested by the city or county considering the project from the local water provider at the time the city determines whether an EIR, a negative declaration or a mitigated negative declaration is required for the project under CEQA. The water agency must then provide the assessment within 90 days (but may request a time extension under certain circumstances). The water supply assessment must include specific information as detailed in the legislation, including an identification of existing water supply entitlements and contracts. If groundwater is anticipated as a source of water, the assessment must contain additional information. The governing board of the water agency must approve the assessment at a public meeting.

SB-221 addresses the project approval process. SB-221 creates a new requirement that cities and counties must impose a new condition of tentative subdivision map approval, requiring that a subdivider demonstrate that a sufficient water supply will be available to serve the subdivision before the final subdivision map can be approved. SB-221 initially targeted projects of 200 units or more, but was amended so that it will generally apply only to large subdivisions of 500 units or more, subject to two exemptions. Under SB-221, such large subdivisions will be required to produce proof of water availability in the form of a "written verification" from the applicable public water supplier.

Most of the revised general plans incorporated policies that require compliance with this recent legislation.

7.1.3 Methodology and Assumptions for Growth Inducement Analysis by Service Area

Tables 7.1, 7.2 and 7.3 present estimates of water amounts which would be necessary to meet forecasted demand at the time of build-out under adopted Area Plans. Each community scheduled to receive NWP is listed in column 1 with the estimated amount of water supplies available to the water purveyor in columns 2 through 4. Each purveyor participating in the NWP is listed separately, however in several instances the service boundaries overlap. For example, CSA 22 (Airport Area) also contains Fiero Lane. Each request for NWP is treated separately because they are assumed to be distinct requests to supply distinct service areas.

The allocations for each purveyor represent their initial requests and could change based on their individual needs at the time project participation agreements are negotiated. However, the total NWP allocation would not increase and project-wide growth-related impacts would not be appreciably different.

Water supply projects (i.e. water reclamation, surface water storage, etc.) were incorporated only if significant progress had been made on implementation of the project (i.e. funding availability, design, CEQA review). Water supplies contained in column 3 are based on an estimated share of supplies from a variety of water sources (i.e. reclaimed water). Groundwater supplies by planning area and community include underflows to the Salinas River as shown in column 4. Column 5 states the purveyor's NWP request. The sum total of projected water supplies available to the community's water purveyor is shown in column 6. Columns 7 and 8 display estimated population and its associated water demand at a projected year or at the time of build-out. Column 9 includes totals for water supplies (columns 2, 3, 4, 5) and subtracts the projected water demand (column 8) from total projected supplies (column 6). A number in parenthesis (deficit) in column 9 indicates the estimated amount of additional water sources needed by each community before population targets could be met, and indicates that additional water supplies may be needed. Column 9 shows the water supply available to a community assuming NWP water is received. A surplus amount of water could be used by a community to satisfy future growth demands.

As can be seen from column 9 even with the NWP water, some areas would have water demands in excess of supplies (e.g., Atascadero, Paso Robles). In order to satisfy forecasted water demand, these entities would either increase groundwater pumpage or would need to develop other supplemental water supplies. In communities where total water supplies (including NWP, local water sources, and estimated groundwater supplies) exceed forecasted water demands, this EIR concludes that the growth-inducing impacts of accepting supplemental water amounts from the NWP could be considered significant. Because it is not known with certainty that proposed mitigation measures would be adopted by all the respective governing bodies, these impacts are considered to be unavoidable.

Table 7.1 Estimated Urban Water Supply vs. Demand by NWP Purveyor in the Salinas River Planning Area

Water Supplies (afy)						Water Demand (afy)		
1	2	3	4	5	6	7	8	9
NWP Purveyor by Community	Surface Water	Other[a]	Ground-water [b]	NWP Allocation	Total Projected Supplies	Population Projections [c]	Water Demand [c]	Surplus Water (or Deficit) [e]
San Miguel CSD	0	0	265 [c]	0 610	265 875	1,307 (2002) 1,876 (2020)	265 (2001) 414 (2020) 794 (buildout)	0 461 81
Paso Robles	0	0	6,760	0 4,000	6,760 10,760	26,900 (2002) 28,741 (2009)	6,220 (2001) 13,080 (2020) 26,780 (buildout)	540 (2,320) (16,020)
Templeton	0	0	1,652	0 250	1,652 1,902	5,134 (2002) 6,232 (2020)	968 (2001) 1,437 (2020) 2,639 (buildout)	684 465 (737)
Atascadero	0	0	5,456 [d]	0 3,000	5,456 8,456	25,516 (2002) 31,500 (2020)	6,781 (2001) 10,646 (2020 and buildout)	(1,325) (2,190)
Santa Margarita Ranch	0	0	1,360	0 200	1,360 1,560	0 unknown	0 (2001) unknown	1,360 unknown
Santa Margarita	0	0	256	0 100	256 356	1,307 (2002) 1,411 (2020)	218 (2001) 254 (2020) 293 (buildout)	38 102 63

Notes:

[a] Reclaimed water, return flows, etc. have not been calculated. [b] Includes Salinas River underflow.
[c] SLO County, Master Water Plan, March 2001.
[d] 1993 pumpage records.
[e] Column 8 subtracted from Column 6.

afy=acre feet per year; unknown=water supplies and demand would be evaluated when Specific Plan is proposed.

Table 7.2 Estimated Urban Water Supply vs. Demand by NWP Purveyor in the SLO Planning Area

Water Supplies (afy)						Water Demand		
1	2	3	4	5	6	7	8	9
NWP Purveyor by Community	**Surface Water**	**Other**	**Ground-water**	**NWP Allocation**	**Total Projected Supplies**	**Population [c]**	**Water Demand [c] (afy)**	**Surplus Water (or Deficit) [d] (afy)**
City of SLO	7,520 [a]	0	500	0 3,380	8,020 11,400	42,564 (2002) 44,880 (2009) 56,000 (buildout)	7,652 (2001) 12,196 (2020) 13,143 (buildout)	368 (796) (1,743)
CSA 22	0	0	217 [b]	890	1,107	unknown	567 [g]	540
Fiero Lane WC	0	0	- [e]	30	100	unknown	unknown	unknown
Edna Valley MWC	0	0	321 [f]	700	1,021	unknown	unknown	unknown

Notes:

[a] http://www.sloreuse.org/supplies_reuse.html
[b] SLO Area Plan, EIR Draft 1996 (existing demand).
[c] SLO County, Master Water Plan, March 2001
[d] Column 8 subtracted from Column 6.
[e] Included in CSA 22.
[f] 70 acres irrigated agriculture at 3.3 afy per acre.
[g] Data from 1997 EIR.

afy =acre feet per year; unknown=water supplies and demand would be evaluated when specific projects are proposed.

Table 7.3 Estimated Urban Water Supply vs. Demand by NWP Purveyor in the Estero Planning Area

Water Supplies (afy)						Water Demand		
1	2	3	4	5	6	7	8	9
NWP Purveyor by Community	Surface Water	Other	Ground-water	NWP Allocation	Total Projected Supplies	Population [b]	Water Demand [b] (afy)	Surplus Water (or Deficit) [c] (afy)
SLCUSD Morro Bay				55 [a]		N/A	N/A	N/A
Morro Rock MWC				30 [d]				
Lewis Pollard Trust				50 [d]				
CSA 10A				80 [d]				
Cayucos - Total	**600** [e]	0	0	**0** **160**	**600** **760**	**3,043 (2002)** **3,197 (2020)**	**470 (2001)** **580 (2020)** **750 (buildout)**	**196** **180** **10**

Notes:

[a] NWP allocation would be wheeled through City of Morro Bay.
[b] SLO County, Master Water Plan, March 2001.
[c] Column 8 subtracted from Column 6.
[d] NWP allocation is exchange agreement with City of SLO to increase Whale Rock Reservoir allocation.
[e] 600 afy allocation from Whale Rock Reservoir for Cayucos purveyors (Ogden, 1997; 1997 EIR).

afy=acre feet per year; N/A=not applicable; unknown=water supplies and demand would be evaluated when specific projects are proposed.

However, it should be noted that there is disagreement among experts regarding the amount of additional water available to communities and whether or not it would induce population growth.

Some benefits for communities which have water supplies in excess of water demand include:

- Economic cost savings from not having to develop additional water supply projects to satisfy water demands at build-out;
- Preservation of an agricultural economy by reducing groundwater pumping competition between agriculture and municipal demand; and,
- Creation of a margin of safety in the event an assumed firm water supply is reduced or fails entirely.

7.2 Growth Inducement Analysis By Area

Impact	Impact Description	Residual Impact
G.1	Countywide, the growth inducing impacts of accepting supplemental water supplies from the NWP could be considered significant, adverse and unavoidable. However, locally impacts could vary depending on how project supplies are used by each project participant.	Class I

The availability of water has been a limiting factor to growth in the following areas: Templeton, Santa Margarita and Santa Margarita Ranch, SLO and the unincorporated SLO Airport Area (CSA 22, and Fiero Lane Water Company), Edna Valley (Edna Valley Mutual Water Company), and Cayucos. Factors which contribute to water being limited include waiting lists for "will-serve" letters, low producing wells, reliability problems with wells, overdrafted groundwater basins, and developer offset requirements, such as retrofits in exchange for approval of new construction. With NWP supplies available to the purveyor, water as a limiting factor to growth would potentially be removed in these communities. The impacts of growth are described in Area Plans and associated environmental documents, available from the local jurisdiction. Table 7.4 displays the status of General and Area Plans for participating NWP agencies in SLO County. Growth management ordinances are in effect in the SLO County, City of SLO, City of Morro Bay, and City of Atascadero. In addition, traffic fees are collected in Templeton. Also public facilities fees that would be used to fund fire, park, general government and sheriff patrols needed as a result of new development are effective in the County unincorporated areas. Table 7.5 displays constraining issues and existing mitigations for areas scheduled to receive NWP supplies.

Table 7.4 Status of General Plans for Areas Affected by the NWP

Community	Description
San Luis Obispo County	Salinas Area Plan 1996. San Luis Obispo Area Plan 1997. Estero Planning Area (Cayucos), 1988. Plan Update, Public Review Draft, 2002.
City of Paso Robles	Land Use and Circulation Elements 1991. FEIR certified August 1991.
City of Atascadero	Land Use, Open Space & Conservation Element of the General Plan 2002. FEIR on Update of Land Use, Open Space, and Conservation Elements of the General Plan, Certified 2002.
City of San Luis Obispo	General Plan Conservation and Open Space Element, 1994, Update Draft, 2002. Land Use Element and Circulation Element, 1994. Water and Wastewater Management, 1996. FEIR certified August 1994.

In every area scheduled to receive NWP, impacts to schools are listed as moderate to severe (Table 7.5). Under the new rules (Proposition 1A, 1998) local school districts must cover 50% of the cost of new school facilities. The remaining 50% will be provided by the $9.2 billion state school bond fund approved by the voters. In order to raise the 50% local share, cities and counties may levy school fees on new development at the current rate of $2.14 per square foot ($ft^2$) of residential development and $0.34 per ft^2 of commercial and industrial development. Local school boards could impose higher fees – up to 50% of land and construction cost – in order to meet their matching requirement.

The County's General Plan mandates coordination between school districts and the County Planning Department regarding the location and provision of new school facilities. Proposed school sites and capital projects are reviewed for conformity with the general plan. School capacity and enrollment are monitored through the Resource Management System. Developer fees are collected by the County on behalf of school districts impartial mitigation of school overcrowding.

The County can also help to facilitate the dedication of school sites through the adoption of specific plans for major new development interests toward the formation of community facilities districts. Such districts permit the financing of school construction from revenues included in the sale price of improved property within the district boundaries.

Countywide however, several districts have been experiencing significant school enrollment declines over the last several years, particularly in elementary schools. The decline is generally attributed to high housing costs in some parts of the county, which deter families with young children from locating there. If introduction of NWP water would reduce housing costs, this may have a secondary significant impact to schools.

Air quality is listed as RLOS II (moderately severe) in the County's Resource Management System. The County Board of Supervisors adopted the Clean Air Plan in January 2001. The Clean Air Plan has been designed to achieve the State ozone standard (for which the air district is currently in nonattainment) based on population trends forecasted in the various general and specific plans of the county and the cities within the county.

Table 7.5 Summary of Issues and Mitigations in Areas Scheduled to Receive Nacimiento Water

Area	Growth Constraining Issues (RLOS Level [a])	Existing Mitigations
San Miguel	Schools (III) Air Quality (II)	Schools Facilities Fees Clean Air Plan
Paso Robles	Schools (III) Air Quality (II)	Schools Facilities Fees Clean Air Plan
Atascadero	Schools (III) Air Quality (II)	School Facilities Fees Growth Management Ordinance, Clean Air Plan
Templeton CSD	Schools (III) Roads (I) Water Systems (II) Air Quality (II)	School Facilities Fees Traffic Fees (Res. 91-369) [d] Public Facilities Fees [b,c] Clean Air Plan
Santa Margarita	Schools (III) Air Quality (II) Water System (II) Water Supply (supply uncertainty)	Schools Facilities Fees Clean Air Plan Public Facilities Fees [b,c]
San Luis Obispo Urban	Schools (II) SLO Creek Ground Water Basin (II) Roads (III) Air Quality (II)	School Facilities Fees Growth Management Ordinance Clean Air Plan
San Luis Obispo Rural	Schools (II) Air Quality (II)	School Facilities Fees Clean Air Plan
Cayucos	Water Supply (II) Water System (II) Schools (III) Air Quality (II)	Water Moratorium on Building Permits Public Facilities Fees [b,c] School Facilities Fees Clean Air Plan
SLCUSD	Schools (II, none)	School Facilities Fees

Notes: I = Least severe; II = Moderately severe; III = Most severe.

RLOS=Recommended level of service; SLCUSD=San Luis Coastal Unified School District;

[a] Based on 2002 Annual Resource Summary Report, San Luis Obispo County Department of Building and Planning.

[b] General Fees used for construction, expansion, or improvement of fire, general government, parks and recreational facilities, and sheriff's patrols that are needed as a result of new development. Fees effective December 16, 1991.

[c] Applicable to 1) land divisions; 2) projects requiring development plans, site plans, Minor Use Permit Coastal Development Permit, and/or variance; 3) projects requiring building permits; and 4) development subject to approval of Board of Supervisors, Planning Commission, Planning Director, or Chief Building Official.

[d] Fees used for capital improvements; applicable to residential and commercial development.

If population growth is higher than the projections used in the Clean Air Plan, the attainment status of the air district could be threatened, which could have economic implications for local businesses and residents.

There are several roadways in the County with levels of severity I to III. Typically vehicle miles traveled in California increase at a greater rate than the increase in the number of households, this appears to be true in the SLO County. If the additional water supplies increased population growth rate, this may have significant impacts to traffic in the County.

Other impacts associated with community growth depend on local decisions in regards to the use of supplemental water supplies and the context in which growth would occur. The following discussion attempts to summarize existing resource constraints by area proposed to receive supplies from the NWP. It also indicates to the extent possible, what effects additional water supplies from the proposed project may have in individual communities.

7.2.1 SLO County's Resource Management System

The Resource Management Task Force, created in the 1980s by the SLO County Board of Supervisors at the recommendation of the Board's Growth Management Advisory Committee, is charged with annually compiling and evaluating resource information for the use by the Board.

The Resource Management System (RMS) provides this function under SLO County's General Plan Framework for Planning. The RMS is primarily an informational tool which estimates capacity levels and allows decision makers to identify problems in the resource areas of water supply, sewage disposal, schools, roads, parks, and air quality. The RMS uses three levels of severity from Level of Severity I (least severe) to Level of Severity III (most severe) to identify potential and progressively more immediate resource deficiencies. For example, a recommended Level of Severity III (RLOS III) occurs when a groundwater basin is overdrafted or a road segment is operating beyond its design capacity. The section on growth inducement by area (Section 7.2) is based on the 2002 Annual Resource Summary Report and abbreviates the recommended Level of Severity as RLOS III, RLOS II, or RLOS I.

In response to the RMS, the Planning Commission and Board of Supervisors have a wide range of alternative actions available to them. The Land Use Element and Land Use Ordinance is the management structure implementing policy decisions as part of the RMS advisory process. Resource capacity studies are also used by the LAFCO during deliberations for expansion of spheres of influence or consideration of annexations to incorporated cities. The Framework for Planning from the County's General Plan summarizes the following methods to conserve resources or control growth in the unincorporated areas.

- Density limitations to limit the number of people that could potentially reside in an area.
- Building intensity or use limitations that would limit the potential scale and intensity of nonresidential.
- Target ceiling for the maximum population that could reside within resource capacities, with a limit on the corresponding number of building permits.
- Controls on the rate of new development and subdivisions to provide more lead time for resource management decisions and for funding to be programmed where it is feasible, by limiting the annual number of permits, or to sustain growth longer under a population ceiling.
- Phasing policies on the extension of services, such as sewage disposal, and on recommended annexations.
- Locating public improvements to influence the location and direction of growth where resources are identified to be more adequate.
- Scheduling public capital expenditures to influence growth into more desirable areas with resource availability.

- Acquisition or transfer of development rights to relocate previously allowable development into other areas with more adequate resources.
- Development impact fees to provide funding for necessary public facilities that will minimize the impacts of growth.
- Any growth management limitation requires that the jurisdiction enacting ordinances and other actions consider their effects upon the housing needs of the region (Government Code Sections 65863.6, 65913.2, and 66412.2).

The focus of the RMS is on data collection, problem identification and solutions, which may include identification of growth management measures capable of providing lead time to develop and implement solutions to resource capacity problems (Land Use Element, Framework for Planning). The operation of the RMS is the responsibility of the Department of Planning and Building, working with a Resource Management Task Force composed of other county departments and public agencies (such as public water agencies and community service districts). The following section details by area the findings of the RMS with additional information obtained by local service providers and public agency personnel.

7.2.2 Salinas River Planning Area

The cities of Paso Robles and Atascadero and the communities of Templeton, Santa Margarita (including Santa Margarita Ranch), and San Miguel are grouped together because they all depend on the Paso Robles Groundwater Basin and the underflow of the Salinas River or its tributaries for their water supply. Other communities drawing water from this basin include the urban areas outside the cities of Paso Robles and Atascadero (Wellsona, Garden Farms, and San Ardo, which is in Monterey County). The potential recipients of NWP are analyzed individually below for growth inducing effects according to tentative allocations.

The Paso Robles Groundwater Basin underlies approximately 790 square miles and has a total estimated storage of 26,520,000 acre feet. The basin is replenished primarily from uncontrolled runoff originating from several major and minor stream tributaries of the Salinas River, from wastewater treatment plant discharge of effluent into the Salinas River, and to a lesser extent, direct infiltration from precipitation and irrigation. The present dependable yield of the Paso Robles Groundwater basin is estimated at about 94,000 acre feet per year (SLO County Annual Resource Summary Report 2002.) Other water is drawn from the Salinas River underflow. In 2000, pumpage from the basin was approximately 82,600 afy, 69% of which was for agriculture and the remainder of which was for urban and rural domestic uses. By 2020, pumpage is expected to total 89,000 afy. Water demand at buildout is estimated at 120,000 afy, or 128% of the perennial yield. Declining water levels and water quality indicators along the Highway 46 corridor east of Paso Robles may result in revision of the Level of Severity Recommendation by SLO County.

7.2.2.1 San Miguel

The water purveyor for San Miguel is the San Miguel Community Services District (SMCSD) whose San Miguel and San Lawrence Terrace water systems form a single water system, County

Waterworks District #1. Annual water consumption is near 250 afy. SMCSD has requested 610 afy from the NWP project.

Potential Impacts
The RLOS for the San Miguel water supply is none. The Annual Resource Summary Report notes that the district's water supply can accommodate 300 new residential connections. Growth-inducing impacts for San Miguel are considered potentially significant because there is a projected water surplus which has the potential to cause San Miguel to extend or expand public water services into areas where they do not currently exist, which could in turn have secondary impacts to schools, air and traffic.

7.2.2.2 City of El Paso de los Robles

The area of water service is the City of El Paso de los Robles (Paso Robles). The City of Paso Robles administers and operates water services including wells and water storage tanks. The city limits cover an area of approximately 10,700 acres with an associated population of 25,021 (SLO 2002).

The City of Paso Robles has requested 4,000 afy of Nacimiento water as a supplementary source of water for the city. The city currently has two sources of water: the Paso Robles Groundwater Basin, and appropriative rights to Salinas River underflow waters which are permitted and regulated by the State of California under permit #5956 in the amount of 4,600 afy.

Under Raw Water Option of the proposed project, water wells operated by the City of Paso Robles would continue to pump water from existing sources supplemented by Nacimiento water discharged into earthen ponds. Under Treated Water Option of the proposed project, a water treatment plant would treat Nacimiento water and send treated water directly into the City of Paso Robles water system. According to the SLO Master Water Plan (SLO 2001), the projected water demand for the City of Paso Robles at buildout is estimated at 26,780 afy. As shown in Table 7.1, at build-out Paso Robles would have an estimated water deficit of 16,020 afy.

The city updated the Land Use and Circulation Elements of its General Plan in 1991, and is currently under revision. Because the city's adopted Land Use Element sets thresholds for development by requiring that city services, including water, be available before development is allowed to occur, the provision of NWP would allow planned development to occur if all other resources and services were available. The city's General Plan Land Use Element provides for the city potentially annexing large areas of land to provide for future build-out. If NWP water supplies are not available, the city may need to increase groundwater pumpage or pursue other additional supplemental water sources.

Potential Impacts
The RLOS for the Paso Robles Groundwater Basin is none. The Annual Resource Summary Report notes that while basin-wide overdraft is a long-range issue, intensive pumping activity may cause supply problems for specific local areas in the near term where wells are concentrated, if pumping activity consistently exceeds the capability of the aquifers to transmit subsurface water. Secondary effects of development include increased surface water runoff, increased wastewater treatment demand, increased traffic with accompanying noise, as well as

noise from construction and decline in air quality. The City currently has a small water surplus. Growth-inducing impacts for the City of Paso Robles would not be significant because there is a considerable projected water deficit which would be a factor that would slow growth in this area.

7.2.2.3 Templeton

The water purveyor for Templeton is the Templeton Community Services District (TCSD). The Templeton Community Services District service area encompasses 2,500 acres and is shown in Figure 7-1. The TCSD water system operates with ten wells, eight of which draw from the groundwater basin (safe yield = 1,050 afy) and two wells pump from the underflow of the Salinas River between October and May (appropriated right = 602 afy). TCSD estimates that its existing capacity could serve a population of 6,000, which it is forecast to reach by 2008. As of 1995, the TCSD had allocated all of its capacity and had a backlog of approximately 1,680 units from 70 requests for service, should more water capacity become available (SLO 2002). The RLOS for the Templeton water supply is II.

Templeton's projected water demand at buildout is 2,639 afy. The TCSD has requested 250 afy of NWP supplies to ensure adequate supplies for full community build-out (SLO 2001). As shown in Table 7.1, Templeton would have an estimated deficit of 737 afy at full buildout, however by the year 2020 Templeton would still have a water surplus of 465 afy to meet forecasted water demand in 2020.

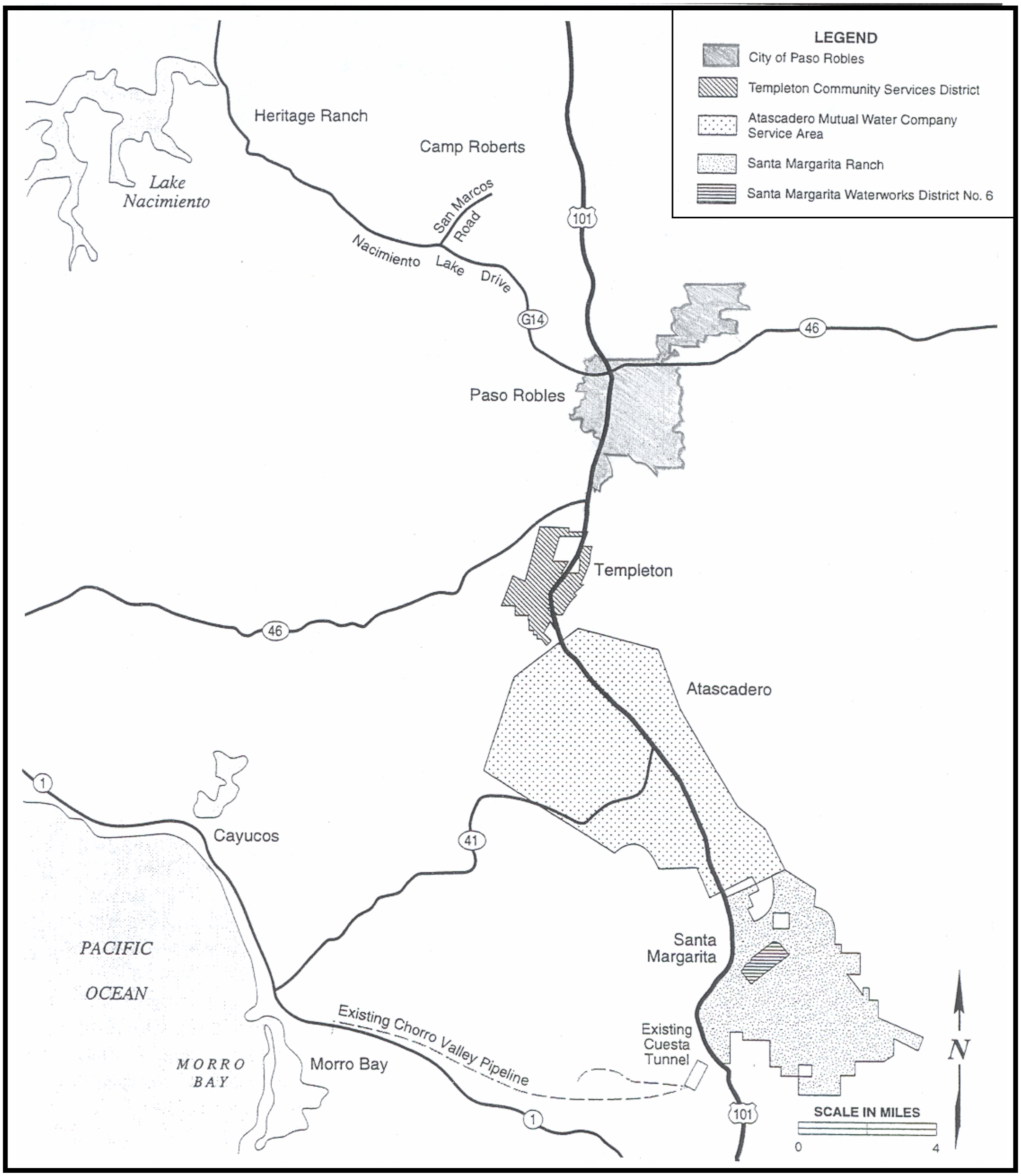
Potential Impacts
Growth-inducing impacts of the NWP for the community of Templeton are determined to be potentially significant as long as the water surplus exists (beyond 2020). After the water surplus is used, the growth-inducing impact would become insignificant.

7.2.2.4 Atascadero Mutual Water Company

The Atascadero Mutual Water Company (AMWC) service area encompasses approximately 38 square miles including the entire City of Atascadero plus a large unincorporated area of the county. The service area generally lies from the northerly city limits of Atascadero on the north, to the "River Gardens" area on the south, a distance of about ten miles. The service area stretches from the Salinas River on the east into the Santa Lucia Range, about five miles to the west (Weathers 1996). The build-out projections of AMWC's service area are established by the City of Atascadero and SLO County land use policies.

AMWC is requesting 3,000 afy of NWP to supplement existing groundwater sources. The AMWC presently relies on groundwater including underflows of the Salinas River. AMWC Master Plans have identified the need for supplemental water to provide sufficient water for full build-out. The AMWC declined to use State Water as a supplemental water source in 1993 and instead decided to rely on participation in the NWP. According to the AMWC, NWP supplies will improve reliability of the overall water system and allow for conjunctive use of water resources (Weathers 1996). At build-out a considerable water deficit is expected.

Figure 7-1 Purveyor Service Boundaries, North County



Source: Ogden, NWP 1997 EIR.

The City of Atascadero had a 2002 population of 26,982 (California State Department of Finance). It is served by the AMWC, which obtains water from the Paso Robles Groundwater Basin and the Salinas River underflows.

The projected service area population for the AMWC in 2020 is 31,500 with a projected water demand of 10,646 afy (SLO, 2001). The tentative NWP allocation for the AMWC is 3,000 afy. As shown in Table 7.1, the AMWC would have an estimated deficit of 2,190 afy to meet forecasted water demand in 2020 and beyond.

The City is pursuing water conservation efforts through expansion of reclaimed water use, ensuring that adequate supplies are available prior to authorizing any new development and compliance with SB-221.

Potential Impacts
The General Plan update for Atascadero was adopted by the City Council in June, 2002. The growth rate for Atascadero is limited to 1.25% per year in the General Plan. The growth rate in combination with the water deficit that could develop would be an impediment to growth in this area. Even with the NWP allocation there would still be a water deficit. Therefore, the additional NWP water supplies would not lead to growth inducement; thus potential growth-related impacts would be less than significant

7.2.2.5 Santa Margarita

The community of Santa Margarita has a population of 1,175 and is served by County Waterworks District 6 (CWD 6). CWD 6 draws water from existing shallow wells drawing either on underflow from Santa Margarita Creek or groundwater resources. In 1991, a deep well was drilled that taps the deeper Santa Margarita Sandstone Formation.

The proposed NWP allocation for Santa Margarita is 100 afy. The projected population of the community of Santa Margarita at build-out is 1,505 with an associated estimated water demand of 293 afy. As shown in Table 7.1, Santa Margarita would have an estimated surplus of 63 afy to meet forecasted water demand at buildout.

The groundwater source for Santa Margarita (the consolidated Santa Margarita Sandstone Formation) has not yet been studied to the extent necessary to provide an accurate assessment of its dependable yield. Currently the water supply for Santa Margarita has a RLOS II (SLO 2002).

Potential Impacts
Potential growth inducing impacts could be significant since with the project the area would have a water surplus that could stimulate growth with secondary impacts to traffic, air quality and schools.

7.2.2.6 Santa Margarita Ranch Mutual Waterworks

The Santa Margarita Ranch consists of 13,562 acres and encompasses the community of Santa Margarita. Refer to Figure 7-1 for a general display of the boundaries of the Santa Margarita Ranch, located between Atascadero and Santa Margarita. The Santa Margarita Ranch Mutual

Waterworks has requested 200 afy of NWP supplies to provide a dependable supply of water for future uses of the property. Development of the Santa Margarita Ranch was noted as a major planning issue in the Salinas River Area Plan. Development plans included limiting development to approximately 1,800 acres and allowing a maximum of 550 residential units plus non-residential uses such as a golf course, guest ranch and lodge, community swimming pool, cemetery expansion, and sewage treatment plant. The goal of the plan was to preserve agricultural lands and environmentally sensitive areas as open space (Salinas Area Plan).

Potential Impacts
Growth-inducing effects of the NWP on the Santa Margarita Ranch are determined to be potentially significant because it would cause the expansion of public water services into areas not previously served. In anticipation of supplemental water availability, there is the potential for an increased rate of urban development. Once the availability of additional water is assured, developers may be more inclined to invest or speculate on future development scenarios.

Development plans which increase population would be subject to CEQA and would require an analysis of the project's effects on local services. However since school facilities would be significantly affected by future residential growth and identified funding sources may be insufficient to fully mitigate new growth, the secondary or indirect impact of growth on school overcrowding may be considered potentially significant and unavoidable.

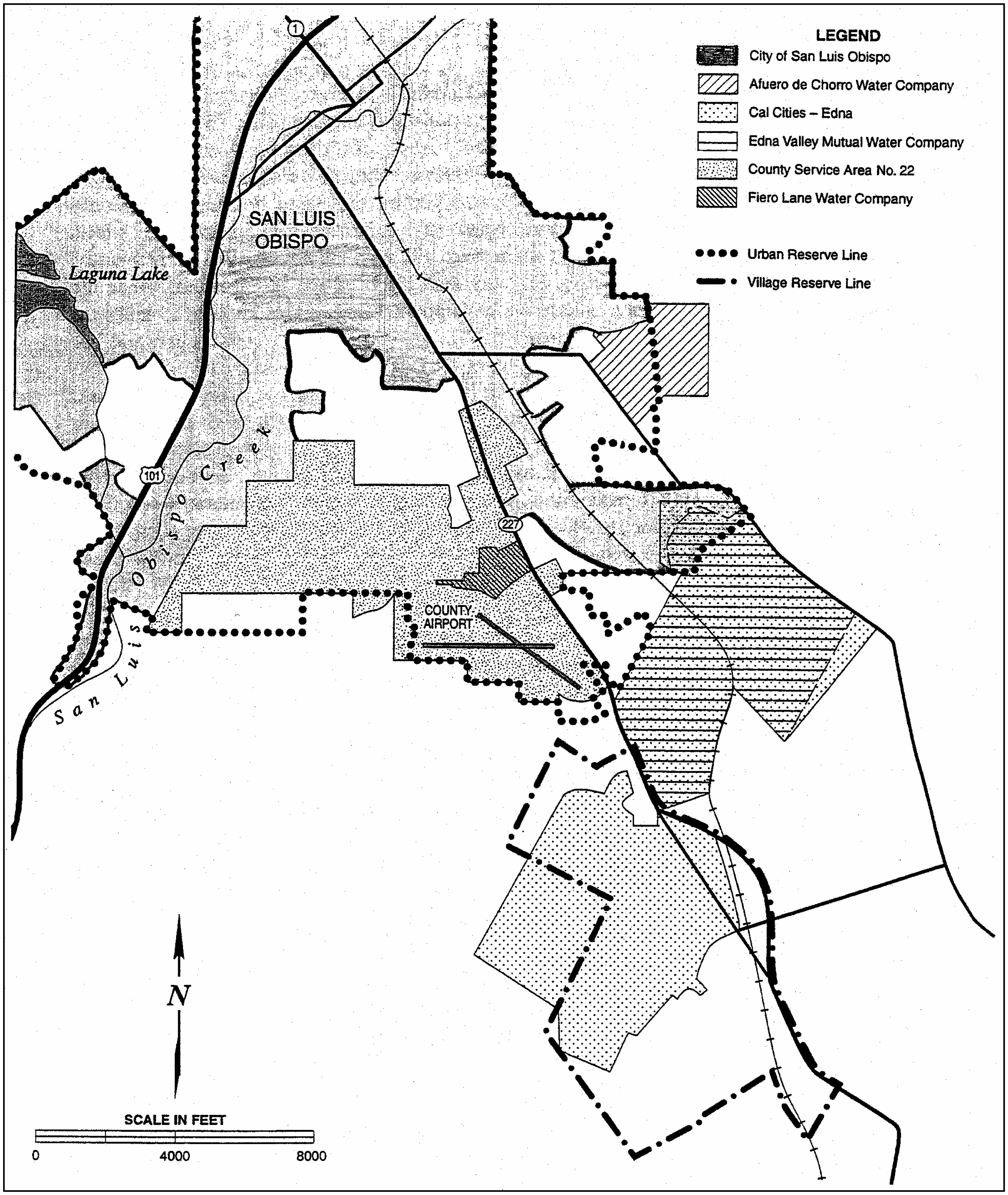
7.2.3 San Luis Obispo Area Plan

The SLO Area Plan encompasses the unincorporated area around the City of SLO and surrounding agricultural and rural lands (Figure 7-2). The incorporated City of SLO is responsible for land use planning and providing public services to appropriate areas within its boundaries. Outside the city limits, the urban reserve line (URL) defines the growth area that is planned for urban services within a 20-year time frame (2022), depending upon resource development and service expansion. For all areas outside of city limit boundaries, land use planning is the county's responsibility.

Groundwater supplies within the SLO Planning Area include SLO Creek, Pismo Creek, and Chorro Creek/Morro Water Basins. Of these basins, significant amounts of groundwater are drawn from the SLO Creek groundwater basin and Pismo Creek groundwater basin. The following water purveyors participating in the NWP are all located in the vicinity of the SLO Creek Groundwater Basin:

- City of SLO
- CSA 22
- Fiero Lane Water Company
- Edna Valley Mutual Water Company
- Camp San Luis Obispo

Figure 7-2 Purveyor Service Boundaries, South County



Source: Ogden, NWP 1997 EIR.

SLO Creek Groundwater Basin

The Department of Water Resources (DWR) estimates the SLO Creek basin's maximum safe yield at 2,250 afy. The City of San Luis Obispo's current policy identifies extractions from this basin of 500 afy as a safe annual yield, and is currently totaling approximately 210 afy (2002). While the existing safe yield of the basin is currently under review, this basin is considered to be in a state of overdraft for planning purposes (SLO 2002). The groundwater basin under the city can be depleted quickly by pumping, but it recharges quickly with normal or above rainfall. The City is studying how to get more from the groundwater basin without adverse effects or contradicting General Plan policies on agriculture and wildlife (SLO 2001). Engineering and environmental studies are being conducted to potentially increase the City's potential groundwater yield to approximately 1,000 afy.

The City is pursuing several other methods to augment use of the groundwater: using highly treated water for irrigation - the treatment plant is ready to provide this source of non-potable water. Concerning using part of the effluent for other than stream flow, the Council has certified the environmental impact report and received needed approvals from State agencies. The City needs to approve detailed plans for construction of the pumps and pipes that would distribute this reclaimed water. The City is pursuing a grant and a low-interest loan to help pay for this system. Major new development areas are proposed to include dual piping systems from the start.

Water Resources Management Section and Water and Wastewater Element of the City's General Plan outline several policies that target water conservation and management. The water resources mitigation measure WR-2 contained in the EIR for the SLO Area Plan states that until a regional report concludes that the San Luis Obispo Creek Groundwater Basin is not in a state of overdraft, new development must demonstrate the zero net consumptive water use can be achieved and that future uses would be limited to non-water intensive uses, (SLO Area Plan EIR 1996).

The EIR concludes that because the San Luis Obispo groundwater basin is the primary water source in the planning area, any increase in water consumption without the development of supplemental water supplies would increase the overdraft of the basin which would be considered a significant adverse impact to water resources associated with implementation of the Area Plan. However, in order to make a meaningful reduction in overdrafting, commitments are needed from water providers that they would stop or reduce groundwater withdrawals once they obtain supplemental water supplies. Otherwise, supplemental water supplies would not replace groundwater extraction, but would serve more development and not significantly improve the existing deficit situation (SLO County General Plan, Framework for Planning).

The SLO Creek Groundwater Basin has a RLOS for Water Supply of II. An RLOS II indicates that a seven year lead time is necessary to develop supplementary water for delivery to users.

Pismo Creek Ground Water Basin

The Pismo Creek Ground Water Basin is located in the southeastern portion of the planning area, and includes the Pismo Creek drainage system. Safe yield of this basin is estimated at 2,250 afy (SLO Area Plan EIR 1996). The Pismo Creek groundwater basin underlies the southeastern three-fourths of the Edna Valley (SLO Area Plan, 1996).

7.2.3.1 City of San Luis Obispo

The City of SLO provides water service to residents, businesses, and institutions within city limits. The Municipal Code of the City of SLO prohibits the provision of water service to anyone outside the city limits, with a few exceptions. These exceptions include the County Airport, since it is seen as an essential service benefiting the city. Another exception is a small number of residents and cattle troughs along the Highway 101 corridor just north of town. The city's requirement to serve water to these properties is in accordance with agreements that date back to the early 1900's. Other exceptions exist where individual properties were provided with service prior to adoption of the ordinance (Ogden 1997).

The City of SLO is requesting 3,380 afy from NWP supplies. This amount is based on San Luis Obispo's adopted General Plan. It includes 880 afy for new development over the next 30 years, 500 afy to compensate for projected yield reductions at Santa Margarita Lake (Salinas Reservoir) and Whale Rock Reservoir due to siltation over that time. (The City voted to eliminate the "reliability reserve" from its calculation of future water demand, thus reducing the city's requirement for additional supplies to serve its buildout population of 56,000.) The city's requested amount includes the city's estimated requirement for build-out of the Airport Area, which is 481 afy. The city has initiated annexation of the Airport Area. If the Annexation is completed, the city would obtain the necessary water supply from the NWP amount requested for County Service Area 22 (CSA 22). The boundaries of CSA 22 nearly coincide with the Airport Area. CSA 22 has requested 890 afy, which exceeds the city's estimate of water needed for that area. If the Airport Area annexation is approved before contracts for NWP are signed, the difference between CSA 22's water request and the city's estimate of Airport Area water need is likely to go to a countywide pool of unallocated supply.

The City of SLO needs a total of 9,596 afy for existing development, new development allowed by the General Plan (including the Airport Area), and siltation offset. Currently, San Luis Obispo obtains water from Santa Margarita Lake and Whale Rock Reservoir, which have a coordinated yield of 7,235 afy, and from wells located in the San Luis Obispo groundwater basin, which has a reliable yield set by policy at 500 afy. The combined safe yield for the city from these sources is 7,735 afy. The difference between the total requirement of 9,596 afy and the current yield of 7,735 afy is 1,861 afy.

The city is pursuing the Santa Margarita Lake Expansion Project. If that project proceeds, the added safe annual yield would be 1,650 afy, and the city is expected to reduce its NWP subscription by the same amount. The city is also pursuing the Water Reuse Project, which would provide reclaimed water for non-potable uses. Reclaimed water may provide up to 1,200 afy. The city is expected to reduce its NWP subscription based on the best available estimate of reclaimed water usage at the time it must finalize its NWP contract. If the city obtains the other sources and does not reduce its NWP request, it would have as much as 2,850 afy beyond its planned total water supply needs.

Potential Impacts

The City of SLO's projected population at build-out in about 30 years is 54,900 to 57,700. The low number does not include current or potential residents of the Cal Poly campus which is within the urban reserve line but outside the city limits. The high number includes campus residents. The city has adopted a population capacity of 56,000 for water planning. This number may allow for Land Use Element amendments such as the recent Prefumo Canyon annexation, which were not specifically covered in the most recent update of the Water and Wastewater Management Element of the city's General Plan.

Obtaining NWP supply will enable additional development in San Luis Obispo. The additional development is expected to conform with the city's General Plan, which largely determines the type, intensity, location, and rate of development. Nearly all of the additional development will be within the city's adopted urban reserve. The city's General Plan also anticipates some minor expansions of the urban reserve, mostly for projects that include permanent open space protection.

There is the potential for water availability, particularly a large amount in excess of identified needs, to prompt amendments to the General Plan, thereby allowing more development or faster development than currently allowed. Evaluating the potential for such amendments is speculative. The city has a history of considering potential changes to its plan and growth regulations, approving some and rejecting others. Actual or proposed voter challenges have caused reconsideration or reversal of some proposed changes.

The potential environmental impacts of full development under San Luis Obispo's General Plan were evaluated in the Environmental Impact Report for the 1994 Land Use and Circulation Elements Update (available for review at the City of San Luis Obispo Community Development Department, 990 Palm Street, San Luis Obispo, CA 93401-3249). When the city adopted the updates and certified the EIR, it acknowledged that the planned growth would have significant, adverse impacts. These impacts would be: conversion of prime agricultural land to urban use; increased water usage; unacceptable levels of service for traffic on most arterial streets; change from rural to urban character; the number of workers increasing faster than the number of residents; and certain localized impacts due mostly to street widening or extension projects. Schools would also be further impacted.

7.2.3.2 Camp San Luis Obispo

Camp SLO is currently the home of the 223rd Infantry Regiment and several other training and logistics activities of the California National Guard. CSLO has requested up to 200 afy. Their primary need for supplemental water is to reliably meet forecasted water demand during peak training periods. Increased activity in federal, state, and county programs hosted at Camp SLO has resulted in an average daily population of over 1,300. This represents a doubling over the past seven years and is expected to increase in response to our nation's increased emphasis on military preparedness.

Potential Impacts

The increase in Camp activity and corresponding population would generate more local and regional traffic. Based on recent rates of traffic increase, the number of trips tends to increase proportionally for each additional person. Potential impacts would mainly be limited to Highway 1, but would be considered less than significant.

7.2.3.3 County Service Area (CSA) 22

CSA 22 encompasses 1,700 acres located immediately southeast of the City of SLO. It includes the 300 acre SLO Airport, presently served with water and sewer services by the City of SLO. The portion of the urban reserve around the city, that lies within the Airport Area and surrounding properties, is commonly referred to as the Airport Area as shown in Figure 7-2.

CSA 22 has requested 890 afy of NWP to supplement existing groundwater supplies to meet general plan build-out. Under the proposed SLO Area Plan, the Airport Area would experience the largest increase in new commercial and industrial land use within the planning area. CSA 22 is under Resource Management Level II requiring additional water resources to supplement current needs and meet future demand. The EIR for the SLO Area Plan states that it is anticipated that the city will annex the Airport Area prior to build-out, and supply this water demand via extension of its water delivery system.

Potential Impacts
The increase in water supplies to this area would result in increased development and corresponding population and would generate more local and regional traffic. Based on recent rates of traffic increase, the number of trips tend to increase proportionally for each additional person. The following streets would be most affected by development: Madonna Road, Los Osos Valley Road, Tank Farm Road, Broad Street, Orcutt Road, Johnson Avenue, and Highway 101. The areas most likely to undergo direct growth would be: the Dalidio Specific plan area, the Airport Specific Plan area, the Margarita area, the Irish Hills area, and the Downtown Planning area.

Tank Farm Road is a major roadway that connects east and west parts of San Luis Obispo City and is a shortcut between highways 101 and 227. It is currently at RLOS III. The Circulation Element of the SLO Area Plan contains recommendation for improvements of Tank Farm and Prado Road. Those improvements include widening Tank Farm Road to four lanes with continuous left-turn lane, providing bike lanes, and a landscaped parkway. The Santa Fe Road intersection construction is expected to take place in 2005. Completion of improvements is complicated by the possibility of the area being annexed to the City of SLO. An Airport Area Specific Plan will contain recommendations for road improvements as phased development occurs in the Airport Area.

Development within CSA 22 is constrained due to its reliance on groundwater resources from the presently overdrafted San Luis Obispo groundwater basin to serve proposed projects. Because approval of supplemental water supplies from the NWP would remove an existing constraint to growth, potentially significant growth-inducing impacts are highly likely. Estimates of future water demand could vary depending on the types of land uses approved and whether the City of San Luis Obispo accepts the Airport Area for annexation. The amount of water available would have a direct influence on the amount and type of urban development which could be approved. Approval of NWP supplies while allowing private water companies within CSA 22 to operate private water systems would potentially increase the amount of water available for development while also adversely affecting the groundwater basin.

7.2.3.4 Fiero Lane Water Company

The Fiero Lane Water Company is made up of 13 parcels (approximately 40 acres) located on Fiero Lane (a cul de sac) (Figure 7-2). The service area abuts the SLO Airport on the south, Highway 227 (Broad Street) to the east, and Santa Fe Road on the west. The Fiero Lane Water Company serves only commercial service/business park developments. The Fiero Lane Water Company presently draws from the SLO groundwater basin, which is considered to be in overdraft. The Fiero Lane Water Company has an existing water system with wells and storage tanks, however the existing wells are low producers. The applicant requests 30 afy of NWP supplies to ensure adequate water for continued build-out under the General Plan and to meet California Department of Forestry (CDF) requests to increase their system size to meet fire flow requirements (Ogden, 1997).

Potential Impacts
Fiero Lane Water Company's request of 30 afy would translate into 250,000 square feet of industrial square footage using a rate of 0.12 afy per 1000 gross square feet of industrial development (SLO Area Plan EIR). Although anticipated under the County's General Plan, supplemental water supplies from the NWP would remove an existing constraint to growth and would have potentially significant growth-inducing impacts. Resources and services affected would be similar to those discussed in the City of SLO and CSA 22 discussions.

7.2.3.5 Edna Valley Mutual Water Company (MWC)

The water service area for Edna Valley MWC (Figure 7-2) is regulated by the Public Utilities Commission (PUC). The water source for the area is the groundwater basin underlying the Edna Valley. In a report prepared by Boyle Engineers in 1991, the Edna Valley Contiguous Groundwater Water Terrace is described as contributing groundwater flow to the City of SLO (Boyle 1991). It is not known whether the Edna Valley area is in overdraft, but the area is currently oversubscribed. The RLOS Level for Los Ranchos/Edna area for water supply is II. No RLOS has been identified for the water distribution system.

The Edna Valley Mutual Water Company (MWC) serves the La Lomita Ranch which consists of 705 acres located approximately one-half mile south of the entrance to the SLO Airport on Highway 227 (Figure 7-2). The existing land use designation is agriculture. The 705 acre ranch extends west of Highway 227 to Orcutt Road approximately 1,000 feet south of the city limits. The property is bisected by SPRR tracks. East of the SPRR tracks, where the property fronts Orcutt Road, the applicant intends to keep the three existing parcels in agricultural uses. West of the SPRR track, a General Plan Amendment for the property abutting Highway 227 may be submitted at a future date. This plan may include a 27 hole golf course with hotel, twenty unit residential subdivision, and agricultural uses such as a turf farm and vineyards (Ogden, 1997).

The Edna Valley MWC has requested 700 afy of NWP supplies to provide potable water to meet the needs of future development. No water service infrastructure (water lines, tanks, or reservoirs) exists onsite to accommodate this water (Ogden, 1997). Five existing irrigation wells supply water to an estimated 70 acres of farmland. These wells draw from the Edna Valley groundwater basin. The applicant would receive treated water through the Cal Cities pipeline to be installed at the intersection of Highway 227 and Buckley Road.

Potential Impacts
The 700 afy requested by the Edna Valley MWC is predicated on a Board of Supervisors authorization for processing a General Plan amendment and Specific Plan to remove a portion of La Lomita Ranch from agricultural designations. The intent to receive water independently indicates that the provision of NWP supplies has the potential for growth-inducement for the Edna Valley MWC.

As of 2002, no specific plan document detailing the types of land uses proposed within the Edna Valley MWC (La Lomita Ranch) has been submitted to the county for review under CEQA. Therefore the potential water supply situation cannot be accurately forecasted. In anticipation of supplemental water availability, there is the potential for developers to invest or speculate on future development scenarios, which may be inconsistent with the county's adopted Area Plan.

7.2.4 Estero Area Plan

The Estero Area Plan is the general plan document for Los Osos, Cayucos and rural coastal areas. The Estero and SLO planning areas have a number of groundwater basins located within their boundaries. The Estero planning area has seven groundwater basins within its boundaries, with the Chorro basin partially located in the Estero planning area and partially in the SLO planning area.

7.2.4.1 San Luis Coastal Unified School District (Morro Bay)

The San Luis Coastal Unified School District (SLCUSD) presently obtains its water supply from the City of Morro Bay Public Works Department. The SLCUSD has requested 55 afy of NWP supplies to serve the following three schools located in the City of Morro Bay:

- Del Mar Elementary School
- 501 Sequoia
- Morro Bay High School
- 235 Atascadero Road
- Morro Elementary School
- 1130 Napa Avenue

The objective of the SLCUSD is to supply three schools with a water supply which costs significantly less than city water rates. This water cost reduction will allow the SLCUSD to apply enough turf irrigation to prevent student injuries and maintain a high quality outdoor education program (Parker 1996).

The SLCUSD has a pending request for 45 afy of SWP which could be wheeled through the City of Morro Bay as an alternative water supply source. SLCUSD is requesting NWP water because of its presumed lower cost; however, according to project engineers, the per acre-foot cost of water from the NWP may not actually be lower than State Water for the SLCUSD (Ferrara 1996).

Potential Impacts
No growth-inducing impacts are determined to occur as a consequence of receiving lower cost water for irrigation of turf areas at existing schools. No agreements between the City of Morro Bay and the SLCUSD have been approved which would allow water to be wheeled through the City of Morro Bay (Parker 1997).

7.2.4.2 Cayucos

The community of Cayucos receives water service from three local purveyors: Morro Rock Mutual Water Company, Paso Robles Beach Water Association, and County Waterworks District Number 8. Cayucos' main water source is Whale Rock Reservoir. Water is released from the reservoir to recharge the community's well-field, which is located along Old Creek, just downstream from the dam. Estimated existing water consumption for Cayucos is 472 afy, which is within its safe yield share from this reservoir. An exchange agreement between the three water purveyors and the City of SLO for NWP water in exchange for Whale Rock water is proposed.

7.2.4.3 CSA 10A

CSA 10A encompasses both the Morro Rock Mutual Water Company and the Paso Robles Beach Water Company. CSA 10A has requested 80 afy of NWP supplies.

CSA 10A is the largest of the Cayucos purveyors, encompassing both Morro Rock and Paso Robles Beach Water Companies. There is a water treatment plant with sufficient capacity to treat water from Whale Rock Reservoir through the proposed exchange agreement. Presently, there are three 400 gallon per minute (gpm) package treatment units with a total approved capacity of 1,200 gpm or 1.5 million gallons per day (mgd). The facility was designed to accommodate a fourth package unit should it be needed.

Morro Rock Mutual Water Company
The Morro Rock MWC consists of approximately 108 acres and is bounded by Cayucos Creek and Highway 1 to the north and east, and Ocean Avenue to the west. It has requested 30 afy of NWP supplies to be used to satisfy build-out in the Morro Rock Mutual Water Company service area (Brett 1996).

Lewis Pollard Trust - Cayucos
The Lewis Pollard Trust consists of five parcels in Cayucos including an 84 unit travel trailer park and requests delivery of 50 AFY of Nacimiento water. A wheeling agreement with an adjacent water retailer would be needed to augment supplies at the trailer park.

Potential Impacts
Water is a constraining factor to the ultimate buildout of Cayucos under the Estero Area Plan. Although water supplies including supplemental water from the NWP would not be in excess of forecasted water demand, population growth would result in secondary or indirect impacts on school facilities in Cayucos. Therefore, potential impacts associated with increased water supplies would be considered significant.

7.3 Countywide Mitigation

The growth inducing impacts of accepting supplemental water supplies from the NWP could be considered significant and adverse depending on how project supplies are used. Where water project supplies are in excess of water demand and are not used to reduce projected groundwater overdraft, then the potential growth-inducing impacts become more adverse and significant.

Approval of the NWP could result in additional growth or rate of growth in areas now subject to water resource constraints. Recently approved/updated General Plans have acknowledged that future growth will have significant, cumulative impacts. In areas where forecasted water supplies exceed future demand, NWP water could be used to foster growth outside existing service area boundaries. Private water companies in areas located outside of Urban Service Lines (USL) or in agriculturally-designated areas would be able to prove a source of water in applying for general plan amendments to change the land use designations to accommodate projects with residential or other uses.

Other impacts requiring mitigation (i.e. schools, roads, air quality), which would result as a consequence of receiving supplemental water supplies are considered secondary or indirect impacts, and depend on how local jurisdictions manage growth. In areas outside the jurisdiction of the San Luis Obispo Board of Supervisors (e.g. incorporated cities) these mitigation measures may not be enforceable. However, to minimize potential growth inducement through the use of both existing ground water supplies and Nacimiento water, the following measure has been included:

GR-1 *The governing body of each water purveyor accepting NWP water shall include in their water management plans and programs, the goal of reducing groundwater basin overdraft in the long-term, with measurable objectives to accomplish this goal.*

7.4 Residual Impacts

Since school facilities would be significantly affected by future residential growth and identified funding sources may be insufficient to fully mitigate new growth, this secondary or indirect impact of growth is considered potentially significant and unavoidable.

Table 7.6 Summary of Growth-Inducing Impacts

Phase/Alternative	Impacts
Proposed Project – Treated Water Co-equal Alternative	Class I – Significant and Unavoidable.
Proposed Project – Raw Water Co-equal Alternative	Class I – Significant and Unavoidable
1997 EIR Alternative	Class I – Significant and Unavoidable
Phased Raw and Treated Water Alternative	Class I – Significant and Unavoidable
No Project/No Action Alternative	No growth-inducing impacts. Instead, continued pressure on existing groundwater supplies would continue with potential future overdraft.

8.0 Other CEQA/NEPA Issues

This section contains additional environmental analyses and discussions required by California Environmental Quality Act (CEQA) and/or National Environmental Policy Act (NEPA).

8.1 Significant Irreversible Environmental Changes

Section 15126.2(c) of the CEQA Guidelines states that significant irreversible environmental changes, which would be caused by a proposed project need to be discussed. This evaluation is also required by NEPA (40 CFR 1502.16). These changes may include the following:

- Uses of non-renewable resources during the initial and continued phases of the project which would be irreversible because a large commitment of such resources makes removal or non-use thereafter unlikely;
- Primary impacts and, particularly, secondary impacts which commit future generations to similar uses; and
- Irreversible damage, which may result from environmental accidents, associated with the project.

Table 8.1 presents a summary of potential irreversible and irretrievable commitments of resources associated with the proposed project. The proposed Nacimiento Water Project (NWP) would require an increase in consumption of non-renewable resources during construction and operation (i.e., fossil fuels, and natural gas through consumption of electricity produced at natural gas fuelled power stations). However, the demand for these non-renewable resources by the proposed project is relatively small. The project does not open access to any new non-renewable resources, and does not consume unusually large quantities of the existing resources, thus the use of the non-renewable resources although irreversible, is considered to be *insignificant*.

The proposed NWP would commit the open land to a different use: the open land where the WTP and other water system facilities are planned to be constructed would be irreversibly committed to a different use. This change in land use although is irreversible, is considered to be *insignificant* since the converted land area would be comparatively small, and no additional public access roads would be constructed.

The proposed project is not expected to result in irreversible damage from environmental accidents, although it could cause environmental accidents (e.g., releases of water treatment chemicals) that have the potential to create impacts to biological resources. Potential impacts can be reduced, however, through use of adequate design and operating procedures and effective emergency response plans specifying staffing and equipment needs. The potential for environmental accidents to occur is relatively minor and the impacts associated with the treatment chemicals releases during the WTP operation are possible, but are unlikely to result in irreversible damage.

Table 8.1 Summary of Potentially Irreversible and Irretrievable Commitments of Resources

Resource	Impact Summary
Hydrology and Water Quality	Insignificant impact on water quality due to the diversion of water from the Salinas River drainage. Potential increases in seawater intrusion in the lower Salinas River valley mitigated through MCWRA reservoir reoperation.
Geology and Soils	No irreversible or irretrievable impacts.
Drainage, Erosion & Sedimentation	No irreversible or irretrievable impacts.
Air Quality	No irreversible or irretrievable impacts.
Noise	No irreversible or irretrievable impacts.
Hazards and Hazardous Materials	No irreversible or irretrievable impacts.
Biological Resources	Significant impacts to biological resources can be mitigated to a level of insignificance, therefore no irreversible or irretrievable impacts.
Cultural Resources	Ground-disturbing activities required for pipeline and facility could result in the irreversible/ irretrievable disturbance to important cultural, Native American, and paleontological resources. However, impacts considered less than significant.
Land Use	No direct irreversible or irretrievable impacts on land use, but potential impacts could occur due to growth (see below).
Public Services and Utilities	No irreversible or irretrievable impacts.
Transportation/Circulation	No direct irreversible or irretrievable impacts on Transportation/Circulation, but potential impacts could occur due to growth (see below).
Aesthetics/Visual Resources	The construction of project infrastructure would result in permanent and irreversible changes to the visual nature of the area. However, impacts considered less than significant.
Agricultural Resources	No irreversible or irretrievable impacts.
Recreational Resources	No irreversible or irretrievable impacts.
Socioeconomics	No irreversible or irretrievable impacts.
Growth	*Significant* impact due to the removal of water as an impediment to growth. However, increased water supplies associated with the project would only accommodate a portion of the growth identified in the County General Plan.

It was identified in Section 5.1, Hydrology and Water Quality, that an effective reduction of up to 8,100 afy from the 106,500 afy conservation releases at Lake Nacimiento (8% reduction) would be potentially significant, but would be mitigated by MCWRA's planned reservoir reoperation to mitigate seawater intrusion in the coastal portion of the Salinas Basin. Therefore, potential impacts associated with the project would be considered less than significant.

The purposed NWP is to deliver up to 16,200 afy of Lake Nacimiento water to various purveyors in the SLO County. Thus, the project by definition involves use of the locally limited natural resource (i.e., fresh water), and is an irreversible change. However, this change, if considered by itself, is not significant, because Lake Nacimiento water would be used in the short-term instead of the currently used groundwater. Discussed below are other irreversible changes that follow from the project and cumulatively make the changes in water use a *significant irreversible change*.

The proposed NWP has the potential to commit future generations to similar uses due to primary and secondary impacts associated with the additional water availability in the area. These potential impacts could permanently alter the use of the areas where the water would be available by removing growth impediment (i.e., water). Irreversible secondary impact due to removal of impediment to growth would be to schools, traffic and air (i.e., increase in population and overcrowding of existing schools, addition of vehicles and increased emissions from the vehicles and house heaters/burners, respectively) due to elimination of impediment to growth (see Section 7.0). Therefore, because the project would stimulate growth and commit future generations in the SLO County to the use of Lake Nacimiento water, this is considered a *significant irreversible change* caused by the project.

8.2 Short-Term Use Of The Environment *vs.* Maintenance Of Long-Term Productivity

Section 15126(e) of the CEQA Guidelines states that the project's local short-term uses of the environment in relation to any adverse effects on the maintenance or enhancement of long-term productivity shall be evaluated. This evaluation is also required by NEPA (40 CFR 1502.16). Special attention is to be given to impacts which narrow the range of beneficial uses of the environment or pose long-term risks to health and safety. In addition, the reasons why the proposed project is believed by the Applicant to be justified now, rather than reserving an option for future alternatives, should be explained.

As it was determined throughout Section 5, the project poses no long-term significant risks to health and safety that can not be mitigated (Sections Hazards and Hazardous Materials, Transportation/Circulation and Air Quality).

The project has a potential to narrow the recreational use of Lake Nacimiento (recreational boating and visual enjoyment of people that use Nacimiento Recreational area) during drought season due to a low water level. However this impact is not considered to be significant, since the water level would be significantly affected only during rare drought seasons that historically affect the reservoir water approximately every 40 years (see Section 5.1, Hydrology and Water Quality).

The proposed NWP would provide an alternative water source to SLO County, and therefore the project would in the short-term decrease reliance on the groundwater resources in the area. However, in the long-term, as the population of the County grows (see Section 7.0, Growth Inducement) an increase in groundwater use would naturally follow. Also, in the long-term, the NWP would result in reduction of water releases to Salinas River. Therefore, the beneficial short-term decrease in groundwater use in the SLO County basins would result in a long-term loss of 16,200 afy of Lake Nacimiento water, which in turn would increase potential for salt water intrusions into the groundwater basins in the Monterey County, and could potentially affect water quality and aquatic biota in the Salinas River during drought years. However, MCWRA's planned reservoir reoperation would mitigate seawater intrusion associated with the NWP.

Table 8.2 Summary of Short-term and Long-term Impacts

Resource	Impact Summary
Hydrology and Water Quality	Less than significant impacts to water quality during pipeline and facility construction. Less than significant long-term impact to water quality due to the diversion of water from the Salinas River drainage and potential increases in seawater intrusion in the lower Salinas Valley which are offset by MCWRA reservoir reoperation.
Geology and Soils	No significant short- or long-term impacts expected.
Drainage, Erosion & Sedimentation	Potential short-term impacts during pipeline construction, but less than significant. No significant long term impacts expected.
Air Quality	Significant short-term impacts associated with construction emissions. Long-term impacts considered adverse, but less than significant.
Noise	No significant short- or long-term impacts expected.
Hazards and Hazardous Materials	No significant short- or long-term impacts expected.
Biological Resources	Significant impacts to biological resources can be mitigated to a level of insignificance, therefore no significant short- or long-term impacts are expected.
Cultural Resources	Ground-disturbing activities required for pipeline and facility could result in the long-term disturbance to important cultural, Native American, and paleontological resources. However, impacts considered less than significant.
Land Use	No significant short- or long-term impacts expected. Growth could result in potential future changes in land use and planning.
Public Services and Utilities	No significant short- or long-term impacts expected.
Transportation/Circulation	No significant short- or long-term impacts expected. Future impacts could occur due to growth that will result in response to increased water supplies.
Aesthetics/Visual Resources	The construction of project infrastructure would result in permanent and irreversible changes to the visual nature of the area. However, no significant short- or long-term impacts expected.
Agricultural Resources	No significant short- or long-term impacts expected.
Recreational Resources	No significant short- or long-term impacts expected.
Socioeconomics	No significant short- or long-term impacts expected.
Growth	*Significant* long-term impact due to the removal of water as an impediment to growth. However, increased water supplies associated with the project would only accommodate a portion of the growth identified in the County General Plan.

9.0 Summary of Mitigation Measures

Mitigation measures have been developed for a number of the impacts identified for the proposed project and alternatives. This section provides a listing of the identified mitigation measures. The mitigation measures are provided for each issue area below.

Hydrology and Water Quality, Section 5.1

WQ-1 *"No fueling" zones shall be designated wherein fueling of vehicles or equipment is prohibited within 25-feet of all drainages. All equipment used in or near drainages shall be clean and free of leaks and/or grease. Emergency provisions should be in place at all drainage crossings prior to onset of construction to deal with unintentional spills.*

WQ-2 *SLO County or the designated NWP engineer shall: 1) monitor reservoir storage and precipitation patterns, 2) notify MCWRA when conditions are such that releases down to a minimum pool on September 30th could result in a shortage for the NWP if drought persisted along historical patterns, and 3) recommend an alternative minimum level of September 30th storage for maintaining NWP deliveries through drought and ensuring SLO County's first right to water.*

WQ-3 *SLO County shall notify both Heritage Ranch and Water World Resorts as to whether or not releases from the dam are expected to continue when water levels reach the minimum pool under NWP operations.*

Raw Water Option Only

WQ-4 *Operation of the intake structure shall be managed to minimize the concentration of total metals in NWP water deliveries.*

WQ-5 *NWP raw water discharge areas shall be designed to allow raw water to percolate and flow through the subsurface a minimum of 150 feet before reaching a recovery well.*

WQ-6 *Clear vegetation in pond areas during construction and design ponds to allow for periodic drying and cleaning.*

WQ-7 *Operate as a Discharge Area, with facility design that incorporates direct mixing and off-site transport of NWP water with Salinas River flows and surfacing underflow.*

WQ-8 *Develop new source capacity for underflow recovery. Assess environmental impacts in supplemental study. This mitigation is not required until such time as the City of Paso Robles desires to do so.*

Geology and Soils, Section 5.2

GS-1 *The Applicant shall conduct investigations to further clarify the ground-rupture potential and location of fault trace(s) of the Rinconada fault in the project area. Implement recommendations of the reports of these investigations in the design of the project.*

GS-2 *Prior to final design, conduct investigations as listed in GS-1. In addition, to provide a method of secondary containment for the stored water Rocky Canyon Storage Tank shall be constructed as a buried, concrete tank.*

GS-3 *Prior to construction, an evaluation of areas of serpentinite outcrops or serpentine-rich soils shall be made by a qualified professional such as a Certified Industrial Hygienist (CIH) as to whether such conditions represent a threat to human health. If so, a safety program shall be initiated and shall include providing personal protective equipment to workers and a worker education program.*

In addition to the dust reduction measures described in Air Quality, Section 5.4.4, (Mitigation Measure AQ-1), all applicable dust reduction measures outlined in the following document shall be implemented: 17 CCR Section 93105. Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations.

The Naturally Occurring Asbestos (NOA) ATCM requirements may include but are not limited to 1) an Asbestos Dust Mitigation Plan which must be approved by the APCD before construction begins, and 2) an Asbestos Health and Safety Program will also be required for some projects (http://www.slocleanair.org/business/asbestos.asp)

Drainage, Erosion and Sedimentation, Section 5.3

DE-1 *An Erosion Control Plan shall be prepared in conjunction with the required Storm Water Pollution Prevention Plan (SWPPP) to devise specific soil erosion control measures. The plan would include but not be limited to the following measures:*

- Construction activities through areas of concern (i.e., rivers, streams, large drainages) shall be scheduled during the dry season (April 15 to October 15) to reduce erosion, or shall implement measure DE-2 to minimize potential impacts.

- Revegetation of areas disturbed or cleared during construction shall occur after construction is completed and before the rainy season.

DE-2 *Direct any diverted flows to in-channel sedimentation basins that will trap fine soil materials before diverted flows are released downstream. If the cross-section of the channel is narrowed by the diversion, provide erosion protection measures at the downstream outlet point. Plan diversion structures to be in service for the shortest possible time, and remove them as soon as construction is completed. Have all diversion facilities designed by a qualified civil engineer and base the design on the best available streamflow information. Before designing in-channel sedimentation basins, consult with a qualified biologist to identify, and avoid to the degree feasible,* *sensitive biological resources such as wetlands and sensitive wildlife habitat (i.e., steelhead trout, California red-legged frog, southwestern pond turtle, and breeding riparian bird habitat). If wetland areas are impacted by these erosion control measures, mitigation will be required by the regulatory agencies.*

DE-3 *Inspect diversion facilities daily and repair all damage immediately.*

DE-4 *Prepare in advance and have construction crews ready to implement an emergency construction site securing procedure, which shall include personnel and equipment evacuation, trench closure, and materials removal procedures.*

DE-5 *Heavy equipment and construction activities shall be restricted to the defined construction ROW. Equipment access and construction through drainages should be conducted from the banks rather than within the drainage.*

DE-6 *Do not store construction materials or spoils within the channel or overbanks.*

DE-7 *Obtain weather updates on a daily basis, or more frequently if inclement conditions are threatening.*

DE-8 *Erosion and sedimentation impacts shall be mitigated by employing standard erosion control procedures such as use of silt fencing, sandbagging, straw bales, waddles, water bars, diversion ditches, and stream bank stabilization procedures. In addition, drainages shall be spanned to the maximum degree feasible, subject to engineering or other concerns, in an attempt to avoid direct and indirect impacts.*

DE-9 *Provide in-channel sedimentation basins when constructing in a stream bed as previously directed. Monitor water leaving the sedimentation basin to satisfy the requirements of the RWQCB. If standards are exceeded, cease all construction activities in the stream bed and do not resume activities until the problem is corrected to the satisfaction of the RWQCB representative. Following construction activities, the stream channel will be restored to near its original condition.*

DE-10 *A vegetation restoration plan shall be prepared and implemented by a qualified restoration biologist and native plant horticulturist for the various vegetation communities and habitats that would be temporarily disturbed during project construction but could be restored onsite.*

DE-11 *Store excavated soil and stockpiles of imported fill outside of the channel and setback at least 20 feet from the active channel banks. Protect stockpiles of loose material with secured tarps and provide silt fencing or straw bales down gradient of the stockpiles.*

DE-12 *The Lead or Responsible Agency shall develop and implement a plan providing the emergency response and repair procedures for an accidental rupture. The plan shall include remedial erosion control measures for areas downstream of the rupture.*

DE-13 *The Lead or Responsible Agency shall implement a regular inspection and maintenance program to detect possible problems with pipeline integrity.*

DE-14 *The Lead or Responsible Agency shall provide thorough inspection of the pipeline materials and construction techniques while the pipelines are being installed. The County shall specify the use of materials with proven reliability only.*

DE-15 *The Lead or Responsible Agency shall design checkpoints and shut-off valves for incorporation into the pipelines such that critical reaches which may be subject to damage (e.g. a suspended crossing) can be isolated.*

DE-16 *The final engineering design shall determine the pipeline depth below the maximum scour depth at underground stream crossings of major streams. The pipe shall be reinforced beneath the active stream channel. The pipeline depth, at underground crossings of seasonal creeks, shall be a minimum of 2 feet below the maximum scour depth.*

DE-17 *Suspended pipe crossing abutments and cable caissons shall be installed outside of stream channels.*

DE-18 *Impervious surfaces should be either designed to dissipate runoff uniformly, or drainage measures should be designed to convey runoff from impervious surfaces so that concentrated flows do not discharge onto unprotected slopes.*

DE-19 *Areas disturbed during construction should be revegetated, as soon as is practical, prior to the beginning of the rainy season.*

Raw Water Option Only

DE-20 *The Lead or Responsible Agency shall implement a regular inspection and maintenance program to detect and repair damaged discharge piping, and to monitor bank erosion. Annual repairs or repairs following high stream flows should be anticipated as long as the system is in place.*

DE-21 *Design discharge piping in river channel to be flexible or to have flexible couplings between pipe joints.*

DE-22 *Discharge system shall be designed so that concentrated flows do not discharge onto an unprotected river bank.*

Air Quality, Section 5.4

AQ-1 *In coordination with the SLOAPCD, the Applicant shall implement the following APCD standard dust reduction measures during construction. All PM10 mitigation measures required shall be shown on the contractor's grading and building plans and specifications.*

a. Reduce the amount of the disturbed area where possible.

b. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible.

c. All dirt stockpile areas shall be sprayed daily as needed.

d. Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible following completion of any soil disturbing activities.

e. Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast-germinating native grass seed and watered until vegetation is established.

f. All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the SLOAPCD.

g. All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.

h. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.

i. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code Section 23114. This measure has the potential to reduce PM10 emissions by 7–14%.

j. Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site. This measure has the potential to reduce PM10 emissions by 40–70%.

k. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible. This measure has the potential to reduce PM10 emissions by 25–60%.

l. The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD prior to any site disturbance.

AQ-2 The Applicant shall implement activity management techniques as feasible taking into account other mitigation measures that affect scheduling (e.g., Biology, Transportation/Circulation and Noise mitigation measures) during construction, as presented below:

a. Development of a comprehensive construction activity management plan designed to minimize the amount of large construction equipment operating during any given time period;

b. Scheduling of construction truck trips during non-peak hours to reduce peak hour emissions;

c. Limiting the length of the construction work-day period, if necessary, during periods with high air pollutant levels;

d. Phasing of construction activities, if appropriate.

AQ-3 The Applicant shall implement the following standard NOx and ROC reduction measures to the maximum extent feasible:

a. Use of Caterpillar pre-chamber diesel engines (or equivalent) together with proper maintenance and operation to reduce emissions of NOx.

b. Electrify equipment where feasible.

c. Maintain all fossil-fuelled equipment in tune per manufacturer's specifications, except as otherwise required above.

d. Encourage use of catalytic converters on gasoline-powered equipment.

e. Substitute gasoline-powered for diesel-powered equipment, where feasible.

f. Implement activity management techniques as described in AQ-2.

g. Use compressed natural gas (CNG) or propane powered portable equipment (e.g., compressors, generators, etc.) onsite instead of diesel-powered equipment, where feasible.

h. All off-road and portable diesel powered equipment, including but not limited to bulldozers, graders, cranes, loaders, scrapers, backhoes, generator sets, compressors, auxiliary power units, shall be fuelled exclusively with CARB certified motor vehicle diesel fuel. Off-road equipment may use tax exempt motor vehicle fuel if not operated on public roads.

i. Maximize to the extent feasible, the use of diesel construction equipment meeting the CARB's 1996 or newer certification standard for off-road heavy-duty diesel engines.

AQ-4 Because NOx emissions are above the threshold, Best Available Control Technology for Construction Equipment (CBACT) shall be used to mitigate combustion emissions from heavy-duty construction equipment such as but not limited to the following:

- Install diesel oxidation catalysts (DOC), catalyzed diesel particulate filters (CDPF) or other District-approved emission reduction retrofit devices. In particular, the Applicant shall ensure installation of CDPFs on 6 (six) pieces of construction equipment involved in the primary earthmoving and construction activities and projected to generate the greatest emissions (if DOCs are used, installing of five (5) DOCs would be an equivalent of installing of one CDPF). The SLO APCD staff shall be included in the selection of candidate equipment along with a representative of the contractor (or subcontractor). (This measure shall be included and clearly identified in the project bid specifications so that contractors bidding in the project can include the purchase, proper installation, and maintenance costs in their bids.), and

- Emission control device installation, use, and maintenance records shall be maintained by the contractor that operates the controlled construction equipment suing forms provided by the APCD. The APCD or lead agency representatives shall be allowed to review this documentation and the controlled equipment as needed to ensure that mitigation requirements are being met.

AQ-5 *The Applicant shall procure propane-powered, or low-NOx emergency generators to lower potential NOx emissions.*

AQ-6 *Should the Applicant utilize diesel powered generators, the Applicant shall install diesel oxidation catalysts (DOC), catalyzed diesel particulate filters (CDPF) or other District-approved emission reduction retrofit devices.*

Noise, Section 5.5

N-1 *Equipment enclosures/noise barriers shall be used in the vicinity of sensitive receptors (per station numbers in Table 5.5.7) to reduce the noise generated by stationary equipment (i.e., generators, pumps, and other stationary construction equipment) during daytime hours.*

N-2 *Construction activities shall be limited to 7:00 a.m. and 7:00 p.m. on weekdays and between 8:00 a.m. and 5:00 p.m. on Saturdays except when local governments want pipeline construction through nonresidential commercial areas to occur at night to avoid disrupting daytime commerce and traffic. Construction equipment maintenance shall be limited to the same hours. Non-noise generating construction activities such as interior painting are not subject to these restrictions. Signs stating these restrictions shall be provided by the Applicant and posted onsite. Signs shall be in place prior to issuance of Land Use Permit and throughout grading and construction activities. Directional drilling shall be exempt from this mitigation measure only if a drilling event is predicted to take more than 12 hours and is begun promptly at the beginning of the work day.*

N-3 *Provide two-week advance notice to sensitive receptors in Paso Robles, Templeton, Atascadero, Santa Margarita, and San Luis Obispo by mail and newspaper. The announcements shall state where and when construction will be scheduled. It shall also provide tips on reducing noise intrusion, e.g. closing windows facing the construction area.*

N-4 *Maintain proper mufflers on all internal combustion and vehicle engines to reduce noise to the maximum extent feasible.*

N-5 *Noise-generating equipment associated with operation of pump stations shall be enclosed to reduce noise levels to near ambient conditions. At the 60% design phase for each pump station, plans shall be reviewed by a qualified acoustical engineer to assure that noise levels meet the standards of the County Noise Element.*

N-6 *If necessary to achieve the noise attenuation levels specified in N-5, pumps shall be set below grade, i.e. in a basement in the noise-attenuating building, to further reduce noise impacts.*

N-7 Periodic testing of generators shall be performed during daylight hours only.

Hazards and Hazardous Materials, Section 5.6

HM-1 During the design phase of the project corridor, SLO County or a qualified professional retained by the County shall perform a detailed characterization of the nature and extent of hazardous materials contamination in the project corridor for high risk sites identified previously in this report. This investigation, known as Phase I and Phase II hazardous materials site assessments, shall be performed after selection of the preferred alternative, i.e., the alternative to be implemented, and prior to property acquisition or construction activities. The site characterization would be conducted in accordance with CalEPA DTSC standards and guidance, such as the Scientific and Technical Standards for Hazardous Waste Sites (DTSC 1990).

At any given site, investigation may either reveal that contamination exists and is of concern, that remediation has already occurred, that the extent of contamination is extremely limited, or that no contamination has occurred.

If contamination were identified during the site investigation, SLO County would report the contamination to the appropriate regulatory agencies. The lead or design agency may decide to re-route the pipeline; however, landowners would be responsible to perform additional investigation and mitigation or cleanup under review of responsible regulatory agencies, as necessary. Mitigation and remediation activities shall generally be completed before construction could proceed at any given site. However, for some types of contamination, particularly where fuel has leaked into soil and groundwater, remediation and clean up activities may be ongoing throughout construction due to the lengthy recovery process and difficulty of fully extracting certain pollutants. Within Camp Roberts and Camp San Luis Obispo lands any hazardous materials handling/management shall be done consistent with the Camp's Standard Operating Procedures for Environmental Protection.

HM-2 A Hazardous Materials (HazMat) Contingency Plan shall be prepared before any excavation or trenching work is commenced. The Plan may contain but may not be limited to the following actions that must be taken by the design or Lead Agency in the case that hazardous materials are encountered:

- Notify owner, engineer, and other affected persons.

- Notify such agencies as are required to be notified by laws and regulations within the time stipulated by such laws and regulations.

- Designate a certified industrial hygienist to issue pertinent instructions and recommendations for protection of workers and other affected persons' health and safety.

- Identify and contact subcontractors and licensed personnel qualified to undertake storage, removal, transportation, disposal, and other remedial work required by, and in accordance with, laws and regulations.

- Forward to engineer, copies of reports, permits, receipts, and other documentation related to remedial work.

- Assume responsibility for worker health and safety, including health and safety of subcontractors and their workers.

- Instruct workers on recognition and reporting of materials that may be hazardous.

- File requests for adjustments to contract time and contract price due to the finding of hazardous materials in the work site in accordance with conditions of contract.

- Minimize delays by continuing performance of the work in areas not affected by hazardous materials operations.

If contaminated soils or other hazardous materials are encountered during any soil moving operation during construction (e.g., trenching, excavation, grading), construction shall be halted and the HazMat Contingency Plan implemented.

HM-3 *In the event of an accidental release of a hazardous material (including fuel spills) during construction, the lead or design agency shall determine whether the release is reportable pursuant to any local, State, or Federal law, and if so would notify the regulatory agency to which the report should be submitted. The lead or design agency shall adhere to procedures listed below, which describe additional procedures to be followed in the event of an accidental release of a hazardous material. The purpose of the response procedures is to minimize exposure and risk to public health and safety.*

- The lead or design agency would implement and coordinate with local jurisdiction on procedures for immediate evacuation of persons from the vicinity of the spill;

- promptly notify appropriate personnel and responsible agencies of the incident, such as the local fire department;

- terminate NWP operations and shut-off power, if necessary; and

- cooperate with responding agencies.

Releases may not be of a "hazardous waste" and accordingly may not have to be managed as such. However, substances not classified as hazardous wastes may still be subject to restrictive handling requirements and would be managed in accordance with such requirements.

HM-4 *Prior to final design stage, the lead or design agency shall conduct a detailed utilities survey, including contacting the respective utility representatives, to accurately locate, to the extent possible, Southern California Gas lines, sewage lines and storm drains, as well as buried transmission lines within the corridor of the proposed pipeline route. The lead or design agency shall consult with Tosco and Chevron to confirm the locations of their oil and gas pipelines in the project area.*

Underground Service Alert shall be notified prior to breaking ground for construction of the pipeline so that any existing subsurface structures can be properly identified. The contractor shall be required to keep the notification current.

HM-5 *The HazMat Contingency Plan shall outline response actions including (at a minimum) clean up and reporting procedures, clean up equipment and supplies, and personnel responsibilities. As part of the plan, the Contractor shall be required to store fuels, oils, and other hazardous materials in sealed containers (tanks, cans or drums) located in storage basins within designated staging areas. The storage basins shall be located at a minimum distance of 25 feet from all natural/man made drainages or surface water bodies and should be lined and surrounded by protective dikes or other types of secondary containment to provide sufficient volume to contain any spills.*

HM-6 *The HazMat Contingency Plan shall state that the Contractor shall provide for the implementation of traffic control and site control (i.e., access, fencing, drainage) to reduce the potential for accidents to occur. Fire extinguishers should be stationed in all vehicles and at strategic locations onsite.*

HM-7 *The HazMat Contingency Plan shall state that the Contractor shall be required to conduct routine inspection and maintenance of construction vehicles and equipment.*

Treated Water Option Only

HM-8 *A Process Hazards Analysis (PHA) shall be conducted during the early stage of the final design process for the WTP. This technique focuses on the hazardous materials and the major components and is used to prioritize the systems that require more detailed analysis. The study shall examine the orientation of the facilities with regard to potential residential development nearby, storage, chemical handling and chemical feeding systems, overall system design, safety systems including sensing devices, chemical scrubbing, and air pollution control devices. Transportation of chemicals to the site on a local level shall be addressed. Representative scenarios of accidental chemical releases shall be modeled to determine the extent of offsite impacts. A qualitative estimate of the likelihood of the occurrence of accidents and other events and the potential consequences of these events should be developed to produce a risk estimate. Those events with the highest risks would be analyzed in order to find possible design modifications for risk reduction. The PHA would determine areas where a Hazard and Operability Studies (HAZOP) should be performed. The structures should be consistent with information requirements for the California Accidental Release Program (CalARP) and the EPA Risk Management Program (RMP).*

If deemed necessary as a conclusion in the PHA, a HAZOP would be conducted that identifies the consequences of the engineering design failing to meet performance criteria, such as variations in flows, pressures, and temperatures. For example, if cryogenic oxygen production for ozonation is used, this system would be analyzed.

HM-9 *If ozonation is used as a disinfection method at the WTP, it is recommended that ozone be generated from air which would eliminate the need for liquid oxygen* *transport, handling and storage. If this disinfection method is used, ambient and in line ozone monitoring should be incorporated into water treatment system design to determine ozone destruct system performance. Line length between generator and contractor should be minimized in order to reduce ozone inventory in the plant. Power shutoff should be incorporated on high ambient ozone, high exhaust ozone, low water flow, or low exhaust backpressure.*

HM-10 *A HazMat Delivery and Transportation Plan shall be developed that requires the drivers of the delivery companies to avoid rush traffic hours and congested routes as much as feasible.*

Biological Resources, Section 5.7

BR-1 *The Lead or Responsible Agency shall retain a qualified biologist(s) (project biologist) to conduct and oversee construction monitoring that pertain to biological resource protection, act as the liaison between the Lead or Responsible Agency and the construction contractor(s), and to ensure compliance with the mitigation program, such as monitoring all construction activities in biologically sensitive areas and scheduling and/or implementing preconstruction surveys, if determined to be necessary by the County Environmental Coordinator. The project biologist shall be selected based on demonstrated knowledge and experience with the species potentially occurring in the project area. The project biologist shall inform the County monitoring representative as soon as possible, and the County representative shall have the authority to stop construction activities if there is eminent threat to the listed species, or to delay construction activities until appropriate mitigation measures can be implemented. In addition, all project personnel who conduct work at Camp Roberts and/or Camp San Luis Obispo must attend an environmental awareness briefing conducted by California Army Reserve National Guard (CARNG) Environmental staff prior to beginning work.*

BR-2 *A Biology Education Program for Contractors shall be implemented to ensure that all construction personnel are fully informed of the biological sensitivities associated with this project. The program shall be conducted by a qualified biologist and shall be a requirement for all construction personnel. This program shall focus on:*

a) the purpose for resource protection;

b) identification of sensitive resources areas in the field (e.g., areas delineated on plans and by flags or fencing);

c) sensitive construction practices;

d) protocol to resolve conflicts that may arise during the construction process;

e) ramifications of noncompliance.

BR-3 *The project biologist and the project engineer shall clearly designate "sensitive resource zones" on the project maps and construction plans. Sensitive resource zones are defined as areas where construction would be limited to a 15- to 30-foot* *corridor, depending on the particular construction requirements, to avoid impacts to special status biological resources.*

The project biologist shall demark the limits of sensitive populations on the project plans, including as feasible, an adequate buffer area to avoid direct and indirect impacts. If determined necessary by the County Environmental Coordinator, survey work to demark sensitive resource zones shall be conducted during the appropriate survey window to confirm sensitive species (the exact survey timing would be determined appropriately for each specific species, and depending on the rain conditions). During construction, temporary fencing shall be erected under supervision of the project biologist to provide protection within the sensitive resource zones.

BR-4 Within sensitive resource zones, construction equipment work shall be conducted observing the following procedures:

- Heavy equipment and construction activities shall be restricted to the defined construction ROW.

- Vehicles and personnel shall use existing access roads to the maximum degree feasible. Any off road travel within Camp Roberts or Camp San Luis Obispo shall be subject for approval by Range Control and the Environmental Directorate. Where additional access is required, all vehicles shall use the same route, even if this requires heavy equipment to back out of such areas (safety permitting). All access routes outside of existing roads or the construction easement shall be clearly marked (i.e., flagged and/or staked) prior to the onset of construction, delineated on the construction plans, and reviewed by the project biologist. Additional access roads shall avoid, to the degree possible, sensitive habitat areas or special status plant populations.

- Topsoil shall be segregated by windrow or stockpiled in disturbed areas without native vegetation, special status plant populations, or special status plant communities. These stockpile areas shall be located in previously disturbed areas, delineated on the construction plans, and reviewed by the project biologist.

- Any expanded work areas requested, such as construction and vehicle access, width of construction corridor exceeding 100-foot width, or storage and staging areas, shall require the following review procedures: the limits of expanded work areas proposed will be depicted on construction drawings and reviewed by the project biologist; if necessary, and as determined by the County Environmental Coordinator, all expanded work areas shall be surveyed by biologists for sensitive resources during the appropriate survey time window (e.g., the month of May for most status special status plant species); the expanded work areas that impact sensitive resources may be altered to the degree feasible to avoid any additional impacts; and sensitive resource zones will be established, as described above.

BR-5 Final design of the project shall incorporate the following:

- Staging areas shall be located in disturbed habitat, to the maximum degree feasible. Staging areas are prohibited within sensitive habitat areas. All staging

areas shall be delineated on the construction plans and reviewed by the project biologist.

- As feasible and consistent with preliminary project design, plan placement of the proposed pipeline beneath existing roads and ROWs and away from undeveloped and previously undisturbed areas.

BR-6 *The Applicant shall prepare a Vegetation Replacement/Restoration Plan (VRRP) for vegetative communities that are significantly impacted and that are to be permanently removed from project sites. The Plan shall be prepared by the project sponsors for the various vegetative communities and habitats that would be temporarily disturbed during project construction but could be restored onsite. A qualified restoration biologist and native plant horticulturist shall be retained to supervise or participate in the design, site preparation, installation, maintenance, and monitoring of all revegetation or site restoration programs. VRRP shall include revegetation success criteria and measures to ensure after revegetation monitoring and replanting in case the revegetation is not successful.*

The part of the VRRP developed for lands within Camp Roberts or Camp San Luis Obispo shall be reviewed and approved by the CARNG Environmental Directorate.

BR-7 *Construction through sensitive areas shall be scheduled to minimize potential impacts to biological resources. A specific schedule shall be developed by the project biologist and changed if necessary. The guidelines for this schedule shall be as follows:*

- to protect breeding sensitive bird species in wetland areas or drainages schedule construction only from mid September through October, provided that no significant rainfall occurs within this time-frame. However, if breeding bird surveys are conducted from March 15 through June 15, and no breeding birds are detected, then this window could be widened to include July and August.

- to protect Tiger salamander habitat (i.e., grasslands) avoid construction in March and April.

- to protect Steelhead trout habitat avoid construction in the habitat from November through May.

- to protect California red legged frog habitat (wetlands) avoid construction in wetlands from December to August.

BR-8 *For all the sensitive species listed in Table 5.7.1, preconstruction surveys shall be conducted to verify their presence at known sites and at potential sites where the project could impact these species. If present, impacts are to be avoided or minimized by narrowing the alignment adjacent to potential dens, nests or aquatic areas. If avoidance is not feasible, specific mitigation measures for these species will be determined through consultation with USFWS and CDFG through CESA and FESA. Formal consultation and obtaining of Incidental Take Permits would be required if the federally listed species could be encountered and affected.*

BR-9 *To protect the San Joaquin Kit Fox the following measures shall be implemented:*

a) Within 30 days prior to initiation of grading or other construction, the Applicant shall hire a qualified biologist acceptable to the USFWS, CDFG, and the County Environmental Coordinator, to conduct a pre construction survey for known and potential kit fox dens. A letter shall be submitted to the Dept. of Planning and Building prior to issuance of construction permits confirming the completion of this survey.

b) Before any grading or construction activities commence, all personnel associated with the project shall attend a worker education program regarding the sensitive biological resources potentially occurring in the project area (i.e., San Joaquin kit fox). Specifics of this program shall include kit fox life histories and careful review of the mitigation measures implemented to reduce impacts. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the project. The Dept. of Planning and Building shall be notified of the time that the applicant intends to hold this meeting.

c) To prevent entrapment of the kit fox during the construction phase of the project, all excavation, steep walled holes, or trenches in excess of 2 feet in depth shall be covered at the close of each working day by plywood or similar materials, or filled. Trenches shall also be inspected for entrapped kit fox each morning prior to onset of field activities and immediately prior to covering with plywood at the end of each working day. Before such holes or trenches are filled, they shall be thoroughly inspected for entrapped kit fox. Any kit fox so discovered shall be allowed to escape before field activities resume, or removed from the trench or hole by a qualified biologist and allowed to escape unimpeded.

d) During the construction phase, any pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at the project site for one or more overnight periods shall be thoroughly inspected for trapped San Joaquin kit fox before the subject pipe is subsequently buried, capped, or otherwise used or moved in any way. If during the construction phase a kit fox is discovered inside a pipe, that section of pipe will not be moved, or if necessary will be moved only once to remove it from the path of activity, until the kit fox has escaped.

e) In order not to attract kit fox predators such as red fox, coyotes, or domestic dogs to the area, and in order to not attract kit foxes to the site where they can exposed to increased risk of injury or mortality, all food related trash items such as food scraps, wrappers, cans, bottles, etc., generated during the construction phase shall be disposed of in closed containers only and regularly removed from the site. No deliberate feeding of wildlife shall be allowed.

f) Any contractor or employee that inadvertently kills or injures a kit fox or who finds any such animal either dead, injured, or entrapped shall be required to report the incident immediately to a supervisor overseeing the project. In the event that such observations are made of an injured or dead kit fox, the Applicant shall immediately notify USFWS and CDFG by telephone, contact information for these agencies shall be included with the project contact list prior to the project commencement. In addition, formal notification shall be provided in writing within *three working days of the finding of any such animal(s). Notification shall include the date, time, location, and circumstances of the incident. Any threatened or endangered species found dead or injured shall be turned over immediately to the CDFG for care, analysis, or disposition.*

If any potential or known San Joaquin kit fox dens are subsequently observed during the required pre-activity survey, the following mitigation measures shall apply:

g) Fenced sensitive resource zones shall be established by the project biologist around all known or potential kit fox dens that can be avoided but may be inadvertently impacted by project activities. Sensitive resource zone fencing shall consist of either large flagged stakes connected by rope or cord or survey laths or wooden stakes prominently flagged with survey ribbon. Each sensitive resource zone shall be roughly circular in configuration with a radius of the following distance measured outward from the den or burrow entrances:

- *Potential kit fox den: 50 feet*
- *Known kit fox den: 100 feet*
- *Kit fox pupping den: 150 feet*

h) If the sensitive resource zone intersects a road, only essential vehicle operation shall be allowed on the road within the sensitive resource zone, and simple foot traffic shall be permitted within these sensitive resource zones. Otherwise, all project activities such as vehicle operation, materials storage, etc., shall be prohibited. Sensitive resource zones shall be maintained until all project related disturbances have been terminated and then shall be removed. If specified sensitive resource zones cannot be observed for any reason, USFWS and CDFG shall be contacted for guidance prior to ground disturbing activities on or near the subject den or burrow.

If any known San Joaquin kit fox dens are discovered within the project area which shall be unavoidably destroyed by the proposed project, excavation of these kit fox dens shall not proceed without authorization from USFWS and CDFG.

Prior to project construction the Applicant shall consult with USFWS and CDFG to evaluate the appropriate participation in a kit fox conservation program. The Applicant will prepare a Habitat Evaluation Form using a qualified biologist to determine the appropriate level of offsite habitat mitigation necessary to offset any permanent loss of kit fox habitat, especially associated with the WTP. Permanent habitat loss will be offset at the appropriate ratio through either land acquisition, a conservation easement or in-lieu fees.

BR-10 *Construction techniques to be implemented to protect oak trees and oak woodlands (i.e., blue oak woodland, valley oak woodland, coast live oak woodland, and digger pine oak woodland):*

-In accordance with the County's guidance on oaks and Assembly Bill No. 242 to add Article 3.5 to Chapter 4 of Division 2 of the CDFG Code relating to oak woodland conservation, and with all local related policies and ordinances (e.g., City of Paso de Robles Oak Tree Preservation Ordinance, Camp Roberts Integrated

Natural Resources Management Plan) the final project design shall target maximum avoidance of oak trees. If avoidance is not feasible the Applicant shall prepare an Oak Tree and Woodland Mitigation Plan, which shall be prepared by a certified arborist and shall contain but not be limited to the following measures:

a) The construction ROW easement shall be narrowed to a maximum of 30 feet in width through oak woodland habitat (i.e., areas suitable for the establishment of oak woodlands). During final design, the project biologist and project engineer shall identify the most appropriate location for the narrowed corridor, taking into account the preservation of as many individual oak trees as possible with the engineering requirements of the proposed project. All areas requiring this sensitive resource zone shall be clearly shown on all construction plans, and prior to the onset of construction, flagged by the project biologist/construction monitor. If determined necessary by the County Environmental Coordinator, a preconstruction survey shall be conducted by the project biologist to accurately map oak woodlands that would be unavoidably impacted.

b) Construction machinery ingress, egress, and staging areas shall be placed away from woodlands and individual oak trees, and shall not be driven under the canopies of oak trees.

c) Disposal or storage of fill or excavated soil is prohibited within the dripline of all oak trees.

d) During construction near oak trees, no fasteners may be used on the trees.

e) All reasonable measures shall be taken to avoid moving dead and downed oak logs.

f) All oak trees immediately adjacent to construction areas shall be protected by erecting temporary fencing at the drip line of the woodland canopy or around individual trees.

g) Any necessary oak tree pruning shall conform to the standards of the International Society of Arborculture and done under supervision of a certified arborist. Pruning shall be carried out in such a manner as to maintain a natural looking tree form upon completion of pruning; practices such as stub cuts, topping, flush cuts, and random branch removal shall be avoided. All pruning cuts shall correspond with the branch collar using natural target pruning, and no tree seal shall be used. Pruning or cutting of roots etc. of individual trees shall be quantified during construction and up to one year after construction.

h) Oak monitoring shall be done for one year after construction completion. If any oak trees die either during construction or within one year after construction completion, the trees shall be replaced at a 3:1 ratio.

i) Individual oak trees that cannot be avoided and must be removed within habitat types other than oak woodlands shall be replaced at a 4:1 replacement ratio in accordance with the County's mitigation policy for loss of individual oak trees.

j) For every area of oak woodland habitat that is removed, oak woodland habitat shall be restored onsite or replaced offsite at an agreed upon offsite location with an equal area (3:1 replacement ratio).

k) Offsite replacement for oak woodlands shall be at locations that currently support disturbed or nonnative habitats. Each of the four oak woodland habitat types that would be disturbed shall be replaced or restored with a similar density of oak trees by species as found in the impacted habitats. The Flood Control and Water Conservation District (FCWCD) shall prepare a detailed oak woodland restoration plan for this project. The VRRP shall contain detailed information on oak woodland replacement and address any issues of concern. Areas suitable for creation of oak conservation areas for replacement offsite shall be evaluated. Feasibility of purchasing land for oak conservation areas shall be evaluated.

l) Specifically on Camp Roberts and Camp San Luis Obispo, compliance with the Camp Roberts Integrated Natural Resources Management Plan (INRMP) is required as follows:

-- hand digging, mechanical digging, and blade work are prohibited under the drip lines of standing live or dead oak trees; if digging under the drip lines of oaks is unavoidable, any damage that ensues will be subject to mitigation (replacement);

-- 3:1 replacement for damaged or removed oaks;

-- collection of acorns from the area of impacted oaks, planting at densities approved by CA ARNG, planting during January-February, watering if necessary;

-- minimum of five (5) years of monitoring, 3:1 survivorship ratio, preparation of annual monitoring reports, and compliance with all other INRMP oak management stipulations.

m) These oak tree avoidance and monitoring procedures shall also be followed for construction in all areas in the vicinity of oak trees along the construction route.

BR-11 *The VRRP shall include details on needlegrass grassland habitats. The restoration of needlegrass grasslands shall include salvaging of topsoil, recontouring the impact area to its original contours, and revegetating this area with purple needlegrass, nodding needlegrass, and foothill needlegrass plugs at the appropriate time of year (November January). This will require onsite seed collection and contract growing of plugs by a nursery with demonstrated experience in propagating native plants.*

The needlegrass grassland areas in the project corridor also include several highly sensitive sites with serpentine rock outcrops (i.e., serpentine bunchgrass community). Seed and bulbs from native forb and corm species indigenous to the serpentine grassland sites also shall be collected and reseeded or planted into the restoration areas. Forb species found in the impact areas appropriate for reseeding including California poppy, morning glory, fascicled tarweed, dot seed plantain, Canterbury bells, and yerba santa. Corm forming species found in the impact areas (e.g., wild onion, golden bloomeria, soap plant) shall be salvaged en masse with the topsoil and replanted in the impact areas after construction. These measures will ensure that the *genetic integrity of the needlegrass, native forb, and corm forming species that are locally adapted to serpentine soils are preserved. Several special status plant species to be impacted in serpentine bunchgrass habitat shall be salvaged and replanted as described below under special status plants.*

The selected mitigation area shall be monitored by a qualified biologist for needlegrass plug survival at 1 month, 3 months, and 6 months following planting; all plug losses below 80% shall be replaced at the appropriate time of year. The percent cover of native forbs, corm forming plants, and needlegrass shall be monitored using transects or quadrants and compared with adjacent undisturbed native grassland habitat.

BR-12 *As part of the VRRP, chaparral, central coastal scrub, and nonnative grassland shall be revegetated and restored using topsoil salvage, recontouring disturbed areas to their original contours, and hydroseeding impacted areas with species characteristic of the impacted vegetative community. Appropriate species for erosion control purposes and eventual native shrub and herb cover shall be used. Because native grassland species are likely to be out competed by nonnative species, and native bunchgrasses require hand planting, it is recommended that grassland impact areas be hydroseeded with a ground cover mix. Hydroseeded areas shall be monitored by a qualified biologist for seed viability and overall success. Areas shall be re hydroseeded after 30 days if germination success is low. Topsoil salvage specifications, hydroseed mixes, and seed proportions for individual sites shall be specified in the detailed mitigation plan for this project.*

BR-13 *To protect San Luis Mariposa lily, Brewer's spineflower, Cambria morning glory, Chorro Creek bog thistle, Obispo Indian Paintbrush, Jones Layia, Dwarf Soaproot, Most Beautiful Jewel-flower and Blochman's dudleya, the following shall be implemented in the Chorro Creek area. The location of all plant populations in or adjacent to the alignment shall be clearly shown on construction maps and labeled as sensitive areas that shall be avoided. These populations shall be flagged by a qualified biologist and protected with temporary fencing prior to construction. During the final project design phase, slight shifts and narrowing of the proposed construction ROW will be required to avoid all the sensitive plant habitats listed in Table 5.7.1.*

FCWCD shall prepare a detailed mitigation plan for salvage and restoration of these special status plant populations, if complete avoidance is not possible. Those individual plants to be impacted shall be salvaged and transplanted into appropriate habitat within or adjacent to the alignment after project construction is completed. Seed saving and nursery propagation before reintroduction may be necessary for restoration of Brewer's spineflower and possibly Blochman's dudleya populations. Any salvaging effort shall be conducted when the plants are dormant (i.e., late July through September), and transplantation or reintroduction shall occur in fall or early winter (September through January). A transplantation plan shall be prepared by the project biologist and submitted for approval to the Lead Agency prior to the onset of construction activities. This plan shall include guidelines for salvage of corms and seed, and salvage and replacement of topsoil and serpentine boulders.

The plan shall also address guidelines for storage of plant material in the event that there is a delay between the salvage and transplantation efforts. Plant material storage guidelines shall include, at a minimum, the method(s) of storage and the storage facility (name and address of the institution, etc.). The plan shall also include specific information documenting the suitability of the receiver site (i.e., soils, existing vegetation, etc.), transplantation techniques, and a monitoring program. Transplanted corms and plants shall be marked and subsequently monitored during the blooming period for a minimum of three years. A status report documenting all aspects of the plan shall be submitted to the Lead Agency within one month of the final transplantation effort. Thereafter, yearly monitoring reports shall be submitted in September to the Lead Agency.

BR-14 *To protect San Luis Obispo Sedge and Cuesta Pass Checkerbloom, construction ROW shall be narrowed as feasible where these plants occur (see Table 5.7.1). The location of all plants in or adjacent to the alignment shall be clearly shown on construction maps and labeled as sensitive areas that shall be avoided. The limits of the population in or adjacent to the alignment shall be flagged by a qualified biologist prior to construction. A mitigation plan would be required for propagation and reintroduction of the species into appropriate habitat.*

BR-15 *To protect Shinning Navarretia, Straight-Awned Spineflower, Dwarf Calycadenia, Prostrate Navarretia, San Benito spineflower, and Lemmon's Jewelflower, direct impacts shall be avoided by narrowing the construction ROW in those segments of the proposed alignment where they occur. The location of all plants in or adjacent to the alignment shall be clearly shown on construction maps and labeled as sensitive areas that shall be avoided. The limits of the population in or adjacent to the alignment shall be flagged by a qualified biologist prior to construction. If avoidance is not possible, impacts to these sensitive plant species would be adverse because of the relatively high sensitivity of the species (CNPS List 1B). A mitigation plan would be required for propagation and reintroduction of the species into appropriate habitat.*

BR-16 *Potential impacts to special status bird species (in particular the Bald eagle, California condor, Yellow Warbler, Least Bell's Vireo, and Southwestern Willow Flycatcher) may be mitigated by implementing the general mitigation measures - BR-1 through BR-6. Impacts to avian species shall be avoided by not allowing construction during the breeding season in habitats special status birds are known to be breeding. Preconstruction surveys shall be conducted to assess the presence or absence of special status bird species in their breeding habitats, and areas that are in use will be flagged and avoided until the end of the breeding season.*

To protect ***Bald eagle*** *during November through March avoid construction at locations in Camp Roberts where bald eagles have been spotted.. Prior to beginning any construction activities, a survey for nesting bald eagles shall be performed by a qualified biologist. If a nest is discovered, construction activity shall not occur within 800 meters (2,400 feet) of the nest from 1 January to 31 August, or as stipulated by the U.S. Fish and Wildlife Service.*

*To protect **California condor**, work shall be halted by the environmental monitor if the bird(s) is observed in the vicinity. Work can be resumed only after the project biologist has determined that the bird has moved far enough away that resuming work will not result in disturbance of the bird.*

BR-17 *Construction activities within and/or immediately adjacent to all creek crossings, wetlands, special status plant species populations, or suitable habitats of special status wildlife of the pipeline shall be limited to a 15- to 30-foot corridor. Specific sites for this limitation would include pipeline crossings at Salinas and Nacimiento Rivers and San Marcos, Santa Margarita, Tassajara, Trout, Yerba Buena, and Chorro Creeks. Other creek crossings may be included as determined by the project biologist.*

BR-18 *The following construction techniques shall be utilized when constructing through drainages or within riparian areas:*

- Equipment access and construction shall be conducted from the banks rather than from within the drainage to the extent feasible. Prohibited activities within drainages or other wetland areas include staging areas and disposal or temporary placement of excess fill.

- Trenching shall be scheduled during periods of minimum flow (i.e., summer through the first significant rain of fall, usually July through October) to avoid erosion and downstream sediment deposition and to avoid impacts to drainage dependent species such as California red legged frog or southwestern pond turtle. Construction through riparian or other wetland areas shall also be scheduled to avoid the breeding season (March September) and potential impacts to sensitive, riparian obligate bird species such as yellow warbler, southwestern willow flycatcher, and least Bell's vireo.

- To the degree practicable, avoid any activity that places fill in or otherwise affects wetlands and streams.

BR-19 *The following shall be observed during the final design of the project:*

- Should it be infeasible to avoid any of the sensitive species listed in Table 5.7.2 during creek crossings, the Applicant shall utilize directional drilling or other non-invasive technique to avoid disturbance of sensitive species and/or habitat .

- In planning construction adjacent to streambeds, place pipeline route away from streambed edges.

- If suspended pipe crossings are used, design footings with as small a footprint in streambeds and riparian vegetation as possible.

- Minimize disturbance to riparian woodlands.

BR-20 *If preconstruction surveys indicate that habitat conditions on any drainage within the project area are suitable for a specific sensitive species, then dewatering of that drainage shall be avoided during potential reproduction or movement periods.*

Dewatering activities at known sensitive amphibian and reptile habitat, such as Chorro Creek, shall be avoided. If avoidance at potential habitat areas is not possible, preconstruction surveys shall be conducted, as outlined above, and all individual sensitive animals relocated to refugia elsewhere along the same drainage.

BR-21 *All equipment used in or near drainages shall be clean and free of leaks and/or grease. Emergency provisions shall be in place at all drainage crossings prior to the onset of construction to deal with accidental spills.*

BR-22 *The VRRP shall also address wetland replacement. The replacement or restoration plan shall detail all impacts to wetland habitats as a result of the project and will specify in kind replacement of habitat quality. For riparian woodland and scrub communities, habitat replacement shall be required at 3:1 and 2:1 ratios, respectively, or greater. Mitigation for disturbed wetlands shall be at a 3:1 ratio. Mitigation for all riparian vegetation within Camp Roberts and Camp Luis Obispo shall be at a 3:1 ratio.*

As much as feasibly possible, salvaging and replanting of vegetation shall be done. The original contours of stream beds and ponds shall carefully be restored to their original configuration, including the salvaging and replacement of boulders and cobbles. Container planted shrubs and trees and species to be seeded in the riparian mitigation areas shall be based on the species composition of the impacted wetlands and specified in the riparian mitigation plan. The precise proportions and special arrangement of the plantings also shall be specified in the VRRP. In many cases, it may be necessary to hydroseed native herbaceous species on banks and planting plugs of wetland species in the channel. Mitigation for impacts to disturbed wetlands and unvegetated waters can likely take place within the alignment. Likewise, onsite mitigation for woodland and scrub communities may occur within the alignment, although additional offsite mitigation (i.e., outside the alignment) will likely be required to accommodate required mitigation ratios.

BR-23 *At all wetlands, vernal pools, bulldozer scrapes, low-lying areas that may pond water and roadside ditches where vernal pool fairy shrimp could be directly impacted, assume presence of the species if preconstruction surveys for 2 years during wet season can not be conducted to determine presence or absence. If present (or presence is assumed), the alignment shall be shifted to avoid the species, if possible. If impacts to the species are unavoidable the Applicant shall obtain authorization for Incidental Take Permit from the US Fish and Wildlife Service prior to construction (refer to Measure BR-8).*

Relocate staging area that is proposed to be near Nacimiento River (near Sta. 145+00) to be located away from documented vernal pool in the vicinity, and at least 100 feet from the river.

BR-24 *At all drainages affected by the project and with known occurrences of California steelhead trout, arroyo chub, and tidewater goby or with the potential to support these species shall be surveyed for presence of these species at the crossing and 500 feet up and down the stream prior to commencement of construction. Preconstruction surveys shall include the Salinas River and major tributaries the* *proposed pipeline would cross San Marcos, Santa Margarita, Chorro, San Luis Obispo, Trout, and Yerba Buena Creeks. The presence or absence of special status fish species shall be determined and the potential for habitat to support these species shall be reassessed. If a special status fish species is detected, the fish shall be captured and relocated downstream. Relocation of listed species requires a formal consultation for obtaining an ITP (see section 5.7.2), therefore time shall be allowed in the project schedule for the consultation and obtaining of the ITP.*

If relocation is not feasible, construction will avoid the spawning season for those species. If the tidewater goby, arroyo chub, or steelhead trout are found at Chorro Creek, the creek crossing shall be done via directional boring under the creek, relocate pipeline away from the Creek bed as far as feasible, if not feasible and impacts are expected, the Applicant shall consult with the National Marine Fisheries Service and CDFG to obtain an ITP and/or obtain a Streambed Alternation Agreement.

BR-25 *At all drainages affected by the project and with known occurrences of California red legged frogs, western spadefoot toad, southwestern pond turtles, California tiger salamander, and arroyo southwestern toads or with the potential to support these species shall be surveyed for presence of these species at the crossing and 500 feet up and down the stream prior to commencement of construction. If present, the alignment shall be shifted to avoid the species, if possible. If this is not feasible, the frogs or turtles shall be captured and relocated to refugia outside the impact area. Appropriate refugia shall be located on the same drainage and shall support high quality species habitat. In addition, the impact area shall be recontoured subsequent to construction to approximate high quality habitat. Relocation of the California red-legged frog and arroyo southwestern toad would require approval from USFWS and CDFG. If these agencies do not allow for such a relocation program, then potential impacts to this species at these locations would be significant and unavoidable unless the Chorro creek crossing shall be done via directional boring under the creek.*

BR-26 *Preconstruction surveys shall be conducted in riparian areas for presence of sensitive bird species no earlier than March 15 and at least three visits shall occur between this date and June 15. If no sensitive breeding birds are detected by June 15, it can be assumed that they will not nest in that location for that year and construction can proceed.*

If sensitive breeding birds are detected, construction activities shall be limited to those which will not produce significant noise impacts during the breeding season of the particular bird species (e.g., March 15 to September 15). Exact breeding time interval shall be determined by the qualified biologist.

Preconstruction surveys shall be conducted in San Joaquin kit fox habitats for presence of kit fox dens. No construction shall be conducted near the kit fox dens during pupping season (December – April).

BR-27 *After the Treated water phase would start and the raw water discharge facilities at Salinas River would no longer be needed, the Applicant shall remove and restore* *(e.g., revegetate) riparian habitats as feasible and all the disturbed riparian areas associated with the discharge facilities.*

Cultural Resources, Section 5.8

CR-1 *Prior to authorization to proceed or issuance of permits, the applicant shall submit a paleontological resources monitoring plan to the appropriate jurisdiction for review and approval. Monitoring shall be required for all surface alteration and subsurface excavation work including trenching, boring, grading, use of staging areas and access roads, and driving vehicles and equipment within the boundaries of all exposed sensitive geological formations. A qualified professional paleontologist that is approved by the Lead Agency in consultation with all affected jurisdictions shall prepare the plan. The plan shall address (but not be limited to) the following issues:*

1. Training program/workshops for all construction and field workers;

2. Person(s) responsible for conducting monitoring activities;

3. How the monitoring shall be conducted and required format and content of monitoring reports;

4. Person(s) responsible for overseeing and directing the monitors;

5. Schedule for submittal of monitoring reports and person(s) responsible for review and approval of monitoring reports;

6. Clear delineation and fencing off if necessary of sensitive geological formations/paleontology resources requiring monitoring within each pipeline reach (onsite, only the construction foreman, environmental monitor, and project engineer shall have access to this information);

7. Physical monitoring boundaries (e.g. 100 feet each side of formation);

8. Protocol for notifications in case of encountering of cultural resources, as well as methods of dealing with the encountered resources (e.g., collection, identification, curation);

9. Methods to ensure site security;

10. Protocol for notifying local authorities (i.e. Sheriff, Police) should site looting and other illegal activities occur during construction.

CR-2 *Prior to authorization to proceed or issuance of permits, the applicant shall retain a qualified professional paleontologist to monitor construction activities pursuant to the approved paleontological resources monitoring plan. The monitoring shall include inspection of exposed rock units and microscopic examination of matrix to determine if fossils are present, preparation of monthly progress reports and filed with the applicant, the Lead Agency, and the appropriate jurisdiction pursuant to the approved paleontological resources monitoring plan. The monitor (professional paleontologist or their representative) shall have authority to temporarily divert* *grading and construction equipment away from exposed fossils to recover the fossil specimens if fossils or other resources are encountered.*

CR-3 *Prior to authorization to proceed or issuance of permits, the applicant shall present an agreement to pay associated curation fees to the chosen accredited repositories.*

CR-4 *In the event fossils are discovered by the retained monitor during construction, the professional paleontologist (or their representative) shall ensure the implementation of the following measures as necessary:*

- Fossils shall be collected, prepared, tested or identified by qualified experts, and listed in a database to allow analysis;

- At each fossil locality, field data forms shall record the locality, stratigraphic columns shall be measured when possible, and appropriate scientific samples submitted for analysis; and

- The qualified professional paleontologist shall recommend one or more accredited repositories for collected fossils depending on the abundance and origin of those fossils.

CR-5 *Prior to final inspection of the completed project, the applicant shall submit a final mitigation report prepared by the retained professional paleontologist to the Lead Agency, the appropriate jurisdiction, and the chosen accredited repository pursuant to the approved paleontological resources monitoring plan.*

CR-6 *Prior to authorization to proceed, or issuance of permits, the applicant shall prepare and submit a cultural resources monitoring plan to the appropriate jurisdiction for review and approval. Monitoring shall be required for all surface alteration and subsurface excavation work including trenching, boring, grading, use of staging areas and access roads, and driving vehicles and equipment within the boundaries of all exposed sensitive cultural resources. A qualified professional archaeologist (cultural resources monitor) that is approved by the Lead Agency in consultation with all affected jurisdictions shall prepare the plan. The plan shall address (but not be limited to) the following issues:*

1. Training program for all construction involved in site disturbance and field workers;

2. Person(s) responsible for conducting monitoring activities;

3. How the monitoring shall be conducted and required format and content of monitoring reports, including any necessary archaeological re-survey of the final pipeline alignment, assessment, designation and mapping of the sensitive cultural resource areas on final project maps, assessment and survey of any previously un-surveyed areas;

4. Person(s) responsible for overseeing and directing the monitors;

5. Schedule for submittal of monitoring reports and person(s) responsible for review and approval of monitoring reports;

6. Procedures and construction methods to avoid sensitive cultural resource areas (i.e. boring conduit underneath recorded or discovered cultural resource site);

7. Clear delineation and fencing off if necessary of sensitive cultural resource areas requiring monitoring within each sub segment;

8. Physical monitoring boundaries (e.g., 100 feet each side of a site);

9. Protocol for notifications in case of encountering of cultural resources, as well as methods of dealing with the encountered resources (e.g., collection, identification, curation);

10. Methods to ensure security of cultural resources sites;

11. Protocol for notifying local authorities (i.e. Sheriff, Police) should site looting and other illegal activities occur during construction.

CR-7 *Prior to authorization to proceed or issuance of permits, the applicant shall submit plans to the appropriate jurisdiction for review and approval showing the boundaries of all known archaeological and historical sites and a buffer line drawn 100 feet from the boundaries of the known sites along the project route. For any pipeline segments where soil disturbance is expected and that have not been surveyed for presence of cultural resources, the Applicant shall ensure that such surveys are conducted prior to finalizing of the project plans, and results are included into the project plans and maps prior to submission for authorization. Limited activity may occur within the 100 foot buffer area (outside of the boundaries of known sites) as permitted by the appropriate jurisdiction in consultation with the cultural resources monitor. Due to high confidential nature of these documents, on site, only the construction foreman, environmental monitor, and project engineer shall have access to these plans.*

CR-8 *Prior to authorization to proceed or issuance of permits, the construction foreman, project manager(s), and all construction workers associated with the proposed project that would be involved in site disturbance shall participate in a cultural resources training/workshop to be conducted by the approved cultural resources monitor. The training shall highlight on the significance of cultural resources and the legal consequences of looting, disturbing, destroying these resources or violating approved mitigation measures. A declaration confirming the training's occurrence shall be prepared by the monitor and signed by all persons in attendance. This signed declaration shall be submitted to the appropriate jurisdiction.*

CR-9 *During any soil disturbance activities (e.g., trenching, boring, excavation) in the locations with the known or potential cultural resources, cultural resource monitoring shall be conducted by a qualified professional archaeologist (or their monitor) and Native American monitor familiar with the resource types potentially present in these locations. The qualified archaeologist and Native American shall conduct monitoring activities based on the cultural resources monitoring plan.*

CR-10 *The following activities shall be excluded from known designated and discovered cultural resource sites:*

1. excavation;

2. staging equipment, machinery, or vehicles on undisturbed or exposed portions of the cultural resource;

3. collection, removal or unnecessary displacement of any artifacts, "eco-facts" or other cultural remains;

4. stockpiling of imported soils within the designated sensitive area;

5. removal of native soils outside a sensitive area. Every effort shall be made to contain and collect any chemical/fuel spills immediately.

CR-11 *In the event unknown archaeological resources are discovered, the following standards shall apply:*

1. Construction activities shall cease, and the project archaeologist shall be notified so that the extent and location of discovered materials may be recorded by a qualified professional archaeologist and disposition of artifacts may be accomplished in accordance with state and federal law. The project archaeological monitor (professional archaeologist or their representative) shall be responsible to notify the local jurisdiction.

2. In the event archaeological resources are found to include human remains, or in any other case when human remains are discovered during construction, the County or City Coroner shall be notified in addition to the appropriate jurisdictions so proper disposition may be accomplished.

CR-12 *Phase II Subsurface Testing. Shall be implemented for the areas where there is a potential for intact cultural deposits to occur in the pipeline ROW. Two methods of testing may be used depending on the density of surface artifacts, surface conditions, and type of cultural site. Which specific testing would be used for which cultural resource would be determined by a qualified professional archaeologist depending on the available information at the time of the project.*

Backhoe Testing. This is a preliminary testing method designed to determine presence or absence of cultural materials particularly in a buried context. Backhoe testing is only done until the presence of cultural materials and their integrity is confirmed. For the proposed project, this testing is recommended for the Santa Ysabel Ranch area between pipeline Sta. 1185+00 and 1200+00. No definite prehistoric sites were identified on the surface in this 50-foot wide ROW area but exist on both sides of the proposed ROW. Backhoe trenches should be excavated at approximately 100-foot intervals along the proposed ROW to a depth slightly greater that the maximum depth expected for the bottom of the trench for the pipeline. If any intact cultural deposits are encountered, then a controlled excavation method should be utilized to define the nature and extend of the cultural materials.

Controlled Excavation. In cases where surface artifacts are present within or adjacent to the pipeline ROW and could be adversely impacted by actual construction excavation or staging areas, a series of controlled test units should be excavated. The tests shall be planned and executed under a supervision of a qualified *professional archaeologist. Typical size should be 1 x 1 meter, excavated in 10 or 20 cm levels, screened with 1/8" mesh or smaller screen and excavated to sterile soil. In some cases these can be placed adjacent to pavement where the pipeline is scheduled to go beneath pavement. This will expose a profile of the cultural strata and allow a determination to be made about the possibility of intact cultural materials beneath the pavement that would be impacted by the pipeline construction. Test units should be placed at approximately 50-foot increments depending on the density of cultural materials encountered.*

Sample Analysis. Standard analyses, including C-14 dating, could be recommended by a qualified archaeologist to provide information on the boundaries, content, integrity and significance of cultural resources in the pipeline ROW. This controlled sample would be used to minimize adverse impacts by providing information to help define minor re-alignments of the pipe ROW to completely avoid impacts or greatly minimize them by locating the pipeline in the lowest density areas of the cultural deposits.

Phase III Data Recovery Program. Finally, after all avoidance and minimizing of adverse impacts is done, this subsurface testing can be used to develop a Phase III data recovery program for all unavoidable adverse impacts to significant cultural resources.

CR-13 *Prehistoric Cultural Resource (PCR) #2. Prior to construction in this area, a small scale subsurface testing program should be conducted along the edge of the road to determine if any significant cultural materials are present and if they would be affected by the pipeline construction. If present, the testing could define the boundaries of the cultural materials and the pipeline could be moved north of the dirt road, perhaps no more than 30–50 feet to avoid adverse impacts to all cultural materials from this site.*

CR-14 *PCR #4. It is recommended that the pipeline be located along the south side of the dirt road in areas of deepest cut. SLO-1169 could be completely avoided by moving the pipeline ROW upslope of the dirt road to the west by approximately 60-feet. If avoidance is not possible, additional subsurface testing would be needed to supplement existing information and define the boundaries, content and significance of the cultural resources of this site. Based on the Phase II testing, appropriate recommendations can be made regarding treatment of any significant cultural resources that would be affected by the proposed pipeline.*

A large staging area, 200-feet by 600-feet that would cover most of PCR #4 site shall be moved from this location entirely. Another location along the actual pipeline ROW shall be selected. One possible location for this staging area could be near Sta. 130+00.

CR-15 *PCR #5. It is recommended that subsurface testing be conducted along the south edge of the Boy Scout Road to determine if any cultural materials exist in the pipeline ROW. If the cultural deposit is shallow, the approximately 1-foot deep grading of the road may have removed the cultural deposit. If materials extend deeper, then the pipeline could encounter additional materials beneath the road. If* *avoidance is not possible, additional subsurface testing would be needed to define the boundaries, content and significance of the cultural resources of this site. Based on the Phase II testing, appropriate recommendations can be made regarding treatment of any significant cultural resources that would be affected by the proposed pipeline.*

CR-16 *PCR #7. Due to the fact that the site has been deemed eligible for NRHP status and it is costly and time consuming to meet both state and federal requirements, it is strongly recommended that the pipeline ROW be re-aligned and moved south of Boy Scout Road before entering the west end of SLO-1180. If the pipeline remains south of it and crosses Dry Creek to meet West Perimeter Road, adverse impacts to the west locus could probably be avoided. Subsurface testing would be needed to find the best route south of SLO-1180 that would avoid impacting significant cultural materials. If re-routing were not possible, then an extensive testing and mitigation program would be required for this location.*

CR-17 *PCR #9. Subsurface testing is recommended where the access road meets San Marcos Road to determine if any cultural materials from this prehistoric site are present and would be impacted. If the entrance road begins 150-feet to 300-feet east of the existing General's Road gate, it may avoid this prehistoric site. If preliminary testing cannot avoid cultural materials then additional testing would be needed to determine the boundaries, context and significance of this site and to develop appropriate recommendations.*

CR-18 *PCR #14. It is recommended that the proposed pipeline be moved east approximately 100–20 feet to the toe of the slope and east of the barbed wire fence. Subsurface testing is recommended to find an area east of the proposed pipeline ROW that would avoid impacting cultural materials from this newly recorded prehistoric site. If preliminary testing cannot avoid cultural materials then, additional testing would be needed to determine significance and appropriate actions.*

CR-19 *To avoid impacts to PCR #16 through #23 place the pipeline ROW adjacent to the pavement of El Camino Real and west of the rail road tracks starting just north of Sta. 2015+00 and follow that alignment through the town of Santa Margarita to Sta.2105+00.*

CR-20 *PCR #24. To avoid this prehistoric site it is recommended to move the pipeline ROW to the north side of the pavement of El Camino Real.*

CR-21 *In the event of discovered looting or disturbance of resources, all responsible parties shall be reported to the appropriate jurisdiction and local authorities for legal action pursuant to the approved cultural resources monitoring plan.*

Land Use, Section 5.9

All mitigation measures required for Land Use are listed in other sections of the EIR that are specific to the potential environmental impacts on land use.

Public Services and Utilities, Section 5.10

UP-1 *To mitigate potential adverse impacts to potable water supplies due to short term use during construction, all contractors should use (maximally as feasible) non potable water sources for dust mitigation and other non-drinking purposes.*

UP-2 *A Wildland Fire Prevention Plan (WFPP) shall be required for the proposed installation of the pipeline and other facilities. This plan will help to reduce the threat of wildland fires and provide a fire safe environment to communities in the area of the proposed pipeline construction.*

UP-3 *Final design plans for each facility shall adhere to all fire safety requirements as contained in the SLO County Fire Department and the California Department of Forestry and Fire Protection Developer's Guide.*

Transportation/Circulation, Section 5.11

T-1 *All project-related traffic shall be restricted from travel on roads with a LOS of D or worse between the peak commuting hours of 7:00 a.m. to 9:00 a.m. and from 4:00 p.m. to 7:00 p.m. These include Union Rd./Highway 4; Madonna Road; Highway 227 in San Luis Obispo; Highway 101 at the junction with Highway 166, South Pismo Beach, Avila Road, Santa Fe Road, Los Osos Valley Road, Marsh Street, California Boulevard; and Highway 46 at Paso Robles, Spring Street, 13th Street, Creston Road, Niblick Road, Airport Road and El Camino Real.*

T-2 *A Traffic Control Plan shall be prepared to detail specific roadway construction information, road surface maintenance, pedestrian/bicycle circulation and traffic safety, parking limitations, road use restrictions, emergency response procedures, signing for closures, and public notification identifying location, scheduling, and duration of construction spread. This management plan shall be finalized and approved by the appropriate agencies as designated by the lead agencies.*

T-3 *Pipeline construction across Nacimiento Lake Drive shall be scheduled to avoid late afternoons, weekends, and holidays during the summer months.*

T-4 *Detours shall be planned around temporary street closures through coordination with local traffic agencies, and signs shall be provided to direct motorists to alternate routes.*

T-5 *The Applicant shall ensure at least one lane remain open during construction along roadways subject to partial closure when feasible.*

T-6 *The Applicant shall provide off-street parking and staging areas for storage of construction equipment, materials, and workers' vehicles.*

T-7 *The Applicant shall ensure all driveways blocked by construction are provided with suitable means of vehicular access and egress.*

T-8 *All affected parties in the vicinity of construction activities shall be notified a minimum of 30 days in advance of potential obstructions and alternative access provisions prior to the commencement of project activities.*

T-9 *The Applicant shall coordinate in advance with emergency service providers to avoid restricting movements of emergency vehicles. The County Sheriff Department, fire departments, ambulance services, and paramedic services shall be notified in advance by the Applicant of the proposed locations, nature, timing, and duration of any construction activities and consulted regarding potential access restrictions that could impact their effectiveness.*

T-10 *At locations where access to nearby property is blocked, provision shall be ready at all times to accommodate emergency vehicles, such as plating over trenches, short detours, and alternate routes.*

T-11 *The Applicant shall designate alternative routes, accessible to disabled persons, when construction activities obstruct pedestrian routes.*

T-12 *At locations where trenching activities cross sidewalks or other established pedestrian routes, plating shall be provided to maintain access to these routes.*

T-13 *The Applicant shall properly restore all roads disturbed by construction activities to ensure the long term protection of road surfaces and safety of roadway users.*

T-14 *The pipeline emergency response plan shall include traffic agency and personnel contact protocols and agencies to contact for road closures, alternative traffic routes, CalTrans, SLO County. Construction for pipeline repairs that requires road or lane closures or endanger public safety must comply with the Manual of Traffic Controls for Construction and Maintenance Work Zones is published by CalTrans. The manual provides the basic standards for uniform types of warning signs, lights, and devices to be placed upon any public highway or street by any person engaged in performing work that interferes with or endangers the safe movement of traffic upon such highway or street, in accordance with Section 21400 of the California Vehicle Code.*

T-15 *The full width of the traveled way shall be available to traffic before 9 a.m. and after 4 p.m., Monday through Friday, and at all times on weekends, and holidays.*

-A maximum delay of 20 minutes shall be permitted, requiring that a minimum of one lane of traffic is available.

-If the contractor is unable to restore or place temporary surface, then the trench shall be covered with steel plates capable of carrying the weight of traffic; and adequate signage, reflectors or other warning devices shall be used to warn motorists of the plated roadway.

T-16 *To minimize construction on roads with LOS of D or worse, the design engineer shall coordinate construction of the pipeline with any roadway or utility work efforts.*

T-17 *For construction on Nacimiento Lake Drive, to the maximum extent possible, construction shall be minimized during the summer period between June 15 and September 15. During the summer period, the full width of traveled way shall be available to traffic before 9 a.m. and after 4 p.m., Monday through Thursday, at all times from 12:00 noon Friday through Sunday and at all times on holidays.*

Cumulative Projects Only

T-18 *Coordinate pipeline construction activities with other public works and roadway improvements. Where possible, install pipeline segments in coordination with roadway improvements to avoid damaging the newly improved roadway. A detailed plan showing how Public Works Department will coordinate construction with planned roadway improvements shall be submitted to the County Department of Planning and Building prior to final project approval..*

Visual and Aesthetic Resources, Section 5.12

VR-1 *The Water Intake structures shall be visually compatible in materials of construction and color with the surrounding area of the Lake Nacimiento dam incorporating natural rock facing. During construction, the Applicant's contractor shall preserve as much of the existing vegetation (trees and shrubbery) as feasible.*

VR-2 *The structures shall be screened from public views with vegetation to the maximum extent feasible. Landscaping shall be provided in accordance with Section 22.04.186 of the San Luis Obispo County Land Use Ordinance and shall provide vegetation that will adequately screen the facilities.*

VR-3 *The surge tank and power line shall be placed underground.*

VR-4 *The tanks shall be a neutral or dark, non-contrasting color, and landscape screening shall be provided. Landscaping shall be provided in accordance with Section 22.04.186 of the San Luis Obispo County Land Use Ordinance and shall provide vegetation that will adequately screen the facilities. Landscape material must be consistent with the surrounding area, shown to do well in existing soils and conditions, be fast-growing, evergreen and drought tolerant. Shape and size of landscape material shall be in scale with proposed tanks and surrounding native vegetation. Plans shall show how plants will be watered and what watering schedule will be applied to ensure successful and vigorous growth.*

VR-5 *The perimeter of the suspended pipe crossing structural support shall be concealed using vegetation that is compatible with the surrounding area.*

NWP 1997 EIR Alternative Only

VR-6 *The surge tank shall be constructed underground in a vault to minimize aboveground equipment.*

VR-7 *The pump station structures shall be constructed partially underground to limit the structure height to the equivalent of a one story home or barn typical of the area. The architecture of the pump station shall resemble a home or barn typical of the area.*

VR-8 *No oak trees adjacent to Rocky Canyon Road shall be removed to accommodate the construction of the pump station or storage tank at this location.*

VR-9 *Access roads to and around the facility shall not exceed 20 feet in width.*

VR-10 *All structures at this site shall be screened from public views with vegetation to the maximum extent feasible. Landscaping shall be provided in accordance with Section 22.04.186 of the San Luis Obispo County Land Use Ordinance and shall provide vegetation that will adequately screen the facilities.*

For the tank area where fencing surrounding the tank site would be located, landscape screening shall be provided. Landscape material must be consistent with the surrounding area, shown to do well in existing soils and conditions, be fast-growing, evergreen and drought tolerant. Shape and size of landscape material shall be in scale with proposed tank fencing or other aboveground features and surrounding native vegetation. Plans shall show how plants will be watered and what watering schedule will be applied to ensure successful and vigorous growth.

VR-11 *The border of cut slopes and fills accomplished to underground the water storage tank shall be rounded off to a minimum radius of five feet. For any visible slope cuts from Rocky Canyon Road, sufficient topsoil shall be stockpiled and reapplied or re-keyed over these visible cut areas to provide at least 8" of topsoil for the reestablishment of vegetation. As soon as the grading work has been completed, the cut and fill slopes shall be reestablished with non-invasive, fast-growing vegetation.*

VR-12 *The tank shall be a neutral or dark, non-contrasting color, and landscape screening shall be provided. Landscaping shall be provided in accordance with Section 22.04.186 of the San Luis Obispo County Land Use Ordinance and shall provide vegetation that will adequately screen the facilities. Landscape material must be consistent with the surrounding area, shown to do well in existing soils and conditions, be fast-growing, evergreen and drought tolerant. Shape and size of landscape material shall be in scale with proposed tank and surrounding native vegetation. Plans shall show how plants will be watered and what watering schedule will be applied to ensure successful and vigorous growth. During construction, the Applicant's contractor shall preserve as much of the existing vegetation (trees and shrubbery) as feasible.*

VR-13 *Redesign the site plan and structures to include the following:*

-Reduce the pump station's frontage along Nacimiento Lake Drive, reduce views of the paved parking area, and provide an area for landscaping and some screening of proposed structures and fenced areas.

-Clad structures in the same stone materials as is used on the small structure on the Nacimiento dam. Utilize non-glare roofing materials

-Provide architectural breaks in the façade of the combined electrical/generator building to reduce the effect of large blank walls.

-Coat all chain-link fencing with brown or any other compatible color vinyl to reduce glare.

-Provide motion-sensitive lighting that would be turned on only when motion is present on site. Direct all lights downwards so that the light visibility from public viewsheds is minimized

VR-14 *Provide a detailed grading and landscaping plan which would include but not be limited to the following:*

- contouring of the new cut and fill slopes to demonstrate a blending with the existing grades;

- rounding of all tops of banks in a natural manner;

- landscape screening to break-up the visual mass of the structures; vegetation shall be native to the area.

- replacement of all trees removed at a ratio of four to one.

Re-grade the site to approximate the original contours in order to preserve the general character of the ridgeline as viewed from Highway 101.

VR-15 *Re-grade the site to approximate the original contours in order to preserve the general character of the ridgeline as viewed from Highway 101.*

VR-16 *The Applicant shall implement a landscaping plan to screen the tank form viewers on Highway 101. The plan shall include re-vegetation of the disturbed area with a combination of native fast and slow growing trees which visually replace those removed during construction; and replacement of the ground cover to maintain visual continuity with the adjacent hillsides.*

VR-17 *Articulate the architectural mass to appear consistent with agricultural structures or single family homes in the surrounding area. Limit the height of structural elements to 24 feet; use appropriate colors, landscape with tall trees to soften building edges, minimize night lighting with the use of motion sensors, and ensure light fixtures are hooded and directional. Final site design plans should be prepared by a licensed architect and reviewed by a qualified visual resource specialist prior to approval of a General Plan Conformity Report.*

VR-18 *Minimize removal of the existing trees that can screen the WTP. One method would be not to construct the earth berm in front of the facility (the action that would require removal of trees). Prepare a comprehensive landscaping plan that includes:*

- identification of the existing trees that would be preserved, and reestablishment and maintenance of potentially affected by the construction oaks, pines and other trees;

- listing and location plan of the trees that would be planted to further screen the WTP facilities;

- revegetation plan that requires placement of native forbs and shrubs over the cut and fill banks as soon as possible after grading is completed.

VR-19 *The WTP structures plan shall be revised to articulate the architectural mass of the buildings to appear more similar to a house or commercial structure; avoid large blank walls and single horizontal parapets. Move the large building to the rear of the*

WPT site, rather than facing El Camino Real and Highway 101. Use color scheme that reduces the visual mass of the structure (e.g., avoid pure white).

Agricultural Resources, Section 5.13

AR-1 *Prior to and during construction, the Applicant shall coordinate construction activity time schedules with all owners of agricultural operations adjacent to the construction site. All property owners shall be notified 30-days in advance of the construction activities occurring in the vicinity of their operations.*

AR-2 *Prior to construction, the Applicant shall coordinate with landowners to discuss the timing of pipeline construction through agricultural areas containing livestock. Subject to negotiations with livestock owners, the Applicant shall either provide ample time for the livestock to be relocated during the pipeline construction, or construct a temporary fence around the pipeline corridor to keep livestock from entering the areas during construction.*

AR-3 *During construction, where construction activities require removal of existing fencing adjacent to grazing lands, a temporary fence shall be installed and maintained by the Applicant to keep grazing animals away from construction activities and trenching. Trenches shall be filled, covered, or enclosed by fencing at the end of each workday to reduce chances of animal injuries. Following construction, fences and posts shall be replaced.*

AR-4 *During construction, trenches shall be backfilled by the Applicant in such a manner as to retain the topsoil characteristics. Where soil is disturbed on lands used for agricultural purposes, topsoil shall be stockpiled and replaced on top of trenches and excavations after the backfill operations to allow rapid revegetation of these lands following construction.*

AR-5 *Upon completion of construction, areas disturbed by the project (including trenching or placement of staging areas) within agricultural grazing areas shall be re-seeded by the Applicant with a seed mixture acceptable to affected landowners.*

AR-6 *All offsite staging areas shall be restricted to areas already disturbed, when feasible, and where staging would be compatible with existing land uses.*

AR-7 *Prior to construction, the Applicant shall coordinate with the Agricultural Commissioner's Office to conduct a pre-construction site evaluation for purple thistle, yellow thistle and skeletonweed.*

-Based on the pre-construction survey, the Applicant shall prepare a map showing areas of noxious weed infestation on lands both within and adjacent to the proposed project corridor, corridor access routes, and staging areas.

-The Applicant shall implement equipment wash stations and other pertinent noxious weed control recommendations based on the above required map.

-The Applicant shall perform post-construction surveys during the spring growing season immediately following each phase of project construction to verify whether the spread of noxious weeds has occurred.

-If the post-construction survey identifies spread of noxious weeds, the Applicant shall coordinate with the affected landowner and the County Department of Agriculture to implement an appropriate eradication program.

AR-8 *During construction, topsoil shall be segregated and replaced relative to its original distribution. To the maximum extent feasible, excavated materials shall be replaced in the same location they were removed from, and shall not be transported offsite.*

AR-9 *Prior to construction, the Applicant will enter into a Quarantine Compliance Agreement with the San Luis Obispo County Agricultural Commissioner's Office for the prevention of movement of skeleton weed.*

Recreational Resources, Section 5.14

REC-1 *Prior to initiating construction, the Applicant shall coordinate with the San Luis Obispo County Department of Public Works and provide signage along the length of all affected roads advising bicyclists of the temporary construction and the estimated period of construction along these routes. The signage should also alert bicyclists and vehicular traffic of the need to exercise caution.*

REC-2 *During construction of segments at the edge of or off pavement, the construction crews shall keep all pot hole and bore equipment and trenching equipment off of the paved roadway to the maximum extent feasible to allow bicyclists to continue to use the road. (Note: Exceptions to this measure shall include situations where sensitive habitat is located adjacent to roadways and where safety issues exist.)*

REC-3 *During construction when equipment is located in the roadway, the Applicant shall provide one flag person to separately guide bicyclists and motor vehicles past the construction zone.*

REC-4 *Upon completion of construction within this subsection, the Applicant shall replace all bicycle lanes that have been damaged by the construction process to County standards (or other jurisdictional standards such as the various Cities if applicable) for Class I and Class II bicycle lanes, as appropriate. In addition, if any paint is scuffed, the Applicant shall repaint the affected bicycle lane markings.*

REC-5 *Prior to authorization to proceed or issuance of permits, the Applicant shall coordinate with the City of San Luis Obispo Parks and Recreation Department (SLOPRD) for the project schedule so that the SLOPRD can minimize conflicts with any special events that are scheduled during the construction period.*

REC-6 *Prior to authorization to proceed or issuance of permits, the Applicant shall coordinate with the SLOPRD and City of San Luis Obispo Public Works Department to provide signage directing traffic around construction activity.*

Raw Water Option Only

REC-7 *Prior to construction, the water purveyor responsible for the individual discharge facility construction shall provide for a 25-foot wide trail corridor easement, subject to County review, to connect those impacted portions of the Salinas River Trail System.*

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—. *7.5 Minute Topographic Maps: Tierra Redonda Mountain, Bradley, Adelaida, Paso Robles, Templeton, Atascadero, Santa Margarita, San Luis Obispo, Pismo Beach, and Arroyo Grande Quadrangles, San Luis Obispo County, California*.

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11.0 Comments Received on the Draft EIR and Responses

As required by CEQA (CCR, Title 14, Division 6, Chapter 3 Section 15132), the final EIR shall consist of:

(a) The Draft EIR or a revision of the draft.
(b) Comments and recommendations received on the Draft EIR either verbatim or in summary.
(c) A list of persons, organizations, and public agencies commenting on the draft EIR.
(d) The responses of the Lead Agency to significant environmental points raised in the review and consultation process.
(e) Any other information added by the Lead Agency.

As per items (b) and (c) above, this chapter of the final EIR presents copies of all comment letters received on the Draft EIR, along with the list of commentators. The comment letters have been numbered and given written responses as per item (d) above.

This chapter consists of three sections.

- 11.1–Governmental Agency Comment Letters and Responses
- 11.2–Group/Company Letters and Responses
- 11.3–Public Comment Letters and Responses

These sections present the comment letters in their entirety (each letter page shrunk to approximately 50%). An alpha-numeric identification code was given to each comment letter to provide the reader with an easy indicator of which comment is being responded to for each letter. For example, in the letter from the California State Clearinghouse, the first comment is GA-1.1. The identification code appears in the left margin of the letter page and is accompanied with enlarged brackets surrounding the comment. Each letter is closely followed by its written response. The letters and their responses are organized alphabetically according to each comment letter's alpha-numeric identification code.

Please see the following page for a table of contents that lists each comment letter, their identification codes, and locations in this chapter.

11.1 Table of Contents

11.2 Comments Received from Governmental Agencies and Responses

GA-1

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse

Gray Davis
GOVERNOR

Tal Finney
INTERIM DIRECTOR

September 8, 2003

RECEIVED
SEP 11 2003
Planning & Bldg

Nancy Orton
San Luis Obispo County
County Government Center
Room 310
San Luis Obispo, CA 93408-2040

Subject: Nacimiento Water Project
SCH#: 2001061022

Dear Nancy Orton:

GA - 1.1

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. The review period closed on September 5, 2003, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Terry Roberts

Terry Roberts
Director, State Clearinghouse

Document Details Report
State Clearinghouse Data Base

SCH# 2001061022
Project Title Nacimiento Water Project
Lead Agency San Luis Obispo County

Type EIR Draft EIR

Description 1) A water delivery project from Lake Nacimiento to 15 purveyors in San Luis Obispo County utilizing a water allocation of 16,200 acre feet per year; 2) construction of water distribution pipelines from the dam at Lake Nacimiento to south of the City of San Luis Obispo (approx. 66 miles); 3) construction/operation of a water treatment plant, pump stations, storage tanks, water discharge ponds and other associated facilities to deliver either treated or raw water.

Lead Agency Contact

Name Nancy Orton
Agency San Luis Obispo County
Phone 805-781-5008 **Fax**
email
Address County Government Center
Room 310
City San Luis Obispo **State** CA **Zip** 93408-2040

Project Location

County San Luis Obispo
City Paso Robles, Atascadero, San Luis Obispo
Region
Cross Streets
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways 101
Airports San Luis Obispo
Railways SPRR
Waterways Lake Nacimiento, Salinas River, Nacimiento River
Schools
Land Use Various

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Coastal Zone; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Growth Inducing; Noise; Public Services; Recreation/Parks; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife; Landuse; Cumulative Effects; Other Issues

Reviewing Agencies Resources Agency; California Coastal Commission; Department of Fish and Game, Region 3; Office of Historic Preservation; Department of Parks and Recreation; Reclamation Board; Department of Water Resources; Caltrans, District 5; Department of Health Services; Public Utilities Commission; Native American Heritage Commission; Regional Water Quality Control Board, Region 3; State Water Resources Control Board, Division of Water Quality

Date Received 07/07/2003 **Start of Review** 07/07/2003 **End of Review** 09/05/2003

Note: Blanks in data fields result from insufficient information provided by lead agency.

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse

Gray Davis
Governor

Tal Finney
Interim Director

August 21, 2003

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Planning & Bldg

Nancy Orton
San Luis Obispo County
County Government Center
Room 310
San Luis Obispo, CA 93408-2040

Subject: Nacimiento Water Project
SCH#: 2001061022

Dear Nancy Orton:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. The review period closed on August 20, 2003, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Terry Roberts

Terry Roberts
Director, State Clearinghouse

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
(916)445-0613 FAX(916)323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# **2001061022**
Project Title Nacimiento Water Project
Lead Agency San Luis Obispo County

Type **EIR** Draft EIR

Description 1) A water delivery project from Lake Nacimiento to nine purveyors in San Luis Obispo County utilizing a water allocation of 16,200 acre feet per year; 2) construction of water distribution pipelines from the dam at Lake Nacimiento to south of the City of San Luis Obispo (approx. 66 miles); 3) construction/operation of a water treatment plant, pump stations, storage tanks, water discharge ponds and other associated facilities to deliver either treated or raw water.

Lead Agency Contact

Name Nancy Orton
Agency San Luis Obispo County
Phone 805-781-5008 ***Fax***
email
Address County Government Center
Room 310
City San Luis Obispo ***State*** CA ***Zip*** 93408-2040

Project Location

County San Luis Obispo
City Paso Robles, Atascadero, San Luis Obispo
Region
Cross Streets
Parcel No.
Township ***Range*** ***Section*** ***Base***

Proximity to:

Highways 101
Airports San Luis Obispo
Railways SPRR
Waterways Lake Nacimiento, Salinas River, Nacimiento River
Schools
Land Use Various

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Coastal Zone; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Growth Inducing; Noise; Public Services; Recreation/Parks; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife; Landuse; Cumulative Effects; Other Issues

Reviewing Agencies Resources Agency; California Coastal Commission; Department of Fish and Game, Region 3; Office of Historic Preservation; Department of Parks and Recreation; Reclamation Board; Department of Water Resources; Caltrans, District 5; Department of Health Services; Public Utilities Commission; Native American Heritage Commission; Regional Water Quality Control Board, Region 3; State Water Resources Control Board, Division of Water Quality

Date Received 07/07/2003 ***Start of Review*** 07/07/2003 ***End of Review*** 08/20/2003

Note: Blanks in data fields result from insufficient information provided by lead agency.

Gray Davis
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse

Tal Finney
Interim Director

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Memorandum

Date: August 22, 2003

To: All Reviewing Agencies

From: Scott Morgan, Associate Planner

Re: SCH # 2001061022
Nacimiento Water Project

The Lead Agency has extended the review period for the above referenced project to September 5, 2003 to accommodate the review process. All other project information remains the same.

cc: Nancy E. Orton
County of San Luis Obispo
County Government Center, Room 310
San Luis Obispo, CA 93408-2040

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
(916)445-0613 FAX(916)323-3018 www.opr.ca.gov

Notice of Completion & Environmental Document Transmittal

UPS mailing: State Clearinghouse, 1400 Tenth St., Sacramento, CA 95814 (916)445-0613
U.S. Postal mailing: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044

SCH# 2001061022

Project Title: Name & Co. Number: Nacimiento [illegible]

Lead Agency: County of San Luis Obispo — Contact Person: Nancy E. Orton
Street Address: County Government Center, Rm 310 — Telephone: (805)781-5008
City: San Luis Obispo Zip: 93408-2040 — County: San Luis Obispo

Project Location

County: San Luis Obispo City/Nearest Community: Camp Roberts, Paso Robles, San Miguel, Templeton, Atascadero, Santa Margarita, San Luis Obispo, Camp San Luis Obispo, Cayucos
Cross Streets: N/A Zip Code: ____ Total Acres: N/A
Assessor's Parcel Number: ____ Section: ____ Twp. ____ Range: ____ Base: ____
Within 2 miles: State Hwy #: 101 Waterways: Lake Nacimiento, Salinas River, Nacimiento River
Airports: San Luis Obispo Railways: SPRR Schools: ____

Document Type

CEQA: ☐ NOP ☐ Early Cons ☐ Neg Dec ☒ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) ____ ☐ Other ____
NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI
Other: ☐ Joint Document ☐ Final Document ☒ Other NEPA-Equivalent

Local Action Type

☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan
☐ Rezone ☐ Prezone ☐ Use Permit ☐ Land Division(Subdivision,etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☒ Other Water Supply Proj

Development Type

☐ Residential: Units__ Acres__
☐ Office: Sq.ft __Acres __Employees__
☐ Commercial: Sq.ft __Acres__Employees__
☐ Industrial: Sq.ft.__Acres__Employees__
☐ Educational: ____
☐ Recreational: ____
☒ Water Facilities: Type Pipeline, WTP MGD 17.0
☐ Transportation: Type ____
☐ Mining: Mineral ____
☐ Power: Type ____ Watts__
☐ Waste Treatment: Type ____
☐ Hazardous Waste: Type ____
☐ Other: ____

Funding (approx.): Federal $____ State $____ Total $____

Project Issues Discussed in Document

☒ Aesthetic/Visual
☒ Agricultural Land
☒ Air Quality
☒ Archeological/Historical
☒ Coastal Zone
☒ Drainage/Absorption
☐ Economic/Jobs
☐ Fiscal
☒ Flood Plain/Flooding
☒ Forest Land/Fire Hazard
☒ Geologic/Seismic
☐ Minerals
☒ Noise
☐ Population/Housing Balance
☒ Public Services/Facilities
☒ Recreation/Parks
☐ Schools/Universities
☐ Septic Systems
☐ Sewer Capacity
☒ Soil erosion/compaction/grading
☒ Solid Waste
☒ Toxic/Hazardous
☒ Traffic/Circulation
☒ Vegetation
☒ Water Quality
☒ Water supply/groundwater
☒ Wetland/Riparian
☒ Wildlife
☒ Growth Inducing
☒ Land Use
☒ Cumulative Effects
☒ Other Socioeconomics

Present Land Use/Zoning/General Plan Designations:

Various

Project Description:

1) A water delivery project from Lake Nacimiento to fifteen (15) purveyors in San Luis Obispo County utilizing a water allocation of 16,200 acre feet per year; 2) construction of water distribution pipelines from the dam at Lake Nacimiento to south of the City of San Luis Obispo (approximately 66 miles); 3) construction/operation of a water treatment plant, pump stations, storage tanks, water discharge ponds and other associated facilities to deliver either treated or raw water.

State Clearinghouse Contact: (916) 445-0613

State Review Began: 7-7-2003

9-5

SCH COMPLIANCE X-X-2003

Extended.

Please note State Clearinghouse Number (SCH#) on all Comments

SCH#: 2001061022

Please forward late comments directly to the Lead Agency

AQMD/APCD 29

(Resources: 7/10)

Project Sent to the following State Agencies

X Resources
__ Boating & Waterways
X Coastal Comm
__ Colorado Rvr Bd
__ Conservation
X Fish & Game # __
__ Delta Protection Comm
__ Forestry & Fire Prot
X Historic Preservation
X Parks & Rec
X Reclamation Board
__ Bay Cons & Dev Comm
X DWR
__ OES (Emergency Svcs)

Bus Transp Hous
__ Aeronautics
__ CHP
X Caltrans # 5
__ Trans Planning
__ Housing & Com Dev
__ Food & Agriculture
X Health Services

State/Consumer Svcs
__ General Services

Cal EPA
__ ARB – Airport Projects
__ ARB – Transportation Projects
__ ARB – Major Industrial Projects
__ Integrated Waste Mgmt Bd
__ SWRCB: Clean Wtr Prog
X SWRCB: Wtr Quality
__ SWRCB: Wtr Rights
X Reg. WQCB # 3
__ Toxic Sub Ctrl-CTC

Yth/Adlt Corrections
__ Corrections

Independent Comm
__ Energy Commission
X NAHC
X Public Utilities Comm
X Santa Monica Mtns
__ State Lands Comm
__ Tahoe Rgl Plan Agency

__ Other: ____

GA-2

AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN LUIS OBISPO

RECEIVED
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DATE: September 5, 2003

TO: Nancy Orton
San Luis Obispo County Planning and Building Department

FROM: Andy Mutziger AJM
San Luis Obispo County Air Pollution Department

SUBJECT: Response to Draft EIR Regarding Nacimiento Water Project

Thank you for including the Air Pollution Control District (District) in the CEQA environmental review process. The project would potentially build a 64-mile water transmission pipeline to supply up to 16,200 acre feet per year of treated or untreated water to augment the existing water supplies in various communities within San Luis Obispo County. Beyond commenting on the air quality issues of this project, another goal of this letter is to initiate a cooperative dialogue to define feasible and mutually acceptable air quality mitigation for the project that bring the overall air quality impacts to a level of insignificance. We have the following comments on the draft environmental impact report (DEIR) for this proposed three to three and a half year project.

I. GENERAL COMMENTS

GA - 2.1 In general, should this project move forward, the District prefers the implantation of the treated water option since the annual construction emissions are less for this option than for the raw water option (Appendix C in the DEIR). Should the raw water option be selected, it is likely that additional construction emissions not identified in the DEIR would be generated in the development new or modification of existing water treatment plants and would therefore require separate review by the District. This makes the treated water option even more beneficial in terms of air quality.

II. CONSTRUCTION EMISSIONS & MITIGATION

A. Proposed Air Quality Mitigation and Necessary Modifications

GA - 2.2 The DEIR Air Quality section (5.4) estimates the project's peak daily and quarterly construction emissions. It should be noted that the emissions estimates were identified as worst case potential emissions that would result from concurrent construction of the pipeline and facilities. Though the DEIR does not appear to identify this specifically, the District assumes that these emission estimates are unmitigated. The DEIR listed Air Quality Mitigation Measures AQ1 – AQ4 are proposed to minimize these potential emissions.

GA - 2.3 Peak daily construction emissions for nitrogen oxides (NOx) and quarterly emissions for both reactive organic gases (ROG) and particulate matter less than 10 microns in size (PM10) are estimated to trigger the District's threshold for requiring best available control technology for construction equipment (CBACT). The proposed mitigation in measures AQ-1 – AQ-4 are appropriate and shall reduce construction emissions. The District has identified five modifications to this measures that need to be made for the Final EIR (FEIR):

1. AQ-1 needs to be updated with the dust mitigation measures found in Section 6.5 of the District's April 2003 CEQA Air Quality Handbook; Attachment 1.

2. AQ-4 states that "the Applicant shall ensure installation of catalytic soot filters…" This language needs to be altered to say "the Applicant shall ensure installation of catalyzed diesel particulate filters (CDPFs)…"

GA - 2.3 Cont'd

3. AQ-4 states, "This measure shall be included and clearly identified in the project bid specifications so that contractors bidding on the project can include the purchase and installation costs in their bids." This needs to be modified to include: purchase, proper installation, and maintenance costs.

4. AQ-4 needs to be modified by removing the "Use reformulated diesel fuel" requirement. The fuel requirement for this project is appropriately addressed in item "h" of AQ-3.

5. AQ-4 needs to be modified to include the following: "Emission control device installation, use, and maintenance records shall be maintained by the contractor that operates the controlled construction equipment using forms provided by the District. District or lead agency representatives shall be allowed to review this documentation and the controlled equipment as needed to ensure that mitigation requirements are being met."

GA - 2.4

As identified in AQ-4, the District shall work with the contractor or subcontractor to identify candidate equipment for the six (6) emission reducing catalyzed diesel particulate filters (CDPFs). The District has reviewed projects with similar potential emission levels and the propose number of devices are appropriate for a project of this nature. Diesel oxidation catalysts (DOC) are a potential replacement for some of the CDPFs, however five DOCs must be used as a replacement for one CDPF.

GA - 2.5

A key component of AQ-4 is modification #3 listed above. I will be the District liaison for the bidding contractors to help them contact the groups that can provide the required quotes.

GA - 2.6

B. Residual Class I Impacts after the Proposed Mitigation can be Minimized with Off-site Mitigation

Occasionally emissions from large projects cannot be adequately mitigated with on-site mitigation alone. In such cases, it is necessary to implement mitigation strategies outside the project site in order to reduce air quality impacts to a level of insignificance.

The estimated unmitigated quarterly construction emission of NOx (43 tons per quarter) significantly exceeds the District's emission threshold of 6 tons per quarter. The proposed mitigation in measures AQ-1 – AQ-4, shall reduce construction emissions, however, the

GA - 2.6 Cont'd

DEIR did not estimate the amount of NOx reduced. From the District's experience, it is likely that with the mitigation measures implemented, the actual quarterly NOx emission from this project will still significantly exceed the 6 tons per quarter threshold. When emissions are expected to exceed this amount, CBACT is required plus further mitigation, including off-site mitigation. Section 5.9 in the District's CEQA Air Quality Handbook provides a list of possible off-site mitigation ideas. The DEIR does not specifically identify this threshold exceedence nor does it identify necessary mitigation. The FEIR needs to:

> Acknowledge the significant quarterly NOx construction emission threshold exceedence and must specify mitigation that is feasible and mutually acceptable to the District, the lead agency, and the project proponent.

GA - 2.7

C. Naturally Occurring Asbestos

Geological, Seismicity, and Soils Mitigation Measure GS-3 addresses the pre-construction evaluation requirements for naturally occurring asbestos (NOA) and identifies the California Air Resources Board (CARB) Air Toxic Control Measure (ATCM) requirement for NOA dust reduction measures areas it is identified. Since the District is the local enforcement agency for NOA, please remove the CARB website reference in GS-3 and add the following standard District NOA information and notification requirement into GS-3:

> The NOA ATCM requirements may include but are not limited to 1) an Asbestos Dust Mitigation Plan which must be approved by the District before construction begins, and 2) an Asbestos Health and Safety Program will also be required for some projects. Please refer to the District web page at http://www.slocleanair.org/business/asbestos.asp for more information regarding these requirements. If you have any questions regarding these requirements, please contact Karen Brooks of our Enforcement Division at 781-5912.

GA - 2.8

D. Portable Equipment Registration

The DEIR did not discuss portable equipment registration for construction equipment. The FEIR needs to discuss this issue and should include the following text as a mitigation measure:

> Some equipment associated with construction of a water pipeline may require either a District permit or California portable equipment registration issued by the California Air Resources Board. Prior to moving forward with the initial phase of construction and when new equipment is brought in, provide David Dixon of the District's Engineering Division at 781-5912 with copies of the portable equipment registrations for the equipment that is registered by this State program. Refer to the list below for equipment that typically has California portable equipment registrations. If this type of equipment will be used and is not registered in this State program, contact David Dixon to determine District permitting requirements. Some of the information that will be needed by the District will include equipment specifications, operation size, and the proposed timeline.

GA - 2.8 Cont'd

Portable and stationary engines and equipment that typically have State portable equipment registration:

i. Confined and unconfined abrasive blasting.
ii. Portland concrete batch plants.
iii. Sand and gravel screening, rock crushing.
iv. Spark ignition or diesel-fired internal combustion engines used in conjunction with the following types of work:
  - Well drilling, service, or workover rigs,
  - Power generation
  - Pumps
  - Compressors
  - Pile drivers
  - Cranes
  - Woodchippers

III. OPERATIONAL EMISSIONS & MITIGATION

GA - 2.9

A. Permit Needs for Operational Use of Generators

The operational emissions of this project are estimated in the DEIR to be below our thresholds for significance. The District would like to commend the project proponents for including air quality mitigation measures AQ-5 and AQ-6 as these will minimize the operational emissions of NOx and PM10 from generators used by the project. Should the applicant use the propane generators identified in AQ-5, a District permit will be required if the units will be operated more than 100 hours per year. Should the applicant use diesel-powered generators that are greater than 50 hp as opposed to propane generators, a permit will be required. Contact David Dixon of the District's Engineering Division at 781-5912 prior to the initial use of such generators to determine District permitting requirements. Please inform him of whether the generators will be for emergency or prime use and whether the emission control devices listed in AQ-6 will be installed.

GA - 2.10

B. Permit Needs for the Potential Water Treatment Plant(s)

There are two primary options evaluated for this project: a treated water option and a raw water option. Should the treated water option be chosen, the following will be appropriate for the water treatment plant operation:

District Rule 202 identifies that any person building or erecting equipment, the use of which may cause the issuance of air contaminants, shall first obtain authorization for such construction from the Air Pollution Control Officer. Please contact David Dixon of the District's Engineering Division at 781-5912 to discuss permit requirements.

GA - 2.10 Cont'd

This requirement will also be necessary for the raw water option should recipients of water allocations build or modify existing facilities to treat the raw water. This requirement needs to be presented to all water recipients should the raw water option be selected.

Again, thank you for the opportunity to comment on this proposal. If you have any questions or comments, or if you would like to receive an electronic version of this letter, feel free to contact me at 781-5912.

AJM/sll

cc: Karen Brooks, Enforcement Division
David Dixon, Engineering Division

H:\OIS\PLAN\RESPONSE\2353-2.doc

Attachment 1

Dust Mitigation Measures

The project shall be conditioned to comply with all applicable District regulations pertaining to the control of fugitive dust (PM-10) as contained in section 6.4 of the Air Quality Handbook. All site grading and demolition plans noted shall list the following regulations:

a. Reduce the amount of the disturbed area where possible.

b. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (nonpotable) water should be used whenever possible.

c. All dirt stockpile areas should be sprayed daily as needed.

d. Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible following completion of any soil disturbing activities.

e. Exposed ground areas that are to be reworked at dates greater than one month after initial grading should be sown with a fast-germinating native grass seed and watered until vegetation is established.

f. All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD.

g. All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.

h. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.

i. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114.

j. Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site.

k. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible.

All PM10 mitigation measures required must be included on grading and building plans. In addition, the contractor or builder should designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust off site. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD prior to land use clearance for map recordation and land use clearance for finish grading of the structure.

GA-3

5005 EL CAMINO REAL • P.O. BOX 6075 • ATASCADERO, CA 93423 • (805) 466-2428

Atascadero Mutual Water Company

ESTABLISHED 1913

September 3, 2003

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SEP 8 2003
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San Luis Obispo County Dept. of Planning and Building,
Room 310,
County Government Center,
San Luis Obispo, Ca. 93408-2040

Attn: Nancy Orton

Subject: Comments to the "Nacimiento Water Project, EIR, public draft, July 2003"

Dear Nancy,

Thank you for the opportunity to review and comment on the Draft EIR. We found the EIR to be very well written and easy to follow. AMWC would greatly appreciate consideration of the following in the final draft of the EIR:

GENERAL COMMENTS:

GA - 3.1 References to SLO County groundwater overdraft, groundwater, and overtaxing of water resources are numerous. Several of the references are identified below, but should be corrected wherever they appear in the document.

GA - 3.2 There are multiple references to the "river discharge" areas for the raw water alternative. Several of the references are identified below, but the references should be corrected wherever they appear in the document.

GA - 3.3 Wheeling of water through the City of San Luis Obispo is an alternative to constructing a new pipeline to areas such as Edna Valley. Wherever it appears technically possible, wheeling should be considered as an alternative to constructing a new pipeline and the EIR should address this alternative.

SPECIFIC COMMENTS:

Page ES-6, No Project Alternative

GA - 3.4 The statement "Beyond the continuing over reliance on groundwater resources……." and "With no action, Groundwater overdraft in San Luis Obispo County is expected to continue to increase….."

GA - 3.4 Cont'd

These two statements are overgeneralizations, and are speculative and subjective conclusions that are not supported by fact. There may be areas of the county in overdraft and there may be over-reliance on groundwater resources by some water purveyors but this is not a proven state and does not support the broad conclusions in this statement.

These statements should be eliminated or could be revised to indicate the specific overdrafts or over reliance to which they are referring.

GA - 3.5

Page ES-10, Environmentally Superior Alternative

The statement "However, with no action, groundwater overdraft in San Luis Obispo County is expected to continue to increase..............." . Same comment as Page ES-6 above. In addition there is no indication that the Nacimiento Water Project would alter any groundwater overdraft in San Luis Obispo County, especially outside of the Paso Robles Groundwater Basin.

GA - 3.6

Page 1-1 Project Background

The statement "In the EIR prepared to assess the impacts of the SWP, the California Department of Water Resources (DWR) estimated that without s supplemental water supply, extraction of groundwater in SLO County.........................." is based upon old and erroneous information. More recent groundwater basin studies, most notably the Paso Robles Groundwater Basin Study have updated these projects and took the DWR groundwater basin study into account.

The most current and accurate information should be used.

GA - 3.7

Page 2-14, 2.4 Proposed Water Treatment Options

The statement ".......... three discharge facilities that would discharge water to the Salinas River." appears to be an oversimplified statement that may be misleading. The statement makes it sound like water is directly discharged into the River or at least into the riverbed. The water recharge and recovery system for AMWC has been designed outside of the Salinas River channel. Water is placed into basins where it percolates into the alluvial formation and then is picked up by wells surrounding the basins. Water is not discharged into the river channel or the river.

GA - 3.8

Page 2-16, 2.4.2 Raw Water Option

The description of AMWC's water recharge and recovery is not complete. The description implies that water is extracted in another location downstream, where in fact the water is recovered at the discharge basins and very little water enters the Salinas River underflow.

See statement for Page 2-14 above.

GA - 3.9

Page 2-25, Atascadero to Santa Margarita Water (Raw Water Option) (and possible other similar references to wheeling).

This paragraph states " The AMWC has agreed to wheel water.........."

Our letter dated March 10, 1999 (see copy attached) stated:

> "The Board of Directors of Atascadero Mutual Water Co. has consistently supported cooperative efforts in the development of water resources. They have previously been willing to discuss wheeling of water through AMWC's system in support of improving water resources in the North County. The Board has confirmed that this general support would be extended to the present request for Santa Margarita and the Nacimiento Project."

GA - 3.9 Cont'd

The letter goes on to detail some of the conditions that must be met to develop a wheeling agreement. No significant discussions or efforts have been made to develop such an agreement to date. AMWC is presently completing additional design of its Raw Water Release and Recovery System and has not yet determined if there is sufficient capacity to serve others.

The draft EIR statement that AMWC has agreed to wheel is an overstatement. It would be more accurate to state that AMWC has agreed to consider wheeling to Santa Margarita.

Respectfully yours,

John B. Neil
General Manager

encl.

5005 EL CAMINO REAL • P.O. BOX 6075 • ATASCADERO, CA 93423 • (805) 466-2428

ATASCADERO MUTUAL WATER COMPANY

ESTABLISHED 1913

March 10, 1999

Dave Hardan
Boyle Engineering Corp.
973 Higuera Street
San Luis Obispo, Ca. 93401
FAX 542-9990

Subject: Wheeling Nacimiento Water to Santa Margarita

Dear Dave,

We received your letter dated January 27th requesting that AMWC consider providing extra capacity in its proposed Nacimiento water recharge basin and wheel water through its system to serve Santa Margarita. You also asked if significant modification to our system would be necessary.

The Board of Directors of Atascadero Mutual Water Co. have consistently supported cooperative efforts in the development of water resources. They have previously been willing to discuss wheeling of water through AMWC's system in support of improving water resources in the North County. The Board has confirmed that this general support would be extended to the present request for Santa Margarita and the Nacimiento Project.

Any such agreement would have to be supported by sound hydraulic engineering, further analysis of the capacity of planned water recharge areas, financial analysis, and review of potential water quality impacts. Such an agreement could not adversely impact the shareholders or customers of Atascadero Mutual Water Co.

If this proposal is determined to be feasible and an agreement is reached, modifications would have to be made to the planned water recharge system and the water distribution system. It is not possible at this time to determine if those modifications would be considered to be `significant'. We would be happy to discuss these modifications if you would like to analyze this alternative further.

Sincerely,

Ken Weathers
General Manager

cc: file

GA-4

Kerry Margason
<KMargason@atascadero.org>

09/05/2003 02:57 PM

To: Atascadero Mutual Water Company <AMWC@atascadero.org>, "'norton@co.slo.ca.us'" <norton@co.slo.ca.us>, "'cferrara@co.slo.ca.us'" <cferrara@co.slo.ca.us>
cc: Warren Frace <wfrace@atascadero.org>, Steve McHarris <smcharris@atascadero.org>
Subject: FW: NWP EIR Comments

> Nancy,
>
> Thank you for the opportunity to review the draft Environmental Impact
> Report for the Nacimiento Water Project. As the proposed route bypasses
GA - 4.1 > the City's boundaries, our comments are minimal. Staff does appreciate
> the mitigation measures for impacts to biological resources, including oak
> trees and would recommend that the revegetation/restoration plan extend to
> other native trees as well
>
> In addition, City staff wishes to reserve the right to review any
GA - 4.2 > deviation from the proposed route or any construction work done within the
> City limits
>
> City staff would prefer to see the "treated water" alternative as opposed
GA - 4.3 > to the "raw water" alternative as it appears to have less overall impact
> on the Salinas River, which is a natural resource enjoyed by the
> Atascadero community.
>
> Sincerely,
>
>
> Kerry Margason
> Associate Planner
> City of Atascadero
>

GA-5

CITY OF EL PASO DE ROBLES

"The Pass of the Oaks"

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OFFICE OF THE
MAYOR

September 3, 2003

Nancy E. Orton
San Luis Obispo County
Department of Planning and Building, Room 310
County Government Center
San Luis Obispo, CA 93408-2040

Subject: Comments on the Nacimiento Water Project Draft EIR

Dear Ms. Orton,

The City of Paso Robles appreciates the opportunity to review and comment on the Draft EIR for the Nacimiento Water Project. The City Council held a public meeting on September 2, 2003 to discuss and affirm a set of comments to forward for the County's consideration and response.

These comments reflect the City Council's collective position as it relates to the technical and environmental issues of specific importance and/or concern to the City of Paso Robles. There may be additional comments forwarded independently from Paso Robles citizens.

In general, the Draft EIR appears well written and appropriately inclusive in its scope. We would, however, offer the following specific comments and request that these comments be addressed as part of the Final EIR.

IMPACT SUMMARY TABLES

GA - 5.1

1. Regarding oak trees, would recommend an additional mitigation measure (see page IS-20) calling for oak tree impacts within the City of Paso Robles to be evaluated by a certified Arborist and impacts within the Critical Root Zone (as defined by the City's Oak Tree Preservation Ordinance) be mitigated to the maximum feasible degree. Further, that oak tree replacement for any trees that need to be removed within the City of Paso Robles be species for species and at the ratio specified in the City's Oak Tree Preservation Ordinance.

GA - 5.2

2. Regarding traffic impacts (see page IS-35), Spring Street, 13th Street, and Creston Road need to be added to the list of corridors that are impacted and should be avoided during peak hour traffic periods.

GA - 5.3

3. Regarding traffic impacts (see page IS-35), suggest expanding mitigation measures to include that construction on Creston and/or Niblick Road should be avoided while school is in session (i.e., construction targeted during summer months).

PAGE 9 OF SECTION 2.0

GA - 5.4

4. Paragraph 2.3.1 summarizes comments from the 1997 EIR as, among other issues, pointing out the temporary negative impacts of placing the pipeline at Vine Street in Paso Robles, mainly impacting traffic. These issues remain, the City is supportive of the alternative pipeline routes being investigated in the revised EIR. However, the City reiterates the concern for the alternative that remains in the current EIR to route the pipeline on Vine Street.

PAGE 11 OF SECTION 2.0

GA - 5.5

5. Paragraph 2.3.2.2 indicates the City of Paso Robles water delivery system provides water to 20,000 people. The current population of Paso Robles is 26,900, and there are an additional 800 transient (hotel, etc.) accommodations. A minor comment, but the historical information here seems understated.

GA - 5.6

6. The EIR specifies that Paso Robles requires water delivery from the treated water alternative at a minimum hydraulic grade line (HGL) of 920 feet. Again, a relatively minor comment, that an HGL of 960 feet is more likely the City's need, however, this precise need will be more specific once turnout locations and trunk sizes are specified.

PAGE 26 OF SECTION 2.0

GA - 5.7

7. 2.5.1.2. The turnout locations are rather specific, without the City's recent review of needs and project design specifics on the water delivery (see other comments below regarding water delivery options) design specifications. The City asks for considerable flexibility in modifying turnout locations and specifics design considerations pending a more detailed project design.

PAGE 42 OF SECTION 2.0

GA - 5.8

8. 2.5.5.2. The EIR specifies Sodium Hypochlorite as the disinfectant for the treated water alternative. This is, currently, compatible with the City's disinfectant (it is the same) and therefore the City would be supportive of this disinfectant choice in the future, should this go unchanged. However, the City, along with other communities in the county, is responsible for controlling the delivery (in potable water) and discharge (in effluent) of trihalomethanes (THM). If chlorine is a catalyst in THM proliferation, the City and County may need to be looking at other disinfection alternatives, and the EIR needs to provide the flexibility for this foreseeable potential change.

PAGE 42-43 OF SECTION 2.0

GA - 5.9

9. Paragraph 2.5.6 introduces the alternative to deliver raw water to the participating agencies, with the specified and deliberately described means of using the raw water for recharging surface waters with the ultimate water resource advantage of increasing permitted yield. There is an alternative within the raw water alternative for the City to treat the water at a City treatment facility (similar to the County's

GA - 5.9 Cont'd

"treated water alternative", but scaled down to the City's volume) before adding it to the City's conveyance network. This alternative needs to be allowed under the EIR as a potential sub-alternative for raw water delivery alternative.

PAGE 51 OF SECTION 2.0

GA - 5.10

10. Paragraph 2.7.1 does not mention the City's requirement to issue an encroachment permit for underground work on City streets.

PAGE 51 OF SECTION 2.0

GA - 5.11

11. Paragraph 2.7.4 does not specify the City's requirement for a General Plan consistency finding for the project within the City.

PAGES 16 OF SECTION 3.0

GA - 5.12

12. Paragraph 3.2.2.4, under "**Reach A...**" describes the 1997 primary alternative of the raw water delivery system installed at Lake Nacimiento Drive and Vine Streets, as previously noted, the City previously provided negative comments about this alignment. While the City understands the County is continuing the 1997 study and is not eliminating this as an option, the City needs to reiterate the concern for the negative impacts foreseeable from this alignment.

PAGE 35 OF SECTION 3.0

GA - 5.13

13. Paragraph 3.2.3. refers to an alternative to the raw water delivery alternative and the treated water delivery alternative by offering a hybrid "phased raw and treated water alternative" where deliveries are initially provided as raw water, and once the system water treatment facility is completed, treated water would be delivered. As brought up earlier, the City believes there is a foreseeable additional alternative where raw water delivered would be, instead of percolated into groundwater source(s), treated at a sub-regional or City specific water treatment facility, for the long term. The EIR should provide the flexibility for this option.

Please feel free to contact our Director of Public Works Joe Deakin, should you have any questions regarding this letter. The City of Paso Robles is very interested in seeing the EIR for the Nacimiento Water Project become a comprehensive and technically accurate document that addresses all potential aspects of the project.

Sincerely,

Frank R. Mecham
Mayor

GA-6

City of San Luis Obispo

879 Morro Street • San Luis Obispo, CA 93401

August 4, 2003

SLO CNTY PLANNING/BUILDING DEPT
2003 SEP -5 PM 3:33

Nancy E. Orton, Environmental Specialist
SLO County Planning and Building, Rm. 310
County Government Center
San Luis Obispo, CA 93408-2040

Subject: Comments on Draft EIR for the Nacimiento Water Supply Project

Dear Ms. Orton,

Thank you for the opportunity to review the revised draft EIR for the Nacimiento Water Supply Project. The EIR has been reviewed by City staff. The portions of the document that pertain more specifically to the City of SLO were the primary areas of focus. In general, the EIR appears very well prepared and legally defensible. The comments of the Utilities Department are provided in this correspondence and comments for the City's Community Development Department are provided in the attached memorandum to John Moss.

GA - 6.1 **Page 2-24.** The last paragraph on this page discusses three staging areas within or near the City of San Luis Obispo. As the EIR points out, two of these staging areas conflict with current and proposed projects. The Damon-Garcia Sports Fields are currently well under construction, with completion expected long before construction of the Nacimiento pipeline. The other location of conflict is at the intersection of Highway 1 and Highland Drive (incorrectly referred to as Highland Boulevard in the EIR). These conflicts naturally call the question of whether additional environmental review will be needed for the alternative staging areas once they are identified. What options will the contractor have if there are no potential staging areas within ½ mile as required by the EIR?

GA - 6.2 **Page 3-46, Section 3.2.5 under San Luis Obispo "Wheeling" Alternative.** The last paragraph in this section (Page 3-47) essentially states that the City's policy prohibiting service outside City limits would preclude the concept of wheeling. This is not entirely accurate. The provision of City services outside City limits could be considered different than the issue of wheeling another agency's resource through the City's system. Council could make the finding that wheeling does not violate the policy, if it is determined that there is a greater community benefit in doing so. It may be important to note, however, that the City Council has previously rejected the idea of wheeling relative to this project.

GA - 6.3 **Page 5.1-52, under City of San Luis Obispo.** The first sentence indicates that the City needs Nacimiento water in order to secure a drought reliability reserve. This contradicts

GA - 6.3 Cont'd

previous discussions regarding SLO City Council's elimination of the reliability reserve. The paragraph also contains a sentence stating that groundwater resources in the San Luis sub-basin are available to the City, which contradicts a statement on Page 7-18 that indicates the safe annual yield of the sub-basin is currently under review and that the sub-basin is considered to be in a state of overdraft for planning purposes.

GA - 6.4

Page 7-1, Section 7.1. The first "fact" listed on this page states that water is a factor that constrains growth in San Luis Obispo. To my knowledge, water availability has never been a constraint to growth in the City.

GA - 6.5

Page 7-18. The second sentence under SLO Creek Groundwater Basin states that, while the maximum safe yield of the groundwater basin has been determined to be 2,250 afy, the City's policies limit extractions from the basin to 500 afy. There are several problems with this statement. First, the City's policy merely identifies 500 afy as being contributed by groundwater towards our total combined safe annual yield. The policy does not set any specific limits on pumping. The City is currently conducting engineering and environmental studies in an effort to increase our potential yield of groundwater to 1,000± afy. In addition, there are other users of the groundwater basin that are not restricted by policy.

The first sentence of the second paragraph states that the City is pursuing alternatives that would decrease our use of groundwater. As stated above, this is simply not the case. The alternative water supply projects being considered by the City would be in addition to the maximum reasonable use of our limited groundwater resources.

GA - 6.6

Page 7-20, Section 7.2.3.1. In the last sentence of the second paragraph in this section, the word "countrywide" should be "countywide". The last sentence of the third paragraph makes reference to a total water need of 11,596 afy, while the first sentence states the City's total need is 9,596 afy. The difference is likely due to the reliability reserve, which City Council has eliminated.

GA - 6.7

Page 7-26, Section 7.3. The last paragraph in this section appears to contain a mitigation, though it does not appear in Section 9 and there is no identified impact driving the mitigation. It does not even appear to be a properly structured mitigation, since the goals and results cannot be identified or measured. Additionally, this "mitigation" is worded more as a contract requirement to be levied by the County, that has not been discussed with the project participants, and that may not be consistent with the needs of the individual agencies.

Again, we appreciate the opportunity to comment on the revised draft EIR for the Nacimiento Water Supply Project. If you have any questions, please feel free to call me at 781-7208.

Sincerely,

For W. Dan Gilmore, PE
Utilities Engineer

cc: John Moss, Ken Hampian, Jonathan Lowell, John Mandeville, Jeff Hook, Neil Havlik

September 5, 2003

Community Development Department
Memorandum

To: John Moss
From: John Mandeville
By: Jeff Hook
Subject: Community Development Department comments on the Draft Environmental Impact Report for the Nacimiento Water Project

Community Development has the following comments/concerns on the DEIR:

GA - 6.8

1. Figure 2-21: The 300' X 300' staging area, shown at the corner of Highway 1 (Santa Rosa) and Highland Drive, is the location of a planned Cal Poly faculty/staff housing development with 72 dwelling units. Cal Poly expects to start construction in 2004, with completion in 2005. That site may not be available as a staging area. If it is available, possible construction noise, dust, and related impacts to neighboring residents should be addressed under Noise, Aesthetic and Land Use Impacts.

GA - 6.9

2. P. 5.5-18: Project construction would likely cause significant, short-term noise impacts to residents in the Patricia Drive/Foothill Boulevard area. Mitigation measures shall note that equipment enclosures, noise barriers, and other appropriate measures will be in place to ensure noise levels do not exceed the City of San Luis Obispo's Noise Control Ordinance (SLOMC Ch. 9.12).

GA - 6.10

3. Figures 2-22, 2-23, and P. 5.8-54: The discussion of Cultural Resources does not address several areas of potential cultural resource significance in the City of San Luis Obispo or its Urban Reserve: areas around Laguna Lake, where the project crosses creeks (such as Acacia Creek, near Broad Street), and within 200 feet of the boundaries of a known archaeological site. The City's Archaeological Resource Preservation Program Guidelines designates these areas as "sensitive sites", requiring an archaeological resources inventory. It is not clear from the DEIR that a Phase 1 archaeological survey was done on the proposed in-city route. The DEIR should describe methodology of the completed archaeological work within the City of San Luis Obispo, and the study findings. A future study to determine the presence of archaeological resources, as described in mitigation measure CR-7 (P. 5.8-70), may not meet requirements in CEQA Section 15126.4(b)(3)(A, B), since preservation of cultural resources in place -- the preferred preservation method -- will be more difficult once the preferred pipeline route is decided.

GA - 6.11 4. P. 5.9-2,10, 20: The DEIR refers to a discussion of the City's General Plan Land Use and Circulation Elements to determine project consistency with land use policies. I was unable to find that discussion. The City's General Plan Open Space Element contains policies related to preservation of creek areas, hillsides, marshes, vernal pools and other sensitive open space lands. The preferred pipeline route shown in Figure 2-22 passes through Conservation/Open Space zoned land within San Luis Obispo City limits. Project consistency with OSE and other General Plan Land Use policies should be evaluated under the DEIR section 5.9 Land Use. The City reserves the right to modify the pipeline placement and alignment in open space areas, particularly in the vicinity of Laguna Lake, to avoid rock outcrops, protect sensitive habitat areas, or to preserve the character and quality of recreation areas. This may involve special emplacement techniques such as directional drilling or tunneling as opposed to open trenching.

GA - 6.12 5. P. 5.7-19 (BR-6 and BR-10): The City recommends that as project mitigation, the project include several consolidated, offsite mitigation areas for compensatory revegetation and habitat replacement/enhancement. The City owns 49 acres above Stenner Creek Road, suitable for such mitigation, and offers it for that purpose as part of this project. This could offer multiple advantages if such mitigation areas were combined with or adjacent to dedicated open space, maintaining contiguous wildlife corridors.

GA - 6.13 6. P. 5.11-15 (T-1): The list of roads subject to project-related traffic restrictions includes "Los Osos Road." Does this refer to "Los Osos Valley Road?"

GA - 6.14 7. P.512-23, 24: It is not possible from the graphics and photo-simulations provided to gauge the visual impacts of 22 ft. tall by 122 ft. wide storage tank near the Cuesta Tunnel entry, or of Storage Tank No. 2. As noted in the DEIR, Cuesta Pass is a visually sensitive corridor for motorists on State Highway 101 and a landmark for the entire County, as well as a gateway for San Luis Obispo City. Alternative locations to further reduce visual impacts should be addressed. The visibility of access road grading and the tank itself should be addressed, showing simulations from Highway 101. Landscape screening should be primarily with environmentally suitable native California trees, including Blue Oak, Coast Live Oak, Sycamore, and Big Leaf Maple, and should include revegetation and erosion control of road and tank pad cuts and fills.

GA - 6.15 8. P. 7-18, top: The City of San Luis Obispo's Urban Reserve Line defines the City's growth area planned for urban services through year <u>2022</u>.

GA - 6.16 9. P. 9-24 (CR-4, CR-6, CR-12): The DEIR mitigation measures do not address what happens to cultural artifacts found during construction. The comment under mitigation CR-11, "Disposition of artifacts in accordance with State and Federal law", does not give adequate guidance as to how cultural materials and features found on public lands are preserved, protected, and made available for public viewing or use. Mitigation measures should identify a process and responsibilities for collecting, identifying, evaluating, and curating cultural features before construction starts. From a County/community standpoint,

GA - 6.16 Cont'd

paleontological and prehistoric/historic cultural artifacts discovered should be curated and displayed in San Luis Obispo County to benefit County residents.

GA - 6.17

10. P. 6-14, 15: The DEIR concludes that the "Treated Water Option" is environmentally superior to the "Raw Water Option", but does not provide evidence to support that conclusion. A spill of chlorinated treated water into the Salinas River or one of its tributaries could adversely affect frogs, tadpoles, fish and other freshwater species. Table 6.3 states that impacts to aquatic life due to discharges of treated would be adverse but not significant. Provide evidence from field testing that shows the effects of various concentrations of Chlorine-treated water, flow rates and other variables on aquatic species. Conversely, the DEIR mentions impacts to riparian areas caused by the Raw Water Option discharge facilities, yet does not explain what those impacts would be. Depending upon seasonal variables, such as creek flow or volume, a spill of treated water in Stenner Creek, for example, could kill many Steelhead Trout.

    This is a key consideration in the project design, and additional information is needed to compare the biological impacts and advantages of the two options. On balance, the Raw Water Option appears to have less potential for catastrophic biological impacts (e.g. toxicity of spills) than the Treated Water Option, and may have wildlife habitat benefits.

GA-7

DEPARTMENT OF THE ARMY
HEADQUARTERS, CALIFORNIA ARMY NATIONAL GUARD
9800 GOETHE ROAD – P.O. BOX 269101
SACRAMENTO, CALIFORNIA 95826-9101

SLO CNTY PLANNING/BUILDING DEPT

2003 SEP -8 AM 9:40

September 3, 2003

Ms. Nancy C. Orton
San Luis Obispo County Department of Planning and Building
Room 310
County Government Center
San Luis Obispo, CA 93408-2040

Subject: Nacimiento Water Project Draft Environmental Impact Report

Dear Ms. Orton:

Thank you the opportunity to review and comment on the proposed Nacimiento Water Project Draft Environmental Impact Report (DEIR). While the mitigation measures and analysis were generally appropriate, we noted numerous areas of the document that required clarification or modification. Our comments focus primarily on biological resources and the consistency of the mitigation measures with our existing management plans or Biological Opinions. We have also provided comments on the document's treatment of cultural resources mitigation. All comments apply to Camp Roberts or Camp San Luis Obispo. The following specific comments are provided:

1. The following mitigation measures address biological resources at Camp Roberts and Camp San Luis Obispo:

GA - 7.1

A. Mitigation Measure BR-2: Add the following text to the current mitigation measure: "In addition, all project personnel who conduct work at Camp Roberts and/or Camp San Luis Obispo must attend an environmental awareness briefing conducted by California Army Reserve National Guard (CA ARNG) Environmental staff prior to beginning work."

GA - 7.2

B. Mitigation Measure BR-6 (Vegetation Replacement/Restoration Plan) needs to specify a revegetation success criteria and state that it will be ensured via monitoring and, as necessary, replanting. Any planting plan developed for lands within Camp Roberts or Camp San Luis Obispo will need to be reviewed and approved by the CA ARNG Environmental Directorate.

GA - 7.3

C. Mitigation Measure BR-9 Modify this measure to state that excavations containing water or a hazardous substance must be covered or back-filled at the end of the day. Placement of an escape ramp is not appropriate for ensuring kit fox protection.

GA - 7.4

D. Mitigation Measures BR-9 and BR-23: for the protection of the San Joaquin kit fox, the vernal pool fairy shrimp, and other protected and/or sensitive resources, all work, machinery, and personnel must remain on existing roads and trails to the greatest extent possible within Camp Roberts and Camp San Luis Obispo. All off road travel will be subject to the approval of Range Control and the Environmental Directorate.

GA - 7.5

E. Mitigation Measures BR-8, BR-18, and BR-26: Bald eagles are generally observed at Camp Roberts from November to March, and have been recently observed nesting on the installation. The birds are sensitive to human activity. Specific mitigation measures

GA - 7.5 Cont'd

limiting construction windows need to be developed to avoid disturbance to wintering and nesting bald eagles. Prior to beginning any construction activities, a survey for nesting bald eagles shall be preformed by a qualified biologist. If a nest is discovered, construction activity shall not occur within 800 meters of the nest from 1 January to 31 August, or as stipulated by the U.S. Fish and Wildlife Service.

GA - 7.6

F. California Condors: Specific mitigation measures need to be developed for the purpose of avoiding disturbance of California condors. Work should be halted if a condor is observed. Work should be resumed only after the project biologist has determined that the condor has moved far enough away that resuming work will not result in disturbance of the bird.

GA - 7.7

G. Mitigation Measure BR-10: "Construction machinery ingress, egress, and staging areas shall be placed away from oak woodlands." Individual native oak trees and native oak woodlands shall be avoided to the maximum extent feasible. If oak trees or woodlands would be impacted, the project proponent shall prepare and implement an oak tree/woodland protection and/or mitigation plan that contains the following elements:

1) Any necessary oak tree pruning shall be done by a certified arborist.
2) Machinery shall not be driven under the canopies of oak trees. If it is unavoidable.
3) Pursuant to the Camp Roberts Integrated Natural Resources Management Plan (INRMP), hand digging, mechanical digging, and blade work are prohibited under the drip lines of standing live and dead oak trees. If digging under the drip lines of oaks is unavoidable, any damage that ensues will be subject to mitigation.
4) Oak monitoring shall be done for one year after construction completion for the purpose of detecting oak death or damage caused by construction impacts.
5) During construction around oak trees, no fasteners may be used on the oaks.
6) All reasonable measures shall be taken to avoid moving dead and downed oak logs.
7) The Camp Roberts oak replacement policy requires following: 3:1 mitigation for oak trees that are removed or significantly impacted, the collection of acorns from the area in which oaks are planned for removal, planting at densities approved by CA ARNG, planting during January or February, watering if necessary to ensure survival, a minimum of five years of monitoring, a 3:1 survivorship ratio, annual monitoring reports, and compliance with all other oak management stipulations in the INRMP.
8) All oak trees immediately adjacent to construction areas shall be protected by erecting temporary fencing at the drip line of the woodland canopy or around individual trees.

GA - 7.8

H. Mitigation Measure BR-22: Camp Roberts and Camp San Luis Obispo have a riparian vegetation replacement policy that requires 3:1 mitigation for all riparian vegetation that is lost or damaged during construction projects. The EIR should include a mitigation measure to address this policy.

GA - 7.9

I. Mitigation Measure BR-23: Because road-side low-lying areas and ditches often contain vernal pool fairy shrimp, the project proponent shall conduct a vernal pool fairy shrimp survey along the entire construction route prior the beginning construction. If vernal pool fairy shrimp are found, their habitat shall be avoided and protected. If impacts to

GA - 7.9 Cont'd

vernal pool fairy shrimp are unavoidable, the project proponent shall obtain authorization for 'incidental take' from the US Fish and Wildlife Service prior to construction.

GA - 7.10

J. Mitigation Measure BR-24: Steelhead trout are present in Chorro Creek within the boundaries of Camp San Luis Obispo. Although unlikely upstream of Chorro Reservoir, steelhead could be present. To prevent impacts to steelhead and other natural resources of the Chorro Creek corridor, the pipeline alignment should be located as far as possible away from the creek. If the proposed pipeline alignment must be placed close enough to the creek that it will adversely affect steelhead habitat (directly or indirectly), the project proponent will be required to consult with the National Marine Fisheries Service and California Department of Fish and Game to obtain authorization to incidentally take the species, and/or obtain a Streambed Alteration Agreement.

GA - 7.11

K. Mitigation Measure BR-25: California red-legged frogs and southwestern pond turtles are present in Chorro Creek and associated water bodies within the boundaries of Camp San Luis Obispo. Therefore, the CA ARNG Environmental staff recommends directional boring under the creek and consultation with the US Fish and Wildlife Service and the California Department of Fish and Game. Otherwise, impacts to California red-legged frogs and southwestern pond turtles cannot be expected to be insignificant.

GA - 7.12

L. The Morro shoulderband snail (*Helminthoglypta walkeriana*) is a federally-endangered terrestrial snail present at Camp San Luis Obispo. The EIR fails to address impacts to, and avoidance and mitigation measures for, this species. Appropriately timed surveys are necessary to determine if the species is present in the proposed project area. If so, consultation with the US Fish and Wildlife Service will be necessary to develop mitigation measures for the minimization of impacts to the species and obtain authorization of incidental take (if necessary).

GA - 7.13

M. The EIR fails to address impacts and present avoidance and mitigation measures for the following sensitive species reported at Camp Roberts and/or Camp San Luis Obispo and typically found in vegetative associations in which the project is proposed to occur:

- silvery legless lizard (*Anniella pulchra pulchra*)
- San Joaquin whipsnake (*Masticophis flagellum ruddocki*)
- California horned lizard (*Phrynosoma coronatum frontale*)
- ferruginous hawk (*Buteo regalis*)
- northern harrier (*Circus cyaneus*)
- white-tailed kite (*Elanus leucurus*)
- merlin (*Falco columbarius*)
- prairie falcon (*Falco mexicanus*)
- common loon (*Gavia immer*)
- yellow-breasted chat (*Icteria virens*)
- long-eared owl (*Asio otus*)
- greater western mastiff bat (*Eumops perotis californicus*)
- pallid bat (*Antrozous pallidus pacificus*)
- Townsend's western big-eared bat (*Corynorhinus townsendii townsendii*)
- western small-footed myotis (*Myotis ciliolabrum melanorhinus*)
- northern long-eared myotis (*Myotis evotis evotis*)
- long-legged myotis (*Myotis volans*)
- Yuma myotis (San Joaquin myotis) (*Myotis yumanensis saturatus*)
- Coast Range newt (*Taricha torosa torosa*)
- long-billed curlew (*Numenius americanus*)
- double-crested cormorant (*Phalaerocorax auritus*)

GA - 7.13 Cont'd

- dwarf calycadenia (*Calycadenia villosa*)
- Lemmon's jewel-flower (*Caulanthus coulteri* var. *lemmonii*)
- San Benito spineflower (*Chorizanthe biloba* var. *immemora*)
- Rattan's cryptantha (*Cryptantha decipiens*) (= *C. rattanii*)
- small-flowered gypsum-loving larkspur (*Delphinium gypsophilum* ssp. *parviflorum*)
- hesperevax, hogwallow starfish (*Hesperevax caulescens*)
- Mt. Diablo cottonweed (*Micropus amphibolus*)
- one-sided monkeyflower (*Mimulus subsecundus*)
- California spineflower (*Mucronea californica*)
- prostrate navarretia (*Navarretia prostrata*)
- moss (*Trichodon cylindricus*)
- club-haired Mariposa lily (*Calochortus clavatus* ssp. *clavatus*)
- dwarf soaproot (*Chlorogalum pomeridianum* var. *minus*)
- Jones' layia (*Layia jonesii*)

GA - 7.14

N. Table 5.7.1 statesthat there have been sightings of the San Joaquin pocket mouse (*Chaetodipus inornatus inornatus*) at Camp Roberts. Although it is possible that the species is present on the installation, to the best of the knowledge of the CA ARNG Environmental staff, the species has not been sighted. However, there have been sightings of the Salinas pocket mouse (*Chaetodipus inornatus psammophilus*). Detailed, effective avoidance and mitigation measures are needed for both species.

GA - 7.15

O. Figure 2-3: there is a large, documented fairy shrimp pool at the location proposed for the staging area. Therefore, the staging area must be moved to an alternate location. The location must be chosen such that it is not within 100 feet of the river and it minimizes impacts to vegetation.

2. The following comments address mitigation measures for resource areas other than for biological resources at Camp Roberts and Camp San Luis Obispo:

GA - 7.16

A. Mitigation Measure DE-1: The project's Erosion Control Plan and Storm Water Pollution Prevention Plan shall be consistent with the CA ARNG's Erosion Control Plans and Storm Water Pollution Prevention Plans for Camp Roberts and Camp San Luis Obispo, the installations' Best Management Practices for Erosion Control, and all other applicable measures contained in the installations' INRMPs.

GA - 7.17

B. Hazardous materials management shall be consistent with Camp Roberts and Camp San Luis Obispo Standard Operating Procedures for Environmental Protection.

GA - 7.18

C. Page 5.8-30, CR-0102 now has a trinomial: CA-SLO-2210; in addition CB-1097 also has a trinomial: CA-SLO-1828.

GA - 7.19

D. Also on page 5.8-30, CA-SLO-2210 has recently been tested for eligibility. Preliminary findings indicate that the resource is eligible for the NRHP. There is also some evidence to suggest the site exists beneath the road (Perimeter Road) so that the proposed project may have a greater impact than originally speculated.

GA - 7.20

E. Page 5.8-34, it should be noted that the cultural deposit of SLO-1169 on the east side of Boy Scout Road (i.e. opposite the river) is buried beneath a recent alluvial fan produced from run off of the two ascending dirt roads at that location. The extent, integrity and characteristic of the deposit beneath the fan (and within the proposed pipe route) are not known.

GA - 7.21

F. Also on page 5.8-34, an eligibility study of SLO-1180 is currently underway that supports Breschini & Haversat's initial findings but found the deposit to be deeper, richer and more complex that originally believed.

GA - 7.22

G. Figure 2-19 indicates that a new pipeline will be placed as part of the Raw Water Alternative along the north bank of Chorro Creel (east fork). This section of the proposed new pipeline was never surveyed for cultural resources, but lies near several previously recorded archaeological sites. A cultural resources survey of this area is required prior to construction of this portion of the pipeline. Furthermore the remaining section of "existing pipe" between the reservoir and the CMC passes through or near at least four archaeological sites. The types of effects that will occur through use of this pipe are unclear, specifically, will the increases use or service result in increased maintenance, repair, etc., that could have an effect on cultural resources in that area?

GA - 7.23

H. 3-31 Table of Potential Effects - Current evidence, both along the Nacimiento and Chorro indicates that single survey sweeps are inadequate at identifying cultural resources. To ensure a minimum of unanticipated impacts, it is recommended that archaeological monitoring take place during all initial excavation activities. In the event cultural resources are encountered, all work should be halted until the resource is analyzed, consultation with the SHPO and/or the County Coroner is completed and the resource impacts mitigated (if required).

GA - 7.24

I. Mitigation Measure CR-16 – SLO-1180 is probably unavoidable, testing should be conducted to determine an optimal route with minimal effect to the resource.

GA - 7.25

J. Request that the project proponent provide Camp Roberts and Camp San Luis Obispo Commanders and the Environmental Directorate with reasonable advanced notice prior to any archaeological/ paleontological work taking place on the respective properties. Contact should be made with Range Control for proper briefing on ordnance concerns and the Environmental Office, specifically the Cultural Resource Specialist, as well as the Commanders for coordination purposes.

GA - 7.26

K. Native American Consultation is discussed in the document, but no mention is made of which tribes will be consulted for specific sections of the NWP. That is, the NWP passes through both Salinan and Chumash territory. Will both tribes be consulted for the entire project area or will the project area be divided between the two tribes? If so, where will that division take place?

We appreciate the opportunity to provide comments on the DEIR. If there should be any questions regarding our comments please contact me at (916) 854-3456. For specific questions relating to biological resources issues, please contact Ms. Miram Hulst at (805) 238-8568. For cultural resources inquiries, please contact Mr. Ethan Bertrando at (805) 238-8013.

Respectfully,

Douglas A. Bryceson
Senior Environmental Planner
California Army National Guard

FAX TRANSMISSION

Environmental Programs

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Fax #: (805) 781-1242

Tel #: " 781-5008

From: Douglas Bryceson

Tel #: 916-854-3456

Fax# 916-854-3365

Remarks:
Nancy – Here is our comment letter. We will FedEx the hardcopy today for Monday delivery. Please call/email if you have any questions. Thanks. Have a good weekend.

No. of Pages (without coversheet): 5

STATE OF CALIFORNIA -- YOUTH AND ADULT CORRECTIONAL AGENCY

GRAY DAVIS, *Governor*

DEPARTMENT OF CORRECTIONS
CALIFORNIA MEN'S COLONY
P.O. BOX 8101, SAN LUIS OBISPO, CA 93409-8101

GA-8

August 27, 2003

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SEP 3 2003
Planning & Bldg

Mrs. Nancy E. Orton
San Luis Obispo County
Department of Planning and Building, Room 310
County Government Center
San Luis Obispo, CA 93408-2040

Dear Ms. Orton:

NACIMIENTO WATER PROJECT/DRAFT ENVIRONMENTAL IMPACT REPORT

The California Men's Colony (CMC) has reviewed the Draft Environmental Impact Report (DEIR) for the Nacimiento Water Project (NWP). The following comments are in reference to Sections 203.2.8 Camp San Luis Obispo (CSLO), 203.2.2.8 CSLO, and 203.3.0, Page 3-20, California Men's Colony Water Treatment Plant (CMCWTP).

GA - 8.1 If approved by state agencies, the CMCWTP could possibly be utilized to serve the participating water districts with treated water if upgrades and improvements to the plant and distribution system were completed. However, because the California Department of Corrections (CDC) CMC is a state agency, and under current California Constitution Article 10, Section 6, it is prohibited from acting as a utility provider for the payment of water, water wheeling, or water treatment services. Another alternative to being a provider of water would have to be pursued, i.e., Joint Powers Agreement (JPA), Water District or Commission to make this a viable option. When it is determined who the administrative authority is going to be, then CMCWTP could be utilized as a regional plant. As with any administrative process, the formation of this water providing entity would have to be started well in advance of the NWP being completed.

If you have any questions on this matter, please contact me at (805) 547-7974.

Sincerely,

J. L. Kellerman

J. L. Kellerman
Correctional Plant Supervisor
California Men's Colony

cc: M. Alves-Wright, AWBS
K. Fisher, CSLO

GA-9

MONTEREY COUNTY

WATER RESOURCES AGENCY

PO BOX 930
SALINAS, CA 93902
(831) 755-4860
FAX (831) 424-7935

CURTIS V. WEEKS
GENERAL MANAGER

STREET ADDRESS
893 BLANCO CIRCLE
SALINAS, CA 93901-4455

September 5, 2003

Ms. Nancy Orton
Department of Planning and Building
San Luis Obispo County
County Government Center, Room 310
San Luis Obispo, CA 93408-2040

Re: Public Draft Environmental Impact Report, Nacimiento Water Project

Dear Ms. Orton,

Monterey County Water Resources Agency (MCWRA) has reviewed the Public Draft Environmental Impact Report, Nacimiento Water Project (DEIR) and has the following comments:

GA - 9.1

1. Section 52-4 of Chapter 52 of the State of California Water Code changed the name of the MCWRA from the Monterey County Flood Control and Water Conservation District to the Monterey County Water Resources Agency. Any references to the Monterey County Flood Control and Water Conservation District should be changed to the Monterey County Water Resources Agency in order to reduce confusion.

GA - 9.2

2. While MCWRA owns and operates Nacimiento Dam and Reservoir, the Agency does nothing to change or improve the water quality of the water stored in the reservoir relative to our operations. Any water quality impacts or issues associated with body contact recreation will be the responsibility of San Luis Obispo County's Nacimiento Water Project.

GA - 9.3

3. The proposed intake pump station and the initial run of piping are located on land owned by Monterey County Water Resources Agency. The parcel is currently

GA - 9.3 Cont'd

leased to Water World Resorts, and hence, the location of the proposed intake will require a negotiated resolution. For the purposes of environmental review, San Luis Obispo County should consider alternative locations for the proposed intake.

GA - 9.4

4. Further development and evaluation of the environmental impact associated with the dredged channel leading into the inlet of the intake pump station is necessary. The original dredging will result in turbidity that will be picked up by the intake structure for the MCWRA Hydroelectric Power Plant. Because of the close tolerances of the impellers in the power plant, the particles suspended in the intake water could damage the impellers or scour the generator housing. MCWRA will require a mitigation to any water quality impact to its hydroelectric power plant. Also, once the intake pump station is in operation it may become necessary to redredge the channel on an ongoing basis as sediment is drawn towards the flow into the intake. An analysis of ongoing impacts must be included and the proposed mitigation identified.

GA - 9.5

5. The NWP should remove references and assumptions on MCWRA operation and scheduling of conservation releases. For example, on page 3-9, the NWP assumes that *"MCWRA would modify their annual release schedule in such a way as to ensure the availability of San Luis Obispo County's annual entitlement of 17,500 af."* Also, on page 5.1-36 *"SLO County has the first right to 17,500 afy from the reservoir, however and MCWRA will be expected to manage the reservoir such that SLO County can exercise its right"*. Appropriate replacement text would read..."*the MCWRA will honor its existing agreement with San Luis Obispo County in regards to water entitlements from Nacimiento Reservoir.*"

GA - 9.6

6. San Luis Obispo County cannot assume in its analysis of worst-case drought years (page 5.1-37), that all potential inflow to Nacimiento Reservoir would be available for NWP deliveries, as the requirements of State and Federal Agencies may supersede other allocations.

GA - 9.7

7. In general, in regards to SLO County water entitlement, The MCWRA built Nacimiento and San Antonio dams for flood protection and groundwater recharge. The rights to beneficial use of the water captured behind the dams were granted to the MCWRA by the State. A recent decision by the SWRCB (Application 305322) again acknowledged the MCWRA's right to Nacimiento Reservoir water. Under an October 1959 agreement between San Luis Obispo County Flood Control and Water Conservation District and the MCWRA's predecessor, the Monterey County Flood Control and Water Conservation District, the MCWRA is obligated to provide to San Luis Obispo County up to 17,500 afy of water from Nacimiento Reservoir. The 17,500 afy entitlement comes from the MCWRA's permitted allocation of 180,000 af

GA - 9.7 Cont'd

of water. The MCWRA's contractual obligation is to provide this water from the San Luis Obispo County diversion at the discharge end of the low-level outlet works (670 feet msl) of Nacimiento Dam. The agreement does not include any responsibility on the part of the MCWRA for delivering water. The authorized diversion of water does not include water taken from wells around Nacimiento Reservoir, and the MCWRA is not required to furnish water at rate in excess of the present capacity of the low-level outlet works. With the exception of Oak Shores, all the water users at Nacimiento Reservoir, including those at Heritage Ranch, obtain their water supply as part of this entitlement. San Luis Obispo County has historically exercised only part of its rights to water under the agreement with the amount delivered to lakeside residents from this entitlement totaling approximately 1,300 AFY. However, the MCWRA is fully prepared to provide the full entitlement of water in accordance with the agreement. The San Luis Obispo County entitlement was accounted for in the modeling performed to evaluate project effects of the Salinas Valley Water Project (SVWP). The SLO County diversions were simulated as a monthly amount of 1,450 AF. This diversion was included in every month of the simulation period, as long as the minimum flow requirements were met downstream of the dam. In other words, for purposes of the modeling performed to evaluate the SVWP, it was assumed that San Luis Obispo would exercise its full entitlement, even though it has not done so historically. Therefore, it should be noted that the modeling and model results are conservative in this regard, showing greater effects than would occur if SLO County continues not to exercise its entitlement. Most important to note, regardless of the method used to incorporate the SLO County entitlement into the modeling, is that the MCWRA will provide the full entitlement of water in accordance with the agreement, as stated above. The water supplied to Oak Shores is covered by a 1984 agreement between Nacimiento Water Company (which serves Oak Shores) and the MCWRA. Though this agreement, the Nacimiento Water Company received a water allocation of 600 AFY, which is drawn from the bottom of Nacimeinto Reservoir and other intakes. The agreement specifies that the Nacimiento Water Company waive any claim of right or title to water being taken from its three wells located at the bottom of Nacimiento Reservoir. This allocation is not an obligation for the MCWRA to supply 600 AFY of water, but allows Nacimiento Water Company to take the water form the lake when it is available. Although some water is always available for extraction, the quality of the water may be poor when the reservoir is drawn down substantially.

GA - 9.8

8. As the phased construction of this proposed project intends scheduling of construction activities to avoid rainy periods in order to reduce the magnitude of water quality impacts, San Luis Obispo County must coordinate its construction activities with MCWRA regarding the potential impact of construction scheduling on conservation releases.

GA - 9.9

9. For the purpose of this analysis, SLO County should evaluate the cumulative impacts of the Salinas Valley Water Project (spillway modification) and the NWP construction phase as occurring concurrently.

GA - 9.10

10. Table 5.14.1 *"Reservoir Release Schedule for 2002"* as presented in the NWP is the anticipated releases, and resulting elevation and storage for the reservoirs. The schedule is prepared prior to the start of the conservation release period, based on estimated demands, without regard to seasonal inflow. This table is not an accurate representation of actual releases made in calendar year 2002. Throughout the conservation release period the release schedule is updated monthly to accurately reflect actual releases and inflows to the reservoirs.

GA - 9.11

11. With respect to water quality and storage degradation that results from additional development erosion and runoff impacts, San Luis Obispo County shall have the full responsibility to mitigate those impacts.

The MCWRA would like to thank you for the opportunity to submit these comments to the Draft Environmental Impact Report, Nacimiento Water Project. Should you wish to discuss these further, staff can be reached at 831.755.4860.

Sincerely,

Curtis V. Weeks,
General Manager

GA-10

STATE OF CALIFORNIA Gray Davis, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390

October 17, 2003

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Nancy Orton
City of San Luis Obispo
Community Development Department
County Government Center
990 Palm Street
San Luis Obispo, CA 93401

RE: Proposed Nacimiento Water Project, SCH# 2001061022, Including Proposed Prado Road Extension, San Luis Obispo County

Dear Ms. Orton:

GA - 10.1 The purpose of this letter is to inform you that a record search of the Native American Heritage Commission's (NAHC) Sacred Lands File indicates the presence of Native American cultural resources that may be impacted by the above referenced projects. The site is known as the *Garcia Ranch Site*. It is listed as a *Lithic Scatter Site, Bedrock Mortar Site, Rock Shelter/Cave, Worship/Ritual Site*, and as a *Sacred/Power Area*. It may also contain Native American burial sites. The site is also a recorded archaeological site, identified as CA-SLO-1427. It is located on the *San Luis Obispo* USGS quadrangle in township 31 south, range 12 east, in section 1. Please contact Ms. Patti Dunton, 377 Fairview, Morro Bay, CA 93442; telephone number (805) 462-0893, for specific location information on this site, to determine potential impacts, and to discuss any necessary mitigation measures.

If you have any questions or need additional information, please contact me at (916) 653-4040.

Sincerely,

Rob Wood

Rob Wood
Environmental Specialist III

CC: Mayor David Romero
City of San Luis Obispo
2057 Skylark Lane
San Luis Obispo, CA 93401

Patty Dunton

Number	Response
Comments from Governmental Agencies	
California State Clearing House	
GA-1.1	Compliance with the California Environmental Quality Act (CEQA) requirements for public notification and review are noted.
San Luis Obispo County Air Pollution Control District	
GA-2.1	The County of SLO will make a determination of which alternative or project option is environmentally superior based on projected impacts and their severity in all issue areas. Upgrades to the Water Treatment Plants were not a part of this project and would be evaluated in subsequent environmental review, if necessary. The treated water option will have higher construction and operation emissions associated with the proposed Water Treatment Plant (WTP) as compared to the Raw Water Option, since the latter option would avoid construction of most facilities at the WTP site.
GA-2.2	Table 5.4.7 specifies that the emissions presented in the table (Project Construction emissions) represent a worst case estimate. Actual emissions would likely be lower. On page 5.4-12, 1st paragraph, it is identified that a control efficiency of 38% was assumed and is used in the calculations as standard watering mitigation measure control efficiency.
GA-2.3	AQ-1 Words "grading and building" have been added to the first paragraph of measure AQ-1 to make the measures updated as per the CEQA Handbook 2003. The efficiencies of mitigation measures have been kept in place for clarification purposes. AQ-4 The requested changes have been made.
GA-2.4	This comment is in agreement with the mitigation measure text.
GA-2.5	The modification #3 to AQ-4 has been completed. The Applicant would be aware of this helpful information.
GA-2.6	The residual construction emissions have been identified as significant (Class I). To respond to this comment a note has been inserted to state that the significance is due to high NOx emissions. The mitigation measures listed in Section 5.9 of CEQA Handbook are for mitigating operational emissions and may be not appropriate for the short term construction emissions. During the permitting process of the project the SLO County will work with the APCD to develop appropriate measures to mitigate the significant NOx emissions.
GA-2.7	The text has been added to mitigation measure GS-3.
GA-2.8	The County will have to follow the required registration process and will be working with the APCD to obtain the required project permits and registrations.
GA-2.9	The County will have to follow the required permitting process and will be working with the APCD to obtain the required project permits.
GA-2.10	The County will have to follow the required permitting process and will be working with the APCD to obtain the required project permits and authorizations.

Number	Response
Atascadero Mutual Water Company	
GA-3.1	These statements have been clarified as noted in the responses to comments below.
GA-3.2	The concept of river discharges has been clarified to note that the water is discharged to percolation basins and not to the Salinas River channel.
GA-3.3	Water wheeling through the City of San Luis Obispo pipelines has been considered in the EIR. While water wheeling is technically feasible with some relatively minor modifications, the City has a stated policy of providing services outside City limits and has previously rejected the idea of wheeling relative to this project. Therefore, this alternative is not considered feasible under the requirements of the California Environmental Quality Act. However, it should be noted that the City can reverse their prior stance on this issue, thus avoiding new pipeline construction through the City. Given the small modifications that would be necessary to wheel water through their pipeline system, no additional environmental review would be required.
GA-3.4	The statement on the No Project Alternative regarding overdraft is not meant to apply to the entire county, but to specific project participants. The text has been revised to clarify that overdraft conditions are not inclusive of all areas of San Luis Obispo County.
GA-3.5	Please see the previous response.
GA-3.6	The background information on the recent Paso Robles Groundwater Basin Study has been included. This study was thoroughly discussed in Section 5.1 of the Draft Environmental Impact Report (DEIR), which includes the evaluation of hydrology and water quality associated with the proposed project and alternatives.
GA-3.7	The discharge basins were originally referred to as recharge basins in the County's description of the project. However, since the true purpose of these basins is not for groundwater recharge, all references were changed to discharge basins. The text in this section has been clarified to note that water will not be directly discharges into the Salinas River, but that percolation basins will be utilized to discharge NWP water to the Salinas River underflow.
GA-3.8	The text has been clarified to note that the AMWC system would recover NWP water prior to reaching the Salinas River underflow. However, water discharged in the Paso Robles and Templeton percolation basins would reach the Salinas River underflow prior to recovery.
GA-3.9	For the purposes of this EIR it has been assumed that water wheeling from Atascadero to Santa Margarita is feasible absent any information to the contrary. It has also been assumed that any modifications to the AMWC facilities to accommodate this wheeling arrangement would be relatively minor and would be included as part of the overall project. Should this water wheeling arrangement prove to be infeasible in the future, the project proponent would be required to reevaluate delivery and/or treatment options for Santa Margarita and conduct additional environmental review, if necessary.

Number	Response
City of Atascadero	
GA-4.1	The project will be required to revegetate all areas disturbed by pipeline and facility construction activities. While there is a considerable amount of emphasis on oak tree mitigation and replanting given the slow growth of most oak species, revegetation plans will also specify restoration of other native trees and plants.
GA-4.2	The project assumed a 200-foot wide corridor for evaluating impacts associated with pipeline construction. Therefore, it is quite possible that there will be minor variations within the area studied, mainly to avoid sensitive resources (e.g., biological, cultural and/or paleontological resources). However, should the pipeline route be revised substantially and outside of the study area, which would be required to result in construction within the Atascadero City Limits, additional environmental review would be required. Therefore, the City would have an opportunity to review any substantial changes to the proposed project.
GA-4.3	As noted in the EIR, the treated water option was selected as the Environmentally Superior Alternative. However, as also noted in the EIR, the difference between the treated and raw water options, in terms of environmental impacts, are quite small. Aside from significant air quality impacts associated with project construction, impacts specific to each option are considered less than significant, with the main difference being that the treated water option meets more of the project's water quality goals while avoiding direct impacts to the Salinas River riparian areas for construction of raw water discharge basins. Conversely, the raw water option would avoid potential environmental consequences associated with the spill of treated (i.e., chlorinated) water should there be a failure on the pipeline near a riparian area. While the probability of such an event was considered sufficiently low to result in an impact classification of "less than significant", potential impacts to sensitive species could be substantial. While this EIR contends that the treated water option is environmentally superior to the raw water option by an extremely slim margin and mainly due to effective mitigation of potential impacts, the selection of which option is constructed will ultimately be determined by County staff and the Board of Supervisors based on an agreement between the project participants. This agreement will likely be based on financial considerations, which are beyond the scope of environmental analysis allowed by the California Environmental Quality Act.
City of El Paso de Robles	
GA-5.1	Measure BR-10 has been revised to add information on the City of Paso Robles Oak Tree Preservation Ordinance.
GA-5.2	The proposed project would not directly impact Spring Street as all construction would take place east of the Salinas River. While the project would impact 13th Street and Creston Road, impacts were considered less than significant. However, given the bottleneck posed by limited areas where vehicles can cross the Salinas River, these streets have been added to Mitigation Measure T-1. It should also be noted that the County will be required to obtain an encroachment permit from the City, where the requirement to avoid these streets can be reiterated.
GA-5.3	While it may be difficult to avoid Creston and/or Niblick Road when school is in session, these roads have been added

Number	Response
	to Mitigation Measure T-1 to avoid impacting traffic during hours when school-related traffic might be impacted. The project would not simultaneously impact traffic on both roads, thus one of these roads would always be open. As noted in the previous response, the County will be required to obtain an encroachment permit from the City, where the requirement to avoid these streets can be reiterated.
GA-5.4	The City's concern over impacts associated with the 1997 EIR route is noted. This alternative was not considered as the Environmentally Superior Alternative due in part to the issues that concern the City.
GA-5.5	The population figures in Section 2.0 and elsewhere have been updated in the EIR. Section 7.0, Growth, had noted a more representative population figure for 2002 that was only slightly lower than the City's current estimate.
GA-5.6	The EIR has been changed to reflect the more likely hydraulic grade line. As noted in the comment, this elevation may change with final project design.
GA-5.7	Many of the proposed project's components are conceptual at this stage, with assumptions being made as to specific location and design. Pending final design, the assumptions being made were based on the best information available. Numerous minor changes to the project are expected that would not require any additional review. Should changes be proposed that do not fall within the expected and documented impacts associated with the project, subsequent environmental review, such as a Subsequent EIR or Addendum, may be required.
GA-5.8	The identification of Sodium Hypochlorite as the disinfectant for the treated water option was based on current compatibility with project participants and potential environmental impacts. However, final disinfection requirements and techniques will be based on the needs of project participants and future water quality issues, such as the need to minimize trihalomethanes.
GA-5.9	The EIR evaluated several alternative water treatment plant options in Section 3.0, Alternatives. However, as required by CEQA, only alternatives that could substantially reduce or avoid significant impacts associated with the proposed project are evaluated to a project level of detail in the EIR. Additional construction of water treatment facilities under the raw water option would not substantially reduce or avoid any of the significant impacts identified in the EIR. In fact, construction of additional water treatment facilities by project participants would likely lead to the identification of new environmental impacts not identified in the EIR. It is also recognized that project participants may elect to receive raw water and pursue various treatment alternatives. However, in the absence of specific proposals, it would be speculative to evaluate the construction of additional water treatment facilities for each of the project participants when these facilities are not a necessary component of the project that would be required to receive or distribute their NWP allocation. Should a project participant choose to construct additional water treatment facilities, additional environmental review, such as a Subsequent EIR or Addendum, may be required.
GA-5.10	The City's requirement to issue an encroachment permit is specifically listed in Table 2.9. This requirement has also been added to Section 2.7.1.

Number	Response
GA-5.11	Section 2.7.4 notes that "…General Plan Conformity Determination would be required by the County and *all cities* in which pipelines and related project facilities are located (emphasis added)." This would include Paso Robles. Table 2.9 has been modified to note this requirement.
GA-5.12	Please see the response to Comment GA-5.4.
GA-5.13	Please see the response to Comment GA-5.9.
City of San Luis Obispo	
GA-6.1	The placing of project staging areas is contingent on locating available land at various points along the pipeline route. Since the availability of land changes over time, as noted in the EIR, a set of performance criteria was established to allow for the selection of an alternative location that is consistent with the findings of the EIR. While the potential need for additional environmental review of staging areas, such as a Subsequent EIR or Addendum, cannot be overlooked if a suitable site cannot be found within the EIR performance criteria, there are currently alternative sites available that fit the staging area performance criteria listed in the EIR. Therefore, additional environmental review is not anticipated at this time. In the event that a staging area cannot be identified for a given pipeline segment, alternative options would be to utilize those staging areas that are available at the time of construction, which would result in greater transport distances during construction, staging of some materials within the pipeline right-of-way, or delivery of pipe to the site on an as-needed basis. All three options would complicate project construction and add to project costs, but not significantly.
GA-6.2	The text in Section 3.2.5 has been modified to reflect the uncertainty associated with the availability of the City's water system to wheel NWP water to project participants south of the City. However, given the existing City policy of not providing service outside City limits and the City Council's past rejection of water wheeling relative to this project, it would be considered speculative under CEQA to evaluate water wheeling as an alternative in the EIR. Should the project participants and City decide to move forward with water wheeling, additional environmental review, such as a Subsequent EIR or Addendum, may be required. However, since potential impacts associated with improvements to the City's water system would be similar to NWP pipeline construction south of the City, it is likely that a water wheeling agreement would be consistent with the EIR findings and no additional environmental review would be necessary.
GA-6.3	Section 2.2.7 of the EIR notes that on May 14, 2002, the City Council eliminated the policy that would require the establishment of a Reliability Reserve. However, eliminating the requirement doesn't necessarily preclude a need for a drought reserve. Therefore, these statements are not necessarily inconsistent. Section 5.1.5.1 of the EIR states that "Groundwater resources in the San Luis sub-basin are available to the City, although the maximum level of historical City pumpage will not likely be significantly increased due to basin yield limitations." This is consistent with the statement in Section 7.2.3 that "While the existing safe yield of the basin is

Number	Response
	currently under review, this basin is considered to be in a state of overdraft for planning purposes (SLO 2002)." If the basin is considered to be in a state of overdraft, it is likely that the City will not increase pumpage due to basin yield limitations. It is possible that upon further review, more groundwater pumping could be allowed, but current information would indicate that increases in groundwater utilization, while available, cannot be sustained.
GA-6.4	The City of San Luis Obispo currently (as of 2002) has a water small water surplus that could allow limited additional growth (see Table 7.2). However, in the absence of acquiring additional water supplies, the City will not be able to meet the growth projections identified in its General Plan.
GA-6.5	Section 7.2.3 has been modified to reflect the City's use of ground water, as well as the studies being conducted to increase the City's safe yield to 1,000 afy. The City's pursuit of alternative water sources to augment their use of groundwater has also been noted.
GA-6.6	Countrywide, which is a bit too ambitious for this project, has been changed to Countywide. Also, the values for the City's required yield have been modified to reflect the City's elimination of the 2,000 afy reliability reserve.
GA-6.7	Impacts associated with growth-induced impacts do not require mitigation, thus the measure is not included in Section 9.0 of the EIR. This measure sets a water conservation goal, which the County and project participants can choose to implement or ignore without the need for a Statement of Overriding Considerations from the Board of Supervisors. As noted in Section 7.0 and elsewhere, potential impacts associated with growth are considered a significant impact that could result from the project.
GA-6.8	Please see the response to Comment GA-6.1. Impacts associated with the staging areas were considered as part of the project construction impacts and would be short term in nature. Mitigation measures identified for pipeline construction would reduce potentially significant impacts to a level of insignificance. As noted in the following response (GA-6.9), noise barriers would be utilized to meet applicable County and/or City noise limits. Also, a substantial amount of mitigation is proposed that would reduce dust levels to a level of insignificance. Aesthetic impacts would be temporary in nature and are considered insignificant. Finally, all potential site land use designations would have to allow for temporary construction staging.
GA-6.9	Noise mitigation measure N-1 specifically requires noise reduction measures as follows: *"Equipment enclosures/noise barriers shall be used in the vicinity of sensitive receptors (per station numbers in Table 5.5.7) to reduce the noise generated by stationary equipment (i.e., generators, pumps, and other stationary construction equipment) during daytime hours."* The residences in the Patricia Drive/Foothill Boulevard area are specifically identified in Table 5.5.7.
GA-6.10	The Phase I archaeological survey for the areas within the City of SLO was done in 1996 and some sites were mapped and are listed in Table 5.8.12. Similar methodology was employed as in the current 2003 report. Cultural sites in the Laguna Lake can be avoided by design and are beyond 200 feet of identified cultural resources. In the City area, the archaeological site near Acacia Creek, SLO-2002, is outside the project area of the NWP. It is probably not a prehistoric

Number	Response
	site and probably not a significant site. Subsurface testing would be done to confirm this as needed.
GA-6.11	The table on page 5.9-2 has been updated to more specifically reflect the City's General Plan zoning designation of Conservation/Open Space near Laguna Lake. Discussion on pages 5.9-20, 21 has been expanded to include assessments of the City's relevant OSE and General Plan policies. Due to the potentially sensitive and scenic nature of the area, special emplacement techniques other than open trenching may be employed, as necessary, to ensure preservation of the character and resources of the area.
GA-6.12	Thank you for the valuable information. Measure BR-10 specifies that: "Areas suitable for creation of oak conservation areas for replacement offsite shall be evaluated." The area above Stenner Creek Road is known to the County and will be evaluated as potential for the project vegetation restoration area.
GA-6.13	The correct reference should be Los Osos Valley Road and has been corrected throughout the document.
GA-6.14	The tank at Cuesta Tunnel would be located in an area that is already partially screened with the existing vegetation and terrain. In addition to that the tank would be located in an indented area on the slope of the hill, thereby its bottom will be below the hillside surface. The simulation reflects the fact that only a small portion of the tank's surface would be visible to a viewer standing at the beginning of the access road to the Cuesta Tunnel pipeline, this portion of the tank will have even less visually significant effect on viewers traveling on Highway 101 or other locations. The proposed tank would be substantially shielded by terrain from travelers on Highway 101 (see Figure 11-1). The tank would be completely shielded by terrain from travelers heading north on Highway 101, and would only be visible from the highway after the vehicle has passed the tank location. Southbound travelers would have a slightly better view of the tank, but only a partial view and for a very brief period (a few seconds at best at highway speeds). The proposed mitigation measures of providing vegetation screening for the tank and painting the tank a natural color would minimize potential visual impacts. Landscaping for the project could be done with species that are native to the area and non-native species. San Luis Obispo County Land Use Ordinance (Section 22.04.186) states that preservation of native species, and landscaping with native species is encouraged, however it is not required. To effectively screen the man-made features of the project it is necessary to use species that use water in the most effective manner, are evergreen and fast growing. The landscaping will be done from species consistent with the surrounding area; a note to this effect has been added to the mitigation measures.
GA-6.15	The reference to the City's Urban Reserve Line has been corrected to 2022 (from 2015).
GA-6.16	Measures CR-1 and CR-6 specified preparation of the Plans for Cultural resources (paleontological and archaeological). Language has been added to these measures to specify that the Plans shall list measures to deal with the cultural resources in case any are encountered. The exact details of the methods will be determined at the time the Plans are

Number	Response
	prepared by the project's professional archaeologist(s) and paleontologist(s).
GA-6.17	It is recognized that the Raw Water Option has less potential for catastrophic biological impacts that could result from a large spill of chlorinated water under the treated water option. Section 5.7.4.1 clearly states that "Impacts to aquatic life and contamination of drainages could result from a pipeline rupture which releases treated water into the stream system, resulting in mortality, degradation of habitat and water quality." However, as noted in Section 5.6.4.1, the probability of a large chlorinated water spill is extremely small based on historical pipeline failure data for water transmission pipelines (as opposed to water distribution pipelines typically found in cities, which have much higher failure rates due to the vastly higher number of connections). Since risk is measured by the combination of event probability and consequences, it was determined based on criteria established by such groups as the American Institute of Chemical Engineers, US Environmental Protection Agency and Santa Barbara County that potential impacts associated with a spill of chlorinated water was less than significant. It should be noted that regardless of which alternative is selected, the same volume of water will need chlorination and chlorine-based disinfection products will need to be shipped to a single or multiple water treatment facilities. In reviewing the identification of the Environmentally Superior Alternative, Section 6.0 of the EIR only summarizes information that is discussed far more thoroughly in other sections of the EIR such as Section 5. These sections should be thoroughly reviewed prior to reviewing Section 6. The EIR does not dispute potential impacts of chlorine treated water on aquatic species, and makes the finding that potential consequences would be substantial. Thus, no evidence of field testing is necessary unless one were claiming that there would not be any adverse biological consequences associated with chlorine exposure. As far as impacts to riparian areas that would occur under the Raw Water Option, Section 5.7.4.2 clearly identifies and quantifies the permanent loss of riparian areas along the Salinas River. The comment notes that a spill of chlorinated water could impact Stenner Creek. It should be noted that regardless of which alternative is selected, chlorinated water pipelines associated with the City of San Luis Obispo Water Treatment Plant (WTP) and the WTP located at the California Men's Colony would likely impact Stenner and/or Chorro Creeks in the event of a pipeline failure. Both of these facilities would be used to disinfect NWP water under the Raw Water Option. Therefore potential consequences associated with the Treated and Raw Water Options would be quite similar in the vicinity of these creeks. In any event, potential impacts are considered less than significant based on the low probability of a spill of chlorinated water that would be large enough to impact sensitive species in the area. Also, chlorinated water pipelines already exist throughout all of the cities involved in the project, many of which are in the

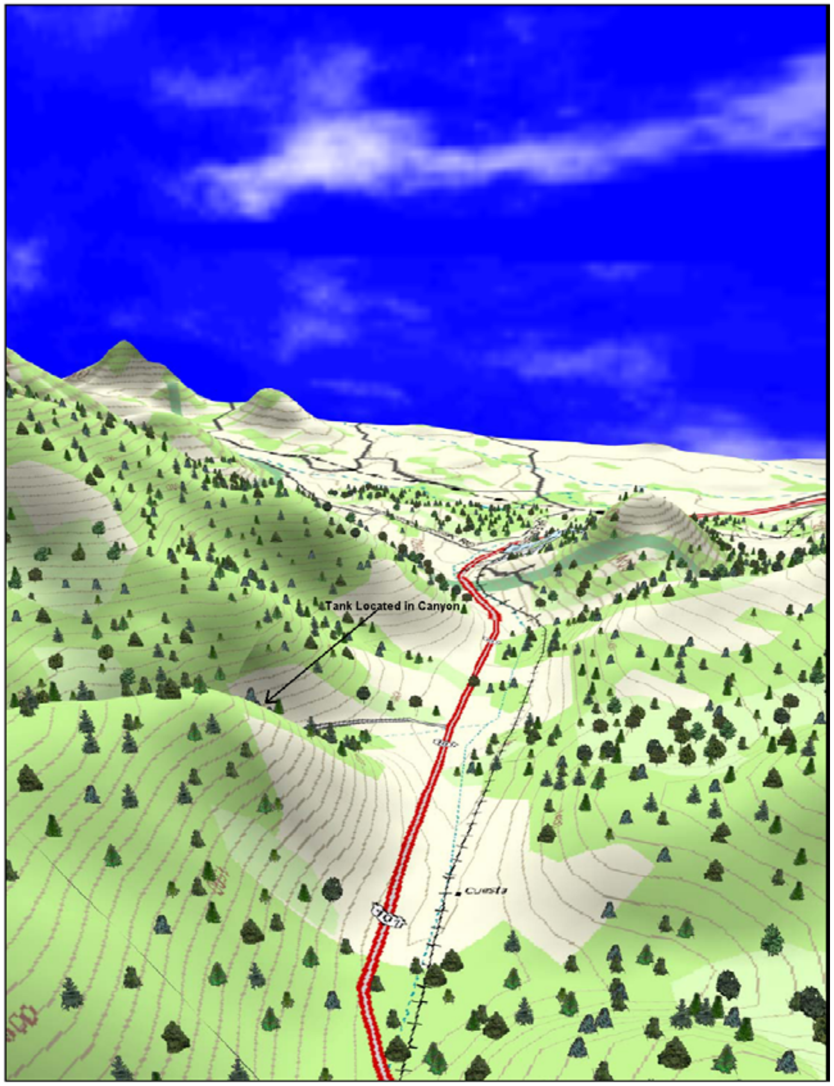
Number	Response
	vicinity of numerous creeks and drainages. Finally, the selection of which project is constructed will be determined by County staff, the Board of Supervisors and project participants. This decision will also include a cost factor, which is not considered in the EIR, which would favor selection of the Raw Water Option as the preferred alternative.
Dept of the Army/CA Army National Guard	
GA-7.1	The requested language in regards to the briefing has been inserted.
GA-7.2	The requested language in regards to the vegetation restoration/replacement plan has been inserted.
GA-7.3	The requested language in regards to covering excavated areas to protect kit fox has been inserted.
GA-7.4	The requested language has been inserted in measure BR-4 that covers all vehicle and personnel travel in sensitive areas.
GA-7.5	The language in regards to bald eagle has been added to BR-16.
GA-7.6	The language in regards to California condor has been added to BR-16.
GA-7.7	Most of the requested mitigations are already in the measure BR-10. The additional specifics in regards to the Camp Roberts Integrated Natural Resources Management Plan (INRMP) have been added to this mitigation measure as requested.
GA-7.8	The language in regards to riparian vegetation has been added to BR-22.
GA-7.9	BR-23 has been updated as requested. See also measure BR-8.
GA-7.10	BR-24 has been changed to reflect the requested mitigation.
GA-7.11	BR-25 has been changed to reflect the requested mitigation.
GA-7.12	Morro shoulderband snail has been included in Table 5.7.1. Mitigation measure BR-8 specifies that biological surveys, avoidance as feasible, and consultation and incidental intake permits shall be required for all species listed in this table.
GA-7.13	Camp Roberts and Camp San Luis Obispo INRMPs have been reviewed for species of special concern. All the species have been added to Table 5.7.1. Mitigation measure BR-8 covers protection of the species listed in Table 5.7.1.
GA-7.14	Salinan pocket mouse species has been added to Table 5.7.1 Mitigation measure BR-8 specifies that biological surveys, avoidance as feasible, and consultation and incidental intake permits shall be required for all species listed in this table.
GA-7.15	The mitigation measure BR-23 has been updated to include avoidance of the documented vernal pool.
GA-7.16	The project's Erosion Control Plan and Storm Water Pollution Prevention Plan will be consistent with applicable Army Reserve National Guard (ARNG) plans, policies and best management practices for Camp Roberts and Camp San Luis Obispo. These plans will be submitted to the ARNG for review and comment prior to the commencement of any construction activities.
GA-7.17	The language in regards to hazardous materials has been added to HM-1.

Number	Response
GA-7.18	Changes have been made as requested.
GA-7.19	Changes to SLO-2210 description have been made as requested.
GA-7.20	Addition has been made as requested.
GA-7.21	Changes to SLO-1180 description have been made as requested.
GA-7.22	Some sections of the existing pipeline would be used in the area of Chorro Creek. Sections of the existing pipeline were identified during the 1996 survey and some areas were not surveyed during the 2003 survey if the new pipeline route were not planned for those areas. Additional survey could be done to confirm condition of existing sites and potential effect from any nearby construction activities. Requirements for the additional surveys have been included into measures CR-6 (item 3) and CR-7.
GA-7.23	As stated in the CR-1 and CR-6 (item 1.), pre-construction workshops will be done to raise the awareness of all project crew involved in soil disturbance about cultural resource issues. Treatments of resources in case of accidental discoveries are part of the mitigation procedures (see CR-1, CR-2, CR-4, CR-6, CR-8 and in particular CR-11). Also a cultural resources monitoring plan will be prepared and implemented (see CR-1 and CR-6) that may include monitoring in some areas based on nearby natural resources (good sources of chert, possibility of alluvial fill that could have buried cultural surfaces and other variables that could have hidden cultural resources). See measure CR-11 for description on consultation with the County Coroner.
GA-7.24	Confidential technical report (Gibson and Parsons 2003:16) states "subsurface testing would be needed to find the best route south of SLO-1180 that would avoid impacting significant cultural materials." The final design of the proposed pipeline route has not been completed, however during the final design the Applicant will make all feasible efforts to avoid significant cultural materials. The County has the technical report which contains all details on the exact location of SLO-1180.
GA-7.25	Advance approval and notice of fieldwork is standard procedure for any archaeological projects on federal and state lands - especially military property, and will be carried out.
GA-7.26	Although some specialists differ in their opinion on the tribal land boundaries, the recent CalTrans document "Salinan and Northern Chumash Communities of the Early Mission Period" by Randall Millken and John Johnson will be the basis for determining prehistoric boundaries and field monitoring. Some overlap may occur in some sections of the project. Both tribes will be fully informed about the project field work.
California Men's Colony	
GA-8.1	The County and project participants are currently evaluating the mechanisms that could be used to build and operate the project, which is well beyond the scope of this EIR and the California Environmental Quality Act. However, it is clear that under a scenario that would utilize CMCWTP facilities, an administrative authority consistent with California Constitution Article 10, Section 6 would be required.

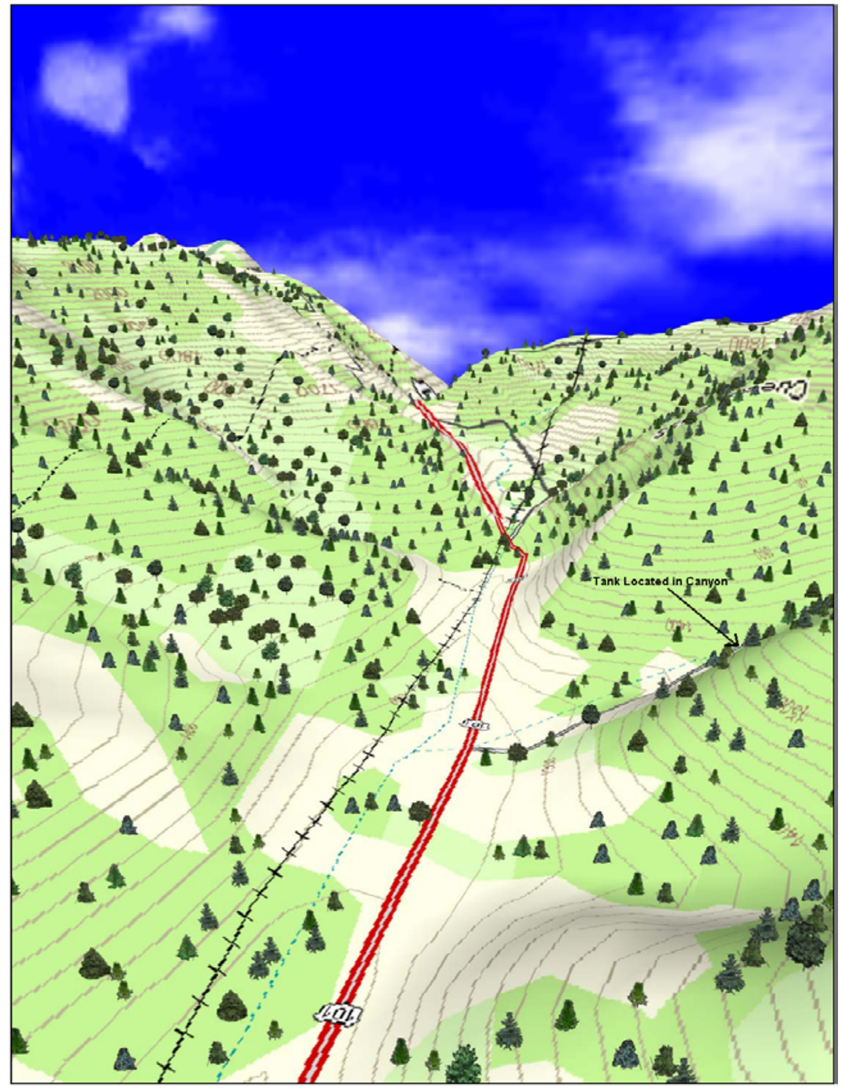
Number	Response
Monterey County Water Resources Agency	
GA-9.1	The correct reference to the Monterey County Water Resources Agency (MCWRA) has been corrected throughout the document.
GA-9.2	San Luis Obispo County recognizes and acknowledges their responsibility for water quality issues associated with their allocation of Lake Nacimiento Water, including those associated with body contact recreation.
GA-9.3	The EIR has evaluated intake locations on the north and south sides of the dam, as well as locations downstream of the dam. The proposed location which is currently leased to Water World Resorts has been identified as the preferred alternative.
GA-9.4	The EIR prepared for the project in 1997 identified potential water quality impacts to the MCWRA hydroelectric plant, which was considered a significant impact. This EIR also acknowledged this potential impact in their evaluation of an intake structure that would require channel dredging. The intake proposed as part of the current project (a Multi-Port Tunnel intake and shaft system located on the north side of the dam), and identified as the preferred alternative was determined to have negligible impacts on water quality during construction since construction activities would be less intensive and farther away from the MCWRA facilities, and thus would not damage the MCWRA hydroelectric plant impellers. The proposed intake structure would be located approximately one thousand (1,000) feet away from the MCWRA intake for the hydroelectric plant. The County acknowledges that sedimentation will be stirred up during construction of the NWP intake structure, but that particles of a size that could be harmful to the impellors or casing of the hydroelectric plant would not remain suspended over the distance between the two facilities.
GA-9.5	The text stating that "…MCWRA would modify their annual release schedule (MCWRA typically releases over 230,000 afy from the Nacimiento Reservoir) in such a way as to ensure the availability of San Luis Obispo County's annual entitlement of 17,500 af" was a basic assumption of the October 2002 study prepared by Boyle Engineering. As such, it would be inappropriate and misleading to remove this text. It is recognized that MCWRA only needs to meet their obligation under their existing agreement with San Luis Obispo County. While the EIR states that "…MCWRA will be expected to manage the reservoir such that SLO County can exercise its (water) right" the text also acknowledges that "[t]he terms of the 1959 agreement do not obligate MCWRA to reserve reservoir storage, in excess of the minimum pool, as a drought buffer for SLO County"
GA-9.6	The County recognizes that not all potential inflow to Nacimiento Reservoir would be available for NWP deliveries as State and Federal requirements may supercede other allocations. However, as part of an analysis based on historic water flow and lake levels, only one year was identified where the full NWP delivery would not be available. This analysis included water releases associated with State and Federal requirements.
GA-9.7	Much of the EIR analysis was based, in part, on the MCWRA modeling that was performed as part of the SVWP EIR. The County also acknowledges that this analysis assumed that the County would exercise their full entitlement.

Number	Response
GA-9.8	It was assumed that the County would work with the MCWRA to schedule relevant construction activities around conservation releases.
GA-9.9	Cumulative impact analyses have been revised to assume that concurrent construction of the SVWP and NWP could occur at the same time. Areas where cumulative impacts could occur have been evaluated in the EIR and would mainly impact air quality, noise and traffic. The EIR notes potentially significant cumulative impacts in the areas of air quality and traffic. In the case of air quality, each project is already considered significant on its own merits. For traffic impacts, the cumulative impacts would be considered significant with only a negligible contribution from NWP construction.
GA-9.10	The release schedule presented in Table 5.14.1 was provided by the MCWRA in August 2002 and was considered provisional at that time. It is recognized that release schedules vary over time and are subject to revision, especially in cases where future releases are estimated. However, the analysis in Section 5.14 is based on a considerably larger set of data than that provided in Table 5.14.1, including historical data dating back to 1958. Therefore, changes to the projected release schedule for 2002 have little impact on the conclusions of the analysis presented in the EIR.
GA-9.11	The intent of this comment is unclear. Please see the response to Comment GA-9.2. San Luis Obispo County recognizes their responsibilities associated with the quality of water that they will receive from the reservoir and deliver to participating agencies. In terms of future development causing erosion and runoff impacts to the lake itself, individual property owners are responsible for implementing County regulations that pertain to erosion and sedimentation.
Native American Heritage Commission	
GA-10.1	Reference to SLO-1427 was inadvertently left off the list of sensitive cultural resource sites. The SLO-1427 site was first recorded in July 1990 by Charles Dills who recorded only bedrock mortars. In July 2000 a Phase I archaeological surface survey was conducted and 15 shovel test pits were excavated (Maki 2000) and a supplemental site record was competed. In August 2000, Clay Singer conducted a Phase II evaluation testing of SLO-1427 (Singer 2000). In 2001, a Phase I survey for the SLO City Water Reuse Project was done adjacent to SLO-1427 (Gibson 2001). Currently, the City of SLO is in the construction phase of their Water Reuse Project. That project pipeline is being placed outside the area of the bedrock, surface or subsurface artifacts, as would the proposed project. The pipeline trenching will be monitored by an archaeologist and a Chumash representative.

Figure 11-1 Terrain Shielding of Cuesta Storage Tank



View of Cuesta Tank Location Looking North



View of Cuesta Tank Location Looking South

11.3 Comments Received from Groups/Companies and Responses

Received 9-5-03
4:32pm
Patricia Warren

GC-1

To: Ms. Nancy Orton
San Luis Obispo County
Department of Planning & Building
Rm. 310, County Government Center
San Luis Obispo, CA 93408-2040
(805) 781-5008 (norton@co.slo.ca.us)

September 5, 2003

From: Phil Ashley
fish & wildlife biologist for
Canyons And Streams Alliance (CASA)
1586 La Cita Court
San Luis Obispo, CA 93401
756-2505(work), 544-9741(home), pashley@calpoly.edu

Subject: My comments on behalf of Canyons And Streams Alliance on Applicant San Luis Obispo County Flood Control and Water Conservation District's (SLOFCWCD's) significantly inadequate July 2003 Draft Environmental Impact Report (DEIR) for San Luis Obispo County's Nacimiento Water Project (SCH #2001061022).

Dear Ms. Nancy Orton, County Staff, & SLOFCWCD Applicant:

I am a career fish and wildlife field biologist. For the last 28 years I have worked as a flora and fauna technician in the Biology Department at Cal Poly. Prior to that I worked as a Fisheries Biologist with the U. S. Fish & Wildlife Service (USFWS) for 3 years and as a Seasonal Aid with the California Department of Fish & Game. Prior to that I received an MS in Fisheries from Humboldt State University and a BS in Biology from Cal Poly.

Following are CASA's comments on the significantly inadequate DEIR.

GC - 1.1

CASA's main concern with this DEIR, and the main reason we referred to it as significantly inadequate in the above Subject, is due to the DEIR claiming that the chlorinated Treated Water Option is the Environmentally Superior Alternative over the unchlorinated Raw Water Option, and the seriously inadequate analysis and discussion of the associated environmental (ecological) risks and impacts used to come to this bad conclusion. Chlorinated water in very low residual amounts is deadly toxic to aquatic species as fish. However, before we thoroughly cover this major concern and other page specific environmental concerns with the DEIR, we will cover another major concern about this DEIR.

GC - 1.2

This is the Wimpy concern. Wimpy (Wempy,?) was the cartoon character who repeatedly said I will gladly pay you tomorrow for a hamburger today— whether or not he ever paid. This DEIR in its many pages of Impact Summary Tables and in the various chapters is full of stock, cookbook type environmental promises of "pre-construction" biological surveys and associated Best Management Practices (BMPs) kinds of mitigations for whatever is later found in these promised biological surveys. Like with Wimpy's promise to pay later, how do we know all these surveys and associated mitigations will be done?

Even in good economic times, we have discovered that various EIR promised mitigations never get done, or they fail to succeed if they do get done. Thus significant impacts theoretically "mitigated" to the level of insignificance in EIR's in truth remain forever significant. The California Department of Water Resources' (DWR's) and the county's Central Coast Water Authority's (CCWA's) Coastal Branch of the State Water Project (SWP) is a prime example of this environmental failure. Does anybody know where any of that EIR's promised replacement acreage mitigations are for project caused losses to riparian, wetland, coastal scrub, oak, kit fox, etc., habitats? We can show you a bunch of dead replacement "mitigation" oaks, but that is all! There are other examples of local EIRs or Negative Declarations promising mitigations that never get done, for example, Rancho Grande Housing Development, Hunter Golf Course and the County's Ag/Open Space Element.

GC - 1.3 But these are bad economic times with even less money and will to ensure that this DEIR's promised biological surveys and associated mitigations will get done. And why should the reviewing public believe that the County Environmental Coordinator has the expertise to determine where, when, and how these pre-construction biological surveys are done, as promised in the DEIR (Mitigation Measure BR-1 on pages IS-13 and 5.7-35, etc.). The County has a couple thousand full time employees of about every job description imaginable-- except field biologist. For SLO County rich in fish, wildlife, flora, and marine natural resources, the County should minimally have a full time staff biologist in each of these diverse, complex ecological specialties to guide it in things like where, when, and how EIR promised biological surveys should be done. Thirty years after all of our national and state environmental laws were passed, are 4 employees out of several thousand too much to ask to help protect our County's rich ecological resources?

GC - 1.4 And how can we trust the County Environmental Coordinator to make the correct decisions about these biological surveys when the DEIR fails to recognize on page 2-52 in bullet 5 and in Table 2.9, pages 2-54 and 2-55, that besides the mentioned CDFG and ACOE natural resource trust agencies, permits are also required from federal trust agencies as the National Marine Fisheries Service (steelhead) and the USFWS (Red-legged frog, tiger salamander, arroyo toad, willow flycatcher, kit fox, etc.).

GC - 1.5 It is inadequate for the DEIR to state that it will temporarily hire a private consultant project biologist to help determine these things. We found out on the Coastal Branch of the SWP that the private consultant project biologists hired with the power to stop project construction if necessary (as is promised in this DEIR, pages IS-13 and 5.7-35) were, for various economic and political reasons, repeatedly ineffective and failed to stop project construction when environmental BMPs and mitigations were being violated during construction on various water pipeline reaches, including those on Cal Poly land.

GC - 1.6 And how can we expect the proper surveys and associated mitigations will get done when the environmental trust agencies with permit authority over this project are currently losing funding and personnel at an alarming rate? For example, this week we called the Regional Office of CDFG in Yountville to express our top priority concern that this project proposes to carry deadly-to-aquatic-species chlorinated water in its 64 miles of mostly wild and rural pipeline. We wanted to know if CDFG was going to provide comments on this DEIR and especially this important issue. Their Fisheries Supervisor said they

GC - 1.6 Cont'd had concerns similar to ours on this project, but they were being hit with 30 % cuts in personnel, and the loss of these critical staff positions prevented them from timely commenting on this DEIR much to their disappointment.

GC - 1.7 The bottom line is much more of this biological survey work should have already been done before the DEIR was issued so the public could fairly review and comment on more of the project environmental impacts and mitigations and not just be promised in the DEIR that this environmental impact analysis will be done latter prior to construction. In our opinion the DEIR is inadequate for repeatedly placing too much environmental analysis after instead of before EIR public review and decision maker approval. If this significant inadequacy is not corrected before the Final EIR is approved, then the below steps need to be taken.

GC - 1.8 First, similar as to what was required on the Coastal Branch of the SWP, the Applicant needs to fund a full time CDFG position during biological survey design and implementation phases and during the entire construction phase. This is extremely important because on the Coastal Branch of the SWP the CDFG project biologist periodically was effective getting construction BMPs and mitigations adherred to and, if necessary, the project stopped when the project proponent's hired private consulting biologist failed to do these things. A public trust CDFG project biologist is much more likely than a private consulting biologist hired by the project proponent County to ensure that under the intense pressures of construction deadlines and costs environmental measures are carefully adherred to before, during, and after construction.

GC - 1.9 Second, although the CDFG project biologist was effective in getting construction phase mitigations and BMPs adherred to on the Coastal Branch of the SWP, the CDFG biologist was ineffective getting post construction mitigations done (as habitat replacement mitigations). This was due to the CDFG project biologist being terminated at the end of the construction phase. Therefore, the Applicant needs to continue to fund this CDFG project biologist position until all post construction mitigations promised in the EIR are effectively carried out!

GC - 1.10 Third, so that the public will know that these post EIR biological surveys and mitigations are effectively carried out, and not just promised in the EIR, a post construction document needs to be prepared demonstrating that all the mitigations have been done or are effectively being done. Furthermore this environmental document needs to be subject to public review, comment and a County public hearing so the public can express their opinions about the ultimate success of the EIRs many environmental promises.

Now we will cover the chlorinated water issue.

GC - 1.11 Page 5.1-30, paragraph 3, of the DEIR indicates that the proposed project's Treated Water Option would at all times minimally carry 0.2 mg/l (milligrams per liter, which is equal to 0.2 parts per million [ppm]) chlorine in its water. The DEIR is inadequate because it fails to say what the maximum amount of chlorine in the pipeline could be. Several years ago the manager of San Luis Obispo City's Water Treatment Plant (WTP) told me that it is not unusual for WTPs to add 1 to several ppm chlorine to the water distributed in their drinking water pipelines. This information was consistant with the "Water

GC - 1.11 Cont'd

Discharge And Spill Contingency Plan, Amended February 17, 1994" stating that up to 2 mg/liter (2ppm) chlorine would be used in the Coastal Branch of the SWP pipeline. This document is attached as Attachment A.

When I was a senior in the Cal Poly Biology Department, in January 1968, a chlorine spill occurred to Stenner Creek that killed about 1000 native fish (Telegram-Tribune, January 15, 1968). The actual ppm chlorine spilled into the Creek was not known, but it was believed to be very low. To help understand more about the toxicity of chlorinated water on aquatic species, I did my Senior Project on the lethal dose levels of chlorine on native fish species of Stenner Creek.

My study determined that 1.5ppm chlorine in water was lethal to steelhead and speckled dace. Three-spined stickleback survived this concentration for the 12-hour test period but were made very sick noted by their lethargy interrupted by erratic swimming. Unfortunately my experimental equipment did not allow me to test the toxicity of chlorine on these fish species at levels below 1.5ppm.

GC - 1.12

However, local evidence of the lethal toxicity of chlorine to fish at levels well below 1.5ppm chlorine is provided in Attachment B. This is a letter from Central Coast Salmon Enhancement, Inc. (CCSE) stating that 25,000 fingerling salmon at their facility were killed by only 0.2ppm chlorine. This is the same concentration level as the proposed project DEIR states will minimally be in the pipeline at all times if the Treated Water Option is used!

Furthermore, today the known toxicity of chlorine to aquatic species is scientifically well known and evident by the fact that the EPA recommends "The recommended 1-hour maximum concentration for aquatic life protection in ambient freshwater for chlorine is 0.019mg/liter", which is equal to 0.019ppm. The forgoing information is from the 1st paragraph of page 2 of Attachment A herein. This limit is more than 10 times lower than the 0.2 mg/liter (0.2ppm) chlorine that would minimally be in the pipeline at all times under the proposed project Treated Water Option.

And the DEIR in the first paragraph of page 5.6-9 acknowledges the high degree of toxicity of chlorinated water on aquatic species when it states:

> "There have been instances when releases of chlorinated water from treated water pipelines have harmed sensitive aquatic habitats due to the toxicity of chlorine to aquatic animals or other organisms (Julie Eliason, 2003)."

GC - 1.13

With these kinds of facts known about the extreme toxicity of very low concentrations of chlorine on aquatic species as fish, how does the DEIR come to the conclusion that the Environmentally Superior Alternative is the Proposed Treated Water Option instead of the proposed Raw Water Option? The DEIR comes to this untenable conclusion based on seriously flawed and inadequate analysis and discussion, which CASA comments on in the following discussion.

On Page 5.6-13 of the DEIR at the third bullet, it is arbitrarily and inadequately determined that the only way a significant impact can occur from a project caused chlorine spill is if:

"the frequency of occurrence of a full transmission water line rupture in an area of sensitive biological species is more than the life term of the proposed pipeline."

We believe that this confusing statement means that if a release of chlorinated water to aquatic resources results from just one pipeline rupture during the life of the pipeline project, it would be considered a significant impact.

On page 5.6-26 of the DEIR, based on a pipeline study done by the "Alberta (Canada) Energy and Utilities Board (EUB 1998)", it is calculated that for this proposed project approximately 0.31 spills would occur over the assumed 100 year operating life of the project. In other words less than 1 chlorinated water spill to aqautic ecosystems would occur during the life term of the project, so by the above significant impact definition, a significant impact would not occur according to the DEIR.

However, this DEIR analysis and discussion and definition of a significant impact from a Chlorinated water spill is flawed and inadequate because it only assesses spills occurring from the major water rupture of a water line that would release "large quantities of chlorine-containing water" (page 5.6-25, middle paragraph). In other words, the above 0.31 spills per 100 years is a calculation based on a "catastrophic pipeline failure" (page 5.6-26, paragraph 2) that would quickly release large quantities of chlorinated water to aquatic ecosystems.

GC - 1.13 Cont'd

There is no assessment in the DEIR of slower releases of chlorinated water to aquatic ecosystems caused from leaks in the pipeline not resulting from catastrophic pipeline rupture failure. This flawed and inadequate analysis occurs in the DEIR even though it admits that the same Alberta pipeline "study provides detailed information on pipeline failures, including the cause and type (i.e., leak or rupture) of the pipeline failure" (page 5.6-26, paragraph 2). It is likely that if the DEIR made a calculation from the Alberta pipeline study using "leaks" instead of "ruptures" to determine how many chlorinated water spills would occur to aquatic ecosystems during the 100 year project, significantly more than 0.3 spills would occur over the 100 year life of the proposed project.

It is absurd for the DEIR to arbitrarily conclude that a significant impact can only occur from a pipeline rupture quickly releasing large amounts of chlorinated water and a significant impact cannot occur from a steady release of a small flow of chlorinated water due to pipeline leaks.

Anybody who has given serious thought to the issue of chlorinated water pipelines in the wild and rural areas of the Central California Coast, is justifiably very concerned about chlorinated water leaks and not just concerned about "catostrophic pipeline failure" from a "water line rupture". This is because whereas it may be rare for water pipeline mains to catostrophically rupture, it is common knowledge that water pipelines do leak over time. And the major concern with slow leaking chlorinated pipelines in the wild and rural areas of our County and the Central Coast in general is that these chlorinated pipelines cross numerous small streams containing fish, amphibians, and aquatic invertebrates as insects, crayfish, snails, clams, worms, etc. And a common characteristic of these many Central Coast streams is that they have very low flows or no flows in the dry season, even though they have many small pools of water where aquatic life must concentrate to survive.

Chlorinated water leaks into small pools in small streams often without flowing water to help dilute the introduced chlorine would be devastating to the aquatic species as fish and amphibian larvae that cannot crawl out of the water to survive, as a frog or turtle could. For the most part it is not catostrophic spills from pipeline rupture that is the major cause for enormous concern here. Instead it is the slow persistent, continual leak of deadly chlorinated water at deadly low concentrations into dry season or drought period small pools from which there is no escape by species as fish and larval amphibians!

GC - 1.13 Cont'd

So it is environmentally unacceptable for the DEIR to conclude in the Hazardous and Hazardous Materials section that a significant impact from a chlorinated water release can only occur from a catostrophic rupture of the proposed pipeline. And it is environmentally unacceptable for the Biological Resources section on page 5.7-31 to likewise conclude that a significant impact would not occur to aquatic species and their habitat from a chlorinated water release because "As stated in the discussion to Impact HM.7 in Section 5.6, Hazards and Hazardous Materials, a treated water pipeline rupture is unlikely". There is no analysis of the biggest risk to aquatic species in these many small streams that will be crossed by the pipleline, and that risk is slow, persistent leaks of chlorinated water.

Furthermore, it is unacceptable for the DEIR to conclude on page 5.7-31 of the Biological Resources section that "Also, chlorine residual in the treated water is quickly depleted if the treated water is exposed to the atmosphere, sunlight or chemicals contained in the soil" and "Therefore, impacts would be insignificant due to the low likelyhood of the rupture and fast chlorine residual dissipation". We already addressed the absurdity of the DEIR only assessing chlorinated water releases from ruptures but not from leaks, and the claim here that chlorine released to the environment would quickly dissipate is just as absurd.

GC - 1.14

In fact the DEIR admits on page 5.6-25 of the Hazards and Hazardous Materials section that "The nature of the receiving environment will also have an influence on the potential impact of a treated water release" and "This means that some bodies of water may show no effect from a spill of treated water because neutralizing materials are present, while release of treated water to another water body may result in an impact." There is absolutely no way of knowing which small streams or small pools or riffle trickles that chlorinated water could leak into from this project would have very slow or fast dissipation of chlorine. Even in the environments where relatively fast chlorine dissipation might otherwise occur, the dissipation effect could be more than offset by highly toxic chlorine continually entering these dry season small aquatic ecosytems from a continual small chlorinated water leak.

Also, even when chlorine is not continually introduced into small aquatic ecosystems, as it would be from a leaking pipeline, as the DEIR has admitted on page 5.6-25, the deadly toxic chlorine may not dissipate fast and therefore it would expose aquatic species to highly toxic chlorine for long periods of time. For example, during my Senior Project study of the lethality of chlorinated

GC - 1.14 Cont'd

water on native fish, the amount of chlorine necessary to bring the test tank water to a level of 1.5ppm chlorine was introduced into the test tanks at the beginning of each test and no additional chlorine was added during the test. However this very low initial level of chlorine did not rapidly dissipate and it continued its lethal effect on steelhead and speckled dace for a long period of time until these fish typically died several hours after the chlorine was released into the test tank water.

It is therefore inappropriate for the DEIR to ignore its own analysis on page 5.6-25 that some aquatic ecosystems may suffer an adverse impact from chlorinated water spills due slow dissipation of chlorine, and then conveniently contrarily conclude on page 5.7-31 that chlorinated water spills to aqautic ecosystems "would be insignificant due to the low likelihood of the rupture and fast chlorine residual dissipation".

GC - 1.15

And although the mitigation HM-11 on DEIR pages IS-42, 5.6-26, and 5.6-34 to initially test the pipeline for leaks with raw water instead of chlorinated water if the Treated Water Option is used is a necessary measure (to avoid fish and amphibian kills as occurred in Miossi Creek when chlorinated water was used to initially test the Coastal Branch of the SWP pipeline, DEIR page 5.6-25), over the 100 year life of the proposed project it does nothing to prevent deadly chlorinated water from being released from leaks in the pipeline and entering the many small aquatic ecosystems crossed by the pipeline. Therefore, contrary to what the DEIR claims on these pages, mitigation HM-11 does not reduce potentially significant impacts from chlorine spills to a "Residual Impact" of "Insignificant" or to a Class III Impact (Impacts That Are Adverse But Not Significant)!

GC - 1.16

Nearly the entire environmental community in SLO and Santa Barbara SB) counties banded together through public hearings, fundraisers, lawsuits, etc., to attempt to prevent the DWR and the CCWA from chlorinating the Coastal Branch of the SWP pipeline at the Polonio WTP prior to the pipeline running through about 160 miles of mostly wild and rural SLO and SB counties putting at risk for the assumed 100 year life of the project the aquatic species in the 241 wetlands and streams that pipeline crossed (Coastal Branch, Phase II, General Biological Mitigation Plan, March 1993, Appendix 2, streams and wetlands crossed by the pipeline). Unfortunately that project's ill-advised decision makers and the local court took the side of development over other species' silent but urgent trust in us to protect them, and disappointingly allowed the chlorination of the SWP pipeline.

In the end, two things made the final decision to chlorinate the SWP pipeline sadly ironical.

First, and in DWR's, CCWA's, decision makers', and the court's clear acknowledgement of how deadly very low concentrations of chlorinated water is to aquatic species as fish, a Dechlorination Plant was required to be built just downstream of Cachuma Reservoir in Santa Barbara County. This was necessary to prevent fish kills from occurring due to chlorinated water being released into SB County's storage reservoir for SWP water!

Secondly, all except one of the approximately 20 water purveyors for SWP water already had chlorination facilities at or near their point of use. So what purveyor did not have existing chlorination facilities near its point of use? It was politically powerful Santa Maria. The SWP pipeline was chlorinated nearly 100 miles away from Santa Maria at the Polonio Pass WTP at the SLO-Kern county line putting aquatic species in 241 streams and wetlands at lethal risk from chlorinated water leaks for the long life of the pipeline project just so Santa Maria did not have to build its own chlorination facility!

The final irony is that apparently chlorination facilities are not very expensive to build if the water has already been treated to meet drinking water standards except for chlorination. CASA members have been told by local WTP personnel that a Chlorination Plant would have cost Santa Maria approximately a million dollars and that it probably cost about that much or more to build and maintain the Dechlorination Plant at Cachuma Reservoir!

GC - 1.16 Cont'd

Finally, a few SWP proponents tried to argue that SWP water at the Polonio Pass WTP had to be chlorinated to kill exotic aquatic species from the Central Valley to prevent them from entering Cachuma Reservoir and the 241 streams and wetlands the SWP pipeline crossed if it spilled from leaks or ruptures (an admission by applicants and proponents of chlorinated water pipelines proposed through many miles of wild and rural lands that they have a significant chance of spilling chlorinated water into aquatic ecosystems over the very long life of such projects). This argument for Santa Maria negligently avoiding building its on chlorination facility was so feeble it was easily dispelled. True, the water at Polonio Pass WTP needed to be chlorinated to kill any exotic aquatic species, but then it could have easily been dechlorinated at the Polonio Pass WTP before it entered the SWP pipeline for its 160 mile journey crossing 241 streams and wetlands.

What a sad, environmentally ironical story the chlorinated SWP pipeline turned out to be. We should all band together over time to force Santa Maria into building its own drinking water chlorination facility so that the chlorinated water at Polonio Pass, necessary for killing exotic aquatic species from the Central Valley, can then be dechlorinated at the Polonio Pass WTP eliminating for all time the unacceptable risk this currently needlessly chlorinated pipeline has to the 241 aquatic ecosystems it crosses!

And it is obvious that the currently bad SWP chlorinated pipeline does not justify another bad chlorinated pipeline (this proposed one) through many miles of wild and rural land likewise crossing many streams and wetlands and putting their aquatic species at unacceptable long term risk from chlorinated water leaks.

GC - 1.17

It is incorrect for the DEIR to conclude on page ES-11 and elsewhere that the Treated Water Option is the "Environmentally Superior Alternative", when the DEIR has completely failed to analyse and discuss the risk to aquatic species that could occur from small but steady chlorinated pipeline leaks into the many very small dry season aquatic ecosystems that the pipeline would cross. But even without this needed chlorinated water leak analysis in the existing inadequate DEIR, it is still reasonable to conclude that the Raw Water Option is the Environmentally Superior Alternative.

This is because the potential for these chlorinated water leaks into aquatic ecosytems causing potentially significant adverse impacts (CEQA allows for assessment of potentially significant adverse impacts, for example, see the first sentence of section D.1 on pabe ES-8 of the DEIR) to many aquatic species outweighs the two "environmental benefits" of the Treated Water Option mentioned on page ES-11 of the DEIR. These 2 benefits are "the Treated Water Option avoided potential impacts to riparian areas in the Salinas River and resulted in better overall water quality".

GC - 1.17 Cont'd

Unlike the Treated Water Option, the Raw Water option would potentially impact Salinas River riparian vegetation at the 3 Salinas River water discharge facilities near Paso Robles, Templeton, and Atascadero. However, the DEIR promises to mitigate any removed riparian vegetation at a 3 to 1 replacement ratio. The DEIR concludes this will mitigate this potentially significant impact to less than significant (Mitigation Measure BR-22, page IS-25). On the other hand fish and other aquatic species that would be killed from potential chlorinated water leaks of the Treated Water Option cannot be mitigated, whereas the Raw Water Option would completely avoid these potential unmitigable significant impacts. It is strongly emphasized here that a chlorinated Water Discharge and Spill Contingency Plan as provided for the Coastal Branch of the SWP (Attachment A) cannot mitigate for aquatic species killed by chlorinated water leaks, it can only repair the chlorinated water leak after the killing has been done!

GC - 1.18

And the second environmental "benefit" the DEIR claims for the Treated Water Option that the Raw Water Option allegedly does not have is the "better overall water quality". But better overall water quality is relative. Better for who? Clearly the chlorinated water is not better for aquatic species and they have to be taken into consideration as well as people in the DEIR analysis. Fish and other aquatic species that could be killed from chlorinated water leaks from the Treated Water Option cannot be returned to life. But under the truly Environmentally Superior Alternative of the Raw Water Option, people can still have their drinking water chlorinated at WTPs next to their cities where such WTP should be located, thus providing the same overall water quality that the Treated Water Option provides and not putting many aquatic ecosystems at long term risk as the Treated Water Option does.

GC - 1.19

So it is difficult to see how the Treated Water Option is the Environmentally Superior Alternative unless we take the perspective in CEQA EIR analyses that people's needs and wants are more important than other species' continually disappearing abilities to survive in this world due to our actions. CEQA is supposed to prevent the latter, not make it worse.

GC - 1.20

Until the DEIR is revised to making the critically needed leak analysis and discussion so the public can review and comment on it, the DEIR is very inadequate. And in making this needed chlorinated water leak analysis in a revised DEIR, CASA recommends that a couple of significant items be included in it.

GC - 1.21

Foremost, the DEIR is very inadequate in documenting the many wetlands and creeks the proposed chlorinated pipeline would cross. For example the discussion at the bottom of page 2-27 in the Project Description section of the DEIR erroneously leads a reader to conclude that only about 12 streams and wetlands would be crossed by the proposed pipeline. And Various other places of the DEIR indicate that about 10 or fewer mostly named streams will be impacted by the proposed pipeline project (e.g., page 5.1-16, paragraph 3, and page 5.1-17, Table 5.1.7.). And Table 5.7.2 on pages 5.7-16 and 5.7-17 indicates that 13 streams and wetlands will be crossed by the proposed 64 mile long project.

This inadequate paucity of stream and weland information in the DEIR analyses sections is inconsistent with the Appendix F Notice of Preparation which states on page 5 of the NOP "**more than 30 creek/drainages will be crossed**". And consistent with the NOP, the Protected Habitats section of the DEIR on page 5.7-12 states "The multiple streams crossed by the proposed project qualify as Waters of the United States under The Federal Clean Water Act". This section of the DEIR continues on pages 5.7-13 and 5.7-14 to further classify these many streams crossed by the proposed project into categories of Waters of the U. S., as streams and wetlands. Therefore, because the DEIR acknowledges that these greater than 30 streams and wetlands are sensitive "Protected Habitats", then contary to what the EIR for the Coastal Branch of the SWP did, why does this DEIR fail to list each of the streams and wetlands its proposed chlorinated pipeline will cross and impact?

The "Coastal Branch, Phase II General Biological Mitigation Plan" for the Coastal Branch of the SWP EIR listed by mile number (accurate to the tenth of mile) each of the 241 streams and wetlands that the SWP pipeline proposed to cross. This needs to be done for this DEIR before it can be considered adequate.

GC - 1.22

Doing so will clear up discrepancies in the DEIR that indicate in different places that anywhere from fewer than 10 to more than 30 streams will be crossed by the proposed pipeline. In fact if this needed stream and wetland analysis is done, there is strong reason to believe that the number of streams and wetlands that will be crossed by the proposed pipeline will be significantly greater than the "more than 30" indicated in the NOP.

Here's why. Since the SWP pipeline and the proposed pipeline both traverse many miles of wild and rural lands, it is reasonable to assume that if the approximately 160 mile long SWP pipeline crosses 241 USGS map blue-lined streams and wetlands, then the 64 mile long proposed pipeline will likely cross a proportional number of USGS map blue-line streams and wetlands. By doing the basic proportionality math (160 pipeline miles/241 streams and wetlands cross multiplied by 64 pipeline miles/ "x" streams and wetlands = 96 streams and wetlands), one **could expect plus or minus approximately 96 blue-lined streams and wetlands would be crossed by the proposed pipeline**. This number is far greater than the confusing less than 10 to greater than 30 indicated in the DEIR depending on what section one reads!.

Listing these streams and wetlands, named or unnamed, perennial or intermittent, riparian vegetated or non-riparian vegetated, etc., is absolutely critical in assessing the environmental impacts the proposed project will have on stream, wetland, and riparian ecosystems. For example, if the drafters of the DEIR do not know how many streams the proposed pipeline crosses and if they have riparian vegetation or not, then how can the DEIR adequately state how many acres of project removed riparian vegetation needs to be mitigated at its promised 3 to 1 replacement ratio? The public has a right to know at the DEIR stage how many acres of riparian vegetation will be removed and replaced and where this replacement will take place.

More importantly, by the DEIR only listing the few major named streams that the proposed pipeline will cross, a very minimal and erroneous perspective is created of the risk of chlorinated water leaks potentially occurring to aquatic ecosystems. Even if the currently inadequate DEIR is revised to reflect a fair analysis of potential leaks to aquatic ecosystems but only assesses the risk of leaks to the maximum number of 13 streams specifically listed in the DEIR in Table 5.7.2 , the true risk of chlorinated water leaks to aquatic ecosystems would be greatly understated.

GC - 1.22 Cont'd

For example, when SWP pipeline biologists did their preconstruction biological surveys in the mid 1990's of the 241 streams and wetlands listed in their EIR, they found that a significant number of the small, unnamed, intermittant blue-lined streams and wetlands had riparian vegetation along them and aquatic species in them as threatened red-legged frog adults and larvae and California species of special concern as southwestern pond turtles, California newts, and western spadefoot toad adults, juveniles and larvae.

Also, because nearly all of the many streams and wetlands that the proposed pipeline would cross likely have steep banks and the DEIR proposes to trench the water pipeline under them, many sections of the proposed pipeline will have steep angles in them making it much more difficult to build a pipeline that would not leak chlorinated water into these many streams and wetlands over the long life of the project.

GC - 1.23

Finally on the issue of the DEIR improperly proposing to carry chlorinated water in its pipline, not only does the DEIR totally ignore the risk of chlorinated water leaks in these many steep banked streams (that the DEIR also has failed to list to give the public an idea of the number of streams at risk from leaks and construction damage), it also likely has significantly understated the risk of catostrophic pipeline rupture by relying on the Alberta Canada study to calculate that the chance of a pipeline rupture is 0.3 ruptures over the assumed 100 year life of the proposed project.

GC - 1.24

In its analysis of pipelines did the Alberta study take into account all of the natural **"wraths of nature"** that frequently occur in California and in particular Central California where this pipeline is proposed? As we know on the Central Coast these not infrequent "wraths of nature" include things like earthquakes, fires, floods, landslides, and torrential rains accompanied by scouring, erosion, and sedimentation. And all of these "wraths of nature" can act alone or together to significantly increase the risk of leaks and ruptures along a pipeline proposed to carry chlorinated water across many steep-banked streams and wetlands.

Supporting this possibly partly overlooked "wraths of nature" perspective of risks to leaks and ruptures of the proposed pipeline beyond what the Alberta study may have took into account, the DEIR on page 5.2-7 states "The Rinconada fault crosses beneath the alignment at approximately Station 1190+00 where it is overlain by alluvium" and page 5.2-9 states "Of the four faults described briefly above, the San Andreas is most likely to generate the strongest shaking with the longest duration over the entire project area" and "The Rinconada and Los Osos faults are closer, and would generate strong shaking locally if either were to rupture during the useful life of the proposed project". We remember in the early 1990's watching on television all the bursted water mains shooting water into the sky and all of the fires caused by the Northridge Earthquake. Such earthquakes and other not too uncommon "wraths of nature" that occur in California including where the proposed

GC - 1.24 Cont'd

chlorinated pipeline would be built are the things that must be fully taken into account in studies providing mathmatical formulas for theoretically calculating risks of leaks and ruptures of pipelines.

If the Alberta study failed to assess all these "wraths of nature" that are at work in Central Califonia, then clearly the DEIR not only needs to be revised to analyse the risk of chlorinated water leaks to the many streams it would cross, but it also needs to be revised to recalculate the risk of ruptures to the pipeline over its assumed 100 year project life.

GC - 1.25

And absolutely critical to these analyses needs to be a revision of the DEIR to give a listing by pipeline mile number accurate to the tenth of mile, as the Coastal Branch of the SWP EIR did (The Alignment Stationing numbers used in Table 5.7.2 of the DEIR for indicating where the 13 streams and wetlands are in the table are of little value to the non-engineering DEIR reviewing public for understanding where these streams and wetlands are along the 64 mile long proposed pipeline), of all the USGS map blue-lined streams and wetlands that the proposed chlorinated pipeline would cross seriously putting all of these aqautic ecosystems at risk from chlorinated water spills.

Finally on the issue of the proposed pipeline carrying lethal chlorinated water, CASA will oppose this project and recommend to others that they oppose the project until chlorine is eliminated from the pipeline project. To that end CASA supports the Raw Water Option and strongly opposes the Treated Water Option and recommends to others that they do the same.

This ends CASA's comments on the issue of a chlorinated water pipeline being inappropriately proposed in the DEIR, and the rest of our comments cover concerns we have at specific DEIR pages.

GC - 1.26

Page ES-11, paragraph 3, indicates that the current DEIR proposed pipeline route is "clearly superior to the NWP 1997 EIR Preferred Alternative due to avoidance of several Significant Class I Impacts". But as the DEIR has pointed out (page ES-9 and elsewhere), these significant impacts were primarily short term traffic disruption inconveniences to people during construction. Why is that more important than greater impacts to wildlife and their survival habitat from the existing DEIR proposed pipeline route?! And the other significant impact with the 1997 route was visual aesthetics. So the current DEIR has taken the approach that it is better to hide a human development project in remote wildlife survival habitat than for people to have to look at what they want developed. But, again, why is "nice views" to some people more important in a CEQA analysis than wildlife's survival habitat?

In fact, page 3-22, paragraph 4, states "the proposed project would likely result in greater impacts to biological resources (given its more rural route)". If we continue to make critical environmental/ecological CEQA decisions based on some people's complaints about short term transportation inconveniences and "pleasurable" views rather than other species' survival habitat needs, other species ability to survive in our people dominated world is going to only get tougher with more and more threatened, endangered, and extinct species ultimately the short sighted consequences.

GC - 1.27

Pages 4-3 and 4-4 of the DEIR evaluate the cumulative project effects of the proposed water pipeline diversion project and Monterey County's Salinas

Valley Water Project (SVWP). It can be interpreted from this discussion that the SVWP could divert from Nacimiento and San Antonio reservoirs 9,700 afy (acre feet per year) into Nacimiento and Salinas Rivers more than has historically occurred. Or it could be interpreted that the same amount of water will be released from these reservoirs as historically, but just at different times of the year. If it is the former, this is more water for fish and other aquatic species that live in these Rivers and therefore more water for people who go fishing in these rivers thus benefitting the overall fisheries in these rivers.

However, page 5.7-32 of the DEIR and other places in the DEIR state that the proposed pipeline project will divert 16,200 afy more water from Nacimiento Reservoir than has historically occurred, since the DEIR also makes it clear on page that Monterey County has not historically been obligated to annually hold this SLO County water entitlement in Nacimiento Reservoir if SLO County was not using it. So it can be assumed that Monterey County has historically released this 16,200 afy to the Nacimiento and Salinas rivers to benefit the surface and groundwater uses of Monterey County and to help prevent sea water intrusion into the freshwater aquafer in northern Monterey County.

GC - 1.27 Cont'd

So, overall, if the interpretation that the SVWP will divert 9,700 afy more water into the 2 rivers than has historically occurred is correct, there still will be a cumulative project net loss to the 2 rivers of 6,500 afy (16,200 afy minus 9,700 afy). Since Table ES.1 on page ES-5 of the DEIR indicates that 16,200 afy equals 27.57 cfs (cubic feet per second) the proportional math indicates that 6,500 afy is equal to 11.06 cfs. In any fisheries discussion on the Central Coast of California of the importance of water flow in local streams including the Nacimiento and Salinas Rivers that have little flows in the dry season or during droughts, 11 cfs is very important to protecting the stream aquatic ecosystem and reliant fisheries.

The DEIR alleges at the bottom of page 5.7-32 that the SVWP will re-operate flows from Nacimiento Reservoir so the loss of any flows to Nacimiento and Salinas Rivers from the proposed project will not be significant. The DEIR further summarily generalizes the the SVWP will do this re-operation by manipulating wet and dry season releases from Nacimiento Reservoir so that the net effect will be no significant impact on the downstream ecosystems, fishes, and fisheries even though the proposed project will divert 16,200 afy from these 2 rivers. The DEIR makes this summary conclusion without providing any of the necessary past, present, and proposed future flow data to these 2 rivers from Nacimiento Rivers to prove there will be significant impact on the downstream river systems.

Without having this flow data in the DEIR, it is impossible for the reviewing public to determine if the DEIR's summary allegation is correct that no significant impacts occurring to these 2 rivers from the annual diversion of 16,200 afy. Until the DEIR is revised to incorporate these flow data and a full and detailed discussion of them are likewise to prove the DEIR's current allegation of no significant impacts to these 2 downstream rivers, the DEIR is very inadequate.

GC - 1.28

Page 5.11-1, paragraph 1, of the DEIR, states that the majority of the pipeline would be installed in road right-of-way (ROW), and the surface would therefore be pavement. There are 2 significant problems with this statement.

First, this does not seem to be true based on the DEIR elsewhere. If one looks at Figures 2-3 to 2-24, which are colored overhead photos of the proposed pipeline alignment, it appears that about 20 miles of the proposed alignment are in wild and rural lands not in ROWs, especially most of the part of the proposed pipeline from Nacimiento Dam to Highway 101, which is a long distance.

GC - 1.28 Cont'd

And second, the statement the majority of the pipeline will be under pavement because it is in ROWs makes no sense. This route was unfortunately selected to be away from roads so as not to disrupt travelers during construction. And even the photos of Figures 2-3 to 2-24 seem to show that the proposed route would not be under pavement even when the proposed pipeline is in ROWs.

What is important here is how much new pipeline construction and longterm maintenance road will be necessary for this project and how much of each type of habitat in acres these project roads will destroy. And just as the EIR for the Coastal Branch of the SWP did, these destroyed acreages need to be listed in the DEIR along with the DEIR's already given habitat replacement ratios, so the public can see what the project road caused environmental impact is and where and how it is going to be mitigated. And in the end the public can use these EIR habitat replacement acreage figures to help establish if this replacement mitigation ever gets done.

The DEIR will be inadequate until the DEIR discloses how much new road is needed, how much habitat it destroys, and how many acres of replacement habitat will be provided and where.

GC - 1.29

Appendix F, Notice of preparation, bottom of page 5 states that the biological surveys that took place prior to the preparation of the DEIR resulted in a Biological Resources Technical Report (BRTR) upon which the existing setting section of the DEIR is based. Where is this BRTR? It should be part of the DEIR for the public to review and comment on. It will help the reviewing public know what kind of biological surveys have been done and how superficial or detailed they were. Or is the Appendix B listing of flora and fauna species observed at points along the proposed pipeline route the full equivalent of the BRTR? If so, where are the acreages of various habitats that will be destroyed by this project documented in the BRTR of DEIR because we could not find them.

Until the DEIR includes the BRTR and acreages of various habitats destroyed by the project in the DEIR, the DEIR will be very inadequate.

GC - 1.30

Also the DEIR in a couple of places indicates that it will replace wetlands destroyed by the project on a 1 acre replaced for one acre destroyed ratio. The RWQCB has a policy to replace wetland destroyed on the 3 to 1 acreage ratio. Why isn't the DEIR providing that important mitigation for the project? We consider the DEIR to be inadequate without the RWQCB's recommended wetland acreage mitigation ratios being incorporated into the DEIR and being used.

GC - 1.31

Finally, we recall reading somewhere in the DEIR that consultation with the Federal and State natural resource agencies had taken place in the preparation of the DEIR. But the only proof that we could find in the DEIR that even a little such consultation has taken place is in Appendix H, List of Agencies

GC - 1.31 Cont'd

Contacted, 5.7 Biological Resources. In this appendix at the bottom of page at it simply states "US Fish and Wildlife Service, Doug Threloff". What was discussed, coordinated, determined, written, or otherwise documented in this contact? It should be in the DEIR for the public to review and comment on. Was there a report or letter provided by USFWS or the applicant or the DEIR preparersa based on this DEIR contact? If so, it should be in the DEIR. If none of this documentation occurred based on this contact and this was the only coordination that oocurred with all the Federal and State natural resource agencies for the preparation of this DEIR, then we have concerns that adequate coordination will be done with these resource trust agencies after the EIR is approved.

We wished we had time to provide you with more comments including a cummary and conclusion, but we are running out of time to get these comments submitted by the September 5 deadline.

So we thank you for the oportunity to comment on the DEIR and we look forward to continuing to work with you on this project to make it a good one!

Sincerely for Canyons and Streams Alliance (CASA),

Phil Ashley

Phil Ashley

ATTACHMENT A

Department of Water Resources

WATER DISCHARGE AND SPILL CONTINGENCY PLAN
Coastal Branch, Phase II Project
Amended Plan-February 17, 1994
Original Plan-May 17, 1993

Section I - Purpose of Plan

This document describes Department of Water Resources (DWR) procedures for responding to emergency or planned releases of chlorinated or chloraminated water from the Coastal Branch, Phase II pipeline and its related facilities. The provisions and response procedures of this plan are intended to be used during construction and operation of the conveyance facilities.

Section II - System Description

The Coastal Branch, Phase II project is a component of the State Water Project (SWP) consisting of 102-mile long underground pipeline extending from Devils Den in Kern County to Tank 5 site on Vandenberg Air Force Base in Santa Barbara County. The pipeline will be buried except for the portion crossing the San Andreas Fault. The project also features four pumping plants located at Devil's Den, Bluestone, Polonio Pass and Casmalia; a hydroelectric power plant east of the city of San Luis Obispo; and five partially-buried water tank sites along the pipeline alignment. With the exception of 12 miles of raw water pipeline from Devils Den Pumping Plant to Polonio Pass, the facility will deliver treated water to San Luis Obispo County and Santa Barbara County. Treatment will be provided by a 43 mgd water treatment plant at Polonio Pass to be built and operated by the Central Coast Water Authority (CCWA). CCWA will also build and operate the Mission Hills and Santa Ynez extension pipelines which will extend from the terminus of DWR's Phase II pipeline and terminate at Lake Cachuma in central Santa Barbara County.

DWR's Coastal Branch, Phase II pipeline would cross 20 major streams and numerous small, seasonal streams and drainages. Major streams along the route are Cholame Creek, San Juan Creek, East and Middle Huerhuero creeks, Salinas River, Trout Creek, Yerba Buena Creek, Santa Margarita Creek, Stenner Creek, Brizziolari Creek, San Luis Obispo Creek, Hampton Creek, West Corral de Piedra Creek, Fiscalini Creek, East Corral de Piedra Creek, Arroyo Grande Creek, Tar Springs Creek, Los Berros Creek, Nipomo Creek, and the Santa Margarita River. An alignment minimizing disturbance of the riparian community was selected for each crossing, with crossings buried under the streambed to minimize the probability of a spill impacting the streams.

The Polonio Pass Water Treatment Plant will use chlorine and ammonia for disinfection of water. Chloramines, chlorine, and ammonia will form the residual disinfectants in the water transported through the pipelines. The residuals of concern are chlorine and ammonia due to their harmful effects to aquatic life. The recommended 1-hour maximum concentration for aquatic life protection in ambient freshwater for chlorine is 0.019 mg/liter (U.S. EPA National Ambient Water Quality Criteria). At a typical pH of 8.0 and temperature of 15°C, the recommended 1-hour maximum concentration for the protection of aquatic life is 0.184 mg/liter for unionized ammonia and 6.9 mg/liter for total ammonia (U.S. EPA National Ambient Water Quality Criteria). During normal system operation, treated water exiting from the treatment plant is expected to have a maximum of 2.0 mg/liter of total chlorine residual and 0.5 mg/liter of total ammonia. At the typical pH of 8.0 in the pipeline, the unionized ammonia concentration in the water will be 0.027 mg/liter. Ammonia is, therefore, not expected to cause an adverse impact to aquatic life. It is, however, expected that chlorine residual will be above the EPA recommended standard throughout the entire length of the pipeline. It is the objective of this plan to prevent or minimize the impact of treated water spills to the environment.

Section III - Response and Contingency Plans for Water Discharges and Accidental Spills

Water discharges from the project may occur during initial startup and normal operations. Accidental and emergency spills may occur during natural disasters such as earthquake, malfunction of flow control systems and alarms, or vandalism resulting in the structural failure of pipelines, tanks and related facilities. The discharge of wastewater and chloraminated water from the pipelines and tanks during initial startup is unavoidable but measures will be implemented to minimize or prevent the impacts to the environment as a result of the discharge. Likewise, discharges during normal operations will be planned ahead of time and measures will be implemented to prevent impacts to the environment. The project incorporates features designed to minimize water discharges outside of the project during emergencies. Discharges and spills during emergency situations will be addressed in the Emergency Action Plan for San Joaquin Field Division scheduled to be completed in July 1993.

A. Water Discharges During Initial Startup

At startup, newly constructed or repaired pipeline and tanks must be initially washed to clear them of large debris and other solids. After the initial wash, they will be pressure tested to ensure integrity of construction. Once the pressure test is passed, they must be disinfected to ensure that microorganisms are killed and organic materials are oxidized. For this project, the disinfectant used will be superchlorinated water with free chlorine residual up to 50 mg/l. The initial washing, pressure testing, and disinfecting will be performed using water supplied from the treatment plant or water from the wells along the pipeline route.

Wastewater generated from washing, pressure testing and disinfecting of pipelines and tanks will be disposed of to land whenever feasible. When land disposal is used dechlorination of disinfectant water prior to discharge will not be necessary. Discharge of wastewater to streams, rivers, and other water bodies will only be considered if land disposal is not feasible.

Land disposal of wastewater will be conducted using good management practices to prevent soil erosion and runoff to surface waters. Methods to be employed in disposing of wastewater to land include spray irrigation, drip irrigation and low rate or low pressure release system. To ensure containment of wastewater on land and prevent erosion, retention basins, series of checks, sand bags, silt fences, straw bales and other applicable techniques will be employed.

Should a discharge to surface waters is unavoidable, the wastewater will be treated prior to discharge. Methods to remove chlorine will include treatment with sodium bisulfite and by natural dissipation through increased retention in pipes and tanks or by employing holding basins prior to discharge. Discharge of chlorinated water to surface waters will only be done after the chlorine residual is reduced to 0.019 mg/liter or less. Holding basins, if employed, will also be used as settling basins to remove debris, suspended solids and other foreign materials in the wash water and pressure testing water. The discharge to surface waters will be conducted in a manner so as not to increase the concentration of suspended solids and other contaminants in the wastewater. In all cases, wastewater discharged to surface waters shall not contain chlorine residual in excess of 0.019 mg/liter, debris, suspended solids and other materials that may adversely affect the beneficial uses of the receiving waters.

The disposal of wastewater generated during initial startup will be done only after approval is granted by the local regional water quality control board. The Department of Fish and Game and other responsible government agencies will also be consulted if a discharge to surface waters will be selected.

B. Water Discharges During Operations

Water discharges during normal operations will only be disposed of to surface waters if land disposal option is not feasible. Removal of chloramines will not be required if discharged to land. Removal of chloramines from the water will be carried out when disposal is to surface waters except for discharges from the system upstream of the Tank 1 site where water is untreated. In all cases, measures shall be implemented to prevent soil erosion and water quality degradation to the receiving waters.

To dechloraminate water discharges during normal operations, portable dechloramination equipment will be maintained and housed in a trailer to be stored in the maintenance building of the project. This trailer will hold all the required pumps, mixing equipment, valves, and connections to allow dechloramination of any discharges. The dechloramination process will use sodium bisulfite for conversion of chloramines to ammonium and chloride. When a planned discharge occurs, the trailer will be driven to the site and positioned at the site of the blowoff. Connections will be provided which allow the discharged water to pass through the equipment on the trailer and be routed to the appropriate discharge point. Erosion control measures will be implemented when erosion potential exists.

C. Emergency and Accidental Water Discharges

During catastrophic events such as an earthquake, structural failures of pipelines, tanks, and other facilities in the project may occur resulting in the discharge of chloraminated water to streams and rivers.

The project incorporates several design features to minimize accidental spills and reduce the amount of water losses from the pipeline including:

- Dividing the pipeline into sections which can be isolated from other sections with valves. These valves include those at pumping plants, the powerplant and tanks.

- Establishing communications network which allows constant monitoring of flows and automatic alarms and automatic closure of valves to avoid spills. The tanks, pumping plant forebays, and the powerplant afterbay will be equipped with control systems which will automatically stop inflow if the water surface exceeds the design high water elevation. Flow through the pipeline will be automatically stopped in the event of a large flow increase which would indicate a rupture in the system.

- o Establishing standard operating procedures to respond to spills from the pipeline which provide for stopping the flow of water as soon as possible automatically, with manual backup.

The tanks in all five sites of the project will be partially buried tanks projecting ten feet or less above ground surface. Partial burial minimizes extensive damage enabling the tanks to be still operational even after a major earthquake. The intake line of each tank will consist of a riser pipe which extends inside the tank and rises above the high water level. Shutoff valves will be installed at the discharge line of each tank (downstream side of tank). The shutoff valve will be controlled by a velocity trip meter which will automatically shut the valve off if the velocity of the water exceeds a predetermined speed. The design of the intake lines (riser pipes) and the shutoff valves at the discharge lines will prevent the draining of the tanks in the event of a pipeline rupture or leak. Redundancy will be provided in both the control system and the valves to ensure that outflow from the tanks can be stopped in the event of an earthquake or other mishap.

The forebays for Devil's Den Pumping Plant, Bluestone Pumping Plant, and Polonio Pumping Plant will have reserve storage capacity. There will be adequate time available to override the automatic control system from the control center in the unlikely event that the automatic control system and the backup systems fail to operate. Since the untreated water is pumped through these three pumping plants, effects of chloraminated water will not be a consideration at these sites.

The San Luis Obispo Powerplant Afterbay and the Casmalia Pumping Plant forebay will have reserve storage capacity. There will be adequate time available to override the automatic control system from the control center in the unlikely event that the automatic control system and the backup systems fail to operate. A spill from either facility would not discharge directly into surface waters.

DWR is currently developing the Emergency Action Plan (EAP) for the San Joaquin Field Division which is scheduled for completion in July 1993. The EAP provides detailed operating procedures to deal with emergencies in the San Joaquin Field Division which includes the Coastal Aqueduct, such as rupture of a pipeline, aqueduct, tank, pumping plant forebay, powerplant afterbay and related State Water Project facilities. These procedures will describe specific actions for specific emergency situations and identify personnel responsible for implementing each specific response or action. Notification of other responsible government agencies will be spelled out in the EAP.

ATTACHMENT B

c Frank Lebens
Phil Ashley
Roger Gambs
File

CENTRAL COAST SALMON ENHANCEMENT, INC.

FISH FOR EVERYONE

a non-profit corporation

22 February, 1995

FAX COVER

Number of Pages (including cover): 2
Your FAX number: 805/756-1419

Dr. V.L. Holland
Biological Sciences
Cal Poly State University
San Luis Obispo, CA 93407

RE: State Water Project.

Federal I.D.: 77-0079896.
501(C)3 Tax-exempt.

Dear V.L.,

Thank you for providing me with your document on State Water Project concerns. If I can write a letter of support, please advise where to send it.

Regarding chlorine toxicity of trout - back in 1992 we experienced a most unfortunate circumstance of faulty charcoal filters. As a result we lost 25,000 fingerling salmon (approx. 60 fish per pound) in less than a week. The chlorine level that killed these fish was only 0.2 ppm. This level is far lower that the 1 ppm that will discharge from the Water Project.

Also, is there any possibility of non-native fish entering the creeks through "blow-out" valves? The attached letter from Santa Barbara County expresses such concern.

~~Best Regards~~,

Paul Cleveland
Project Manager
805/773-6769 (office)
805/773-6942 (fax)
Salmonfix@aol.com. (e-mail)

Cogstone Resource Management Inc.

GC-2

Archaeology & Paleontology

August 29, 2003

Nancy Orton and Steve McMasters
SLOC Planning Department
San Luis Obispo, CA

Dear Nancy and Steve:

I am submitting my comments on the Nacimiento Water Supply EIR to you as we discussed. My overall comment is that the paleontology section lacks scientific accuracy and does not reflect current standards in the profession. I have listed my specific concerns below but would like to focus on what needs to be done to create a proper combination CEQA/NEPA document.

GC - 2.1

First of all, the section on regulatory setting is extremely deficient. NEPA is not cited, only NHPA section 106. The actual regulations for cultural resources are not cited, only someone's interpretation of them. The state regulations cited are also incomplete and loaded with interpretation rather than citation of the regulations/guidelines. All of the appropriate regulations should be cited and followed by a paragraph on what that means in regard to paleontological, prehistoric and historic resources. I recommend the Caltrans Online Environmental Handbook that has discussions of all relevant federal and state regulations for paleontology (Volume 1, Chapter 8) and archaeology/history (Volume 2).

GC - 2.2

Secondly, professional standards in paleontology apply paleontological sensitivity ratings to geological formations or specific subdivisions like members based on a full knowledge of the fossils recovered from those formations. Full knowledge was not obtained because no record searches were done and unqualified personnel performed the field survey. The sensitivity ratings in this EIR are not appropriate and some are blatantly incorrect. The following guidelines of the Society of Vertebrate Paleontology are the professional standard (highlighting added for emphasis).

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Santa Ana, CA 92701-5008
cogstone@hotmail.com
714-245-0264 ph
714-245-0054 fx

Society of Vertebrate Paleontology Guidelines (*SVP Bulletin* 163:22-27 1995)

The determination of a site's (or rock unit's) degree of paleontological potential is first founded on a review of pertinent geological and paleontological literature and on locality records of specimens deposited in institutions. This preliminary review may suggest particular areas of known high potential. If an area of high potential cannot be delimited from the literature search and specimen records, a surface survey will determine the fossiliferous potential and extent of the sedimentary units within a specific project. The field survey may extend outside the defined project to areas where rock units are better exposed. If an area is determined to have a high potential for containing paleontologic resources, a program to mitigate impacts is developed. In areas of high sensitivity, a pre-excavation survey prior to excavation is recommended to locate surface concentrations of fossils, which might need special salvage methods.

The sensitivity of rock units in which fossils occur may be divided into three operational categories.

HIGH POTENTIAL. Rock units from which vertebrate or significant invertebrate fossils or significant suites of plant fossils have been recovered are considered to have a high potential for containing significant nonrenewable fossiliferous resources. These units include, but are not limited to, sedimentary formations and some volcanic formations which contain significant nonrenewable paleontologic resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical, and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas which contain potentially datable organic remains older than Recent, including deposits associated with nests or middens, and areas which may contain new vertebrate deposits, traces, or trackways are also classified as significant.

GC - 2.2 Cont'd

UNDETERMINED POTENTIAL. Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials. Field Surveys by a qualified vertebrate paleontologist to specifically determine the potentials of the rock units are required before programs of impact mitigation for such areas may be developed.

LOW POTENTIAL. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils. Such units will be poorly represented by specimens in institutional collections. These deposits generally will not require protection or salvage operations.

The sensitivity ratings in the EIR need to be revised reflecting the highlighted standard with the results that all formations except Younger Alluvium should be rated high. The fact that important types of fossils are rare makes them more scientifically significant than more abundant types of fossils, not the other way around as stated in the EIR.

GC - 2.3

Thirdly, I object to the proposed mitigation measures. In particular, I take issue with two items in CR-1. This measure should state that the applicant will retain a qualified professional paleontologist to prepare the mitigation plan. People have qualifications, firms do not. This measure should also be clear that the qualified paleontologist will determine sensitive areas where driving and parking vehicles is not appropriate, if any, and direct workers to fence them off prior to construction personnel being present. Monitoring should be restricted to surface alterations and subsurface excavation. In addition, the list of issues to be addressed by the mitigation plan does not include a research design, a necessary component.

GC - 2.4 I take issue with CR-2, CR-4 and CR-5 also. The writer has confused the duties of the qualified professional paleontologist with those of the paleo monitor. CR-2 should read that the qualified professional paleontologist will supervise all activities of the qualified paleontological monitor and that professional will prepare monthly progress reports. The paleo monitor will inspect the rock units, temporarily divert equipment and recover resources. CR-4 should state "the qualified professional paleontologist" where it now says the paleontologist in line 1 and line 4. CR-5 should state "the qualified professional paleontologist" where it now says the retained paleontological monitor (shall prepare the final report).

Relatively minor points (not a comprehensive list)

- **GC - 2.5** Although there is a section of the EIR titled "Cultural and Paleontology/Geology Resources Inventory Procedures" (5.8.1.1), there are in fact no procedures for paleontology.
- **GC - 2.6** There is a great deal of citation of scientific names with inconsistent and incorrect format. No professional paleontologist would cite "Ostrea titan Conrad" or "Crepidula, sp." or "*echinodermata*" as this document does. Species names are always italicized and there is no comma between the genus and species. Higher taxonomic groups are never italicized. When the person who named a species is cited the format is *Ostrea titan* (Conrad) and then Conrad appears in the bibliography (none do in this document).
- **GC - 2.7** Some items were cited correctly in the technical report and altered to be incorrect in the EIR. Notably it's the Rancholabrean Land Mammal Age not the Rancho La Brean.

Thanks for reading my comments. I hope they can be used to create a final document that is substantially better than the draft and serves to adequately protect the paleontological resources.

Respectfully submitted,

Sherri M. Gust

San Luis Obispo County Qualified Paleontologist and Archaeologist

GC-3

EcoSlo

ENVIRONMENTAL CENTER OF SAN LUIS OBISPO COUNTY

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Jan Marx

September 5, 2003

Nancy Orton
San Luis Obispo County Department of Planning and Building
Room 310, County Government Center
San Luis Obispo, CA 93408-2040

Dear Ms. Orton,

The Environmental Center of San Luis Obispo (ECOSLO) appreciates the opportunity to comment on the Nacimiento Draft Environmental Impact Report (DEIR). Let me begin by saying that we support the in-depth comments made by Life on Planet Earth and Canyon and Streams Alliance. Our comments will be focused on the possible conveyance of chlorinated water.

GC - 3.1 We disagree with the DEIR's finding that the treated water alternative is environmentally superior to the raw water alternative. All pipelines eventually wear out. Look at the nation's infrastructure. It is coming apart at the seams, according to an analysis recently released by the American Society of Civil Engineers. While a new pipeline may offer some comfort who will be watching the pipeline over time? What resources will be dedicated to monitoring the pipeline? How would leaks or ruptures be detected? What processes would be in place if chlorinated water entered sensitive habitat areas either through slow leakage or massive ruptures?

GC - 3.2 Slow leaks, as this community is well aware, can cause major environmental damage over time. Hazardous chemicals like chlorine can be detrimental to sensitive habitats. Damage to the environment may not be noticed for long periods of time, especially with slow undetected leaks. This is one area that the DEIR is deficient. There is no environmental analysis offered for slow leaks of chlorinated water over time into sensitive habitats. The final EIR is required to address this type of cumulative impact.

GC - 3.3 One solution to this problem would be to remove the treated water option from the Final EIR. We second Life on Planet Earth's concern that urban ratepayers who already have treatment plants in their cities would likely end up subsidizing rural sprawl and conversion through paying higher rates for construction and operation of a regional treatment system redundant to urban needs. This impact needs to be analyzed in the Final EIR.

SLO CNTY PLANNING/BUILDING DEPT
2003 SEP -5 PM 4:01

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www.ecoslo.org
Printed on 100% Recycled Paper

GC - 3.4 While this project is likely to go forward it is incumbent upon those preparing the Final EIR that the above concerns and those submitted by Life on Planet Earth and Canyon and Stream Alliance be analyzed and included in the Final EIR.

Again, thank you for this opportunity to comment on this important project.

Pamela Heatherington

Pamela Heatherington
Executive Director

GC-4

ENVIRONMENT IN THE PUBLIC INTEREST

EPI-Center, 1013 Monterey Street, Suite 207 San Luis Obispo, CA 93401
Phone: 805-781-9932 • Fax: 805-781-9384

September 5, 2003

Nancy E. Orton
Department of Planning and Building
San Luis Obispo County
County Government Center
San Luis Obispo, CA 93408-2040

Subject: **Nacimiento Water Project / Draft Environmental Impact Report**

Dear Ms Orton,

EPI is a California non-profit corporation organized for the purpose of ensuring that the public has a voice with officials charged with responsibilities for land use planning and environmental protection. EPI and its supporters are further interested in improving quality of life through sound planning principles and environmental awareness in San Luis Obispo County. After review of the Draft Environmental Impact Report for the proposed Nacimiento Water Project, EPI wishes to submit the following comment.

GC - 4.1 EPI believes the DEIR has failed to properly classify significant effects likely to result from the alternatives examined for the proposed project. Specifically EPI is concerned that the significance of likely impact from potential spills of chlorinated water under the "treated water" alternative is underestimated. Similarly, we believe a significant negative impact resulting from typical inflow and infiltration of water along the entire pipeline system has been overlooked under the "treated water" alternative.

GC - 4.2 Finally, we note a lack of discussion in the DEIR of the special benefit received by each of the participating cities resulting from construction of water treatment facilities required under the "treated water" alternative. We request that the FEIR address the responsibilities of each purveyor relative to the likely benefit each will receive.

Respectfully Submitted,

Gordon R Hensley

Gordon R. Hensley, Executive Director/Senior Ecologist

2003 SEP -5 PM 4:12
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GC-5

(1)

Nancy E. Orton
San Luis Obispo County Department of Planning and Building
Room 310, County Government Center
San Luis Obispo,
CA, 93408-2040

RECEIVED
SEP - 5 2003
S.L.O. CO PLANNING DEPT.

Dear Ms. Orton,

Life on Planet Earth appreciates the opportunity to comment on the Nacimiento DEIR, and is thankful that the potential participants avoided participation in the Coastal Branch of the State Water Project, and are able now to evaluate the merits of a project that is more reliable, is locally controlled, and which could be designed to avoid long-distance conveyance of chlorinated water, although at present there is no guarantee that it will be. We appreciate the work that has gone into this DEIR, but do need to raise several issues that need to be fully addressed in the Final EIR if potential participants are truly to make the wisest decisions.

GC - 5.1 To jump to the issue most pressing to us (it must be urgently on our minds, seeing that it slipped into the above introductory paragraph): we strongly disagree with the DEIR's identification of the treated water alternative as environmentally superior to the raw water alternative. This assertion could be made only if there were no chance of escape of chlorinated water into any aquatic environment, either through catastrophic rupture or chronic leakage. We submit that the record of the Miossi Ranch spill on the Coastal Branch of the State Water Project proves that the risk is real, and that the absence of further examples of these releases in the literature surveyed reflects lack of monitoring and novelty of long-distance transport treated water, rather than any grounds for complacency. We share the concerns of the Canyons and Streams Alliance both as to the risk and to the possible consequences for aquatic ecosystems if the treated water alternative is chosen.

GC - 5.2 When it comes to issues of sudden rupture, we are particularly concerned with the crossings of the Salinas River. The suspended pipe crossing near Wellsona Road appears to be the sort of structure that would be subject to harmonic vibration in an earthquake, leading to likely rupture at a time when response to human emergencies is likely to make even the quantification, much less the mitigation, of damage to aquatic life unlikely. While weprefer above-ground crossings to insure prompt leak detection, they need to be better braced and stabilized than this one appears to be.

GC - 5.3 The underground crossing at Santa Clara Road raises the concern of detection and response, either to chronic leakage, or to sudden releases

GC - 5.3 Cont'd connected with an earthquake when emergency responders have so many competing obligations.

As we see it, this issue is serious enough that it leaves you with two choices for the Final EIR: either remove the treated water option from the project descriptions covered by this EIR, or provide far more information and mitigation: the sites of all crossings of "blue-line" streams, the expected water pressure at each such crossing, relevant pipeline specifications (single-lap or double-lap welds, etc.), and details of how leaks or ruptures would be promptly detected and responded to, both in relation to immediate pipeline shutdown and repair, and to contain the damage to aquatic life and mitigate any damage that would have occurred. When we talk of mitigation, we are not talking about "enhancing" streams with riprap or trails, or about providing a slush fund for irrelevant ventures such as the Performing Arts Center (which received $750,000 of Guadalupe diluent spill mitigation money!); we are talking about benefits that would actually result in recovery of aquatic life. We would need to know that the needed regimes of inspection and response would be properly funded throughout the operational lifetime of the project, although experience teaches us that proper monitoring of such a long-term obligation is difficult to enforce. GC - 5.4

An additional impact of the treated water alternative that needs analysis is the inducement to sprawling growth, to conversion of agricultural and open space lands to varying levels of urban and suburban use, and to leapfrog development. These impacts are promoted by providing access to an urban amenity across miles of open countryside. Indeed, urban ratepayers who already have treatment plants in their cities would probably be subsidizing rural sprawl and conversion through paying higher rates for construction and operation of a regional treatment system redundant to urban needs. GC - 5.5

Taking a broader look at the DEIR as a whole, our most serious concern is with the paucity of Class I impacts identified—only one, in fact, and that, a transitory one during the construction period. Although the previously analyzed route was abandoned due to unacceptable human inconvenience impacts on Lake Nacimiento Drive and Vine Street, the route chosen to replace it, crossing the Salinas River twice, and following its bank for close to 20 miles, is much higher in impacts on biological and cultural resources. It is unclear to us why residual impacts found significant in relation to biological resources and growth inducement in the 1997 project were found no longer significant in the 2003 project. A particular puzzle is inconsistency within the 2003 document itself, where Chapter 7 on Growth Inducement clearly leads to the conclusion that the project will create GC - 5.6

GC - 5.6 Cont'd significant and unavoidable residual impacts, but this is not reflected in the Summary Tables for the document as a whole, where only the transitory Air Quality impact is identified as Class I.

Excerpts from the summary table where mitigations fail to render Class I impacts insignificant include the following:

GC - 5.7 Impact GS 1: Ground rupture is here admitted as a possible source of damage, heightening our concern with treated water pipeline rupture and spillage. The only mitigation, further investigation of the Rinconada Fault, ignores the possibility of surprise manifestations of previously unknown buried thrust faults, which have caused much of the seismic damage of recent decades.

GC - 5.8 Impact CR 6 admits that activity adjacent to archaeological and historical sites may result in looting, vandalism, or destruction. The mitigation is prosecution of discovered violators. This would not restore damaged sites, and would not be a strong deterrent since so many looters and vandals are never discovered. This impact, notwithstanding locking the barn door after the horses are out, remains an unmitigated Class I.

GC - 5.9 Impact T 8 anticipates pipeline failures, reinforcing concerns about treated water releases. The mitigation would not mitigate the traffic impact, since closed roads <u>create</u> traffic impacts.

GC - 5.10 Impact H.M. 7: The only mitigation of the admitted hazard of large-scale releases of treated water is pre-treatment pipeline testing. How does this mitigate future deterioration, shifting, or rupturing, which could still create these catastrophic impacts?

GC - 5.11 The biological mitigations called for in this DEIR are certainly impressive, and we do appreciate the thought and effort that have gone into them. But we strongly question whether, if the project is built and operated—as is likely—under tight economic constraints, the mitigations would be followed scrupulously enough to avoid Class I residual impacts. Would reassurance of bondholders, avoidance of cost overruns, and delivery of water by a promised date take precedence over scrupulous observance of mitigations? We have learned mistrust by watching the unfortunate example of the State Water Project, where responsibility was shifted between agencies (DWR & CCWA) during construction of the project, and where many of the thousands of trees removed have been mitigated with now-empty planting tubes, with no evident continuing oversight. In that connection, we note that with most of the Nacimiento Project's biological mitigations, the sole party responsible for verification is the Department of Planning and Building. What opportunity will the public have to scrutinize this in-house verification? What sort of paper trail will be created, and how will interested members of the public gain access? If a member of the public observes something in the field that seems amiss, what process exists for response and redress? Who will provide continuing oversight during the operational phase, particularly of the long-term success of habitat restoration, as well as the previously mentioned monitoring and response to spills of chlorinated water? What access will concerned members of the public have to operational records?

GC - 5.11 Cont'd

As with the State Water Project, there is the potential of a shift of responsibility for the Project subsequent to approval of the Final EIR. Discussions are still ongoing among participants as to whether the project would be governed by the San Luis Obispo County Flood Control and Water Conservation District, by a newly created Nacimineto Project Benefit District, by some sort of joint powers authority made up of Project participants, or some other arrangement. Would the County Department of Planning and Building remain the responsible party for overseeing mitigations if project administration changed?

GC - 5.12

The section on Alternatives Analysis needs some additional work. Alternatives not analyzed include financial participation of North County participants with San Luis Obispo area participants in funding a desalination facility to directly benefit San Luis Obispo area participants, with North County participants to be compensated by restoration of the full flow of the Salinas River to the North County, with Salinas Dam redirected to flood control and seasonal flow management to serve the needs of North County residents, including humans and also steelhead and other aquatic and riparian organisms.

GC - 5.13

The Water Conservation Alternative analysis includes the unsubstantiated statement (coming after description of the almost 50% reduction achieved in San Luis Obispo during the drought of the early 1990's) that such results cannot be projected long-term, and that 5% to 10% is a more reasonable reduction in urban areas, with 1% considered reasonable in agricultural areas. Where is the substantiation, and whose definition of "reasonable" is being used? If population continues to grow after currently projected "buildout" is reached, serious conservation efforts will need to occur even with the Nacimiento Project in place. Expectations for meaningful conservation must be built into our culture, not challenged as unreasonable.

GC - 5.14

The section on Socioeconomic Impacts, particularly the subsection on Environmental Justice, gives short shrift to impacts of right-of-way acquisition on affected parties. This proved to be a major trauma for people so affected by the State Water Project. The State's right-of-way agents used

GC - 5.15

GC - 5.15 Cont'd

deception and intimidation, and until and unless challenged, failed to take into account damage from severance and other foreseeable consequences of the Project. We would like to believe that the County would handle these issues with more sensitivity and fairness, but this expectation should take the form of an enforceable condition.

Thank you for the opportunity to comment, and we look forward to seeing all our concerns responded to in the Final EIR on this project.

For Life on Planet Earth,

Eric Greening

Eric Greening
7365 Valle Ave.
Atascadero, CA, 93422

GC-6

PasoWatch

Looking Out Today For Tomorrow

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FAX TO: Christine Ferrara
San Luis Obispo Public Works Department
FAX NUMER: 788-2182

FAX FROM: Susan Harvey
PasoWatch President
FAX: 238-3047
VOICE: 239-0542

SUBJECT: Comments for Nacimiento Pipeline Project DEIR

September 4, 2003 Pages: 1

Dear Ms. Ferrara,

Thank you for this opportunity for comment on the Nacimiento Pipeline Project Draft EIR. I spoke at your presentation to the Paso Robles City Council. As I stated then, I am particularly concerned that there are no mandated water conservation requirements of the public entities that will be participating in the pipeline project. As you stated at length in your presentation, Nacimiento could be the last water project available. Every public entity participating in this project is assuming responsibility for the stewardship of a very precious resource for decades to come.

GC - 6.1 This is a very expensive project in all regards and especially monetarily and environmentally. The citizens will be paying dearly in bonds for this water for decades. Uncounted century old oaks will be removed. Wildlife habitats will likely be permanently disrupted and changed.

In compensation and mitigation for such a heavy price, I want to see a strongly worded, enforceable and realistic conservation obligation as a mandatory requirement in the Participation Agreement for all Public entities. Further, I want each participating entity to provide and adhere to an enforceable and realistic water conservation element in each entity's Ground Water Management Plan. Continuing to supply users with cheap, unmetered water with no inducements for water conservation and no penalties for excessive use is irrational in the face of the mounting costs of new water sources, growing populations, and the precious nature of the commodity. There is no life without water.

Susan A. Harvey, President
PasoWatch

PASOWATCH P.O. BOX 3314 PASO ROBLES CA. 93447 805-238-4443 WWW.PASOWATCH.ORG

GC-7

FAX TRANSMISSION

9-3-03

To: Nancy E. Orton
San Luis Obispo County Department of Planning and Building
Room 310 County Government Center
San Luis Obispo, CA 93408-2040
Fax 781-1242

From: Salinan Tribe
P.O.Box 708
King City, CA 93930

Subject: Response to Draft Environmental Impact Report (DEIR) for the proposed Nacimiento Water Project. File Number ED00-603.

Dear Nancy Orton,

After reviewing the DEIR we have the following comments concerning Cultural Resource issues within the document.

GC - 7.1 We agree with how most of the field surveying was done concerning cultural resources. However we have concerns in what areas of the pipeline that Salinans were present on the original survey team and that certain areas and features might have been overlooked. We are unaware of any Tribal Members present during any meeting or surveys concerning this project.

GC - 7.2 One example I found while going over the pipeline route is in figure 2-23 pipeline map showing the area of the proposed Prado Road Extension. At station area of about 2914+00 is Archaeological Site CA-SLO-1427. This site is a rock outcropping that holds many mortors from different time periods and shows evidence of different occupations as far back as 5,ooo years ago. It also holds the remains of a tule hut floor. It sat virtually undisturbed on private property until the Sports Complex and Prado Road extension was planned.

GC - 7.3 As you may be aware of or not, that the Prado Road Extension is being challenged by many residents of San Luis Obispo that do not want to see a 4 lane road so close to the new Ball Field Complex now in process of being completed. The Ball Field does not impact the site but the extension of Prado Road will. Parents would rather see the site as part of the sports complex. Maybe a trail that would lead up to the outcropping and interpretive signs placed to educate the public on the history of the spot and general area.

GC - 7.4 In the DEIR I noticed in Section 4.0 Cumulative Projects Description, page 4-2 that #19 the Prado Road Extension Status is **in process** and the Schedule is **unknown.** And also in Section 5.8 Cultural and Paleontological Resources, page 5.8-54 under section 5.8.1.7 Areas with Potential for Paleontology and Cultural Resources, Table 5.8.5 does not show site CA-SLO-1427 in which the use of this route would impact and should have been listed in Table 5.8.5.

GC - 7.5 The Salinan Tribe would like to see a different route for the extension of Prado Road, maybe to divert south and connect up with Tank Farm Road totally missing CA-SLO-1427. This is also the wish of many SLO residents. The pipeline route could than follow that route. I believe choosing to follow the present proposed Prado Road extension route, could delay this project because of the concerns of the community and a new route in this area should be explored.

GC - 7.6 The bottom line is that if this significant site was missed in the original survey there may be more sites that were overlooked. We would like this site be added to Section 5.8.1.7 and placed on Table 5.8.5. Of course after the 106 process has been followed concerning this site, if one was not done.

GC - 7.7 The Salinan Tribe feels all cultural and sacred sites that are now undisturbed should stay undisturbed for future generations to learn from. These are none renewable resources. Just documenting the percent of damage done to a site is not good enough; it does not save the integrity of the site.

GC - 7.8 The headwaters of the Nacimiento River are ancient areas of the Salinan People and we hold the water that comes from there as sacred. And the Salinan Tribe feels that they should be compensated for the use of this water by our project.

We believe this DEIR to be incomplete for the reasons mentioned above.

We would encourage you to continue to notify us as to updates or meetings concerning this project.

I will be faxing this letter to Steve Mc Masters, SLO County Environmental Department, as the county is the lead agency for this project and also to Rob Wood at the Native American Heritage Commission. And to Marine Research Specialists.

Thank you,

Patti Dunton

Patti Dunton, For John Burch, Cultural Preservation Lead, Salinan Tribe

GC-8

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August 28, 2003

Nancy E. Orton
San Luis Obispo County Department of Planning and Building, Rm. 310
County Government Center
San Luis Obispo, CA 93408-2040

RE: Comments on Draft EIR Regarding Nacimiento Water Project

Dear Ms Orton:

The following comments are regarding the Public Draft EIR for the Nacimiento Water Project (NWP). The Draft EIR fails to adequately discuss and evaluate alternatives to the NWP and is therefore seriously deficient. The California Environmental Quality Act, Section 15126 (d), requires an EIR to describe a reasonable range of alternatives to a project or to the location of a project which could feasibly attain its basic objectives and evaluate the comparative merits of the alternatives. To be more specific, Section 3.0 Alternatives of the Draft EIR is limited, incomplete and fails to adequately evaluate a range of alternatives to the proposed NWP including potential alternative water supply options and alternative pipeline and facility locations.

Criteria used to evaluate the range of alternatives and to remove alternatives from further consideration appear to be based on incomplete and outdated information, specifically in reference to a desalination supply alternative. A presentation on a regional desalination plant was presented to the Water Resources Advisory Committee, County of San Luis Obispo, Flood Control and Water Conservation District on January 8, 2003. My firm, Parsons Brinckerhoff, is currently in the early stages of an investigation of the feasibility of a regional desalination facility at the Estero Bay Terminal site.

GC - 8.1

The Draft EIR claims to have used an alternative screening analysis to limit the number of alternatives evaluated in detail in the EIR that assures "only the environmentally preferred alternatives are evaluated and compared in the EIR". We believe that the list of environmentally preferred alternatives to the NWP in the Draft EIR is incomplete and therefore in material breach of the CEQA Guidelines.

The Draft EIR further states "This screening methodology also uses the *"rule of reason"* approach to alternatives as discussed in CEQA (Guidelines Section 15126.6(f)). The rule of reason approach has been defined to require that EIRs address a range of feasible alternatives that have the potential to diminish or avoid adverse environmental impacts."

The CEQA Guidelines state:

"The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effect of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project." (Section 15126.6(f))

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GC - 8.1 Cont'd

In defining feasibility of alternatives the CEQA Guidelines state:

"Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site." (Section 15126.6(f)(1))

The draft EIR states that "If an alternative is found to not obtain the basic objective, then it was also eliminated."

In Section 2.2 Project Objectives and Need of the draft EIR the objective of the NWP is stated as "to provide a reliable supplemental water source for a variety of uses within SLO County by supplementing the local ground and surface water supplies with a new surface water source. The objective is also to increase reliability of water deliveries, to improve water quality and to lessen the extent of future ground water pumping to existing residents and provide sufficient supplies to support planning objectives in various communities of SLO County. The objective of the proposed project is, therefore, to ensure better management of available water resources throughout the county."

A regional desalination plant meets the basic objective as defined in the EIR.

GC - 8.2

- New water source: desalination meets the definition of a new water source
- increase reliability of water deliveries: desalination provides a reliable, drought proof supply
- improve water quality: desalination provides high quality water with a low Total Dissolved Solids <350 mg/l and high level removal of bacteria, viruses and cysts
- lessen the extent of future ground water pumping to existing residents: desalinated water will provide a supplemental, new water supply
- and provide sufficient supplies to support planning objectives in various communities of SLO County: A regional 16,200 AFY or larger desalination facility is feasible. The desalinated water can be delivered through new local pipelines to nearby coastal communities such as Cayucos, Morro Rock MWD, Lewis Pollard Trust. etc. A desalination facility at Estero Bay can deliver water through the Whale Rock Pipeline to San Luis CUSD, Camp San Luis and San Luis Obispo. Unused oil pipelines can be lined to deliver desalinated water to the Atascadero area. New or existing pipelines of shorter length and less environmental impact than for the NWP scenario can be constructed integrate water services and serve other communities in the County.

GC - 8.3

NEPA Section §1502.14 also requires an analysis of alternatives to the Applicant's proposed project that provides for a comparison of alternatives and provides a clear basis for choice among options for the decision maker and the public. Because the evaluation and inclusion of alternatives is incomplete, the decision maker cannot properly make a informed decision. NEPA requires the alternatives analysis to:

(a) "Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives for which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated."

(b) "Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits."

(c) "Include reasonable alternatives not within the jurisdiction of the lead agency."

(d) "Include the alternative of no action."

GC - 8.3 Cont'd

(e) "Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference."

(f) "Include appropriate mitigation measures not already included in the proposed action or alternatives."

The rationale in Section 3.2.8.3 Desalination and Salinas Reservoir Expansion Alternative used to eliminate the desalination and Salinas Reservoir expansion alternative is based on old and incomplete information that is not valid, particularly for desalination. Significant improvements in membrane performance, recovery rates, energy recovery and salt rejection have been made since the 1990 Morro Bay and 1991 Santa Barbara reports were written. These improvements have significantly lowered the capital and operating costs for desalination.

GC - 8.4

As stated in the Draft EIR, it is true that desalination facilities can be developed in incremental stages more readily than other water supply projects. The statement in the Draft EIR is not necessarily true on page 3-62 "The operational disadvantages of desalinated water are its high cost and limited yield." Desalination plants of 25 mgd (28,000 AFY) capacity and larger are being built today. Seawater desalination projects typically today have a recovery rate of between 45 and 60%, not 35% as stated. The cost of building and operating a desalination plant is about half of what it was in 1991. The preliminary cost estimate for a 16,200 AFY desalination facility is approximately $60 million dollars, including service to nearby coastal communities and San Luis Obispo and clients in between the City and the plant. Customers could buy a lot of desalinated water for the difference in cost between the desalination alternative and the NWP alternative.

GC - 8.5

The Draft EIR states that "The use of desalination to replace the NWP allotment would result in many of the same impacts as the proposed project given water supply and distribution issues" and then gives some general negative statements to dismiss the alternative. The Class I and II impacts of the desalination facility are likely to be substantially less than the NWP in some cases. The desalination facility is proposed to be located outside the Coastal Commission zone area. The intake and outfall systems will require hydrodynamic modeling, biological studies and monitoring and possibly mitigation measures in order to obtain the required permits. The level of environmental

GC - 8.5 Cont'd impact cannot be fully determined until studies and alternative designs are selected for the intake and outfall systems but are mitigable impacts.

GC - 8.6 The following impacts for the desalination facility have not been rigorously studied the Estero Bay regional desalination facility at this time but this alternative should be reviewed, properly evaluated and included in the final EIR for the benefit of the general public and the decision makers for a new, reliable water source sufficient to meet the area's requirements.

	Class I – Significant Unavoidable Impacts	
	Nacimiento Water Project (Page IS-62)	**Regional Seawater Desalination Facility at Estero Bay**
	AIR QUALITY (Section 5.4)	
GC - 8.7	Construction impacts from both NWP and Salinas Valley Water Project (SVWP) are significant and would therefore be potentially significant cumulatively if construction occurs within the same time frame.	Desalination project would use existing Whale Rock Pipeline for a portion of the delivery system reducing the amount of new pipeline construction in comparison to NWP and SVWP. Some pipeline construction could be delayed until needed by clients.
	TRANSPORTATION/CIRCULATION (Section 5.11)	
GC - 8.8	If the spillway construction activities of the SVWP coincide with the intake and pump station construction of the proposed project, cumulative traffic impacts due to lane/road closures and delays for emergency vehicle traffic would be significant.	Construction of the desalination project will be mostly on private land and should require minimal lane/road closure and delays. The proposed intake and brine discharge systems incorporates the existing NPDES permitted loading pipelines at the site reducing environmental and construction impacts. The total amount and impact of pipeline installation along roadways and in congested areas should be less than for the NWP.
	VISUAL AND AESTHETIC RESOURCES (Section 5.12)	
GC - 8.9	Impact VR.14 The cumulative water withdrawals from Lake Nacimiento would result in more frequent instances of lake level below 748 feet, and would result in significant unavoidable adverse impacts to visual resources. In addition to short-term construction impacts, SVWP would have long-term visual impacts in the vicinity of Nacimiento Dam due to lowered water level of the reservoir; this impact has been characterized as significant and unavoidable in the project EIR, because of this the two projects would have cumulatively significant impact on the visual appearance of the lake level, although the proposed project alone would have insignificant impacts to the level of the reservoir.	The proposed location for the desalination plant is behind a knoll and not visible from the beach or the highway greatly reducing the visual impact. The facade of the two story building will be designed to blend in with the architecture of the area. All intake, outfall and potable water pipelines will be underground. The visual appearance of the ocean will not be significantly impacted by the facility as the intake and outfall systems are in water with a depth of 55 feet or more below mean sea level.

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	RECREATIONAL RESOURCES (5.14)	
GC - 8.10	REC.6 The cumulative development scenario would result in increased lake drawdowns below recreational threshold levels of 748 feet, and would result in significant unavoidable adverse impacts to recreational resources on and around Lake Nacimiento.	The recreational use of the ocean will not be significantly impacted by the facility as the intake and outfall systems are in water with a depth of 55 feet or more below mean sea level.
	Class II – Significant But Mitigable Impacts	
	HYDROLOGY AND WATER QUALITY (Section5.1)	
GC - 8.11	The cumulative impacts on water quality from the SVWP and NWP projects would potentially increase the level of total metals in NWP water due to a lower average lake storage under SVWP. The SVWP could result in a greater duration of NWP pumping from the lowest reservoir inlet compared to NWP pumping without the SVWP. This cumulative impact would be mitigated by the proposed mitigation measures, however.	The reverse osmosis process will produce high quality potable water that meets all EPA and State water quality standards with a TDS of 350 mg/l or less. The process also has a high removal rate of bacteria, viruses and *giaradia* and other cysts. If a portion of the desalinated water is transported through the Whale Rock raw water pipeline, it will improve the quality of water being treated at the water treatment plant.
	NOISE (Section 5.5)	
GC - 8.12	Significant cumulative noise impacts could occur at the Nacimiento Dam if construction phases at this location were to overlap. These noise impacts however would be mitigated to insignificant levels by implementation of the proposed mitigation measures. Noise from maintenance and other noise producing activities (road repair) could also be mitigated to insignificant levels if were to occur at the same time.	The construction of the desalination plant is remote from any homes significantly reducing the noise impacts to receptors. The lining of the oil pipeline to Atascadero, if used for potable water delivery, will occur at periodic locations in low density home areas and will require a short duration at any site. The desalination motor and high pressure pump systems will utilize modern noise suppression systems. The building insulation will further reduce the noise level outside the building to a insignificant level
	TRANSPORTATION/CIRCULATION (Section 5.11)	
GC - 8.13	Impact T.9 Cumulative impacts associated with the proposed pipeline construction activities occurring after roadway improvements have been completed on the same roads. Numerous roadway improvement projects could occur simultaneously with the proposed project. In many cases roadway improvements would precede installation of the water pipeline, which would result in potential damage to the newly resurfaced roadway and/or other improvement. To mitigate significant cumulative impacts associated with pipeline construction following roadway improvements, work coordination and communication between various County departments is recommended. Mitigation. T -18 Coordinate pipeline construction activities with other public works and roadway	The cumulative impacts associated with proposed pipeline construction activities is similar but less extensive than for the NWP as less pipeline construction is anticipated to be required.

GC - 8.13 Cont'd

improvements. Where possible, install pipeline segments in coordination with roadway improvements to avoid damaging the newly improved roadway. A detailed plan showing how Public Works Department will coordinate construction with planned roadway improvements shall be submitted to the County Department of Planning and Building prior to final project approval.	

Please feel free to contact me at (619) 338-9376 or by e-mail at Jensen@pbworld.com if you need additional information.

Respectfully,
PB Water, a Division of Parsons Brinckerhoff Quade & Douglas, Inc.

James H. Jensen
Assistant Vice President
Area Manager

GC-9

WYOMING ASSET MANAGEMENT, INC.
6475 PACIFIC COAST HWY SUITE 205
LONG BEACH, CA 90803
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September 2, 2003

Nancy E. Orton
San Luis Obispo County Department of Planning and Building, Rm 310
County Government Center
San Luis Obispo, CA 93408

Re: Comments On Draft EIR Regarding Nacimiento Water Project

Dear Ms. Orton:

My company is co-venturing the installation of a regional desalination facility and have been authorized by the owner of the Estero Bay Terminal site to conduct a feasibility study for the project. We have hired Parsons Brinckerhoff, a major engineering and consulting firm, to accomplish this task. In pursuing our study, the Nacimiento Water Project (NWP) and corresponding Public Draft EIR, as it relates to other viable, fresh water alternatives, has come to our attention and we find it to be non-conforming to the California Environmental Quality Act (CEQA).

Specifically, we have the following comments relative to the Draft EIR:

GC - 9.1 1. The report fails to adequately discuss and evaluate physically and economically viable water supply options and site and facility alternatives to the NWP and is therefore incomplete and seriously deficient on its face.

GC - 9.2 2. Criteria relied upon to evaluate an array of alternatives and further relied upon to eliminate certain alternatives is based on incomplete and outdated information, specifically in reference to a saltwater desalination facility alternative. A technologically current, detailed report on a regional desalination plant was in fact presented to your County Water Resources Advisory Committee on January 8, 2003, by our consulting firm. There is little evidence any of that current information was utilized in assessing alternatives to the NWP.

GC - 9.3 3. The Draft EIR claims to have used an alternative screening analysis to limit the number of alternatives to the NWP. We find the statement that assures... "only the environmentally preferred alternatives are evaluated and compared in the EIR"...to be inherently biased at minimum and that the list of so-called "environmentally preferred alternatives to the NWP" is woefully inadequate, incomplete and in material breach of the CEQA.

GC - 9.4 4. The EIR further states that "This screening method also uses the 'rule of reason'

GC - 9.4 Cont'd

approach to alternatives." We would submit that in fact the rule of reason was not adequately applied and that a review utilizing current information and present technical data relative to a regional desalination facility would produce an entirely different finding under CEQA guidelines, Sections 15126.6(f) and 15126.6(f)(1). In particular, under the latter cited Section we unequivocally submit that our proposed regional desalination facility will be entirely consistent therewith. Further, we unequivocally submit that our regional desalination facility meets the basic Project Objectives and Need as outlined in Section 2.2 of the Draft EIR as follows:
a) New water source: Desalination meets the definition of a new water source; b) Increase reliability of water deliveries: Desalination provides a reliable, drought proof supply; c) Improve water quality: Desalination provides a low Total Dissolved Solids <350 mg/l and high level removal of bacteria, viruses and cysts; d) Lessen the extent of future groundwater pumping to existing residents: Desalinated water will provide a supplemental new water supply; and e) Provide sufficient supplies to support planning objectives in various communities of SLO County: A regional 16,200 AFY or larger desalination facility is entirely feasible. The desalinated water can be delivered through new local pipelines to nearby coastal communities such as Cayucos, Morro Rock MWD, Lewis Pollard Trust, etc. A desalination facility at Estero Bay can deliver water through the Whale Rock Pipeline to San Luis CUSD, Camp San Luis and San Luis Obispo. Unused oil pipelines can be lined to deliver desalinated water to the Atascadero area. New or existing pipelines of shorter length and less environmental impact than for the NWP scenario can be constructed to integrate water services and serve other communities in the County.

GC - 9.5

5. Under NEPA Section 1502.14 which requires an analysis of alternatives to the Applicant's proposed project and that provides for a comparison of alternatives and provides a clear basis for choice among alternatives for the decision maker and the public, we find the evaluation, analysis and comparison of alternatives to be inadequate and incomplete, resulting in the inability for the decision maker and public to make an informed decision.

GC - 9.6

Significant improvements in desalination technology, membrane performance, recovery rates, energy recovery and salt rejection have been made in the past 10-12 years. These improvements have significantly lowered the capital and operating costs for desalination, which runs counter to the incomplete, outdated and invalid information utilized in Section 3.2.8.3 to eliminate the desalination and Salinas Reservoir expansion alternative.

GC - 9.7

As stated in the Draft EIR, it is true that desalination facilities can be developed in incremental stages more readily than other water supply projects. The statement at page 3-62 is not true, however, "The operational disadvantages of desalinated water are its high cost and limited yield." Desalination plants of 25MGD (28,000AFY) capacity and larger are being built today. Seawater is also most certainly not susceptible to drought conditions as is the NWP. Typical saltwater desalination projects today have a recovery rate of between 45 and 60%, not 35% as stated The current cost of building and operating a desalination plant is about half of what it was

GC - 9.7 Cont'd 10-12 years ago, which seems to be the outdated information basis utilized in the Draft EIR. The preliminary cost estimate for a 16,200 AFY desalination facility is approximately $60 Million, including service to nearby coastal communities and SLO, as well as clients between the city and the plant. The enormous savings between a desalination alternative and the NWP alternative equates to a considearable amount of additional fresh water supply to the ultimate consumers.

In our view, a rigorous exploration and current, objective evaluation of all reasonable alternatives has not occured nor have any valid, reliable reasons been provided for those alternatives which are to be eliminated from detailed study.

GC - 9.8 We respectfully request that the salient impacts for a saltwater desalination facility be rigorously studied at this juncture, properly reviewed and evaluated with current information and included in the final EIR for the benefit of the decision makers and general public for a new, reliable and consistently abundant fresh water source to meet the geographic area requirements.

Sincerely,
WYOMING ASSET MANAGEMENT, INC.

Dennis Nuzum, President

cc: P. Greer, Esq.
J. Jensen

GC-10

Upper Salinas-Las Tablas Resource Conservation District

65 Main Street, Suite 108, Templeton, CA 93465 / (805) 434-0396 / fax 434-0284

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Steelhead Recovery Team

September 9, 2003

Department of Planning and Building
Attn: Ellen Carroll
County Environmental Coordinator
County Government Center, Room 310
San Luis Obispo, CA 93408

RE: Comments regarding the proposed Nacimiento Water Project EIR

Dear Mrs. Carroll:

GC - 10.1 The Nacimiento Water Project, if properly designed and managed, has the opportunity to improve habitat conditions along the Salinas River. If the Nacimiento water is used to replace well water use near the Salinas River, it will help to restore riparian vegetation along the river corridor. This will be an excellent alternative to minimize the use of wells in the Salinas River and will facilitate groundwater recharge. There is also the opportunity to use a portion of the water to irrigate channel vegetation along the river. Riparian vegetation can help cool the stream temperatures and protect the channel from erosion.

In this way, the project could help to increase steelhead populations and reduce erosion in the Upper Salinas River and tributaries. Historically, Nacimiento River and its tributaries had more Chinook salmon and steelhead than any of the other tributaries of the Salinas River. It is very probable that prior to construction of the dam, the Nacimiento River was the most important steelhead and chinook salmon habitat south of San Francisco. The Chinook salmon disappeared in the early 1900's. However, steelhead remained plentiful in the Salinas River watershed until the building of the Nacimiento River Dam. After the building of Nacimiento River Dam in 1956, steelhead migrations were blocked. When the dam was constructed, there were no provisions to allow steelhead passage to the upper Nacimiento River and its many tributaries. In addition, critical flows in the Salinas River during the winter migration have been affected by the operation of the dam.

GC - 10.1 Cont'd

Our studies of channel vegetation within the Upper Salinas watershed indicate the loss of significant amount of riparian vegetation and an increase of channel erosion during the past 50 years. In some areas, loss of riparian vegetation has been over 80 percent.

The numbers of steelhead in tributaries such as Atascadero Creek, Paso Robles Creek, Jack Creek, Santa Rita Creek, Santa Margarita Creek and Tassajara Creek could be benefited by use of some of the Nacimiento project water for restoring riparian vegetation and lessening the use of groundwater.

I believe that this use of a small portion of the Nacimiento project water can help in the restoration of the smaller steelhead streams in the Upper Salinas River thus providing mitigation to the ongoing loss of steelhead habitat caused by the Nacimiento Dam over the past 50 years.

Thank you for consideration of these suggestions.

Sincerely,

Donald J. Funk
Executive Director

CC Mike Hill, Department of Fish & Game
Dave Highland, Department of Fish and Game
Amanda Bern, Regional Water Quality Control Board
Adriana Morales, Biologist, US-LT RCD

Number	Response
	Comments from Groups/Companies
Canyons and Streams Alliance (CASA)	
GC-1.1	The EIR analyzed potential impacts associated with a treated and raw water option. As noted in Section 6 of the EIR, impacts associated with each option were similar with the main differences being associated with potential impacts associated with the transportation of chlorinated water under the treated water option, and the potential loss of Salinas River riparian areas and impacts to water quality under the raw water alternative. The EIR made it quite clear that these impacts were considered less than significant. The root of the argument in this comment relates to potential impacts associated with a spill of chlorinated water. It is recognized that the Raw Water Option has less potential for catastrophic biological impacts that could result from a large spill of chlorinated water under the treated water option. Section 5.7.4.1 clearly states that "Impacts to aquatic life and contamination of drainages could result from a pipeline rupture which releases treated water into the stream system, resulting in mortality, degradation of habitat and water quality." However, as noted in Section 5.6.4.1, the probability of a large chlorinated water spill is extremely small based on historical pipeline failure data for water transmission pipelines (as opposed to water distribution pipelines typically found in cities, which have much higher failure rates due to the vastly higher number of connections). Since risk is measured by the combination of event probability and consequences, it was determined based on criteria established by such groups as the American Institute of Chemical Engineers, US Environmental Protection Agency and Santa Barbara County that potential impacts associated with a spill of chlorinated water was less than significant. It should be noted that regardless of which alternative is selected, the same volume of water will need chlorination and chlorine-based disinfection products will need to be shipped to a single or multiple water treatment facilities. While the northern portion of the pipeline route would remain untreated under the raw water option, chlorination is proposed to occur in Atascadero, which would then transport treated water to Santa Margarita (see EIR Figures 2-15 and 2-16) via a second pipeline. Also, project related water transported to the south from the City of San Luis Obispo and California Men's Colony water treatment plants would also be chlorinated. Thus, all water transported in and through the City of San Luis Obispo to the project participants south of the City would also be chlorinated. It is also possible that additional treatment facilities will be constructed in Paso Robles and Atascadero for the purposes of treating water under the raw water option. In light of many comments received on the DEIR, mainly commenting on differences in impacts between the proposed project Treated and Raw Water Options, the Environmentally Superior Alternative (ESA) was reevaluated. As noted in

Number	Response
	the responses to many of the comments, the EIR preparers have not deviated from their original classification of the various impacts identified in the EIR. However, in the reevaluation of the ESA, the relative severity of impacts identified in the EIR, most of which were considered less than significant (Class II or III), was considered. For example, two substantial differences between the Treated and Raw Water Options related to potential hazards associated with a spill of chlorinated water for the Treated Water Option, and the loss of riparian habitat for the discharge percolation ponds for the Raw Water Option. In both cases, mitigation measures were proposed and residual impacts were considered less than significant (a Class II impact). On the surface these impacts would appear to be equal (i.e., both Class II impacts), but further evaluation would reveal that replacement of lost riparian habitat would be required at a 3:1 ratio, which would essentially result in no adverse impact. Conversely, potential impacts associated with a treated water spill were reduced by requiring that non-chlorinated water be used for initial pipeline testing, which is when there would be the highest probability of pipeline failure. This did not eliminate potentially adverse impacts associated with a spill, but reduced the probability of a spill to a level that was considered less than significant. In the DEIR, these two Class II impacts were considered to be equal under a quantitative scoring approach. In the FEIR a greater weighting was given to the potential for a chlorinated water spill and subsequent impacts to sensitive biological species. As a result, the Raw Water Option was considered environmentally superior for the biological resources issue area. Similar reevaluations were made in other issue areas, which when all combined resulted in the Raw Water Option being selected as the ESA. Please refer to Section 6 of the EIR for a complete discussion.
GC-1.2	To use the commenter's own word, while some mitigation measures may seem "wimpier" than others, the EIR contains more than 160 mitigation measures, many of which are designed to avoid impacts to sensitive resources. Pre-construction biological monitoring is not a required mitigation measure to avoid evaluating potential impacts in the EIR, but is intended to supplement the EIR analysis by verifying the presence or absence of sensitive species. Detailed biological surveys were conducted as part of the EIR analysis, but it was also recognized that a simple snapshot may not collect all relevant information on the distribution of sensitive species. Also, it is likely that a significant amount of time will pass between the EIR biological surveys, which are already more than a year old, and initiation of project construction. It is quite possible that new sensitive species may need to be surveyed, and the distribution of sensitive species that were evaluated in the EIR may also be different. The County has a strong track record of monitoring and enforcing mitigation measures proposed for other EIR projects. This project will not be any different since various County agencies and departments will be involved in the monitoring effort. If the County were not serious about implementing the required mitigation measures, many would not have been proposed in the EIR. However, in their review of the Administrative Draft EIR, the County felt it was important to live up to the same standard as they impose on other proponents of large projects, such as Unocal at Avila Beach and

Number	Response
	Guadalupe, or WorldCom and AT&T on their fiber optic cable projects. All of these projects had extensive mitigation requirements which were aggressively enforced.
GC-1.3	This project has a unique opportunity to insure that the mitigation measures are properly implemented and monitored, regardless of the general health of the economy. All costs related to implementation and monitoring of the EIR mitigation measures will be included in the final project costs. If the project participants feel that the project is too expensive, the project would not move forward. Since environmental compliance and monitoring would represent a very small fraction of the overall project cost, ample funds will be available to implement and monitor all of the mitigation measures contained in the EIR. The project will likely be funded through the issuance of bonds, making the funds available and dedicated for their intended purpose. Monitoring and compliance for a project of this magnitude would not be conducted solely by the County's Environmental Coordinator, but by a team of experts that would be hired by the County. These experts would report to the Environmental Coordinator or a designated representative who would make the ultimate decision on project compliance. This is how all other major development and remediation projects are monitored, most of which have been quite successful. Unfortunately, the State Water Project was not such a project. The County Department of Planning and Building would retain the authority over environmental monitoring, regardless of the final governance mechanism that is developed for the project. Under this arrangement the "applicant" (e.g., County, District or Joint Powers Authority) is usually required to fund the monitoring effort, paying the County, in advance, or authorizing through budget allocations, all funds necessary for County staff and consultants to complete the monitoring program. Therefore, the monitoring program is typically funded prior to construction, thus removing the issue of project cost overruns cutting into monitoring efforts. Contrary to the comment, the County does employ several biologists even though their job title may not be "field biologist." To further debate the need for 4 full-time staff biologists to work countywide in the areas of fish, wildlife, flora and marine resources is beyond the scope of this EIR.
GC-1.4	The regulatory requirements listed in Section 2 of the EIR does not represent an evaluation of biological consultation requirements for the project, but a basic list of permits that will be required. The issue of required biological opinions and potential permit requirements that would be triggered if there are impacts to endangered species is thoroughly addressed in Section 5.7 of the EIR which covers potential impacts to biological resources. Required consultations should not be confused with required permits.
GC-1.5	An EIR cannot guarantee that all mitigation measures will be adequately monitored and enforced. However, San Luis

Number	Response
	Obispo County has a strong track record on monitoring of EIR projects that they review and approve. Comparisons to monitoring of the SWP do not represent a fair picture of the County's aggressive monitoring of other large development projects where they have had the opportunity to oversee EIR preparation and implementation of project mitigation.
GC-1.6	The project team has received an abundance of input from several agencies responsible for oversight of biological resources. Informal consultations have been held with representatives from the US Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), California Department of Fish and Game (CDFG) and environmental personnel responsible for biological resources at Camp Roberts and Camp San Luis. The project will also be holding formal consultations with several of these agencies prior to the preconstruction biological monitoring and project construction. Admittedly, the EIR project team did not consult with the CDFG Regional Office in Yountville, but instead chose to consult with local CDFG biologists that are more familiar with local biological issues.
GC-1.7	As noted above, extensive biological surveys were conducted as part of the EIR with the relevant information summarized and evaluated as part of the EIR analysis. Additional surveys were not proposed in order to defer evaluation of potential impacts to biological resources, but to provide for additional safeguards prior to project construction. The EIR makes several references to the biological surveys that were conducted as part of the project including: A full list of the vegetative species <u>observed during site surveys of the pipeline ROW</u> is also contained in Appendix B A full list of the wildlife species <u>observed during site surveys of the pipeline ROW</u> is contained in Appendix B The potential presence of sensitive species in the project area was identified using a combination of CNDDB, the California Native Plant Society (CNPS) plant listing, and <u>the results of site surveys</u>. <u>During the biological field surveys</u> it has been determined that approximately 1,000 individual oak trees (i.e., trees outside of oak woodlands) would be within the 200-foot wide project corridor. The commenter clearly has chosen to ignore the fact that extensive biological surveys were conducted as part of the EIR. While the commenter may not agree with the conclusions in the EIR it cannot be disputed that adequate biological surveys were conducted. Simply going out and conducting another biological survey before the Final EIR is approved is not going to change the conclusions of the EIR.
GC-1.8	Please see the Response to comment GC-1.3.
GC-1.9	Please see the Response to comment GC-1.3. The County will be responsible for post-construction monitoring. There is no need for the County to fund a position at a State agency to monitor their project.
GC-1.10	The County routinely prepares, or has their consultants prepare monitoring reports to document project compliance with the required mitigation measures. This process would be followed on this project as well. There is no requirement to

Number	Response
	hold a public hearing on the final monitoring report.
GC-1.11	The EIR noted the average residual chlorine concentration in treated water, but did not base the potential impacts on this level. It was assumed that any substantial spill of chlorinated water would result in impacts to sensitive aquatic species.
GC-1.12	The EIR preparers concur with the commenter that chlorine and chlorinated water are toxic to aquatic species. While we could debate the specific levels where acute toxicity affects would occur, it is recognized that the residual chlorine levels in the water under the treated water option would be sufficient to adversely affect many sensitive aquatic species. However, the overall risk of a potential spill, which balances the probability of a spill versus the consequences, is considered low by generally accepted risk guidelines. As such, we consider the risk to be sufficiently low enough to classify the impact as less than significant.
GC-1.13	In the analysis of potential chlorinated water spills, a variety of spill scenarios were considered. Very small pipeline leaks, those where the water loss would be difficult to detect, would not result in impacts to nearby creeks since the chlorine would be oxidized prior to accumulating in creek/wetland areas. Since the vast majority of the pipeline and associated facilities would be buried, the chlorinated water would react with organic matter contained in the soil, thus neutralizing the chlorine. Even in the absence of oxidation, chlorine dissipates fairly rapidly in the environment. Assuming an initial chlorine concentration of 2 ppm, residual chlorine levels of 0.019 ppm would be reached in approximately 2.5 hours. Even under the most favorable soil conductivity conditions, which would be about 500 cm/day for sand, residual chlorine levels would be less than 0.019 ppm within a distance of about 2 feet. With the exception of creek crossings, the pipeline would be more that 2 feet from creeks and wetlands in all cases, thus minimizing potential impacts from small leaks of chlorinated water on sensitive biological species. Therefore, small pipeline leaks were not considered a credible threat to aquatic species along the pipeline route. The failure rate from the Alberta EUB study was calculated for pipeline failures, which included catastrophic ruptures, as well as large pipeline leaks sufficient to result in surface water flow from a buried pipeline. Or in other words, all pipeline failures that could potentially impact nearby creeks and wetlands via surface water flow in a very short time period (i.e., less than 2.5 hours where the chlorine would dissipate). Thus, the failure rate used in the EIR reflects both pipeline ruptures and substantial leaks. As noted above, small pipeline leaks would not impact nearby creeks and wetlands with chlorinated water due to chlorine dissipation oxidation of organic matter in the soil. As noted in the EIR, the one pipeline failure scenario that was considered likely was associated with pipeline testing. Prior to commencing normal operations, the pipeline system would be hydrostatically tested. Hydrostatic testing involves filling the pipeline with water and raising the pressure to levels much greater than normal operating conditions. Thus, if there are any construction and/or material defects in the system, they would likely fail during testing, as was the

Number	Response
	case with the Coastal Branch of the State Water Project pipeline. In order to avoid potential impacts associated with a chlorinated water spill during pipeline testing, the EIR added mitigation requiring the project operator to use un-chlorinated water. In the evaluation of the Environmentally Superior Alternative, many factors were considered in addition to potential impacts associated with a chlorinated water spill. As noted in the ESA discussion, impacts associated with the treated and raw water options were nearly identical. Under the treated water option, potential impacts associated with a chlorinated water spill was the greatest concern, while the raw water option would result in the loss of some riparian vegetation in the Salinas River channel and would not meet some of the proposed water quality goals. The main differentiating factor between these options is that under the raw water option, the impacts identified in the EIR would definitely occur, while under the treated water option it was projected that the potential impacts of a chlorinated water would not occur, but was possible. Compounding the difficulty in the comparison is that even under the raw water option, more than 12 miles of pipeline would still carry chlorinated water since the water would be chlorinated at the CMC and SLO WTP facilities. Thus, even the raw water option would have the potential to result in a chlorinated water spill to Chorro, Stenner and San Luis Obispo Creeks, as well as several unnamed intermittent streams. Finally, it should be noted that the selection of the Raw or Treated Water option will ultimately be decided by the County Board of Supervisors and project participants, mainly on economic grounds. As noted in the response to comment P-2.2, the final cost for the NWP has not been determined, but has been estimated at approximately \$193,161,000 for the treated water option and \$150,301,000 for the raw water option. This differential of more than \$40,000,000 has resulted in an economic preference for the Raw Water Option.
GC-1.14	Please see the response to the previous comment (GC-1.13).
GC-1.15	Please see the response to comment GC-1.13.
GC-1.16	As noted in the comment the NWP faces many of the issues that were experienced in the SWP. Many project participants already have water treatment facilities and would prefer raw water, while a few need treated water due to their lack or, or limited capacity for water treatment. Thus, no single project will satisfy all participants. However, as noted in the response to comment, there appears to be a preference amongst project participants for the Raw Water Option.
GC-1.17	Please see the response to comment GC-1.13.
GC-1.18	Under the Raw Water Option, as defined by the Applicant (i.e., the County), water would be discharged into percolation basins in the Salinas River Channel and recovered at existing groundwater pumping sites. Under this scenario, the water quality would not meet the project goals of improved water quality for a few participants. The County did not include

Number	Response
	new water treatment facilities at these locations since they are not absolutely required to meet applicable drinking water standards, nor does the County have the authority to require the construction of these facilities. It will be up to the individual project participants to determine their specific water treatment needs under the Raw Water Option, and to construct the necessary facilities. Ideally, each project participant would provide their own treatment system and receive raw water, but this approach is not economical for all participants.
GC-1.19	As noted in many of the previous responses, the EIR evaluated potential treated water spill impacts in terms of the risk to the environment, not just the consequences of an event that is not projected to occur during the life of the project. No preference was given to the needs of humans over other species. If this were the case, the lower project cost associated with the Raw Water Option would have been a major factor in reducing potential impacts on humans that would result from higher water costs. As CEQA does not allow for the evaluation of economic considerations, the relative costs of the two options were not considered in the EIR analyses.
GC-1.20	Please see the response to comment GC-1.13.
GC-1.21	Each discussion of creek/wetland crossings in the EIR needs to be taken in context of the specific discussion. The project description focuses on stream/wetland crossings where an actual channel will need to be crossed, while much of the discussion in the Biological Resources section focuses on sensitive stream/wetland habitat. A detailed listing of stream/wetland crossings was developed that included all USGS-defined blue-line streams. In many cases, these streams constitute little more than a dry channel characterized by occasional runoff. Other stream crossings would occur within existing roadways and would not impact the blue line stream, which runs through a culvert under the road. The comment notes a potential methodology that can be used to estimate the number of stream crossings which is unnecessary since a tally of crossings has been established for the project. While the comment notes the potential for 96 blue-line streams, the actual number and locations are as follows:

Nacimiento Water Project Inventory of Stream and River Crossings

Designation	Name	Location	Crossing Type
C1	Nacimiento River	N35° 45.645' / W120° 51.327'	Boring
C2	Intermittent Stream	N35° 45.241' / W120° 48.980'	Trench
C3	Intermittent Stream	N35° 45.057' / W120° 48.596'	Trench
C4	Intermittent Stream	N35° 44.423' / W120° 48.491'	Trench
C5	Intermittent Stream	N35° 44.271' / W120° 48.360'	Trench
C6	Intermittent Stream	N35° 44.174' / W120° 48.267'	Trench
C7	Intermittent Stream	N35° 43.687' / W120° 48.045'	Trench
C8	Intermittent Stream	N35° 42.926' / W120° 46.961'	Trench

Number	Response			
	C9	Intermittent Stream	N35° 42.389' / W120° 46.340'	Trench
	C10	Intermittent Stream	N35° 42.262' / W120° 44.917'	Trench
	C11	Intermittent Stream	N35° 42.344' / W120° 43.474'	Trench
	C12	San Marcos Creek	N35° 42.168' / W120° 43.003'	Boring
	C13	Salinas River	N35° 40.122' / W120° 41.516'	Overhead Pipe Crossing
	C14	Intermittent Stream	N35° 39.447' / W120° 41.462'	Trench
	C15	Intermittent Stream	N35° 38.636' / W120° 40.916'	Trench
	C16	Intermittent Stream	N35° 36.808' / W120° 40.756'	Trench
	C17	Intermittent Stream	N35° 35.977' / W120° 40.908'	Trench
	C18	Intermittent Stream	N35° 33.599' / W120° 41.319'	Trench
	C19	Intermittent Stream	N35° 31.593' / W120° 40.402'	Trench
	C20	Intermittent Stream	N35° 31.137' / W120° 39.905'	Trench
	C21	Intermittent Stream	N35° 29.430' / W120° 38.426'	Trench
	C22	Intermittent Stream	N35° 27.692' / W120° 37.340'	Trench
	C23	Intermittent Stream	N35° 27.581' / W120° 37.272'	Trench
	C24	Salinas River	N35° 26.742' / W120° 36.408'	Bridge Crossing or Trench
	C25	Santa Margarita Creek	N35° 26.084' / W120° 36.389'	Boring or RR Bridge Crossing
	C26	Intermittent Stream	N35° 23.671' / W120° 36.305'	Trench
	C27	Santa Margarita Creek	N35° 22.082' / W120° 38.472'	Boring
	C28	Stenner Creek	N35° 20.438' / W120° 39.433'	Boring
	C29	Stenner Creek	N35° 19.469' / W120° 40.503'	Boring
	C30	Stenner Creek	N35° 19.142' / W120° 40.847'	Boring
	C31	Stenner Creek	N35° 18.498' / W120° 40.824'	Boring
	C32	Intermittent Stream	N35° 19.645' / W120° 41.581'	Trench
	C33	Chorro Creek	N35° 20.155' / W120° 41.256'	Boring; Below Chorro Reservoir
	C34	Intermittent Stream	N35° 17.429' / W120° 41.483'	Trench
	C35	Intermittent Stream	N35° 17.294' / W120° 41.665'	Trench
	C36	San Luis Obispo Creek	N35° 15.302' / W120° 40.187'	Boring
	C37	Intermittent Stream	N35° 15.165' / W120° 38.812'	Trench
	C38	Intermittent Stream	N35° 15.143' / W120° 38.708'	Trench
	C39	Intermittent Stream	N35° 14.831' / W120° 38.768'	Trench
	C40	Intermittent Stream	N35° 14.731' / W120° 38.922'	Trench
	C41	Intermittent Stream	N35° 14.720' / W120° 38.932'	Trench
	C42	Intermittent Stream	N35° 14.752' / W120° 38.496'	Trench

Number	Response
	(continued table below)

C43	Intermittent Stream	N35° 13.957' / W120° 37.843'	Trench
T1	Salinas River	N35° 32.583' / W120° 42.409'	Bridge; Templeton Treated Water
T2	Salinas River	N35° 29.595' / W120° 38.728'	Bridge; Atascadero Treated Water
R1	Santa Margarita Creek	N35° 25.706' / W120° 36.344'	Bridge Crossing
R2	Perennial Canal	N35° 20.338' / W120° 40.640'	Boring; Drains to Chorro Reservoir
D1	Salinas River	N35° 35.925' / W120° 41.199'	Paso Robles Discharge
D2	Salinas River	N35° 32.844' / W120° 42.218'	Templeton Discharge
D3	Salinas River	N35° 31.705' / W120° 41.629'	Atascadero Discharge
	Number of Stream Crossings for Treated Water Option:	45	
	Number of Stream Crossings for Raw Water Option:	48	

Note: C = Crossing (both options), T = Treated Water Only, R = Raw Water Only, D = Raw Water Discharge

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	This listing above was used in the EIR analysis to evaluate potential biological impacts associated with the proposed project. In addition, the EIR assumed that in the event of a chlorinated water spill, chlorinated water would reach a creek or wetland containing sensitive aquatic species even though there are many locations where a spill would not impact sensitive species. Thus, the analysis of the risk to sensitive species associated with a chlorinated water spill conservatively overestimated the probability of potential impacts.
GC-1.22	Of the many stream crossings listed in the previous response, several would occur in areas with relatively steep terrain. However, trenches would be gradually sloped were feasible. In those cases where the terrain is too steep, micro-tunnels or borings are proposed where the pipeline would pass through the steep terrain with minimal angles. Thus, there would not be any unusually steep pipeline angles. In addition, the pipeline would be hydrostatically tested prior to operations (using untreated water) to identify any potential weaknesses in the pipeline.
GC-1.23	Please see the response to Comment GC.1-22.
GC-1.24	Clearly there are many substantial differences between Alberta, Canada and California in terms of "wraths of nature", or what are commonly referred to in risk analysis as external events. External events are scenarios such as earthquake, fire, floods, etc. that can result in equipment failure. For any given project, external events are typically evaluated in a project and site specific basis, focusing on those events that have the greatest likelihood or probability of adversely affecting the project. Equipment failure rates inherently include failures associated with "wraths of nature", although some adjustment is necessary to address site-specific events. While no attempt was made to correct the Alberta EUB failure rate for external events that are specific to Alberta, such as extremely low temperature, potential implications of local external events to the NWP were evaluated. As noted in the comment, the greatest external event hazard

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	associated with the NWP project would result from an earthquake. Potential seismic impacts on pipelines have been evaluated by the California State Fire Marshal (CSFM). Based on the information in the CSFM report, three of the 507 pipeline failures reported during 1981-1990 study period were related to seismic activity. Based on the number of total length of pipelines in the state (72,303 mile/years), and the number of failures observed during this ten year period (3), one could assume that the base rate for seismically-induced failures could be 4.15 x 10^{-6} failures/mile-year. The resulting number of failures for the NWP pipeline project would be 0.03 seismically-induced failures over the presumed 100-year project life. This represents an insignificant increase to the number of estimated failures presented in the EIR. However, the limited duration of the study period would warrant further examination of potential seismically induced failures. The CSFM report presented probabilities of earthquakes of various magnitudes for the State, as well as pipeline failure probabilities for each magnitude category. These probabilities were based on information from all earthquakes in the state for a 139 year period from 1850 through 1989. Using these probabilities, as well as estimates of local magnitude in areas adjacent to an earthquake epicenter, a seismic failure rate for the proposed project was developed. Based on this analysis, a failure rate of 6.2 x 10^{-5} failures/mile-year was estimated, which is approximately an order-of-magnitude higher than the observed failure fate for the period of 1981-1990. Since the NWP pipeline covers a distance of 64 miles, only portions of the pipeline would be subjected to various intensities during an earthquake. As a result, the potential for pipeline failures was adjusted to reflect the varying degree of local magnitude along the pipeline length. As a result, the total number of seismically-induced failures for the NWP pipeline over a 100-year period was estimated to be 0.4 failures (this includes leaks and ruptures). Since the failure rate used in the EIR already includes some seismically induced failures, the addition to potential seismic failures to the rates already presented above would be insignificant. In addition, not all failures would result in impacts to streams or wetlands, thus the likelihood of impacting sensitive species remains quite low.
GC-1.25	Please see the response to Comments GC.1-13 and 21.
GC-1.26	In evaluating alternatives, no preference was given to any specific environmental area. In order to be as objective as possible, equal weighting was given to all environmental issue areas, such as traffic versus biological resources, regardless of the perceived importance of any single issue area. The statements noted in the comment from the EIR Executive Summary are generally subjective in nature and oversimplify the environmental analysis that was prepared for the proposed project and alternatives. Many of the biological impacts identified for the proposed project were also identified for the 1997 EIR alternative. However, in the case of the 1997 EIR alternative, additional impacts to traffic and visual resources were identified.

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GC-1.27	Monterey County has proposed substantial changes to the operation of Lake Nacimiento that will benefit downstream fisheries in the Nacimiento and Salinas Rivers. Historically, much of the SLO County allocation has been either held in the lake to maintain optimum lake levels for recreation, or released during high flow periods, thus flowing to the ocean. Monterey County's proposed re-operation of the reservoir will allow for a greater degree in flexibility of proposed releases and more flow in the Nacimiento and Salinas Rivers during traditionally low flow periods, thus maintaining a better environment for fisheries. Much of the information identified in this comment was included in the Monterey County EIR for the Salinas Water Project, which has been incorporated into this EIR by reference, and thus meets the requirements of CEQA. It should be noted that it is impossible to identify exact flow data for the Nacimiento and Salinas Rivers, since flow rates would be based on the hydrologic balance each year. However, as per the 1985 Memorandum of Agreement (MOA) with the California Department of Fish and Game (CDFG), the Monterey County Water Resources Agency maintains minimum flow rates that are sufficient to support downstream fisheries. The Nacimiento Water Project would not have any impact on the 1985 MOA requirements, and would thus not adversely impact downstream fisheries. Finally, as noted in the Hydrology and Water Quality section of the EIR, much of the NWP allocation would remain in the Salinas River watershed, with approximately 50% of the allocation being returned to the Salinas River as treated wastewater. Thus, approximately 4,000 afy of the NWP water would remain in the Salinas River watershed.
GC-1.28	A review of the DEIR Figures 2-3 to 2-24 clearly shows that a majority of the pipeline would be constructed in road right of way (ROW). However, it should be clarified that many of these roads are not paved, nor will they be paved following the completion of the project. For example, east of the Lake Nacimiento Dam, the pipeline would be constructed under an existing dirt road from the dam to an area east of the Nacimiento River crossing where the pipeline would follow the paved West Perimeter Road ROW. Between Lake Nacimiento and Highway 101, the pipeline would follow existing road ROW (paved and unpaved) for approximately 14 of the 15 miles of this portion of the route (see DEIR Figures 2-3 through 2-7). In cases where the pipeline crosses open areas, such as the Rolling A or Happy Valley Ranches, the pipeline will follow existing dirt roads or cross heavily disturbed ranch land. These areas would not be paved and no loss of acreage would occur. Aside from the acreage losses associated with the construction of the water treatment, storage and pumping facilities, as well as the discharge basins under the raw water option, no additional acreage would be destroyed. These acreages were noted in the DEIR under the sections that describe these facilities.
GC-1.29	The Biological Resources Technical Report (BRTR) that was prepared for the EIR and forms the basis for the environmental baseline for biological resources has been summarized in the EIR and incorporated by reference, which is a common practice allowed by the California Environmental Quality Act. Given the length of the BRTR, the report

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	was not included as part of the EIR, but is available for review from the San Luis Obispo County Department of Planning and Building. As noted in the previous, the amount of habitat that would be destroyed would be minimal and limited to the WTP and raw water discharge ponds. The following habitat loss would occur associated with th4ese facilities: Water Treatment Plant 28 Acres Paso Robles Discharge Ponds 8 Acres Templeton Discharge Ponds 1 Acre Atascadero Discharge Ponds 6 Acres
GC-1.30	The only wetland habitat that would be directly impacted by the project would be the loss of riparian areas associated with the construction of the raw water option discharge facilities. In this case, a 3 to 1 ratio has been identified in Mitigation Measure BR-22. Other wetland areas would be avoided either through direction drilling under the resource, or suspension, either on an existing or new bridge, over the top of the resource. However, should the delineation of an area be reevaluated and designated as a wetland, the RWQCB recommended wetland mitigation ratio of 3 to 1 should be followed. Therefore, mitigation measure BR-22 has been modified to note this change in the wetland replacement ratio.
GC-1.31	No formal consultations between the EIR preparers and relevant Federal and State natural resource agencies have taken place. Formal consultations will be required between the County and these agencies once a final project design has been completed and formal permitting of the project commences. However, the EIR biologists had numerous informal discussions with the California Department of Fish and Game (CDFG), U.S. Fish and Wildlife Service (USFS), U.S. Army Corps of Engineers, National Marine Fisheries Service (NMFS), Regional Water Quality Control Boar (RWQCB) and the California Army National Guard (Camps Roberts and San Luis) prior to and during the preparation of the EIR. However, many of these agencies were excluded from the list of agencies contacted during EIR preparation. Appendix H of the EIR has been updated to include contacts with the agencies and individuals listed above.
Cogstone Resource Management, Inc.	
GC-2.1	The regulations have been cited as requested.
GC-2.2	The sensitivity ratings have been modified to reflect the guidelines of the Society for Vertebrate Paleontology, records of fossils recovered from formations in local museums, results of field surveys and general experience. The EIR ratings, however, are not consistent with the suggestion that all formations except the young alluvium be rated as "high" whgere evidence would indicate otherwise (specifically, older marine rocks for which current information lacks support for a high sensitivity in the pipeline ROW areas).
GC-2.3	Reference to a firm has been removed from Measures CR-1 and CR-6 as requested. Sensitive areas will be identified as

<table>
<tr><th>Number</th><th>Response</th></tr>
<tr><td></td><td>part of the monitoring plan, the change has been incorporated into CR-1 and CR-6. These measures have also been changed to include the requested phrase on surface alterations and subsurface excavation.

The monitoring plan is assuming that no major impacts will occur to the cultural sites. Research design is typically included as part of Phase II subsurface testing and Phase III mitigation (data recovery) - these two activities do require research designs, but monitoring plans typically do not require research design. We see no need to change CR-1 and CR-6 to include research design. Also the elements listed in the monitoring plans state "include but are not limited to " thus if the project paleontologist or archaeologist wanted to include a research design in a monitoring plan they could do so.</td></tr>
<tr><td>GC-2.4</td><td>Professional qualified paleontologist and archaeologist will be retained to carry out monitoring, preparing the outlined training, plans and reports. These professionals may select to assign their representatives to carry out some duties or activities of paleontological and archaeological monitoring, as will be determined on a case to case basis by the professionals. This is typical for cultural resources monitoring in many projects in the area. Changes to reflect the above-mentioned have been incorporated into measures CR-1, CR-2, CR-4, CR-5, CR-6, CR-9, CR-11 and CR-12.</td></tr>
<tr><td>GC-2.5</td><td>Procedures for paleontology have been listed as requested.</td></tr>
<tr><td>GC-2.6</td><td>Scientific names for species have been rewritten in a correct format as requested.</td></tr>
<tr><td>GC-2.7</td><td>The changes have been made as requested.</td></tr>
<tr><td colspan="2">ECOSLO</td></tr>
<tr><td>GC-3.1</td><td>As noted in the response to many of the comments from the Canyon and Stream Alliance (CASA), the probability of a treated water pipeline would not be expected to occur over the life of the project. Historical failure rate data for water transmission pipelines indicate the pipeline would have a failure rate of 4.8×10^{-5} failures/mile-year (once every 20,000 years per pipeline mile) (please see the response to Comment P-6.5 for more discussion on failure rates). Given a 64 mile pipeline length, the probability of a failure would be once every 325 years, which is an event that one would not expect to occur. While all pipelines eventually wear out, the pipeline would be designed and constructed to minimize the loss of integrity over its serviceable life.

The pipeline will be monitored by the County throughout its operation. Flow metering would be used to identify small leaks in the pipeline, which can then be isolated and repaired. The detection and repair of small leaks should preclude most large pipeline failure scenarios. However, in the event of a large pipeline spill, pressure losses in the pipeline would result in pump shutdown. The pumps would not be restarted until the pressure loss was evaluated to determine if there was a spill. In the event of a large spill of chlorinated water to a sensitive habitat, there is little that can be done to mitigate potential impacts to sensitive species. While the chlorine in the water would dissipate over the period of 2-3</td></tr>
</table>

Number	Response
	hours, damage to sensitive species would likely have already occurred. In light of many comments received on the DEIR, mainly commenting on differences in impacts between the proposed project Treated and Raw Water Options, the Environmentally Superior Alternative (ESA) was reevaluated. As noted in the responses to many of the comments, the EIR preparers have not deviated from their original classification of the various impacts identified in the EIR. However, in the reevaluation of the ESA, the relative severity of impacts identified in the EIR, most of which were considered less than significant (Class II or III), was considered. For example, two substantial differences between the Treated and Raw Water Options related to potential hazards associated with a spill of chlorinated water for the Treated Water Option, and the loss of riparian habitat for the discharge percolation ponds for the Raw Water Option. In both cases, mitigation measures were proposed and residual impacts were considered less than significant (a Class II impact). On the surface these impacts would appear to be equal (i.e., both Class II impacts), but further evaluation would reveal that replacement of lost riparian habitat would be required at a 3:1 ratio, which would essentially result in no adverse impact. Conversely, potential impacts associated with a treated water spill were reduced by requiring that non-chlorinated water be used for initial pipeline testing, which is when there would be the highest probability of pipeline failure. This did not eliminate potentially adverse impacts associated with a spill, but reduced the probability of a spill to a level that was considered less than significant. In the DEIR, these two Class II impacts were considered to be equal under a quantitative scoring approach. In the FEIR a greater weighting was given to the potential for a chlorinated water spill. As a result, the Raw Water Option was considered environmentally superior for the biological resources issue area. Similar reevaluations were made in other issue areas, which when all combined resulted in the Raw Water Option being selected as the ESA. Please refer to Section 6 of the EIR for a complete discussion. It should be noted that the Raw Water Option would still result in treated water in some portions of the NWP pipeline. While the northern portion of the pipeline route would remain untreated under the raw water option, chlorination is proposed to occur in Atascadero, which would then transport treated water to Santa Margarita (see EIR Figures 2-15 and 2-16) via a second pipeline. Also, project related water transported to the south from the City of San Luis Obispo and California Men's Colony water treatment plants would also be chlorinated. Thus, all water transported in and through the City of San Luis Obispo to the project participants south of the City would also be chlorinated. It is also possible that additional treatment facilities will be constructed in Paso Robles and Atascadero for the purposes of treating water under the raw water option.
GC-3.2	Please see the response to Comment GC-1.13 regarding potential impacts associated with pipeline leaks.
GC-3.3	While many commenters would like to see the treated water option removed from the EIR, this is one of the options

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	proposed by the County. Since it forms the basis of the requested project, CEQA requires that the EIR evaluate potential impacts associated with this project option. Even if the treated water option were considered as part of the alternatives analysis, the EIR would need to contain an assessment of potential environmental impacts associated with this option, even if it was not considered for detailed evaluation in the EIR. The purpose of an EIR is to evaluate potential environmental impacts associated with the proposed project and alternatives. CEQA explicitly excludes almost all economic considerations. However, it should be noted that participation by various Cities and water purveyors is contingent on reaching terms that are acceptable to each participant. It is unlikely that urban users would participate in the project if the cost to their rate payers was excessive. While the EIR found that the project would result in significant adverse growth-related impacts, most of this growth was identified in the general plans for participating cities.
GC-3.4	Please see the responses to comments from Life on Planet Earth and the Canyon and Stream Alliance.
Environment in the Public Interest	
GC-4.1	Please see the response to Comments GA-6.17 and GC-1.13.
GC-4.2	Section 5.10 of the DEIR specifically noted the benefit of receiving treated water and identified the added water supplies as a "beneficial impact" (see Impact UP.2). In addition, Section 5.1 noted several instances where the raw water option would not meet some of the project goals for improving water quality, as well as problems associated with discharges of raw water into the Salinas River discharge ponds. In terms of the responsibilities of each purveyor and their likely benefit, CEQA is limited to the evaluation of environmental impacts associated with the project. Section 2 of the DEIR describes each purveyors needs (and inherent benefits), as well as responsibilities for water treatment and water wheeling to provide water to purveyors that will not be physically connected to the NWP.
Life on Planet Earth	
GC-5.1	Please see the response to Comment GC-3.1 regarding the analysis of the Environmentally Superior Alternative. Also, please see the response to comment GA-6.17 regarding the discussion of evaluating the relative risk of the project. Potential significance is based not just on consequences, but on risk, which combines the probability of an event with the potential consequences. If probability is not included in the evaluation of risk than just about every activity in life would be considered significant.
GC-5.2	The Salinas River suspended pipe crossing will be designed to current seismic standards to avoid phenomena such as harmonic vibration. The depictions in the DEIR of the suspended pipe crossing are only conceptual in nature since final design has not been completed. However, for environmental analysis purposes, especially visual resources, the DEIR depictions were adequate to estimate potential impacts associated with construction and operation of the structure.
GC-5.3	Please see the response to Comments GC-1.13 and GC-1.24.

Number	Response
GC-5.4	Please see the response to Comments GC-1.21, GC-3.1 and GC-3.3.
GC-5.5	As noted in Section 7 of the EIR, impacts associated with growth are considered a Class I Significant Impact for all alternatives that would increase regional local water supplies. Given the ease of constructing small water treatment facilities, both the treated and raw water options could lead to urban sprawl.
GC-5.6	The County developed the proposed project route in an effort to minimize potential environmental impacts by using existing roadways, where feasible, and/or previously disturbed areas. The EIR also added more than 160 mitigation measures in an effort to avoid and/or minimize potential impacts. Given the improvements in project design and mitigation, many of the Class I impacts identified in the 1997 EIR were avoided or substantially reduced. However, as noted in Section 7 of the EIR, secondary impacts associated with growth inducement are considered significant. Since secondary growth inducement impacts are treated differently than the direct impacts identified in Section 5 of the EIR, the Class I growth impact was not listed in the Impact Summary Tables. However, in order to make this important impact clear, the growth inducement impact has been included in the Final EIR Impact Summary Tables.
GC-5.7	The project final design will include the ability to isolate the pipeline on both sides of the Rinconada Fault rupture zone should surface rupture be found to pose a risk to project facilities..
GC-5.8	Measure CR-1 parts 9 and 10, and measure CR-6 parts 10 and 11 require development of cultural resources monitoring plans that would in detail (that is not feasible to be presented in an EIR) list all measures for the project sites security in relation to protection of the cultural resources (e.g., fencing, covering, guarding, training). These plans, measure CR-8 in regards to training, in addition to the legally enforceable fines and potential imprisonment for looting of cultural resources are considered to be sufficient in deterring the public and workers from looting (please see Disturbance of an Archeological Site, PRC §5097.5). Therefore, impact from looting is considered to be mitigated to Class II.
GC-5.9	While the probability of a pipeline failure was considered unlikely, potential impacts to traffic were evaluated since the pipeline would be constructed in roadway right-of-way for most of the route. It is clear that road closures create traffic, but Mitigation Measure T-14 would serve to reduce potential impacts by having alternative routes and traffic control measures identified in advance.
GC-5.10	The EIR analysis considered the probability of an in-service pipeline failure to be extremely low, and therefore, insignificant (please see the response to comment GC-1.1). Mitigation was proposed for pipeline testing since testing represents an activity where the chance of a failure is quite high. Pipeline testing is used to identify construction and material defects, which are frequent causes of equipment failure. Testing of the Coastal Branch of the State Water Project revealed a construction defect that resulted in a large water spill.
GC-5.11	The cost of the EIR mitigation measures will be included in the total project cost. Please see the responses to comments GC-1.2 and GC-1.3.
GC-5.12	As noted in the comment, the exact governance of the project has not been determined. However, regardless of how the

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	project is governed, the County Department of Planning and Building would retain the authority over environmental monitoring. Under this arrangement the "applicant" is usually required to fund the monitoring effort, paying the County, in advance or authorizing through budget allocations, all funds necessary for County staff and consultants to complete the monitoring program. Therefore, the monitoring program is typically funded prior to construction, thus removing the issue of project cost overruns cutting into monitoring efforts.
GC-5.13	The EIR alternatives analysis did evaluate a combined desalination and Salinas Dam water diversions in the alternative screening analysis. However, under CEQA, alternatives to the proposed project are required to avoid or substantially reduce potential impacts associated with proposed project. While this alternative would avoid some impacts, it would create numerous significant impacts. Desalination offers an almost endless supply of water, but at a substantial environmental cost. Brine disposal and energy use would result in significant impacts to the environment. Additional pipelines would still be required which would also be associated with many of the impacts identified in the EIR.
GC-5.14	Information on water conservation was obtained from the Department of Water Resources and County Public Works. While the No Project Alternative could spur some conservation, the level of conservation would be based on local water availability for each project participant. As previous experience in the County would show, effective water conservation is usually achieved through water pricing, limited supplies, and locally mandated water conservation measures; however, not to the extent needed to negate the need for supplemental water supplies. While the need for conservation is clear, conservation as a viable (feasible and enforceable) alternative to the NWP was not considered feasible under CEQA. The County, as well as many of the project participants, does not have the statutory authority to impose conservation. Thus, water conservation was not considered a viable CEQA alternative to the NWP.
GC-5.15	The Socioeconomic and Environmental Justice sections of the EIR were prepared according to State and Federal guidelines. The intent of evaluating Environmental Justice is to determine if a project has a disproportionate impact on disadvantaged populations. While right-of-way acquisition can and has been a traumatic experience for property owners, it is not an environmental issue that is evaluated under CEQA. In many cases the County has already worked with affected property owners with several minor adjustments being made to reduce potential impacts on affected property owners. The County will continue to work with property owners to minimize impacts to affected parties, but this is a process that will take place outside of the CEQA/EIR process.
PasoWatch	
GC-6.1	A mitigation measure requiring mandatory water conservation was considered, but unfortunately was considered infeasible for this project. The County lacks the authority to impose mandatory across the board on the project participants. The root of the problem is that the project participants are a mix of cities, water agencies and private companies. For example, The City of Atascadero would receive their allocation through the Atascadero Mutual Water Company (AMWC). The AMWC doesn't have any authority to impose mandatory water conservation on its customers,

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	while the County clearly does not have the authority to impose water conservation on the City of Atascadero, which is not a participant in the project. Had the EIR been able to require a feasible mitigation measure requiring water conservation, one would have been included to reduce potential impacts to insignificant levels. However, the infeasibility of constructing an enforceable conservation measure precluded a water conservation requirement and resulted in a finding that the project would result in significant unavoidable growth impacts. These administrative issues aside, water conservation alone could not negate the need for supplemental water altogether.
Salinan Tribe	
GC-7.1	Specific crew members are listed in technical report (Gibson and Parsons 2003:9) and in original 1996 survey report (Gibson and Parsons 1996:7), these reports however are confidential and can be reviewed after request is approved. Salinan crew members included Robert Duckworth Jr. (on both surveys) and Penny Hurt on 1996 survey. These individuals can be contacted for information on specific areas of survey. These crew members have been present during surveys of most of the sections of the project. In some instances, the Salinan crew members were not able to accompany the crew each day and for survey of each section of the project. The survey reports were sent to the crew members for their input, however no comments were received.
GC-7.2	The SLO-1427 site was first recorded in July 1990 by Charles Dills who recorded only bedrock mortars. In July 2000 a Phase I archaeological surface survey was conducted and 15 shovel test pits were excavated (Maki 2000) and a supplemental site record was competed. In August 2000, Clay Singer conducted a Phase II evaluation testing of SLO-1427 (Singer 2000). In 2001, a Phase I survey for the SLO City Water Reuse Project was done adjacent to SLO-1427 (Gibson 2001). Currently, the City of SLO is in the construction phase of their Water Reuse Project. That project pipeline is being placed outside the area of the bedrock, surface or subsurface artifacts, as would the proposed project. The pipeline trenching will be monitored by an archaeologist and a Chumash representative.
GC-7.3	Potential impacts associated with the proposed Prado Road Extension and Sports Park are beyond the scope of this project and outside the jurisdiction of the County. However, as noted above, impacts to the site as part of this project would be avoided and closely monitored during construction to watch for previously unknown sites.
GC-7.4	Site SLO-1427 has been added to the EIR in table 5.8.5. Please see the response to GC-7.2.
GC-7.5	As noted above, the proposed Prado Road Extension and Sports Park are beyond the scope of this project and outside the jurisdiction of the County. The NWP pipeline will be routed to avoid impacts in this sensitive area (SLO-1427), but impacts associated with other projects are beyond the scope of this EIR and the County.
GC-7.6	The site was not missed, this section of route was not surveyed during the 1996 or 2003 surveys, it was surveyed during the Damon Garcia Sports Complex in 2000 and during the SLO City Water Reuse Project in 2001. The information from these surveys was used in the preparation of the current NWP EIR. No repeated survey was necessary.
GC-7.7	Phase II or III archaeological testing and documentation are intended to preserve archaeological resources. All efforts

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	for preservation by avoidance of direct and indirect impacts will be done during the project, unavoidable adverse impacts are mitigated by subsurface testing (data recovery) and monitoring during construction. This offsets the any potential damage. After testing, the remainder of cultural resources in the archeological site is not affected and its integrity is not affected or damaged. In many cases the data learned from the mitigation of a small percentage of the archaeological site can be used to save the much larger portion of the site.
GC-7.8	Legal water rights issues are the responsibility of Federal, State and County governments. Currently, the County has a vested right to the water with no compensation required.
Parsons Brinkerhoff Quade & Douglas, Inc.	
GC-8.1	This comment references various sections of the California Environmental Quality Act (CEQA) as justification for the need to have a regional desalination plant located at the Estero Bay Terminal site. However, as noted in the comment, "…Parsons Brinkerhoff, is in the *early stages of an investigation of the feasibility* of a regional desalination facility at the Estero Bay Terminal site." (emphasis added) As a proponent of a regional desalination plant located at the Estero Bay Terminal site, the commenter has clearly stated that it is uncertain if this project is <u>feasible</u>. CEQA Guidelines 15126.6(f)(3) clearly states"[a]n EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative." In addition, CEQA Guidelines 15364 defines "'Feasible' means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." As will be seen in the responses to the subsequent Parsons Brinkerhoff comments, and aside from the admission that the feasibility of this project is not even known by the project proponent at this time, it is highly questionable that the project could feasibly meet the project goals while also avoiding the significant environmental impacts associated with the proposed project. The project, as described by Parsons Brinkerhoff, clearly leaves out many of the pertinent details and components of the project that would be required in order to reasonably ascertain the goals of the project and evaluate potential environmental impacts. The omissions in the Parsons Brinkerhoff comment letter are discussed in subsequent responses. Along these lines the courts have determined that "[t]he discussion of alternatives need not be exhaustive, and the requirement as to the discussion of alternatives is subject to a construction of reasonableness. The statute does not demand what is not realistically possible given the limitation of time, energy, and funds. 'Crystal ball' inquiry is not required." (*Residents Ad Hoc Stadium Committee v. Board of Trustees* (3d Dist. 1979) 89 Cal.App.3d 274, 286 [152 Cal.Rptr. 585]

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	The specific issues raised in this comment are addressed in the responses to detailed Parsons Brinkerhoff comments below.
GC-8.2	It is clear that a regional desalination facility located at the Estero Bay Terminal site, if feasible, could meet many of the basic objectives that were identified in the EIR. However, there are two factors that were not considered by the commenter, including; (1) the County already has a right to the Lake Nacimiento allocation of 16,200 afy, and (2) it is dubious as to whether or not the project would avoid any environmental impacts associated with the proposed project. CEQA section 15126.6(f) clearly states that "The alternatives shall be limited to the ones that would avoid or substantially lessen any of the significant effect of the project. Of those alternatives, the EIR need examine in detail only ones that the lead agency determines could feasibly attain the most basic objectives of the project." The commenter postulates a pipeline distribution system that would be of "…shorter length and less environment impact than for the NWP scenario can be constructed integrate (*sic*) water services and serve other communities in the County." There are numerous problems with the presumption that a regional desalination facility located at the Estero Bay Terminal site would have less environmental impact than the NWP or avoid or substantially lessen the environmental impacts identified in the EIR. Several factors were not elucidated by the commenter, including: Of the 64 miles of pipeline proposed for the NWP, approximately 49 miles of the pipeline would still be required to serve project participants between San Miguel in the north and Edna Valley MWC in the south. This total does not include the "new local pipelines" referred to in the comment. It is also unclear if portions of the existing unused oil pipeline will need to be replaced prior to use for the transport of drinking water. This potential reduction in pipeline length, if in fact there is even a reduction once the factors mentioned above are accounted for, does not represent avoidance or a substantial reduction in potential environmental impacts associated with the NWP. The commenter fails to identify potential environmental and water quality impacts associated with using "unused oil pipelines" to transport water between the Estero Bay facility and Atascadero. Depending on existing environmental contamination within and around these pipelines, it may not even be feasible to use these pipelines to transport drinking water supplies. The commenter fails to identify what actions would be taken to assure that these pipelines deliver safe, uncontaminated drinking water, whether or not these pipelines would need to be lined, or if additional treatment would be required by the project participants after they receive the water.

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	There is also no discussion of what, where and how other project-related facilities would be constructed. The project will require numerous pump stations, surge tanks, reservoir tanks and treatment/chlorination facilities. Given the lack of information, it is impossible to ascertain what environmental impacts would occur associated with the entire project, thus making this alternative speculative under CEQA (CEQA Guidelines 15126.6(f)(3)). The commenter also fails to note other environmental impacts that would be associated with a regional desalination facility located at the Estero Bay Terminal site, most notably energy consumption and brine disposal. The desalination process requires substantial amounts of energy. While the project would likely use electricity from the regional grid, the use of this energy would result in secondary air pollutant emissions at electrical generation facilities. In addition, it is unclear if the energy demands of a regional desalination facility would place a significant demand on the local electrical grid. The project, located as sea level, would also have greater energy demands requirements than the NWP to pump water uphill to the communities between San Miguel and Santa Margarita. Again, the greater energy requirement would result in greater secondary air pollutant emissions. Brine disposal is another environmentally serious problem associated with desalination facilities. As noted in the commenter's letter (see Comment GC-8.5, brine would be disposed of through an outfall, most located within the State Tidelands (within three miles of the coast). The discharge of brine is likely to have a substantial impact on marine organisms in the vicinity of the outfall, which would likely result in a significant environmental impact.
GC-8.3	First, it should be noted that the EIR is not a NEPA document, but includes NEPA elements to aid Federal agencies in their permitting responsibilities associated with the NWP. Regardless of the NEPA status of this EIR, the Commenter has already clearly noted that "…Parsons Brinkerhoff, is in the *early stages of an investigation of the feasibility* of a regional desalination facility at the Estero Bay Terminal site." (emphasis added) Under NEPA, "[r]easonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense rather than simply desirable from the standpoint of the applicant." (46 FR 18026 (1981)). The EIR evaluated an alternative that it found did not offer any environmental benefit over the proposed NWP. The District of Columbia Court of Appeals in NRDC v. Morton found that "…agencies must discuss reasonable alternatives even when they are outside their jurisdiction or not authorized by statute or administrative regulation." However, the court found that agencies need not discuss alternatives that were remote and speculative. The Courts have determined that an agency's responsibility to examine alternatives has always been "bounded by some notion of feasibility" to avoid NEPA from becoming "an exercise in frivolous boilerplate". (Vermont Yankee Nuclear Power Corp. v. NRDC, 435 U.S. 519, 551 (1978)) "NEPA has never been interpreted to require examination of purely

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	conjectural possibilities whose implementation is deemed remote and speculative. Rather, the agency's duty is to consider "alternatives as they exist and are likely to exist." (48 Fed. Reg. 34263 (1983)) In light of the commenter’s admission that the Estero Bay regional desalination facility is in the early stages of a feasibility study, this alternative can be considered conjectural at best, but clearly meets the NEPA/CEQA definition of speculative, and thus would be inappropriate to consider as a reasonable alternative to the NWP. Finally, the rationale used to dismiss the “Desalination and Salinas Reservoir Expansion Alternative” was not based solely on the “outdated information for desalination. As will be noted in the following response, a range of desalination recovery yields were presented, of which the commenter’s proposed values fall within that range (35-75% in the EIR versus 45-60% in the comment). Information from local desalination projects in the 1990s was presented, as well as information from a paper published in 2002 by the International Desalination Association. The commenter notes that improvements in desalination have significantly lowered capital and operating costs. However, the EIR alternatives analysis did not consider cost in the screening of a desalination alternative. While operating costs would clearly still be higher for a regional desalination facility versus the NWP for both treatment and pumping (the NWP has gravity on its side), construction costs would also be an issue, as will be addressed in the response to the next comment. Thus, the rationale behind deleting the Desalination and Salinas Reservoir Expansion Alternative from further analysis was based on environmental impacts and not project efficiency or cost. Therefore, this alternative was correctly deleted from further consideration as a feasible alternative to the NWP.
GC-8.4	As noted above, a range of desalination recovery yields were presented in the EIR, of which the commenter’s proposed values fall within that range (35-75% in the EIR versus 45-60% in the comment). Information from local desalination projects in the 1990s was presented, as well as information from a paper published in 2002 by the International Desalination Association. Also, contrary to the comment, cost was not used as a reason to exclude the desalination alternative from further consideration. It is recognized that substantial progress has been made in construction and operating efficiency and cost for desalination facilities. However, these factors did not weigh in the decision to exclude desalination from further analysis as a feasible alternative to the NWP. The commenter also provides a preliminary cost estimate for a 16,200 AFY desalination facility of $60 million. This cost estimate includes some improvements required to provide water service to the coastal communities and the City of San Luis Obispo. The commenter also further states that “[c]onsumers could buy a lot of desalinated water for the difference in cost between the desalination alternative and the NWP alternative.” These statements are incredibly naive and grossly misleading. This cost estimate does not include any improvements necessary to deliver water to most of the

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	project participants, especially those located between San Miguel and Santa Margarita in the north County and the airport area south of San Luis Obispo. Assuming the old crude oil pipeline to the marine terminal could be used to deliver water to the Atascadero area, it would clearly need to be modified to include pump stations, surge tanks, reservoir tanks and pressure relief facilities. In addition, approximately 49 miles of the NWP pipeline would still be required to deliver water to the NWP participants identified in the EIR. Under the NWP raw water delivery option, the cost of a regional desalination project at Estero Bay would likely rival the NWP project costs. Starting with the $60 million cost of the desalination facility, portions of the NWP pipeline and facilities that would still be required would cost approximately $71 million, and additional improvements to the crude oil pipeline listed above would total at least $10 million, for a total of $141 million, which only represents a modest reduction from the $150 million for the NWP raw water alternative. This modest savings would be more than erased in the long term since the operating costs associated with desalination would be substantially higher than for the NWP. However, the entire cost argument is moot since CEQA does not consider cost in the evaluation of alternatives and cost was not included in the EIR alternative screening analysis.
GC-8.5	As noted in the previous responses, environmental impacts associated with a regional desalination facility would result in impacts equal to or greater than those identified for the NWP. While some of the insignificant impacts associated with the NWP at Lake Nacimiento could be avoided, most of the NWP pipeline would still be required to deliver water to the project participants, with all of the impacts identified for pipeline construction still occurring. A regional desalination facility would also create several new environmental impacts related to energy demand, sea water intake, and waste brine disposal. The comment notes that the desalination facility would be located outside the “Coastal Commission zone area”, however the intake and outfall clearly fall within the Coastal Commission jurisdiction, as well as that of the State Lands Commission. Whether or not the facility would be inside or outside of the Coastal Commission jurisdiction has little relevance to evaluating potential environmental impacts or the merits of the project. Finally, the comment notes all of the studies that would be required to obtain permits for the desalination facility, such as hydrodynamic modeling, biological studies and monitoring, and notes that the level of environmental impact cannot be fully determined until studies and alternative designs are selected for the intake and outfall systems. Does the commenter expect San Luis Obispo County to pay for and conduct these studies as part of this EIR? Obviously, the commenter further illustrates that this alternative is only at a conceptual stage, may or may not be feasible, and is clearly speculative under CEQA. Therefore, the EIR should not be revised to include an Estero Bay regional desalination

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	facility. Should the proponents of this concept wish to pursue environmental review, they should complete their feasibility study, prepare a preliminary project design, conduct the necessary environmental baseline studies and submit their project applications to the appropriate agency for environmental review.
GC-8.6	Each of the environmental impacts identified in the comment are addressed individually in the subsequent responses. However, potential impacts associated with a regional desalination facility at Estero Bay, cannot be fully evaluated in the Final EIR for the NWP project since there is not enough information on the Estero Bay project to evaluate potential environmental impacts. While desalination clearly offers a new, reliable water supply for any coastal county, a regional desalination facility at Estero Bay is nothing more than a concept at this time, with the commenter admitting that the feasibility of the project is not known. Therefore, it is impossible to evaluate a regional desalination facility at Estero Bay to a project level of detail as would be required under CEQA.
GC-8.7	First, this and all subsequent responses to this commenter need to be addressed in the context of the impacts identified by the commenter. The commenter has listed Class I and II impacts associated with cumulative impacts for both the NWP and Salinas Valley Water Project (SVWP). In almost all cases, the impact is caused by the SVWP, not the NWP, and would be considered significant even in the absence of the NWP. Since the SVWP has already been approved and funded, and has nothing to do with providing additional water supplies to the NWP participants or San Luis Obispo County, a regional desalination facility at Estero Bay would do virtually nothing to avoid or substantially reduce these impacts. The comment asserts that air quality impacts would be lower for a desalination project. This comment is clearly incorrect since a majority of the NWP pipeline would still be required to service many of the NWP participants. In addition, there would be short term air pollutant emissions associated with construction of the desalination facility, local pipelines, improvements to the old crude oil pipeline, new ancillary facilities (surge tanks, reservoir tanks, pressure relief), as well as improvements to the offshore intake and outfall. Combined, it is highly unlikely that the project would reduce construction-related air pollutant emissions, and clearly not to a level that would be considered insignificant. A regional desalination facility at Estero Bay would also require substantially higher energy use than the NWP, both associated with the desalination process and the need to pump a majority of the water uphill to the north county project participants. This increased energy results in substantial secondary air pollutant emissions over the entire life of the project. Therefore, long-term air quality impacts associated with a regional desalination facility at Estero Bay would greatly exceed impacts associated with the NWP.
GC-8.8	This traffic impact occurs due to road closures related to SVWP spillway improvements. The NWP pipeline would only cross perpendicular to Lake Nacimiento Drive and is clearly insignificant. An Estero Bay desalination facility would do

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	nothing to alleviate SVWP-related traffic impacts. Most of the NWP facilities would also be built on private land, and the portions of the NWP pipeline that would not be needed under a regional desalination project are either on private land or lightly utilized rural roads, such as within Camp Roberts. All NWP pipeline segments within heavily traveled roadways would still be required under a regional desalination project to serve NWP participants. The comment also asserts that for the Estero Bay desalination facility "the total amount and impact of pipeline installation along roadways and in congested areas should be less than for the NWP." As noted above, the entire NWP pipeline between the San Miguel turnout and Santa Margarita, as well as all NWP pipelines south of the City of San Luis Obispo Water Treatment Plant, would still be required to deliver water to the NWP participants. This constitutes the vast majority of the NWP pipeline and all of the areas where traffic existing congestion was identified in the EIR. In addition, the Estero Bay desalination facility would require the construction of some pipelines along the coast. Therefore, a regional desalination facility at Estero Bay would not avoid or substantially reduce NWP-related traffic impacts.
GC-8.9	Again, the visual impact identified in the comment results from the SVWP and not the NWP. While the NWP could slightly contribute to the overall impact, it is more likely that the NWP allocation would be released into the Nacimiento River. Therefore, there would be no improvement in the water level visual impact if the NWP were not constructed.
GC-8.10	Consistent with the previous response, the recreation impact identified in the NWP EIR is associated with the SVWP and would not be avoided or substantially reduced by a regional desalination facility at Estero Bay.
GC-8.11	As noted in the comment, potential cumulative water quality impacts associated with SVWP releases on NWP water quality have been fully mitigated in the EIR. Therefore, a regional desalination facility at Estero Bay would do nothing to change this impact. Also, the comment notes that "[i]f a portion of the desalinated water is transported through the Whale Rock raw water pipeline, it will improve the quality of water being treated at the water treatment plant." This clearly illustrates the gross conceptual nature of a regional desalination facility at Estero Bay as an alternative to the NWP, since the project proponent does not even know how or where water would be transported. Again, a regional desalination facility at Estero Bay, as outlined by this commenter, does not meet the CEQA requirements as a feasible alternative to the NWP and is clearly speculative under CEQA.
GC-8.12	Again, this construction noise impact at Lake Nacimiento has been fully mitigated, thus the only significant noise levels at the lake would be associated with the SVWP and the many speed boats that utilize the lake. However, as noted in the comment, additional noise impacts would be associated with the construction and operation of a regional desalination facility at Estero Bay, the significance of which cannot be determined without a project design, but that would be

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	clearly avoided by the NWP.
GC-8.13	The comment notes that NWP pipeline construction could result in a cumulative impact if pipeline construction occurs in a recently improved roadway. As noted in the comment, this impact has been mitigated. The comment asserts that a regional desalination facility at Estero Bay would have lower impacts "as less pipeline construction is anticipated to be required." Unfortunately, the portions of the NWP that would not be constructed under an Estero Bay Regional desalination project are almost entirely in unimproved roadways or open areas. The NWP pipeline would still be constructed in all areas where roadway improvements have been identified.
Wyoming Asset Management, Inc.	
GC-9.1	All comments provided by this commenter essentially reiterate those provided by Parsons Brinkerhoff Quade & Douglas, Inc. Therefore, responses will not be repeated and the appropriate response above will be referenced for each comment. Please see the response to Comment GC-8.1.
GC-9.2	Please see the responses to Comments to GC-8.3 and GC-8.4. Also, it should be noted that, while information on a regional desalination facility may have been presented to individuals of the County Water Resources Advisory Committee on January 8, 2003, no information was provided to the EIR preparers and no comments or information were received on the Notice of Preparation (NOP) for the NWP. The NOP is the proper CEQA forum for providing comment on the scope of an Environmental Impact Report.
GC-9.3	CEQA is quite clear as to which alternatives should be evaluated in an EIR. As noted in the EIR: CEQA Guidelines Section 15126.6 provides direction for the discussion of alternatives to the proposed project. This section requires: A description of *"...a range of reasonable alternatives to the project, or to the location of a project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives."* [15126.6(a)] A setting forth of alternatives that *"...shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project."* [15126.6(f)] As noted in the responses to comments GC-8.1 through GC-8.13, a regional desalination facility at Estero Bay would not avoid or substantially lessen any of the environmental impacts associated with the NWP, and would also create new, potentially significant impacts that could be avoided by the NWP. Combined with the clearly speculative nature of the Estero Bay desalination facility concept, this alternative is clearly unacceptable under CEQA.
GC-9.4	Please see the response to Comment GC-8.2.
GC-9.5	Please see the response to Comment GC-8.3.

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GC-9.6	Please see the responses to Comments GC-8.3 and GC-8.4.
GC-9.7	Please see the responses to Comments GC-8.3 and GC-8.4.
GC-9.8	As noted in the responses to Comments GC-8.1 through GC-8.13, a regional desalination facility at Estero Bay is completely conjectural in nature at this time and under CEQA is considered speculative. In addition, it is clear that this project does not meet the CEQA requirements for the evaluation of alternatives to a project level of detail as noted in the response to Comment GC-9.3, since it does not avoid or substantially lessen any of the environmental impacts associated with the NWP. Even if the EIR preparer were to evaluate this project to a project level of detail, the proponent and consultant (Parsons Brinkerhoff) do not have a clear concept of how a regional desalination facility at Estero Bay would meet the requirements of the NWP participants, how water would be delivered to each purveyors, how this alternative would be constructed or if it is even feasible. As noted in the introduction to this comment letter and that of Parsons Brinkerhoff, a regional desalination facility at Estero Bay is only in the early stages of a feasibility study. Therefore, the EIR should not be revised to include an Estero Bay regional desalination facility. Should the proponents of this concept wish to pursue environmental review, they should complete their feasibility study, prepare a preliminary project design, conduct the necessary environmental baseline studies and submit their project applications to the appropriate agency for environmental review. As noted in the NEPA decision in *Residents Ad Hoc Stadium Committee v. Board of Trustees* (see the response to Comment GC-8.1) "[t]he discussion of alternatives need not be exhaustive, and the requirement as to the discussion of alternatives is subject to a construction of reasonableness. The statute does not demand what is not realistically possible given the limitation of time, energy, and funds. 'Crystal ball' inquiry is not required."
Steelhead Recovery Team	
GC-10.1	The Nacimiento Water Project (NWP) would divert 16,200 acre feet per year (afy) of water that normally flows down the Nacimiento River and into the Salinas River. However, re-operation of Lake Nacimiento as part of Monterey County's Salinas Valley Water Project would negate this potential impact by retaining more water in the reservoir during periods when water is normally released to accommodate flood control. The retention of more water in the reservoir during these periods allow Monterey County to maintain higher flow rates in the Nacimiento River during drier periods and would be beneficial to downstream fisheries. Of the 16,200 afy diverted for the NWP, approximately half of the water would remain in the upper Salinas watershed, with about 4,000 afy returned to the Salinas River as treated wastewater. Therefore, it is likely that the project would benefit the upper Salinas River watershed and associated fisheries.

11.4 Comments Received from Public/Individuals and Responses

P-1

SLO CNTY PLANNING/BUILDING DEPT
2003 SEP -5 PM 3:28

September 4, 2004

Nancy E. Orton
San Luis Obispo County
Department of Planning and Building, Room 310
County Government Center
San Luis Obispo, CA 93408-2040

Dear Ms. Orton,

Thank you for the opportunity to review and comment on the Draft EIR for the Nacimiento Water Project. The Draft EIR appears to be well written. As one not accustomed to reading EIR's, I found the table of contents and Executive Summary valuable, not only as a summary of the project but a way to save time. I could easily turn to a section and find a discussion of a particular issue related to the project.

I would appreciate the following comments be addressed as part of the final EIR.

P - 1.1

Page 12 of Executive Summary: "CEQA Guidelines indicate that it is reasonable to conclude that if, as a result of a project, water is removed as a constraint to growth in a community, the project can be considered growth-inducing. Based on the EIR analysis of growth restraints in the County, growth inducement impacts associated with the proposed project would be considered significant and unavoidable." Page 7-26 Public Draft/Growth Inducement: "The governing body of each water purveyor accepting NWP water shall include in their water management plans and programs, the goal of reducing groundwater basin overdraft in the long-term, with measurable objectives to accomplish this goal."

Water should be regarded as a limited resource. I am requesting that acceptance of NWP water be mitigated by a mandated conservation program. Just as it is important to plan ahead for future water needs, decreasing the need for water via conservation measures should be required by the beneficiaries of the project. The program would include residents, businesses and industry, paying on a sliding scale for what they use, after an allowed base amount. Cities would also be expected to participate in the conservation program via reduction of water in city owned buildings, landscape use, golf courses and/or via the use of recycled water. Just think how much better off our environment would be if we had started recycling programs a lot earlier.

P - 1.2

Page 2-4 of Public Draft/ Growth Inducement: City of El Paso de Robles (4,000afy) "The General Plan currently being updated forecasts population growth from approximately 28,000 to 47,000 residents." Currently the growth plan, of which there are three, for Paso Robles' General Plan, has not been chosen. Who provided the figure of a population of 47,000? Is this a reflection of accurate or inaccurate information in the EIR?

P - 1.3

Page 7-6 Public Draft/Growth Inducement: Re: Paso Robles population projection in regards to water demand and water deficit at build out. I believe Paso Robles is currently approaching a population of 27,000. (Note the letter from the City of Paso Robles regarding mitigation for the NWP... "the current population is 26,900") The figure of a population of 28,741for the year 2009 does not seem to reflect a growth pattern of the past three years nor is it a reasonable number for predicted growth. Doesn't this mean the water demand and deficit projection amount is even larger?

Page 5.4-23 of Public Draft/Air Quality: (b., c., and l.) Regarding the use of water to spray dirt stockpiles. Change the phrase "should be sprayed daily" to "shall be sprayed daily". The increased frequency for spraying when wind speeds exceed 15mph needs to be spelled out with a minimum number. This type of monitoring should be documented and available for public access.

P - 1.4 "The contractor or builder should designate a person to monitor the dust control program". Change the word "should" to "shall". If one has been watching development in the County, they know that this type of mitigation for development projects is often disregarded. Once the air has been polluted, what is the recourse for the public?

P - 1.5 Page 5.4-24 of Public Draft/Air Quality: (c.) "Limiting the length of the construction workday period, if necessary, during periods with high air pollutants." I believe the words "if necessary" needs to be defined. I am recommending construction stop during "critical air days", days when individuals with asthma or breathing problems are told to remain indoors.

P - 1.6 Page 5.7-1,2,3 Public Draft/Biological Resources/ Oak Trees: The City of Paso Robles has requested "an additional mitigation measure calling for oak tree impacts within the City to be evaluated by a certified Arborist and impacts within the Critical Root Zone (as defined by Paso Robles' Oak Tree Ordinance) be mitigated to the maximum feasible degree". Oak trees have been evaluated in terms of a dollar amount in Paso Robles thus leading me to believe there is a similar economic value to oak trees in the County. There should be additional oak tree mitigation in our County due to the recognized problem of Sudden Oak Death. I am requesting that Paso Robles' recommendation for oak tree protection be extended the length of the NWP pipeline.

Again, thank you for allowing me to comment on this project. I would appreciate being notified as to the date this issue appears on the agenda of the County Board of Supervisors.

Sincerely,

Katherine Barnett

Katherine Barnett
383 Quarterhorse Lane
Paso Robles, CA 93446

P-2

August 29, 2003

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Nancy E. Orton
San Luis Obispo County Department of Planning and Building, Rm. 310
County Government Center
San Luis Obispo, CA 93408-2040

RE: Questions concerning Nacimiento Water Project

Dear Ms. Orton:

The following are questions of concern for the Nacimiento Water Project (NWP).

P - 2.1 • What other means will San Luis Obispo County take to obtain water other than the draining of Nacimiento Lake?

P - 2.2 • What is the total cost going to be for the NWP?

P - 2.3 • How will the project be paid for and if by taxpayer money, how much will taxes increase over the next 30 years?

P - 2.4 • Will the pipeline guarantee water supply during drought years? And if not where would the county get the water during the dry years?

P - 2.5 • What cities will be involved in the project and receive water?

P - 2.6 • What will the cost of the water be to each city?

P - 2.7 • How will the project deal with such environmental issues such as "mercury" in Nacimiento Lake currently?

P - 2.8 • Will San Luis Obispo County give compensation to lost revenue from recreation and tourism to the cities?

P - 2.9 • What will the traffic increases be due to the construction within the cities?

P - 2.10 • Will the NWP give compensation to local businesses due to the slow down from the construction within the cities?

P - 2.11 • Will the NWP help in preventing in saltwater intrusion in Monterey County or will by use of the water for the project only increase the risk for Monterey County?

P - 2.12 • Will the NWP "sucked-up" any fish or marine life into the pipeline and what means will be taken to prevent this from happening?

Ronnie Barton
P.O. Box 2054
Paso Robles, CA 93447

P-3

Nancy E. Orton 9-4-03
S.L.O. County Dept of Planning
County Government Center, Rm 310
San Luis Obispo, Ca 93408-2040

Dear Ms Orton:

I believe that the Nacimiento Water project should attempt to set up special rules to bring about replacement of the oak trees that will be removed to construct the pipeline.

Observations & Recommendations

Since this pipeline will cover approximately 64 miles it should be understood that young oak trees will only grow well on part of the land. A survey should be conducted to determine the areas for oak trees to be planted.

P - 3.1 Since there are more than 600 species of the Quercus genus all native to the northern hemisphere... Which variety would be planted? This could be an opportunity to plant many different kinds of oak trees to emphasize the edible acorn, hard wood lumber production, variation in leaf size and color and even the use of the Cork oak (Quercus suber) to produce natural cork to be used by our local wine industry.

Since this will involve more than one county... who will be responsible for the management & funding of the project. We

P - 3.2 have an excellent Horticulture Dept. at Cal Poly it might be possible to have the Dept. or even a senior project to be involved. We also have large container plant growers in the area who might wish to participate.

Other sources of information, assistance funds and materials include; California Nurserymens Assoc., U.S. Dept of Agriculture (Forestry), California Department of Agriculture Seed Suppliers, California Winery Producers etc. It might be possible to allow different Universities to be responsible for a portion

P - 3.2
Cont'd

of this huge project. Future Farmers, 4H members, Scouts and other organizations (Grange - Farm Bureau - etc) may want to be involved

It should be understood that after the young trees have been planted they must be irrigated on a strict schedule for 3 to 5 years. This watering responsibility should be the task assigned to the Pipeline authority or the counties involved.

This could be a spectacular project to feature "The Oaks Project in the Central Coast of California"

Lots of Luck

James E. Bort, Retired
1401 Blueberry Ave.
Arroyo Grande, Ca.
93420

805 481 3576

CP-56

P-4

Roberta Fonzi 7880 Sinaloa Avenue, Atascadero, CA 93422 805.610.1419

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SEP 3 2003

Planning & Bldg

August 30, 2003

TO: Nancy Orton, San Luis Obispo Department of Planning and Building, Room 310

FROM: Roberta Fonzi, Chair, Atascadero Planning Commission *Roberta Fonzi*

RE: Draft EIR, Nacimiento Water Project

The following comments are submitted for your review and consideration:

P - 4.1 1. Section 2.2.1 – San Miguel Community Services District – There appears to be no rationale for the amount of water requested. No way to assess if 610 AFY will be enough to improve water quality, or would perhaps be surplus. UNABLE TO ASSESS WHETHER INCREASED SUPPLEMENTAL WATER WILL MEET OBJECTIVE (2.2) OF IMPROVING WATER QUALITY.

P - 4.2 2. Section 2.2.2 – City of El Paso de Robles – States that increasing salt levels have impacted the wastewater discharge requirements at the regional plant. UNABLE TO ASSESS WHETHER THE SUPPLEMENTARY WATER WILL "SCOUR" OUT THE DISCHARGE BASIN MAKING THE WATER CLEANER AND HIGHER QUALITY OR IF IT WILL DECREASE GROUNDWATER PUMPING (ONLY).

P - 4.3 3. Section 2.2.3 – Templeton Community Services District – The amount of water requested appears to be TOO LOW. To insure uniformity, the amount of water requested should have some logical basis. This amount DOESN'T APPEAR TO COMPLY WITH GENERAL PLAN BUILDOUT AMOUNTS.

P - 4.4 4. Section 2.2.4 – Atascadero Mutual Water Company – Unable to assess whether amount requested is somehow tied to the General Plan build out or not. MORE INFORMATION NEEDED.

P - 4.5 5. Section 2.2.5 - Santa Margarita Ranch- The amount of water requested appears to be a pre-cursor for future development, and would be growth-inducing, i.e., NO WATER, NO DEVELOPMENT PROJECT. THERE APPEARS TO BE NO CONNECTION BETWEEN REQUEST AND NEED.

P - 4.6 6. Section 2.2.6 – Santa Margarita County Service Area 23-The town of Santa Margarita has been subject to severe flooding in the past, and is located at the confluence of several streams and drainage channels. This doesn't seem to have been taken into consideration. WILL ADDITIONAL WATER RELEASED INTO THE GROUNDWATER BASIN (UNTREATED WATER OPTION) RESULT IN AN INCREASE IN: 1.) SEPTIC PROBLEMS AND NITRATES 2.) FLOODING?

P - 4.7 7. Section 2.2.7 – City of San Luis Obispo - San Luis Obispo is the only agency that is requesting (and being allowed) to have a "reliability reserve." Why aren't other agencies given a "reserve?" And more importantly, why isn't all excess water placed into a "County Reserve" to go to all areas according to present or future need? THIS APPEARS TO BE A "WATER GRAB" BY THE CITY OF SAN LUIS OBISPO WHICH MAY AFFECT THE ABILITIES OF OTHER AGENCIES TO PROVIDE ADEQUATE AND RELIABLE FUTURE SERVICE (AN OBJECTIVE OF THE PROJECT).

P - 4.8 8. Section 2.2.9- San Luis Coastal Unified School District – WHAT IS THE BASIS FOR THIS AMOUNT OF ENTITLEMENT - - PROVIDE RATIONALE.

P - 4.9 9. Section 2.2.10 through 2.2.14 – There appears to be no uniform basis for the water amount requested. Is the amount based upon General Plan Buildout or something else? PROVIDE RATIONALE.

P - 4.10 10. Section 2.2.15 – Edna Valley Mutual Water Company – Unable to determine if proposed Los Nomadas is planned for in General Plan; this development seems to be the only rationale for the water request. POSSIBLY GROWTH INDUCING – IF NO WATER, NO LOS NOMADAS PROJECT?

P - 4.11 11. Section 2.3.2.1 – 2.3.2.15 - The term "PEAKING FACTOR" is used without explanation or definition. This appears to be an important term, but who knows? Is peaking factor based upon actual use or future use, a projection?

P - 4.12 12. Section 2.4.2 – Raw Water Option – The EIR states that the Raw Water Option will allow the water allotment to be percolated into the Salinas River (Atascadero, Paso Robles and Templeton) to add to the underflow for delivery to each entity's water system. How can the water use be limited only to these agencies, not the adjacent agricultural users? If the ag users increase pumping, what will be the impact on the urban water providers? WILL THIS PROJECT LEAD TO INCREASED WATER USE BY AG USERS AND URBAN USERS THUS THWARTING CONSERVATION EFFORTS? Also, by percolating raw water into the existing groundwater basin and then pumping it back out, CONSIDERATION OF THE INCREASED ENERGY NEEDED FOR PUMPING SHOULD BE INCLUDED AS AN IMPACT OF RAW WATER USE. ALSO, ANY LOSS PROJECTED LOSS OF WATER FROM EVAPORATION DURING PERCOLATION SHOULD BE CONSIDERED AS AN ADVERSE IMPACT OF THE RAW WATER OPTION.

Thank you for your consideration. If you have any questions, feel free to contact me.

P-5

PO Box 180
Templeton, CA 93465
September 4, 2003

SLO CNTY PLANNING/BUILDING DEPT
2003 SEP -5 PM 2:28

Nancy Orton
San Luis Obispo County
Department of Planning and Building
County Government Center, Room 310
San Luis Obispo, CA 93408-2040

Subject: Nacimiento Water Project, Environmental Impact Report, Public Draft dated July 2003

Dear Ms. Orton:

Approved as amended by the Board of Supervisors (5-0) on March 7, 2000; Consent Item B-15, Language regarding the Juan Bautista de Anza Trail for inclusion into the Nacimiento Water Project Environmental Impact Report -- the following language is missing and needs to be added into this Report:

P - 5.1 "The Nacimiento pipeline alignment generally coincides with the approximate 1-mile wide Juan Bautista de Anza trail corridor identified by National Park Service documents. Although the trail project is not part of the project description for the Nacimiento Water Project, it is intended that this EIR be used in the future as the basis for an initial environmental assessment of a multi-use transportation trail for pedestrians, equestrians, and bicycles. CEQA Guidelines Section 15153 allows a lead agency to use an EIR from an earlier project under certain circumstances. In addition, depending on the ultimate alignment of a trail project, which is as yet undetermined, CEQA Guidelines Sections 15162 and 15163 would allow the preparation of either a Subsequent or Supplemental EIR for a trail project, should one or the other document be deemed necessary after a complete environmental assessment. However, at this time, the design and environmental analysis of a trail project will have to be processed as a separate project, and this EIR can be used initially as a constraints analysis for the design of a future trail."

Likewise, this EIR should be used as a constraints analysis for the design of any proposed trail (SLO County Trails 1991) including other trail projects approved within the time frame of this Nacimiento Water project.

Very truly yours,

Dorothy Jennings

Dorothy Jennings

P-6

Cherie W. Love
10945 Kings Road
Ventura, CA 93004

September 1, 2003

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SEP 4 2003
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Nancy E. Orton
San Luis Obispo County
Department of Planning and Building
County Government Center, Room 310
San Luis Obispo, CA 93408-2040

Re July 2003 Draft Environmental Impact Report (EIR) for the proposed Nacimiento Water Project prepared by Marine Research Specialists.

Congratulations on preparing a thorough environmental review that for the most part is excellent. The following comments are for the County's consideration during final planning for the Project and for future discussion.

P - 6.1 The EIR indicates that the distance between the Proposed Water Treatment Plant and nearest sensitive receptor (an unidentified Mahoney Road residence) is 3500 feet. A residence located at 7815 Mahoney Road is approximately 2700 feet from the northeast corner of the proposed WTP site.

P - 6.2 The pipeline alignment four to five feet south of the boundary fence between Camp Roberts and Willard Ranch (approximately P26 to P29 as depicted in Aerial 4, Carrolo Engineers' 4/15/2002 Report) will require relocating the boundary fence north about 50 feet during construction. The temporary relocation could be avoided by locating the pipeline 50 feet south of the planned location.

P - 6.3 There is a watering trough for cattle located on the fence line between Willard Ranch Parcels 3 and 4. This is the southern limit of the Willard Ranch water system and serves cattle north and south of the fence line. Pipeline installation along the currently proposed pipeline alignment across the northern portion of Willard Ranch Parcel 4 will require temporary (a) relocation of both the fence and watering trough and (b) provision of watering facilities and water for cattle south of the pipeline installation right of way. The temporary relocation of the fence and watering trough could be avoided by locating the pipeline 50 feet south of the planned location.

P - 6.4 Reference for Willard Ranch Parcels is Parcel Map CO-AL-87-023 recorded on Page 90 in San Luis Obispo County's Book 41 of Parcel Maps. An enclosed aerial photograph depicting the Willard Ranch and immediately adjacent lands provides an "as is" picture of the ranch.

P - 6.5 Willard Ranch owners remain concerned about potential flooding of ranch land in the event the pipeline or storage tanks at the Water Treatment Plant fail. The water volume in storage and location of the storage tanks are of particular concern. We trust that the county's final plan for the Nacimiento Water Project will eliminate this potential flooding hazard.

P - 6.6 The EIR confuses Mahoney and Texas Roads in the second and third paragraphs on page 2-19. This has been carried forward from the Carollo Engineers Report (Carollo 4/15/2002). After crossing private fields and a stream, the pipeline intersects Mahoney Road. It then continues easterly on Mahoney Road and, at the intersection of Mahoney and Texas Roads, continues easterly on Texas Road. Contrary to the third paragraph statement, neither Mahoney nor Texas Road is paved. The private road mentioned at the end of the second paragraph is Texas Road.

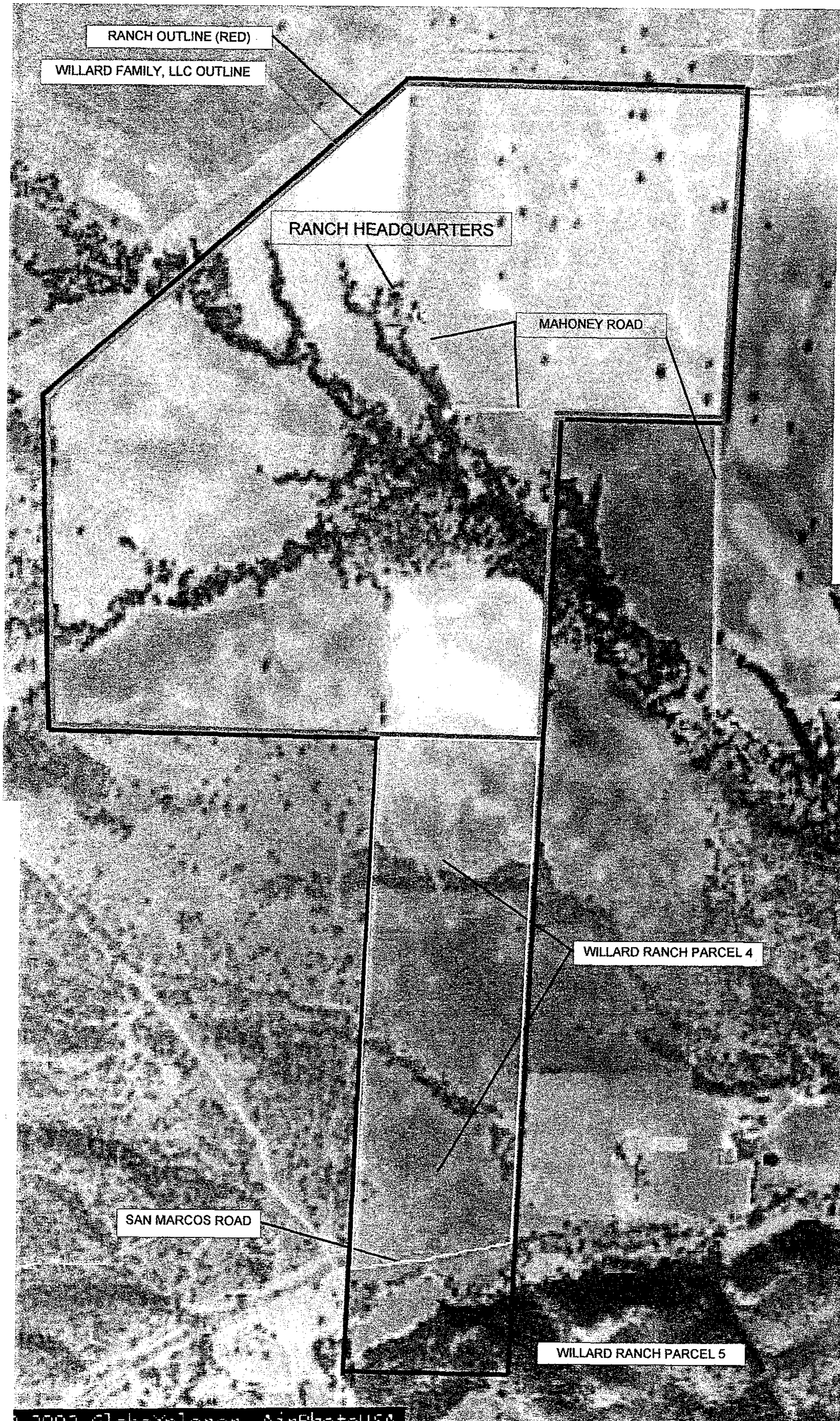
Sincerely,

Chérie W. Love

Chérie W. Love

CC: CBC, CWP, CWH, File

WILLARD RANCH



AERIAL PHOTOGRAPH FROM MAPQUEST.COM

NAVTECH

ON BOARD

"joy"
<rollingaranch@tcsn.net>

09/05/2003 08:55 AM

To: "Nancy E Orton" <norton@co.slo.ca.us>
cc:
Subject: Nacimiento Water Project

September 4, 2003

Nancy E. Orton

San Luis Obispo Planning and Building, Rm 310

County Government Center

San Luis Obispo, Ca 93408-2040

Dear Nancy E. Orton:

Subject: Nacimiento Water Project coming through Rolling A Ranch

Rolling A Ranch is a multi-million dollar horse operation and would suffer significantly if this water operation were to take place. The Ranch relies on good, vigorous pastures to produce sound and healthy racehorses. To have these pastures disrupted would unquestionably do enormous harm to our production.

P - 7.1

The impact on Rolling A Ranch and its horse population during construction and rehab would be catastrophic. The horses would have to be consolidated into pastures causing a dangerous overcrowding and over-grazing. Not to mention the noise and hazardous materials that will be present daily. Consequently, putting incredibly expensive horses at risk for injury and illness.

We have verbally suggested alternate routes to Ms. Lillian Jewell of Hamner and Jewell Associates, and feel that it would be in the best interest of the project to look at them seriously. Relocating the water line along the Salinas River would greatly minimize the impact on Rolling A Ranch, and possibly be more cost affective for the project. This alternate route has flatter terrain and only deals with two landowners with very little livestock and fencing. If the project were to run through Rolling A Ranch, a significant amount of
P - 7.2 steel and wire fencing would have to be replaced; whereas, the alternate route only comes across barbwire fencing that could be replaced in a matter of hours. Furthermore, this approach would eliminate disruption of daily operations and save valuable pastures and irreplaceable oak trees.

In closing, Rolling A Ranch is not opposed to the Nacimiento Water Project itself, but the proposed route is of serious concern to our operation. It's to our understanding that no actual surveying has been done, only lines drawn on aerial photos. There's an old saying that we need to think outside of the box. We need to work together to come up with a better solution than the one proposed.

<?xml:namespace prefix = o ns = "urn:schemas-microsoft-com:office:office" />

Sincerely,

DAVID MARTIN, for:

Ranch Foreman

EDWARD C. ALLRED

Owner

Robert L. Roos
2550 Homestead Road
Templeton, CA 93465

September 2, 2003

Ms. Nancy Orton
SLO County Planning & Building Dept
Rm. 310
County Government Center
San Luis Obispo, CA 93408-2040

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Re: Nacimiento Water Project EIR

Ms. Orton,

After reviewing the Draft EIR for the Nacimiento Water Project I have the following comments to address an issue that I believe was not covered adequately in the Draft EIR.

That issue is the possible damage to, and subsequent loss of, the mature oak trees that line much of the pipeline route planned for public right of ways such as Templeton Rd. The EIR did note that there are many trees along Templeton Rd. & Vaquero Drive (TableB.3 counts 156 Valley oak trees in segments P76-P78).

P - 8.1

My concern is that the digging of the trenches for the pipeline will damage the roots of these mature trees and eventually cause their demise and possible death. Mitigation measure BR-10 does require construction techniques be implemented to protect oak trees, however, I do not believe there is sufficient detail in that mitigation measure to ensure that construction techniques such as tunneling or boring in the root zones of those mature trees or moving the pipeline from one side of the road to the other and back again be used to minimize root disturbance.

In addition to the obvious biological benefit of those mature oak trees, they provide a pleasing visual background to those who travel these country roads. Also, the large trees close to the road offer a traffic claming effect, slowing traffic to safer speeds. Replacing lost trees at a 4/1 ratio as mitigation measure BR-10 requires may, in time, help to mitigate the biological effects of the loss but there is no way to mitigate the damage to the viewshed or the traffic calming effects these majestic trees have. Please investigate ways to save as many trees close to the right-of-way as possible by prescribing suitable mitigation measures.

Thank you for consideration of this matter.

Sincerely,

Robert L. Roos

EDITHA SPENCER
426 PEACHTREE COURT
PASO ROBLES, CA 93446
(805) 239-4404

September 5, 2003

San Luis Obispo County
Department of Planning and Building
County Government Center
San Luis Obispo, CA 93408

RE: DRAFT ENVIRONMENTAL IMPACT REPORT

To all parties concerned:

To me, the most important consideration regarding the Naciemento Water Project is **what that water is going to be used for.**

I believe that measure GR1 must be strengthened. The EIR for the NWP must clearly state that, as a mitigation measure, the governing body of each water purveyor accepting NWP water must adopt a plan or program requiring that its project water be used first to offset groundwater basin overdraft and to improve water quality as needed and to provide an appropriate reserve before being made available for other purposes. The current measure is unacceptably weak.

P - 9.1

Overall, the Draft EIR for the Naciemento Water Project **is sobering in its implications for future growth.** The EIR states that it assumes that the NWP, if completed, could lead to increased growth in SLO County communities and cities. More should be done to address that issue.

It is true that local jurisdictions are put on notice to have growth-management regulations in place in their General Plans and Zoning Regulations. However, the EIR should also formulate ways in which **SLO County government bodies would develop plans for sharing more information and decision-making with communities and cities regarding land use and permanent buffer zones.**

The possibility of sprawl in this county is of overriding concern to a majority of those who live here.

Sincerely,
Editha Spencer
Editha Spencer

P-10

RECEIVED
SEP - 8 2003
BOARD OF SUPERVISORS
COUNTY OF SAN LUIS OBISPO

EACH SUPERVISOR
RECEIVED COPY

September 5, 2003

Gidi Pullen
1600 Lupine Lane
Templeton, CA 93465

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Planning & Bldg

Regarding: Nacimiento Pipeline, Oak Protection

Board of Supervisors
County Government Center
San Luis Obispo, CA 93408

Dear Mr. Chairman and Members of the Board.

P - 10.1 If the Nacimiento Pipeline is planned for construction along the east side on the northern end of Templeton Road, one needs to remember that a future one mile alignment upgrade has been planned for that part of Templeton Road (El Pomar-Estrella Area Plan Update). According to local sources, the land has been purchased for that purpose.

For that reason, there should be no reason to remove the ancient oaks now lining the north end of Templeton Road.

Thank you for your consideration.

Sincerely,

G. G. Pullen

Gidi Pullen

Number	Response
	Comments from Public/Individuals
Katherine Barnett	
P-1.1	A mitigation measure requiring mandatory water conservation was considered, but unfortunately was considered infeasible for this project. The County lacks the authority to impose mandatory across the board on the project participants. The root of the problem is that the project participants are a mix of cities, water agencies and private companies. For example, The City of Atascadero would receive their allocation through the Atascadero Mutual Water Company (AMWC). The AMWC doesn't have any authority to impose mandatory water conservation on its customers, while the County clearly does not have the authority to impose water conservation on the City of Atascadero, which is not a participant in the project. Had the EIR been able to require a feasible mitigation measure requiring water conservation, one would have been included to reduce potential impacts to insignificant levels. However, the infeasibility of constructing an enforceable conservation measure precluded a water conservation requirement and resulted in a finding that the project would result in significant unavoidable growth impacts. These administrative issues aside, water conservation alone could not negate the need for supplemental water altogether.
P-1.2	Population growth estimates are based on the information from the City and County at the time the EIR was prepared. The population growth projection of 47,000 was a worst-case estimate based on potential buildout for the City. Or in other words, the maximum population that can be accommodated based on available land. The currently accepted and adopted population growth projection is 28,741 residents by 2009, as reflected in Section 7 of the EIR. The EIR relies on the information, whether adopted or projected, that is supplied by the participating cities and the County. A review of past growth projections in Paso Robles would show that growth has not occurred as planned. The currently adopted Paso Robles population growth projection of 28,741 by 2009 is clearly questionable given the current population of 26,900. Using the growth rate between 1995 and 2002 as an indicator, the projected population in Paso Robles by 2009 should be 31,185. However, this estimate does not include factors such as planned development or economic factors.
P-1.3	As noted in the response to the previous comment the growth estimates are based on the information available from the City and County at the time the EIR was prepared. While the population growth projection of 28,741 seems questionable based on the current population of 26,900 and recent growth rates, it is the currently adopted estimate that was available at the time the EIR was prepared. Should population growth rates return to the rates experienced between 1990 and 1995 (about 1,491 new residents during that period), the 2009 population estimate of 28,741 would prove to be quite accurate. It would be inappropriate for the EIR to reconstruct each project participants growth projections, which are usually developed after months of study by local planners that are familiar with their City's plans, policies and constraints. Regardless of the figures evaluated in the EIR, it is projected that Paso Robles would have a water

Number	Response
	deficit at buildout in the absence of acquiring additional water or implementing water conservation. The maximum water deficit is based on maximum buildout and current water use rates.
P-1.4	Word “should” has been replaced with “shall” as requested. The rest of the mitigation measure AQ-1 is taken exactly as is written in the CEQA Handbook developed by the SLO Air Pollution Control District (APCD), and cannot be changed. The SLO APCD will be monitoring implementation of the dust mitigation measures and the wind speed, and all documentation will be done through the APCD. Please contact the APCD for the project monitoring information or with any complaints during the construction phase. The County of SLO can also be contacted with any complaints in regards to air quality or otherwise.
P-1.5	The language is taken from CEQA Handbook developed by the SLO APCD, and cannot be changed. The mitigation measure words “during periods with high air pollutant levels” cover the suggested wording “critical air days”; and are more descriptive. No change has been made.
P-1.6	Mitigation Measure BR-10 requires a plan for oak tree conservation and restoration be prepared by the project applicant. (also see measure BR-6). The plan would take into account tree deceases and other factors and their effect on oak restoration and conservation, the plan would also take into account the existing regulations/ordinances and other factors for oaks in the County. No changes have been made.
Ronnie Barton	
P-2.1	San Luis Obispo County has no immediate plans for obtaining any significant amount of water other than the Nacimiento Water Project (NWP). It should be noted that the NWP allocation is approximately 5% of the lake’s volume, which would not result in the lake being drained. The water that will be taken from the lake as part of the project is currently released each year and flows to the Pacific Ocean near Monterey. The NWP would simply divert these annual releases and provide water to County residents.
P-2.2	The final cost for the NWP has not been determined, but has been estimated at approximately $193,161,000 for the treated water option and $150,301,000 for the raw water option.
P-2.3	The pipeline will be paid for by each of the participating agencies, with the final cost per agency being based on factors such as the amount of water supplied and the distance the water is transported to each agency (e.g., the City of San Luis Obispo would likely pay more per acre foot of water than Paso Robles since it is farther away from the lake). The project will be financed through the issuance of bonds to cover initial construction costs. The bonds will be repaid from the income realized through the sale of the water to end users. No taxpayer money has been identified for funding of this project and not tax increases should result.
P-2.4	A study prepared as part of the EIR found that the NWP would meet its water supply obligation for all the years since 1958, when the lake began operation, with the exception of one year during the extended drought of 1975-1977. Since the NWP project has been proposed to increase water reliability and reduce the reliance on groundwater, the water not

Number	Response
	supplied during a severe drought would have to be made up through increased use of groundwater and water conservation.
P-2.5	A list of project participants and the amounts of water that they would receive was provided at several locations in the EIR, including Table 2.1 on Page 2-10. Project participants currently include:

Water Purveyor	Allocation afy	Peaking Factor %	Flow Rate mgd	Flow Rate cfs
Pipeline				
San Miguel CSD	410	10	0.40	0.62
Paso Robles City	4,000	30	4.64	7.18
Templeton CSD	250	30	0.29	0.45
Atascadero MWC	3,000	30	3.48	5.38
Santa Margarita Ranch	200	10	0.20	0.30
CSA 23–Santa Margarita	100	30	0.12	0.19
San Luis Obispo City	3,380	10	3.32	5.14
Camp San Luis Obispo	200	10	0.20	0.30
San Luis CUSD–Morro Bay	55	10	0.05	0.08
CSA 10A Cayucos	80	10	0.08	0.12
Lewis Pollard Trust–Cayucos	50	10	0.05	0.08
Morro Rock MWC–Cayucos	30	10	0.03	0.05
CSA 22–Airport Area	890	10	0.87	1.35
Fiero Lane WC–Airport Area	30	10	0.03	0.05
Edna Valley MWC–Airport Area	700	10	0.69	1.06
Subtotal	13,575		15.25	23.59
SLO County (Contingency)	2,625	10	2.57	3.98
Pipeline Total	*16,200*		*17.82*	*27.57*
Lakeside Use				
Heritage Ranch CSD	475	NA	NA	NA
Heritage Ranch CSD	212	NA	NA	NA
Diamond Benefit Life Ins. Co.	413	NA	NA	NA
Sports clubs and other parties	94 1/3	NA	NA	NA
Available Lakeside	105 2/3	NA	NA	NA
Total Reserved for Lakeside use	*1,300*	NA	NA	NA
Total Allocation	17,500			

Number	Response
P-2.6	The cost to each city has not been determined. However, the cost will be borne by end users of the water and not be funded through city funds.
P-2.7	Potential impacts to water quality posed by the Quicksilver mines and mercury in the lake were thoroughly evaluated in the EIR and have been closely monitored for years. Long-term monitoring data has shown that mercury is not detected in the water at the site of the proposed NWP intake structure. Therefore, mercury is not considered a significant environmental issue for this project.
P-2.8	Economic studies have indicated that the NWP will not result in lost revenue from recreation and tourism. Therefore,

Number	Response
	there are no plans to compensate cities.
P-2.9	Section 5.11 of the EIR fully evaluated potential traffic impacts associated with project construction and, after mitigation, found traffic impacts to be less than significant. Project construction will add very few vehicles to local roadways, but could result in lane closures and traffic disruptions. The proposed project route avoids the most heavily traveled roads in the region, and limits construction during peak traffic periods.
P-2.10	The NWP project avoids most businesses, taking a more rural route and in several cases, avoiding city streets. Therefore, no significant disruptions to local businesses are expected and no compensation is proposed.
P-2.11	The project was found to have a less than significant impact on seawater intrusion in Monterey County. See Section 5.1 of the EIR for a complete discussion of this issue.
P-2.12	The NWP will utilize fish screens on the intake structure to minimize the number of fish that will get “sucked-up” by the project.
James E. Bort	
P-3.1	Mitigation Measure BR-10 specifies that: “… each of the four oak woodland habitat types that would be disturbed shall be replaced or restored with a similar density of oak trees by species as found in the impacted habitats.” Therefore, the oaks will replaced with the same species as were impacted/removed. Please also see measure BR-6, which states that a Vegetation Restoration and Replacement Plan will be prepared by a qualified restoration biologist and a horticulture specialist. These professionals will make a determination which oak species should be used for restoration activities.
P-3.2	Thank you very much for the information, the County will take it into account in selecting professionals and contractors for the project. The Vegetation Restoration and Replacement Plan for the project will identify long term monitoring and maintenance requirements that are to be followed by the County to promote the long-term health of any replanted oak trees. This plan will also identify proper irrigation schedules and measures to be taken should some of the oak trees not survive during vegetation restoration.
Roberta Fonzi	
P-4.1	Water allocations for each participant are based on their requested allotment and no strict formula to achieve project objective 2.2. It would be speculative to guess at how each participant arrived at their specific requested allocation, but many are based on a desire to improve water quality, while others have a need to improve water supply reliability by additional water resources. As noted in Section 7 of the EIR, it has also been assumed that much of the water would be used to accommodate future population growth. As noted in Section 5.1 of the EIR, those areas that rely on ground water will see an improvement in water quality by utilizing water from the NWP. However, should local cities use the additional NWP water to accommodate growth, it is likely that long-term improvements in water quality would be minimal. However, regardless of potential improvements in water quality, the NWP will result in additional water supplies to the County and increased reliability.

Number	Response
P-4.2	There is no relationship between the City of El Paso de Robles participation in the project and "scour" of the discharge basin. Current water quality in the City is considered poor in terms of hardness. The use of NWP water will improve the quality of water in the City's system overall and reduce the need for water users to "soften" their water, which is a significant source of salts in the wastewater. This projected reduction in water softening is expected to substantially improve the characteristics of the water that the City discharges from their wastewater treatment plant.
P-4.3	Again as noted in the response to Comment P-4.1, each project participant determined their requested allocation. In the case of Templeton CSD, the requested allocation does appear to be too low to accommodate general plan buildout. However, the Templeton CSD may have other plans for acquiring or managing their water resources, with the NWP water only representing a portion of their overall water management strategy.
P-4.4	Please see the response to Comments P-4.1 and 4.3.
P-4.5	The amount of water requested by Santa Margarita Ranch would be a precursor for future development and was considered growth inducing in the EIR. Section 7 of the EIR found that overall growth inducing impacts associated with the project were significant and unavoidable.
P-4.6	The volume of water deliveries to Santa Margarita County Services Area 23 and the town of Santa Margarita represent a very small fraction of the local water budget. No water will be discharged into the local creeks or channels, but all water delivered to these areas will be fed directly into the local water distribution system. While the area has experienced high water levels and severe flooding in the past, potential increases in flooding associated with NWP water deliveries and subsequent discharges of treated wastewater would be considered negligible.
P-4.7	Each project participant determined their own allotment request and also will determine how their allocation will be used. In the case of the City of San Luis Obispo, they originally determined that of their 3,380 afy allocation request, 2,000 afy of the water would be reserved for uses other than growth or land development, which was mainly for reliability. As noted in Section 2.2.7 of the EIR, the City Council has removed this reliability reserve requirement, thus making the entire 3,380 afy allocation available for development. The County does not determine how each project participant will utilize their requested allocation and would not preclude any participant from reserving any portion of their allocation. Whether or not this is a "water grab" by the City of San Luis Obispo would be open to each individual's opinion. However, any participant has the ability to request a larger allocation since the County currently has 2,625 afy available and currently allocated as a "contingency" supply.
P-4.8	Please see the response to Comments P-4.1 and 4.3. Each participant provided their requested allocation base on their individual needs. It should be noted that the requested allocations are considered part of the Project Description, with the purpose of the EIR to evaluate potential environmental impacts associated with the construction and operation of the project.
P-4.9	Please see the response to Comments P-4.1, 4.3 and 4.8.

Number	Response
P-4.10	Please see the response to Comments P-4.1, 4.3 and 4.8. As noted previously, Section 7 of the EIR found that overall growth inducing impacts associated with the project were significant and unavoidable.
P-4.11	As stated on Page 2-10 of the EIR, each project participant requested a "…peaking factor, which is the extra project capacity requested to deliver the requested water considering system outages for maintenance and to deliver the requested water to better meet their system demands." So in other words, the peaking factor is the design requirement to allow for faster peak deliveries of water when needed. Since water will not be delivered at constant rates to all project participants, the pipeline system is designed with peaking factors, which typically take the form of a larger diameter pipeline, to allow for larger deliveries when they are needed. In this case larger deliveries refers to a daily rate, not an increase in the participant's allocation.
P-4.12	Under the raw water option, NWP water will be delivered to percolation basins for Atascadero, Templeton and Paso Robles. The water will be recovered using nearby water pumping facilities after the water has flowed underground for a short distance. In the case of Atascadero, all of the water will be recovered before it reaches the Salinas River Underflow. While it is technically feasible that an agricultural user could slant drill a water well to intercept this water it is unlikely that anyone would do so without having an explicit water right. Since the effect of water percolation and recovery would be quite localized, there would not be additional water available for agricultural users to pump. However, it should be noted that the project may reduce the reliance on groundwater resources in some areas, thus increasing the amount of groundwater available. However, agricultural pumping rates would continue to be based on each user's specific water rights. The increased energy required to re-pump the water under the raw water option was evaluated in the EIR (see Section 5.10) and found to be less than significant. While re-pumping the water from the Salinas River channel would require additional energy over the treated water option, this alternative would not utilize a water treatment plant, which would result in a reduction in energy use for that component of the project. Regarding evaporation from the percolation basins, potential losses were considered negligible and lower than the losses experienced by leaving the water in Lake Nacimiento.
Dorothy Jennings	
P-5.1	The requested text was included in Section 1.4 of the EIR on Page 1-4 of the Draft EIR since it pertains to uses of the EIR.
Cherie W. Love	
P-6.1	The EIR identified the distance to the nearest sensitive receptor, which is the residence located at 7815 Mahoney Road, at approximately 3,500 feet from the WTP to the residence. Figure 11-2 shows an aerial reconnaissance based on a

Number	Response
	recent aerial photograph and also identifies the WTP and nearby residences. The distance between the WTP and nearest residence was verified using a USGS topographic map and found the distance between the WTP site boundary and the nearest residence to be approximately 3,000 feet (see Figure 11-3). Since the WTP facilities would not abut the property boundary the distance between WTP facilities and the nearest residence would be 3,500 feet as stated in the EIR.
P-6.2	The depiction of the pipeline relative to the property boundary is for illustrative purposes only. The EIR evaluated a 200 foot wide pipeline corridor with the intent of avoiding sensitive resources and private infrastructure. In Aerial 4 of the Carollo Report, the pipeline between points P26 to P29 would be located south of the Willard Property fence, with no need to remove the fence for pipeline construction. Therefore there is no need to relocate the pipeline.
P-6.3	Please see the response to the previous comment. While provisions may be necessary to provide water to cattle grazing on Willard Ranch Parcel 4 during construction, the relocation of fencing and the existing watering facilities may not be necessary. Further, details of impacts on improvements such as fences and watering troughs will be addressed during construction.
P-6.4	The attached parcel map and aerial photograph was quite helpful and is consistent with the information used by the EIR preparers.
P-6.5	The County is quite concerned about potential flooding issues associated with large accidental water releases. The specific site was selected since it was located in a depression which would reduce potential visual impacts and minimize flooding in the unlikely event of a catastrophic pipeline or storage tank failure. Figures 11-4 and 11-5 show terrain in the vicinity of the WTP and Willard Ranch Properties. The WTP site would be separated from Parcel 3 by a low ridge that is approximately 30-40 feet higher than the WTP location. This ridge would protect the ranch residences and buildings to the north from any large water release. However, in the event of a large water spill, the water would likely flow across Willard Ranch Parcel 4 following an intermittent stream channel (this channel is visible in Figure 11-2 at the southeast corner of the WTP site). This channel would divert the water towards the east across Willard Ranch Parcel 4 and then towards the southeast, eventually draining into an intermittent stream located south of San Marcos Road. It should be noted that the probability of a large water spill is quite low. The pipeline has been estimated to have a failure rate of 4.8×10^{-5} failures/mile-year[1] (once every 20,000 years per pipeline mile), while storage tanks have a failure rate of 1.1×10^{-3} failures/year[2] (once every 900 years per tank). Assuming a one-mile length of pipeline where a potential failure could impact the Willard Ranch Property and two storage tanks, the combined probability of an equipment failure and large spill would be approximately 2.25×10^{-3} failures/year (once every 444 years). This probability would indicate that it is extremely unlikely that a large equipment failure and spill would occur that could

[1] Alberta Energy and Utilities Board (EUB). 1998. Pipeline Performance in Alberta 1980–1997 (source of water transmission pipeline failure rate).
[2] American Institute of Chemical Engineers (AIChE), Center for Chemical Process Safety (CCPS), 1989. Guidelines for Process Equipment Reliability Data.

Number	Response
	adversely affect the Willard Ranch Property. In addition, the water in the storage tanks would be untreated and therefore would not be chlorinated, further reducing potential environmental impacts.
P-6.6	You are correct about the confusion between where Mahoney Road ends and Texas Road begins. Carollo Engineers and the EIR preparers all assumed that when Mahoney Road made a 90 degree turn from a North-south to east-west trending road that the name changed to Texas Road, which most maps identify as such further east. The EIR has been corrected to reflect the correct transition from Mahoney to Texas Roads.
David Martin	
P-7.1	The County recognizes the sensitivity of operations at Rolling A Ranch and would work with the Ranch to minimize potential impacts through project scheduling and the various mitigation measures identified in the EIR. The County is also committed to working with Rolling A Ranch to evaluate alternative alignments in the immediate area.
P-7.2	The project engineering team considered the “river route” suggested by Rolling A Ranch and concluded that the environmental impacts of construction along the riparian corridor and the related impacts on neighboring property owners results in more cost, environmentally and economically, to the public. Routing the pipeline through Rolling A Ranch is the preferred alternative. As part of the environmental review, the EIR team evaluated potential environmental impacts along the pipeline right-of-way and also documented the location of sensitive biological cultural and paleontological resources. Oak tree removal is not anticipated. These analyses can be used by the County to determine if adjustments to the pipeline alignment would be consistent with the EIR findings and avoid significant impacts to the environment.
Robert L. Roos	
P-8.1	A professional biologist that would be involved in the final selection of the pipeline route will make determination of the exact detailed area that would be disturbed to construct the pipeline and as per the County’s guidance will make his/her determination in the way to protect as many oak trees as feasible. It is anticipated that no oak trees will be removed along Templeton Road and Vaquero Drive, but given the close proximity of several trees to the road, some root zones could potentially be impacted. The final project design will avoid oak tree root zones to the maximum extent feasible, utilizing minor route realignments, boring or tunneling as determined as appropriate by a professional arborist. During construction, potential damage oak tree root zones will be monitored by a biologist.
Editha Spencer	
P-9.1	While it would be desirable to strengthen Mitigation Measure GR-1, the County lacks the authority to intervene in local governmental decisions. A mitigation measure requiring mandatory water conservation was considered, but unfortunately was determined to be infeasible for this project. The County lacks the authority to impose mandatory measures across the board on the project participants. The root of the problem is that the project participants are a mix of cities, water agencies and private companies. For example, The City of Atascadero would receive their allocation

Number	Response
	through the Atascadero Mutual Water Company (AMWC). The AMWC doesn't have any authority to impose mandatory water conservation on its customers, while the County clearly does not have the authority to impose water conservation on the City of Atascadero, which is not a participant in the project. Had the EIR been able to require a feasible mitigation measure requiring water conservation or growth limits, one would have been included to reduce potential impacts to insignificant levels. However, the infeasibility of constructing an enforceable conservation measure precluded a water conservation requirement and resulted in a finding that the project would result in significant unavoidable growth impacts. While the population growth figures presented in the EIR would imply a substantial amount of growth, these figures generally represent worst-case conditions. Future growth rates are more likely to be determined by economic conditions. The comment raises the issue of the EIR formulating "…ways in which SLO County government bodies would develop plans for sharing more information and decision-making with communities and cities regarding land use and permanent buffer zones." Unfortunately this issue is well beyond the scope of evaluating environmental impacts of the Nacimiento Water Project and is generally left to the County and cities to address via their planning process.
Gidi Pullen	
P-10.1	Oak tree removal will be kept to an absolute minimum, especially in areas where the pipeline would be constructed within existing roadways, such as Templeton Road. However, there is a possibility that construction within the roadway could damage the root system of some oak trees. In these cases, the trees will be monitored by a qualified biologist. Construction of the Nacimiento Water Project will be coordinated with local roadway improvements and realignments to the maximum extent feasible. This coordination is required by EIR mitigation measure T-18.

Figure 11-2 Aerial Reconnaissance of Sensitive Receptors

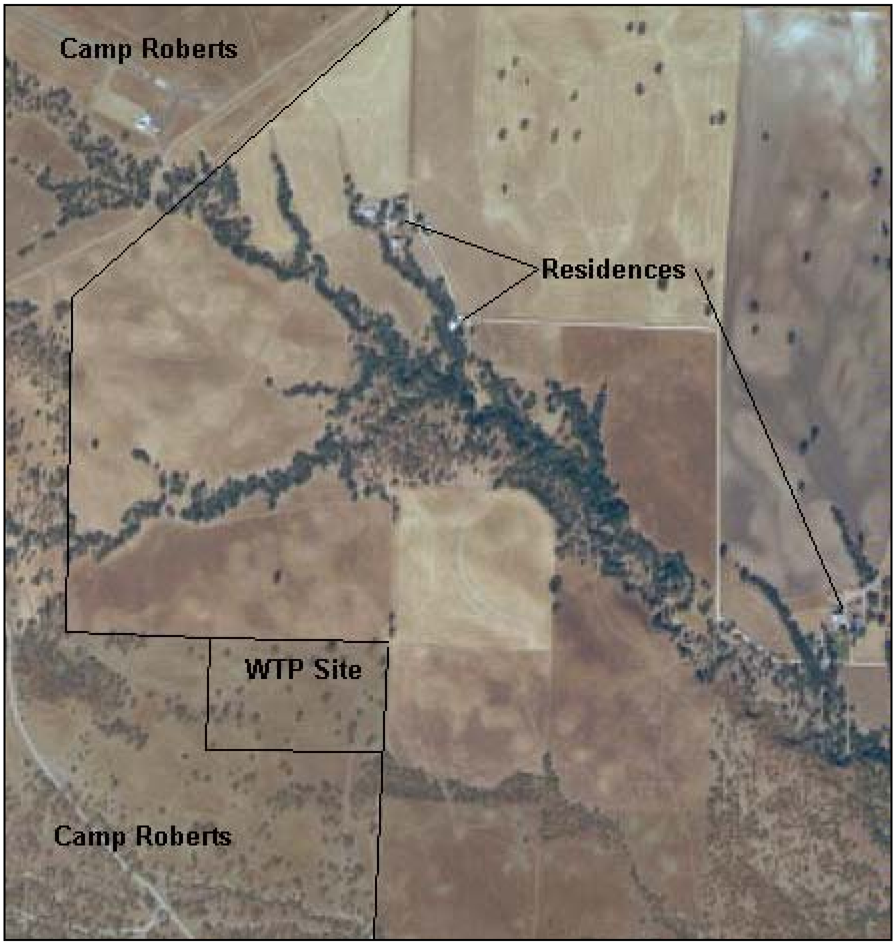


Figure 11-3 Distance from WTP Site Boundary to Nearest Residence

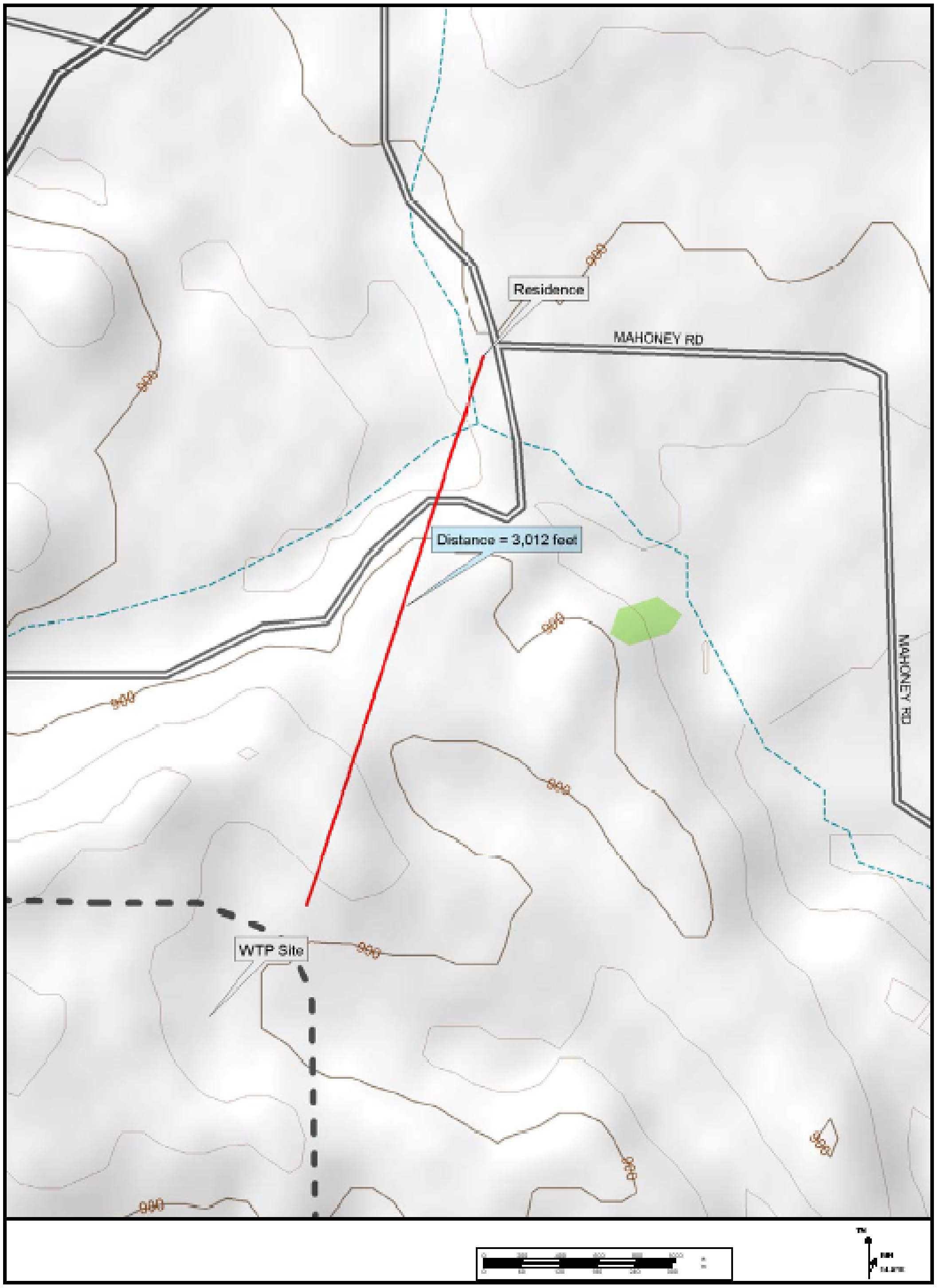
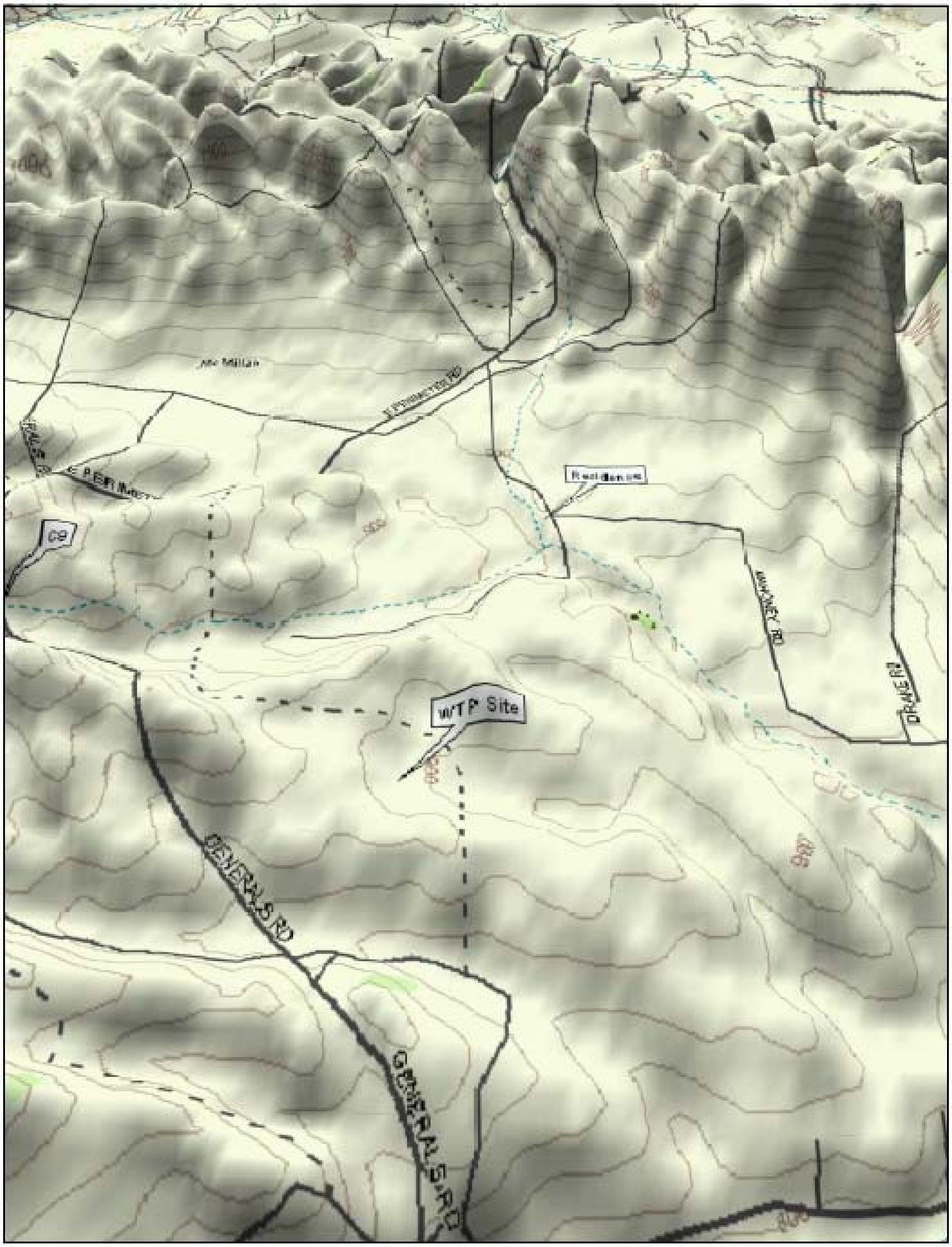


Figure 11-4 Terrain in the Immediate Vicinity of the WTP

Figure 11-5 Terrain in the Vicinity of the WTP



Appendix A Noise

SOUND FIELD TEST DATA SHEET

Project No.: Nacimiento EIR (376) Item: ____________ Page: 1 of 3
Location: ____________ : Date: 6-11-2002
Subject: ____________ : By: D. Brooks

Day Evening Night

	Meter Memory Location	1		5	6		9
1	Time	7:00 PM		8:[illegible] PM	8:45 PM		9:10 PM
2	Location of Reading	Nac. campgrd		Mahoney Rd.	River Xing		Halcon Rd.
3	" Minutes Leg	10:00		10:0[illegible]	10:00		10:01
4	Temperature	72.0°F		64.[illegible]°F	62.3°F		57.0°F
5	Cloud cover	NONE		NONE	NONE		NONE
6	Relative humidity	43%		49%	61%		65%
7	Wind direction and speed (mph)	0.9 NE		3.2 W	5.8 S		3.2 S
8	Battery (V)	8.0		9.2	8.9		—
9	"A" weighted Leq dbA	38.0		37.[illegible]	54.4		52.1
10	31.5 db	44		48	52		60
11	63 db	42		46	50		60
12	125 db	36		34	49		58
13	250 db	29		36	41		38
14	500 db	28		27	42		37
15	1K db	22		21	40		42
16	2K db	20		17	39		30
17	4K db	19		23	37		22
18	8K db	14		17	19		15
19	16K db	0L		16	13		0L
20	"A" weighted, Leq dbA						
21	Range			birds	highway traffic		distant traffic (101)
22	Comments	wildlife-birds		powerline hum	crickets		crickets
23		children crying		distant aircraft	infrequent		occasional
24		powerboat on lake			nearby traffic		passing cars

02:45 put on wind baffle

Make: Quest
Model: 1900
Model: octave Band Analyzer OB-100

SOUND FIELD TEST DATA SHEET

Project No.: Nacimiento EIR (376) Item: ______________________ Page: 2 of 3
Location: ______________________________________: Date: 6-11-2002
Subject: _______________________________________: By: D. Brooks

Day Evening Night

	Meter Memory Location	10	11		12		13
1	Time	10:20 PM	1105 PM		11:35 PM		12:10 AM
2	Location of Reading	Campground	Texas Rd.		River Xing		Halcon Rd.
3	" Minutes Leg	10:01	10:01		10:00		10:24
4	Temperature	64.4°F	60.9°F		58.0°F		57.2°F
5	Cloud cover	NONE	NONE		NONE		NONE
6	Relative humidity	53%	57%		68%		69%
7	Wind direction and speed (mph)	Ø	Ø		0.7 SE		2.3 E
8	Battery (V)	8.8	8.7		8.6		8.6
9	"A" weighted Leq dbA	37.0	46.3		51.6		45.0
10	31.5 db	38	43		50		41
11	63 db	43	42		48		44
12	125 db	36	35		50		45
13	250 db	28	28		46		35
14	500 db	19	26		46		30
15	1K db	17	13		43		26
16	2K db	18	17		29		18
17	4K db	22	45		20		14
18	8K db	13	31		17		12
19	16K db	—	19		14		12
20	"A" weighted, Leq dbA						
21	Range		crickets		highway traffic		two passing cars
22	Comments	crickets	aircraft				crickets
23		diesel pickup	distant		one passing car		distant hwy
24		truck idling	dog bark				traffic

300' away

Make: Quest
Model: 1900
Model: octave Band Analyzer OB-100

SOUND FIELD TEST DATA SHEET

Project No.: Nacimiento EIR (376) Item: ______________________ Page: 3 of 3
Location: ______________________ : Date: 6-12-2002
Subject: ______________________ : By: D. Brooks

Day Evening Night

	Meter Memory Location	15		16		23	25
1	Time	10:30 AM		11:00 AM		12:30 PM	1:10 PM
2	Location of Reading	campground		Texas Rd.		River Xing	Halcon Rd.
3	" Minutes Leg	10:00		10:00		10:00	10:00
4	Temperature	86.9°F		86.1°F		86.4°F	88.1°F
5	Cloud cover	NONE		NONE		NONE	NONE
6	Relative humidity	37%		35%		28%	26%
7	Wind direction and speed (mph)	5.5 N		1.0 SE		10.8 SE	4.2 W
8	Battery	8.5		8.5		8.9	8.8
9	"A" weighted Leq dbA	41.2		34.7		58.2	55.3
10	31.5 db	50		45		87	52
11	63 db	48		53		79	54
12	125 db	44		42		60	62
13	250 db	34		31		56	70
14	500 db	29		22		56	63
15	1K db	27		22		52	52
16	2K db	37		26		40	40
17	4K db	25		25		33	32
18	8K db	15		13		29	19
19	16K db	13		12		22	14
20	"A" weighted, Leq dbA						
21	Range	birds cawing		birds		nearby hwy traffic	birds
22	Comments	distant traffic		aircraft		trees in wind	quarry trucks
23		distant yelling		distant chainsaw		birds	passing cars
24		distant boats				metal gate swinging in wind insects buzzing 8 cars passing	

Make: Quest
Model: 1900
Model: octave Band Analyzer OB-100

Pump Station 1 Construction Noise Experienced by Sensitive Receptor at Campground							Day	Evening	Night
						Background	41	38	37
Equipment	**Number**	**Fraction of Time Generating Peak Noise During**	**Reference distance from noise source (ft)**	**Sound Level at reference distance (dBA)**	**Distance to receptor (ft)**	**Sound Level at distance (dBA)**	**Total Day Energy**	**Total Evening Energy**	**Total Night Energy**
Barge	2	0.5	50		3200		1.00E+00	-	-
Bulldozer	1	0.5	50	80	3200	44	1.22E+04	-	-
Concrete Truck	1	0.5	50	91	3200	55	1.54E+05	-	-
Compactor	1	0.5	50	74	3200	38	3.07E+03	-	-
Crane	2	0.5	50	85	3200	49	7.72E+04	-	-
Dredger	1	0.5	50	89	3200	53	9.70E+04	-	-
Dump Truck	1	0.5	50	91	3200	55	1.54E+05	-	-
Excavator	1	0.5	50	85	3200	49	3.86E+04	-	-
Grader	1	0.5	50	89	3200	53	9.70E+04	-	-
Boring Machine	1	0.5	50	91	3200	55	1.54E+05	-	-
Loader	1	0.25	50	75	3200	39	1.93E+03	-	-
Generator	2	1	50	76	3200	40	1.94E+04	-	-
Water Truck	1	0.25	50	91	3200	55	7.68E+04	-	-
Welding Truck	1	0.5	50	76	3200	40	4.86E+03	-	-
Total							8.89E+05	0.00E+00	0.00E+00
Total dBA without background							59	0	0
Total dBA with background and CNEL correction							60	43	47
Change in dBA from baseline							**18**	**0**	**0**
Total Energy							9.0E+05	2.0E+04	5.0E+04
Total Energy Weighted by Hours							4.5E+05	2.5E+03	1.9E+04
Total CNEL at 50 feet								57	
CNEL Specs	*between 7 am and 7 pm add 0 dba, assumes 12 hours*								
	between 7 pm and 10 pm add 5 dba, assumes 3 hours								
	between 10 pm and 7 am add 10 dba, assumes 9 hours								

Pump Station 1 Operation Noise Experienced by Sensitive Receptor at Campground							Day	Evening	Night
						Background	41	38	37
Equipment	Number	Fraction of Time Generating Peak Noise During	Reference distance from noise source (ft)	Sound Level at reference distance (dBA)	Distance to receptor (ft)	Sound Level at distance (dBA)	Total Day Energy	Total Evening Energy	Total night Energy
Enclosed pumps, 500 hp	4	1.00	3	74	3200	13	8.83E+01	8.83E+01	8.83E+01
Total							8.83E+01	8.83E+01	8.83E+01
Total dBA without background							19	19	19
Total dBA with background and CNEL correction							41	43	47
Change in dBA from baseline (without CNEL correction)							**0**	**0**	**0**
Total Energy							1.3E+04	2.0E+04	5.1E+04
Total Energy Weighted by Hours							6.6E+03	2.5E+03	1.9E+04
Total CNEL at 50 feet								45	

Reference distance and noise assumes loudest pump noise from range established in "Noise from Construction Equipment and Operations, Building Equipment, and Home Applicances" by Bolt, Beranek and Newman (1971) for the EPA.

Generator Operation Noise							Day	Evening	Night
						Background	41	38	37
Equipment	Number	Fraction of Time Generating Peak Noise During	Reference distance from noise source (ft)	Sound Level at reference distance (dBA)	Distance to receptor (ft)	Sound Level at distance (dBA)	Total Day Energy	Total Evening Energy	Total night Energy
Generator	1	1.00	50	71	3200	35	3.07E+03	3.07E+03	3.07E+03
Total							3.07E+03	3.07E+03	3.07E+03
Total dBA without background							35	35	35
Total dBA with background and CNEL correction							42	45	49
Change in dBA from baseline (without CNEL correction)							**1**	**2**	**2**
Total Energy							1.6E+04	3.0E+04	8.1E+04
Total Energy Weighted by Hours							8.1E+03	3.7E+03	3.0E+04
Total CNEL at 50 feet								46	

WTP Construction Noise Experienced by Mahoney Road Residence							Day	Evening	Night
						Background	35	37	46
Equipment	Number	Fraction of Time Generating Peak Noise During Day	Reference distance from noise source (ft)	Sound Level at reference distance (dBA)	Distance to receptor (ft)	Sound Level at distance (dBA)	Total Day Energy	Total Evening Energy	Total night Energy
Air Compressor	1	0.5	50	86	3500	49	4.06E+04	-	-
Backhoe	1	0.5	50	85	3500	48	3.23E+04	-	-
Bulldozer	1	0.5	50	80	3500	43	1.02E+04	-	-
Concrete Truck	1	0.5	50	91	3500	54	1.28E+05	-	-
Compactor	1	0.5	50	74	3500	37	2.56E+03	-	-
Crane	1	0.5	50	85	3500	48	3.23E+04	-	-
Dredger	1	0.25	50	89	3500	52	4.05E+04	-	-
Dump Truck	2	0.5	50	91	3500	54	2.57E+05	-	-
Excavator	1	0.5	50	88	3500	51	6.44E+04	-	-
Forklift	1	0.25	50	75	3500	38	1.61E+03	-	-
Grader	1	0.5	50	87	3500	50	5.11E+04	-	-
Boring Machine	1	0.5	50	75	3500	38	3.23E+03	-	-
Loader	1	0.25	50	75	3500	38	1.61E+03	-	-
Generator	2	1	50	77	3500	40	2.05E+04	-	-
Water Truck	1	0.25	50	86	3500	49	2.03E+04	-	-
Welding Truck	1	0.5	50	76	3500	39	4.06E+03	-	-
Total							4.99E+05	0.00E+00	0.00E+00
Total dBA without background							57	0	0
Total dBA with background and CNEL correction							57	42	56
Change in dBA from baseline (without CNEL correction)							**22**	**0**	**0**
Total Energy							5.0E+05	1.6E+04	4.3E+05
Total Energy Weighted by Hours							2.5E+05	2.0E+03	1.6E+05
Total CNEL at 50 feet								56	

CNEL Specs *between 7 am and 7 pm add 0 dba, assumes 12 hours*
between 7 pm and 10 pm add 5 dba, assumes 3 hours
between 10 pm and 7 am add 10 dba, assumes 9 hours

WTP Operations Noise Experienced by Mahoney Road Residence							Day	Evening	Night
						Background	35	37	46
Equipment	Number	Fraction of Time Generating Peak Noise During Day	Reference distance from noise source (ft)	Sound Level at reference distance (dBA)	Distance to receptor (ft)	Sound Level at distance (dBA)	Total Day Energy	Total Evening Energy	Total night Energy
Enclosed pumps, 40	4	1.00	3	74	2400	16	1.57E+02	1.57E+02	1.57E+02
Total							1.57E+02	1.57E+02	1.57E+02
Total dBA without background							22	22	22
Total dBA with background and CNEL correction							35	42	56
Change in dBA from baseline (without CNEL correction)							**0**	**0**	**0**
Total Energy							3.1E+03	1.7E+04	4.3E+05
Total Energy Weighted by Hours							1.6E+03	2.1E+03	1.6E+05
Total CNEL at 50 feet								52	

three new 1,250 horsepower, electric booster pumps

Generator Operation Noise							Day	Evening	Night
						Background	35	37	46
Equipment	Number	Fraction of Time Generating Peak Noise During Day	Reference distance from noise source (ft)	Sound Level at reference distance (dBA)	Distance to receptor (ft)	Sound Level at distance (dBA)	Total Day Energy	Total Evening Energy	Total night Energy
Generator	1	1.00	50	71	3200	35	3.07E+03	3.07E+03	3.07E+03
Total							3.07E+03	3.07E+03	3.07E+03
Total dBA without background							35	35	35
Total dBA with background and CNEL correction							38	44	57
Change in dBA from baseline (without CNEL correction)							**3**	**2**	**0**
Total Energy							6.0E+03	2.6E+04	4.6E+05
Total Energy Weighted by Hours							3.0E+03	3.2E+03	1.7E+05
Total CNEL at 50 feet								52	

Construction Noise for Water Recharge Ponds
(Paso Robles discharge as experience by nearby residence)

						Background	58	55	51
Equipment	**Number**	**Fraction of Time Generating Peak Noise During Day**	**Reference distance from noise source (ft)**	**Sound Level at reference distance (dBA)**	**Distance to receptor (ft)**	**Sound Level at distance (dBA)**	**Total Day Energy**	**Total Evening Energy**	**Total Night Energy**
Backhoe	1	0.25	50	86	250	72	3.98E+06	-	-
Bulldozer	1	0.25	50	80	250	66	1.00E+06	-	-
Dump Truck	1	0.25	50	91	250	77	1.26E+07	-	-
Total							1.76E+07	0.00E+00	0.00E+00
Total dBA without background							72	0	0
Total dBA with background and CNEL correction							73	60	61
Change in dBA from baseline							**15**	**0**	**0**
Total Energy							1.8E+07	1.0E+06	1.3E+06
Total Energy Weighted by Hours							9.1E+06	1.3E+05	4.7E+05
Total CNEL at 50 feet							70		

CNEL Specs *between 7 am and 7 pm add 0 dba, assumes 12 hours*
between 7 pm and 10 pm add 5 dba, assumes 3 hours
between 10 pm and 7 am add 10 dba, assumes 9 hours

Construction Noise for Water Storage Tanks
(WTP tanks as experienced by nearby residence)

Equipment	Number	Fraction of Time Generating Peak Noise During Day	Reference distance from noise source (ft)	Sound Level at reference distance (dBA)	Distance to receptor (ft)	Sound Level at distance (dBA)	Total Day Energy	Total Evening Energy	Total Night Energy
						Background	55	52	45
Backhoe	1	0.50	50	86	700	63	1.02E+06	-	-
Bulldozer	1	0.50	50	80	700	57	2.55E+05	-	-
Concrete Truck	1	0.50	50	91	700	68	3.21E+06	-	-
Crane	1	0.50	50	85	700	62	8.07E+05	-	-
Dump Truck	1	0.50	50	91	700	68	3.21E+06	-	-
Grader	1	0.50	50	88	700	65	1.61E+06	-	-
Loader	1	0.25	50	84	700	61	3.20E+05	-	-
Welding Truck	1	0.25	50	76	700	53	5.08E+04	-	-
Total							1.05E+07	0.00E+00	0.00E+00
Total dBA without background							70	0	0
Total dBA with background and CNEL correction							70	57	55
Change in dBA from baseline							**15**	**0**	**0**
Total Energy							1.1E+07	5.1E+05	3.2E+05
Total Energy Weighted by Hours							5.4E+06	6.4E+04	1.2E+05
Total CNEL at 50 feet							67		

CNEL Specs *between 7 am and 7 pm add 0 dba, assumes 12 hours*
between 7 pm and 10 pm add 5 dba, assumes 3 hours
between 10 pm and 7 am add 10 dba, assumes 9 hours

Pump Station 3 Construction Noise Experienced by Nearby Residence							Day	Evening	Night
						Background	55	52	45
Equipment	Number	Fraction of Time Generating Peak Noise During Day	Reference distance from noise source (ft)	Sound Level at reference distance (dBA)	Distance to receptor (ft)	Sound Level at distance (dBA)	Total Day Energy	Total Evening Energy	Total Night Energy
Backhoe	1	0.50	50	86	600	64	1.38E+06	-	-
Bulldozer	1	0.25	50	80	600	58	1.74E+05	-	-
Concrete Truck	1	0.50	50	91	600	69	4.37E+06	-	-
Crane	1	0.25	50	85	600	63	5.49E+05	-	-
Dump Truck	1	0.50	50	91	600	69	4.37E+06	-	-
Excavator	1	0.50	50	88	600	66	2.19E+06	-	-
Fork Lift	1	0.25	50	84	600	62	4.36E+05	-	-
Loader	1	0.25	50	84	600	62	4.36E+05	-	-
Grader	1	0.50	50	88	600	66	2.19E+06		
Welding Truck	1	0.25	50	76	600	54	6.91E+04		
Tractor	1	0.50	50	87	600	65	1.74E+06	-	-
Total							1.79E+07	0.00E+00	0.00E+00
Total dBA without background							73	0	0
Total dBA with background and CNEL correction							73	57	55
Change in dBA from baseline							**17**	**0**	**0**
Total Energy							1.8E+07	5.1E+05	3.2E+05
Total Energy Weighted by Hours							9.1E+06	6.4E+04	1.2E+05
Total CNEL at 50 feet								70	

CNEL Specs *between 7 am and 7 pm add 0 dba, assumes 12 hours*
between 7 pm and 10 pm add 5 dba, assumes 3 hours
between 10 pm and 7 am add 10 dba, assumes 9 hours

Pump Station 3 Operation Noise Experienced by Nearby Residence							Day	Evening	Night
						Background	55	52	45
Equipment	**Number**	**Fraction of Time Generating Peak Noise During Day**	**Reference distance from noise source (ft)**	**Sound Level at reference distance (dBA)**	**Distance to receptor (ft)**	**Sound Level at distance (dBA)**	**Total Day Energy**	**Total Evening Energy**	**Total night Energy**
Enclosed Pumps, 550	2	1.00	3	74	600	28	1.26E+03	1.26E+03	1.26E+03
Total							1.26E+03	1.26E+03	1.26E+03
Total dBA without background							31	31	31
Total dBA with background and CNEL correction							55	57	55
Change in dBA from baseline (without CNEL correction)							**0**	**0**	**0**
Total Energy							3.4E+05	5.2E+05	3.3E+05
Total Energy Weighted by Hours							1.7E+05	6.5E+04	1.2E+05
Total CNEL at 50 feet								56	

Reference distance and noise assumes loudest pump noise from range established in "Noise from Construction Equipment and Operations, Building Equipment, and Home Applicances" by Bolt, Beranek and Newman (1971) for the EPA. The number is adjusted downward

Generator Operation Noise							Day	Evening	Night
						Background	55	52	45
Equipment	**Number**	**Fraction of Time Generating Peak Noise During Day**	**Reference distance from noise source (ft)**	**Sound Level at reference distance (dBA)**	**Distance to receptor (ft)**	**Sound Level at distance (dBA)**	**Total Day Energy**	**Total Evening Energy**	**Total night Energy**
Generator	1	1.00	50	71	600	49	8.74E+04	8.74E+04	8.74E+04
Total							8.74E+04	8.74E+04	8.74E+04
Total dBA without background							49	49	49
Total dBA with background and CNEL correction							56	59	61
Change in dBA from baseline (without CNEL correction)							**1**	**2**	**6**
Total Energy							4.3E+05	7.9E+05	1.2E+06
Total Energy Weighted by Hours							2.1E+05	9.9E+04	4.5E+05
Total CNEL at 50 feet								59	

Pipeline Construction Noise Experienced by Sensitive Receptor at Campground							Day
						Background	55
Equipment	Number	Fraction of Time Generating Peak Noise During Day	Reference distance from noise source (ft)	Sound Level at reference distance (dBA)	Distance to receptor (ft)	Sound Level at distance (dBA)	Total Day Energy
Backhoe	1	0.25	50	85	500	65	7.91E+05
Blade	1	0.25	50	88	500	68	1.58E+06
Broom	1	0.25	50	76	500	56	9.95E+04
Bulldozer	1	0.25	50	80	500	60	2.50E+05
Stringing Eq.	1	0.25	50	85	500	65	7.91E+05
Concrete Truck	1	0.5	50	91	500	71	6.29E+06
Compactor	1	0.5	50	74	500	54	1.26E+05
Drilling Rig	1	0.25	50	75	500	55	7.91E+04
Dump Truck	1	0.5	50	91	500	71	6.29E+06
Excavator	1	0.5	50	85	500	65	1.58E+06
Forklift	1	0.25	50	79	500	59	1.99E+05
Loader	1	0.25	50	75	500	55	7.91E+04
Microtunneling Eq.	1	0.25	50	75	500	71	3.15E+06
Trailer w/ Dozer	1	0.1	50	93	500	73	2.00E+06
Water Truck	1	0.25	50	91	500	71	3.15E+06
Total							2.65E+07
Total dBA without background							74
Total dBA with background and CNEL correction							74
Change in dBA from baseline							**19**
Total Energy							2.7E+07
Total Energy Weighted by Hours							1.3E+07
Total CNEL at 50 feet							71

CNEL Specs *between 7 am and 7 pm add 0 dba, assumes 12 hours*
between 7 pm and 10 pm add 5 dba, assumes 3 hours
between 10 pm and 7 am add 10 dba, assumes 9 hours

WTP Construction Noise Experienced by Mahoney Road Residence							Day	Evening	Night
						Background	45	45	46
Equipment	Number	Fraction of Time Generating Peak Noise During Day	Reference distance from noise source (ft)	Sound Level at reference distance (dBA)	Distance to receptor (ft)	Sound Level at distance (dBA)	Total Day Energy	Total Evening Energy	Total night Energy
Air Compressor	1	0.5	50	86	3500	49	4.06E+04	-	-
Backhoe	1	0.5	50	85	3500	48	3.23E+04	-	-
Bulldozer	1	0.5	50	80	3500	43	1.02E+04	-	-
Concrete Truck	1	0.5	50	91	3500	54	1.28E+05	-	-
Compactor	1	0.5	50	74	3500	37	2.56E+03	-	-
Crane	1	0.5	50	85	3500	48	3.23E+04	-	-
Dredger	1	0.25	50	89	3500	52	4.05E+04	-	-
Dump Truck	2	0.5	50	91	3500	54	2.57E+05	-	-
Excavator	1	0.5	50	88	3500	51	6.44E+04	-	-
Forklift	1	0.25	50	75	3500	38	1.61E+03	-	-
Grader	1	0.5	50	87	3500	50	5.11E+04	-	-
Boring Machine	1	0.5	50	75	3500	38	3.23E+03	-	-
Loader	1	0.25	50	75	3500	38	1.61E+03	-	-
Generator	2	1	50	77	3500	40	2.05E+04	-	-
Water Truck	1	0.25	50	86	3500	49	2.03E+04	-	-
Welding Truck	1	0.5	50	76	3500	39	4.06E+03	-	-
Total							4.99E+05	0.00E+00	0.00E+00
Total dBA without background							57	0	0
Total dBA with background and CNEL correction							57	50	56
Change in dBA from baseline (without CNEL correction)							**12**	**0**	**0**
Total Energy							5.3E+05	1.0E+05	4.3E+05
Total Energy Weighted by Hours							2.7E+05	1.3E+04	1.6E+05
Total CNEL at 50 feet								56	

CNEL Specs — *between 7 am and 7 pm add 0 dba, assumes 12 hours*

between 7 pm and 10 pm add 5 dba, assumes 3 hours

between 10 pm and 7 am add 10 dba, assumes 9 hours

Appendix B Biological Resources

Table B.1 Flora Observed at Field Survey Locations for the Nacimiento Water Project

Scientific Name/Pipeline Location [1]	Common Name	Wetland Indicator [2, 3]
Eremocarpus setigerus	Turkey Mullein	N/A
Eriogonum fasciculatum	California Buckwheat	N/A
Gnaphalium palustre	Western Marsh Cudweed	FACW
Lotus strigosus	Lotus	N/A
Quercus lobata	Valley Oak	FAC
Verbena litoralis	Verbena	FACW
Possible disturbed vernal pools		
Open Field Crossing (P10 to P11)		
Amsinckia menziesii	Rancher's Fireweed	N/A
Juglans californica	California Black Walnut	FAC
Slow-running Stream-Under CMP Culvert and Adjacent to Road (P21)		
Baccharis salicifolia	Mule Fat	FACW-
Centaurea solstitialis	Yellow Star-thistle	N/A
Erodium cicutarium	Red-stem Filaree	N/A
Hirschfeldia incana	Short-pod Mustard	N/A
Marrubium vulgare	Common Horehound	FAC
Platanus racemosa	Western Sycamore	FACW
Populus fremontii	Fremont Cottonwood	FACW
Quercus douglasii	Blue Oak	N/A
Quercus lobata	Valley Oak	FAC
Rorippa nasturtium-aquaticum [=Nasturtium officinale]	Water Cress	OBL
Salix lasiolepis	Arroyo Willow	FACW
Fire Break Trail from Generals Road (P25) to Camp Roberts Boundary (P29)		
Achillea millefolium	Yarrow	FACU
Ambrosia acanthicarpa	Annual Bur-sage	N/A
Avena sp.	Oat sp.	N/A
Brassica nigra	Black Mustard	N/A
Bromus carinatus	California Brome	N/A
Bromus diandrus	Ripgut Grass	N/A
Centaurea solstitialis	Yellow Star-thistle	N/A
Centaurium venustum	Canchalagua	N/A
Hirschfeldia incana	Short-pod Mustard	N/A
Gnaphalium palustre	Western Marsh Cudweed	FACW
Quercus douglasii	Blue Oak	N/A
Quercus lobata	Valley Oak	FAC
Vernal pool areas in depressions on dirt road at base of hill below fence line		
One-way Tank Site off Generals Road		
Achillea millefolium	Yarrow	FACU
Avena sp.	Oat sp.	N/A
Delphinium parryi ssp. *parryi*	Parry's Larkspur	N/A
Bromus carinatus	California Brome	N/A
Centaurea solstitialis	Yellow Star-thistle	N/A
Lupinus microcarpus	Chick Lupine	N/A
Hirschfeldia incana	Short-pod Mustard	N/A
Quercus douglasii	Blue Oak	N/A
Water Treatment Plant Storage Facility (P26) off Generals Road		
Avena sp.	Oat sp.	N/A
Brodiaea jolonensis	Brodiaea	N/A
Bromus carinatus	California Brome	N/A

Table B.1 Flora Observed at Field Survey Locations for the Nacimiento Water Project

Scientific Name/Pipeline Location [1]	Common Name	Wetland Indicator [2, 3]
Castilleja exserta	Purple Owl's Clover	N/A
Centaurea solstitialis	Yellow Star-thistle	N/A
Erodium cicutarium	Red-stem Filaree	N/A
Hirschfeldia incana	Short-pod Mustard	N/A
Quercus douglasii	Blue Oak	N/A
Water Tretment Plant and Pump Station on Cmap Roberts (P28, P29)		
Avena sp.	Oat sp.	N/A
Brodiaea jolonensis	Brodiaea	N/A
Bromus carinatus	California Brome	N/A
Centaurea solstitialis	Yellow Star-thistle	N/A
Erodium cicutarium	Red-stem Filaree	N/A
Hirschfeldia incana	Short-pod Mustard	N/A
Quercus douglasii	Blue Oak	N/A
Creek crossing at Mahoney Road (P30)		
Alopecurus sp.	Foxtail sp.	N/A
Arctostaphylos sp.	Manzanita. sp.	N/A
Astragalus douglasii	Astragalus	N/A
Avena sp.	Oat sp.	N/A
Brassica nigra	Black Mustard	N/A
Bromus carinatus	California Brome	N/A
Centaurea calcitrapa	Purple Star-thistle	N/A
Centaurea solstitialis	Yellow Star-thistle	N/A
Erodium cicutarium	Red-stem Filaree	N/A
Hirschfeldia incana	Short-pod Mustard	N/A
Lupinus sp.	Lupin sp.	N/A
Quercus douglasii	Blue Oak	N/A
Ribes malvaceum	Chaparral Current	N/A
Toxicodendron diversilobum	Poison Oak	N/A
Trisetum canescens	Trisetum	N/A
Seasonal Creek Crossings on Mahoney Road (P30 to P32)		
Alopecurus sp.	Foxtail	N/A
Brassica nigra	Black Mustard	N/A
Centaurea calcitrapa	Purple Star-thistle	N/A
Centaurea solstitialis	Yellow Star-thistle	N/A
Datura wrightii	Jimson Weed	N/A
Hirschfeldia incana	Short-pod Mustard	N/A
Quercus agrifolia	Coast Live Oak	N/A
Quercus lobala	Valley Oak	FAC
Toxicodendron diversilobum	Poison Oak	N/A
Trisetum canescens	Trisetum	N/A
Perimeter Vineyard Road (P32 to P35)		
Astragalus sp.	Astragulus sp.	N/A
Avena fatua	Wild Oat	N/A
Baccharis salicifolia	Mule Fat	FACW-
Centaurea solstitialis	Yellow-star Thistle	N/ A
Datura wrightii	Jimson Weed	N/A
Eremocarpus setigerus	Turkey Mullein	N/A
Hirschfeldia incana	Short-pod Mustard	N/A
Marrubium vulgare	Common Horehound	FAC
Phoradendron sp.	Mistletoe sp.	N/A
Quercus douglasii	Blue Oak	N/A

Table B.1 Flora Observed at Field Survey Locations for the Nacimiento Water Project

Scientific Name/Pipeline Location [1]	Common Name	Wetland Indicator [2, 3]
Quercus agrifolia	Coast Live Oak	N/A
Raphanus sativus	Radish	N/A
Sambucus mexicana	Blue Elderberry	FAC
Salsola kali	Russian Thistle	FACU+
Trichostema lanceolatum	Vinegar weed	N/A
Zygophyllaceae sp.	Zygophyllaceae sp.	N/A
San Marcos Creek Crossing at San Marcos Road/Wellsona Road (P35, P36)		
Brassica nigra	Black Mustard	N/A
Bromus diandrus	Ripgut Grass	N/A
Bromus hordeaceus	Soft Chess	FACU-
Bromus tectorum	Cheat Grass	N/A
Centaurea solstitialis	Yellow Star-thistle	N/A
Datura wrightii	Jimson Weed	N/A
Distichlis spicata	Inland Saltgrass	FACW
Eriogonum fasciculatum	California Buckwheat	N/A
Festuca pratensis	Meadow Fescue	FACU
Lotus sp.	Lotus sp.	N/A
Phacelia sp.	Phacelia sp.	N/A
Populus fremontii	Fremont Cottonwood	FACW
Rumex crispus	Curly Dock	FACW-
Safix exigua	Narrow-leaved Willow	OBL
Stephanomeria sp.	Stephanomeria sp.	N/A
Xanthium strumarium	Rough Cocklebur	FAC+
Salinas River Crossings (P41 to P43)		
Achillea millefolium	Yarrow	FACU
Artemisia douglasiana	Mugwort	FACW
Baccharis pilularis	Coyote Bush	N/A
Baccharis salicifolia	Mule Fat	FACW-
Brassica nigra	Black Mustard	N/A
Carex sp.	Sedge sp.	FACU to OBL
Centaurea solstitialis	Yellow Star-thistle	N/A
Conium maculatum	Poison Hemlock	FACW
Datisca glomerata	Durango Root	FACW
Distichlis spicata	Inland Saltgrass	FACW
Hirschfeldia incana	Short-pod Mustard	N/A
Juglans californica	California Black Walnut	FAC
Lemna gibba	Inflated Duckweed	OBL
Lemna minuta	Least Duckweed	OBL
Marrubium vulgare	Horehound	FAC
Pinus sp.	Pine sp.	N/A
Plantago major	Common Plantain	FACW-
Platanus racemosa	Western Sycamore	FACW
Populus fremontii	Fremont Cottonwood	FACW
Rorippa nasturtium-aquiticum	Water Cress	OBL
Rosa californica	California Rose	FAC+
Salix exigua	Narrow-leaved Willow	OBL
Salix laevigata	Red Willow	N/A
Sambucus mexicana	Blue Elderberry	FAC
Scirpus sp.	Bulrush sp.	FAC to OBL
Typha angustifolia	Narrow-leaved Cattail	OBL
Typha latifolia	Broad-leaved Cattail	OBL

Table B.1 Flora Observed at Field Survey Locations for the Nacimiento Water Project

Scientific Name/Pipeline Location [1]	Common Name	Wetland Indicator [2, 3]
Urtica dioica	Stinging Nettle	FACW
Veronica americana	American Brookline	OBL
Vitus vinefera	Cultivated Grape	N/A
Xanthium strumarium	Rough Cocklebur	FAC+
Paso Robles Salinas River Discharge (P65)		
Baccharis pilularis	Coyote Brush	N/A
Bromus diandrus	Ripgut Brome	N/A
Centaurea solstitialis	Yellow Star-thistle	N/A
Foeniculum vulgare	Sweet Fennel	FACU
Juncus mexicanus	Wiregrass	FACW
Populusfremontii	Fremont Cottonwood	FACW
Quercus lobata	Valley Oak	FAC
Rumex crispus	Curly Dock	FACW
Salix hindsiana	Hinds' Willow	FAC to OBL
Scirpus sp.	Bulrush sp.	FAC to OBL
Typha latifolia	Broad-leaved Cattail	OBL
Salinas River Microtunnel Crossing at Santa Ysabel Ranch (P66 to P70)		
Centaurea solstitialis	Yellow Star-thistle	N/A
Conium maculatum	Poison Hemlock	FACW
Quercus lobata	Valley Oak	FAC
Salinas River Microtunnel Crossing at Piney Woods (P70 to P74)		
Artemisia douglasiana	Mugwort	FACW
Bromus tectorum	Cheat Grass	N/A
Centaurea solstitialis	Yellow Star-thistle	N/A
Cirsium vulgare	Bull Thistle	FACU
Juglans californica	California Black Walnut	FAC
Populus fremontii	Fremont Cottonwood	FACW
Quercus lobata	Valley Oak	FAC
Ribes sp.	Gooseberry	N/A
Salix exigua	Narrow-leaved Willow	OBL
Salix laevigata	Red Willow	N/A
Sambucus mexicana	Blue Elderberry	FAC
Toxicodendron diversilobum	Poison Oak	N/A
Xanthium strumarium	Rough Cocklebur	FAC+
Creek Crossing near Vaquero Drive (P75 to P76)		
Artemisia douglasiana	Mugwort	FACW
Avena fatua	Wild Oat	N/A
Baccharis pilularis	Coyote Brush	N/A
Centaurea solstitialis	Yellow Star-thistle	N/A
Juglans californica	California Black Walnut	FAC
Marrubium vulgare	Horehound	FAC
Populus fremontii	Fremont Cottonwood	FACW
Quercus lobata	Valley Oak	FAC
Rumex crispus	Curly Dock	FACW-
Toxicodendron diversilobum	Poison Oak	N/A
Xanthium strumarium	Rough Cocklebur	FAC+
TCSD Discharge Area (P78)		
Artemisia douglasiana	Mugwort	FACW
Baccharis salicifolia	Mule Fat	FACW-
Deschampsia danthonioides	Annual Hairgrass	FACW
Juglans californica	California Black Walnut	FAC

Table B.1 Flora Observed at Field Survey Locations for the Nacimiento Water Project

Scientific Name/Pipeline Location [1]	Common Name	Wetland Indicator [2, 3]
Paspalum distichum	Paspalum, Joint	OBL
Populusfremontii	Fremont Cottonwood	FACW
Rorippa nasturtium-aquaticum	Water Cress	OBL
Salix exigua	Narrow-leaved Willow	OBL
Salix lasiolepis	Arroyo Willow	FACW
Scirpus sp.	Bulrush sp.	FAC to OBL
Typha angustifolia	Narrow-leaved Cattail	OBL
Typha latifolia	Broad-leaved Cattail	OBL
Xanthium strumarium	Rough Cocklebur	FAC+
Habitat may be conducive for Southwestern Willow Flycatcher, although evidence of frequent human presence may preclude use by sensitive species.		
Atascadero River Discharge		
Bromus diandrus	Ripgut Brome	N/A
Populus fremontii	Freemont Cottonwood	FACW
Quercus lobata	Valley Oak	FAC
Salix lasiolepis	Arroyo Willow	FACW
Toxicodendron diversilobum	Poison Oak	N/A
Urtica dioica	Stinging Nettle	FACW
Open Area (P80-P81)		
Populusftemontii	Freemont Cottonwood	FACW
Quercus douglasii	Blue Oak	N/A
Quercus lobata	Valley Oak	FAC
Creek Crossing on Templeton Road at P83		
Astragalus sp.	Astragalus sp.	N/A
Avenafatua	Wild Oat	N/A
Brassica nigra	Black Mustard	N/A
Bromus tectorum	Cheat Grass	N/A
Centaurea solstitialis	Yellow Star-thistle	N/A
Conium maculatum	Poison Hemlock	FACW
Hirschfeldia incana	Short-pod Mustard	N/A
Populus fremontii	Fremont Cottonwood	FACW
Quercus douglasii	Blue Oak	N/A
Salix lucida ssp. *lasiandra*	Shining Willow	NI
Sambucus mexicana	Blue Elderberry	FAC
Silybum marianum	Milk Thistle	N/A
Raphanus sativus	Radish	N/A
Toxicodendron diversilobum	Poison Oak	N/A
Rocky Canyon Storage Tank and Happy Valley PS (P84, P85)		
Avenafatua	Wild Oat	N/A
Avena saliva	Cultivated Oat	N/A
Baccharis pilularis	Coyote Brush	N/A
Brassica nigra	Black Mustard	N/A
Bromus tectorum	Cheat Grass	N/A
Centaurea solstitialis	Yellow Star-thistle	N/A
Hirschfeldia incana	Short-pod Mustard	N/A
Quercus agrifolia	Coast Live Oak	N/A
Quercus douglasii	Blue Oak	N/A
Quercus lobata	Valley Oak	FAC
Sambucus mexicana	Blue Elderberry	FAC
Silybum marianum	Milk Thistle	N/A

Table B.1 Flora Observed at Field Survey Locations for the Nacimiento Water Project

Scientific Name/Pipeline Location [1]	Common Name	Wetland Indicator [2, 3]
Salinas River Crossing at Taft Ranch [4] (P86)		
Cornus glabrata	Brown Dogwood	FACW
Pinus sabiniana	Gray Pine	N/A
Platanus racemosa	Western Sycamore	FACW
Populus fremontii	Fremont Cottonwood	FACW
Quercus lobata	Valley Oak	FAC
Rosa californica	California Rose	FAC+
Rubus ursinus [=vitifolius]	California Blackberry	FACW
Salix sessilifolia	Sandbar Willow	FACW
Salix lasiolepis	Arroyo Willow	FACW
Typha angustifolia	Narrow-leaved Cattail	OBL
Xanthium strumarium	Rough Cocklebur	FAC+
Trout Creek Crossing at Union Pacific Railroad Bridge (P88)		
Artemisia douglasiana	Mugwort	FACW
Baccharis salicifolia	Mule Fat	FACW-
Carex sp.	Sedge sp.	FACU to OBL
Cichorium intybus	Chicory	NI
Foeniculum vulgare	Sweet Fennel	FACU
Glycyrrhiza lepidota	Wild Licorice	FAC+
Juglans californica	California Black Walnut	FAC
Juncus sp.	Rush sp.	FACU to OBL
Mentha arvensis	Mint	FACW
Mimulus guttatus	Monkeyflower	OBL
Plantago major	Common Plantain	FACW-
Populus fremontii	Fremont Cottonwood	FACW
Quercus lobata	Valley Oak	FAC
Rubus parviflorus	Western Thimbleberry	FAC+
Salix laevigata	Red Willow	N/A
Salix lasiolepis	Arroyo Willow	FACW
Scirpus sp.	Bulrush sp.	FAC to OBL
Toxicodendron diversilobum	Poison Oak	N/A
Typha latifolia	Broad-leaved Cattail	OBL
Xanthium strumarium	Rough Cocklebur	FAC+
Yerba Buena Creek Crossing at I Street, Santa Margarita (P92)		
Juglans californica	California Black Walnut	FAC
Nandina sp.	Bamboo sp.	N/A
Rubus ursinus [=vitifolius]	California Blackberry	FACW
Salix laevigata	Red Willow	N/A
Salix lasiolepis	Arroyo Willow	FACW
Scirpus sp.	Bulrush sp.	FAC to OBL
Typha latifolia	Broad-leaved Cattail	OBL
Areas In Santa Margarita		
First Staging Area from North End		
Juglans californica	California Black Walnut	FAC
Populus fremontii	Fremont Cottonwood	FACW
Mowed, disturbed area		
Second Staging Area from North End - Dry Drainage		
Avena sp.	Oat sp.	N/A
Bromus tectorum	Cheat Grass	N/A
Centaurea solstitialis	Yellow Star-thistle	N/A
Convolvulus arvensis	Bindweed	N/A

Table B.1 Flora Observed at Field Survey Locations for the Nacimiento Water Project

Scientific Name/Pipeline Location [1]	Common Name	Wetland Indicator [2, 3]
Helenium puberulum	Sneeze Weed	FACW
Hirschfeldia incana	Short-pod Mustard	N/A
Juglans californica	California Black Walnut	FAC
Rumex crispus	Curly Dock	FACW-
Tribulus terrestris	Puncture Vine	FACW-
Third Staging Area from North End - Dry Drainage		
Achillea millefolium	Yarrow	FACU
Bromus tectorum	Cheat Grass	N/A
Centaurea solstitialis	Yellow Star-thistle	N/A
Conium maculatum	Poison Hemlock	FACW
Convolvulus arvensis	Bindweed	N/A
Hirschfieldia incana	Short-pod Mustard	N/A
Juglans californica	California Black Walnut	FAC
Nandina sp.	Bamboo sp.	N/A
Phacelia sp.	Phacelia sp.	N/A
Phalaris arundinacea	Reed Canary Grass	OBL
Plantago major	Common Plantain	FACW-
Phyla nodiflora	Common Frog-fruit	FACW
Polypogon monspeliensis	Annual Beard Grass	FACW+
Quercus lobata	Valley Oak	FAC
Rumex crispus	Curly Dock	FACW-
Tragopodon porrifolius	Oyster Plant	N/A
Freshwater Seep and Creek Drainages, Santa Margarita Booster Pump Station (P95 - P97)		
Freshwater Seep South of P95		
Bromus hordeaceus	Soft Brome	FACU-
Juncus effusus	Rush	OBL
Lotus formosissimus	Lotus sp.	FACW
Raphanus sativus	Radish	N/A
Rumex crispus	Curly Dock	FACW-
Scirpus sp.	Bulrush sp.	FAC to OBL
Xanthium strumarium	Rough Cocklebur	FAC+
First Creek Drainage South of P95		
Carex sp.	Sedge sp.	FACU to OBL
Cirsium vulgare	Bull Thistle	FACU
Hirschfieldia incana	Short-pod Mustard	N/A
Mimulus guttatus	Monkeyflower	OBL
Rumex crispus	Curly Dock	FACW-
Scirpus robustus	Bulrush sp.	FAC to OBL
Second Creek Drainage South of P95		
Baccharis pilularis	Coyote Brush	N/A
Brassica nigra	Black Mustard	N/A
Carex sp.	Sedge sp.	FACU to OBL
Cirsium vulgare	Bull Thistle	FACU
Conium maculatum	Poison Hemlock	FACW
Eremocarpus setigerus	Turkey Mullein	N/A
Erodium cicutarium	Red-stem Filaree	N/A
Plantago major	Common Plantain	FACW-
Rorippa nasturtium-aquaticum	Water Cress	OBL
Salix lasiolepis	Arroyo Willow	FACW
Scirpus robustus	Bulrush sp.	FAC to OBL
Toxicodendron diversilobum	Poison Oak	N/A

Table B.1 Flora Observed at Field Survey Locations for the Nacimiento Water Project

Scientific Name/Pipeline Location [1]	Common Name	Wetland Indicator [2, 3]
Urtica dioica	Stinging Nettle	FACW
Tassajara Creek (P98 - P103)		
Baccharis pilularis	Coyote Bush	N/A
Bromus diandrus	Ripgut Brome	N/A
Centaurea solstitialis	Yellow Star-thistle	N/A
Heteromeles arbutifolia	Toyon	N/A
Juncus effusus	Rush	OBL
Platanus racemosa	Western Sycamore	FACW
Populusftemontii	Fremont Cottonwood	FACW
Quercus agrifolia	Coast Oak	N/A
Quercus lobata	Valley Oak	FAC
Rumex crispus	Curly Dock	FACW-
Salix lasiolepis	Arroyo Willow	FACW
Scirpus robustus	Bulrush sp.	FAC to OBL
Toxicodendron diversilobum	Poison Oak	N/A
Chorro Creek (P109B - P109C)		
Centaurea solstitialis	Yellow Star-thistle	N/A
Platanus racemosa	Western Sycamore	FACW
Quercus agrifolia	Coast Oak	N/A
Salix lasiolepis	Arroyo Willow	FACW

Notes:
1. For P numbers see Figures 2-3 through 2-24 in Project Decription, Section 2.0.

2. Reed, P.B. 1988. *National List ofPlant Species that Occur in Wetlands: California (Region 0)*. National Wetlands Inventory. U.S. Fish and Wildlife Service. Washington, D.C.

3. Legend

FAC = Facultative Species - equally likely to occur in wetland or nonwetlands (estimated probability 34%-66%).
FACU = Facultative Upland Species - usually occur in nonwetlands (estimated probability 67%-99%), but occasionally found in wetlands (estimated probability M-33%).
FACW = Facultative Wetland Species - usually occur in wetlands (estimated probability 67%-99%), but occasionally found in nonwetlands.
OBL = Obligate - Occur almost always (estimated probability >99%) under natural a conditions in wetlands.
NI = Non-Indicator
N/A = Not Applicable
A positive (+) sign indicates a frequency toward the higher end of the category (more frequently), and a negative (-) sign indicates a frequency toward the lower end of the category (less frequently).

4. McGovern, M. 1999. *Biological Assessment of a Bridge Across the Salinas River on the Taft Ranch.* Assessed for Jerry Taft, Atascadero, CA. November.

Source: AMEC Earth and Environmental, *Draft Biological Resources Report to the Proposed Nacimiento Water Project*. November 2001.

Table B.2 Fauna Observed at Field Survey Locations for the Nacimiento Water Project

Scientific Name/Pipeline ROW Location [1]	Common Name
Lake Nacimiento, Intake (P1) (lot area was being cleared)	
Insects	
Artogeia rapae	Cabbage Butterfly
Reptiles and Amphibians	
Cnemidophorus tigris	Western Whiptail
Birds	
Carpodacus mexicanus	House Finch
Cathartes aura	Turkey Vulture
Melospiza melodia	Song Sparrow
Tachycineta hicolor	Tree Swallow
Tachycineta thalassina	Violet-green Swallow
Tyrannus verticalis	Western Kingbird
Zenaida macroura	Mourning Dove
Nacimiento River (P2) (below dam)	
Insects	
Chrysochus cobaltinus	Blue Milkweed Beetle
Zerene eurydice	California Dog-face Butterfly
Reptiles and Amphibians	
Rana catesbeiana	Bullfrog
Birds	
Actitis macularia	Spotted Sandpiper
Aix sponsa	Wood Duck
Anas strepera	Gadwall
Ardea herodias	Great Blue Heron
Buteo jamaicensis	Red-tailed Hawk
Calypte anna	Anna's Hummingbird
Carduelis psaltria	Lesser Goldfinch
Carpodacus mexicanus	House Finch
Ceryle alcyon	Belted Kingfisher
Chamaea fasciata	Wrentit
Chondestes grammacus	Lark Sparrow
Dendroica petechia brewsteri	Yellow Warbler
Empidonax difficilis	Pacific-slope Flycatcher
Euphagus cyanocephalus	Brewer's Blackbird
Falco sparverius	American Kestrel
Hirundo rustica	Barn Swallow
Iterus bullockii	Bullock's Oriole
Melanerpes formicivorus	Acorn Woodpecker
Melospiza melodia	Song Sparrow
Mergus merganser	Common Merganser
Pheucticus melanocephalus	Black-headed Grosbeak
Picoides nuttallii	Nuttall's Woodpecker
Pipilo crissalis	California Towhee
Pipilo maculatus	Spotted Towhee
Psaltriparus minimus	Bushtit
Sayornis nigricans	Black Phoebe
Sialia mexicana	Western Bluebird
Sitta carolinensis	White-breasted Nuthatch
Tachycineta bicolor	Tree Swallow
Tachycineta thalassina	Violet-green Swallow
Troglodytes aedon	House Wren

Table B.2 Fauna Observed at Field Survey Locations for the Nacimiento Water Project

Scientific Name/Pipeline ROW Location [1]	Common Name
Tyrannus verticalis	Western Kingbird
Mammals	
Spermophilis beecheyi	California Ground Squirrel
Nacimiento River Crossing on Camp Roberts (P4 and P5)	
Reptiles and Amphibians	
Clemmys marmorata pallida	Southwestern Pond Turtle
Sceloporus occidentalis	Western Fence Lizard
Birds	
Aphelocoma californica	Western Scrub-jay
Ardea herodias	Great Blue Heron
Buteo jamaicensis	Red-tailed Hawk
Cathartes aura	Turkey Vulture
Cyanocitta stelleri	Steller's Jay
Falco sparverius	American Kestrel
Icterus galbula	Baltimore Oriole
Melanerpes formicivorus	Acorn Woodpecker
Melospiza melodia	Song Sparrow
Pica nuttalli	Yellow-billed Magpie
Podiceps nigricollis	Eared Grebe
Sayornis nigricans	Black Phoebe
Stelgidopteryx serripennis	Northern Rough-winged Swallow
Tachycineta bicolor	Tree Swallow
Tachycineta thalassina	Violet-green Swallow (nesting in hollow tree)
Tyrannus vociferans	Cassin's Kingbird
Zenaida macroura	Mourning Dove
Mammals	
0docoileus hemionus	Mule Deer
Spermophilis beecheyi	California Ground Squirrel
Staging Area at Nacimiento River Crossing (P7)	
Mammals	
Spermophilis beecheyi	California Ground Squirrel
Open Field Crossing (P10 to P11)	
Mammals	
Spermophilis beecheyi	California Ground Squirrel
Slow-running Stream Under CMP Culvert and Adjacent to Road (P21)	
Insects	
Family *Dytiscidae*	Predaceous Diving Water Beetle Family
Argia vivida	Vivid Dancer Damselfly
Libellula sp.	Skimmer Dragonfly sp.
Sympetrum illotum	Cardinal Meadowhawk Dragonfly
Reptiles and Amphibians	
Pseudacris triseriata ssp. *triseriata* (tadpoles)	Western Chorus Frog
Birds	
Agelaius phoeniceus (nesting)	Red-winged Blackbird
Calypte anna	Anna's Hummingbird
Colaptes auratus	Northern Flicker
Icterus bullockii	Bullock's Oriole
Melanerpes formicivorus	Acorn Woodpecker
Psaltriparus minimus	Bushtit
Sayornis nigricans	Black Phoebe
Tachycineta thalassina	Violet-green Swallow

Table B.2 Fauna Observed at Field Survey Locations for the Nacimiento Water Project

Scientific Name/Pipeline ROW Location [1]	Common Name
Tyrannus verticalis	Western Kingbird
Vermivora celata	Orange-crowned Warbler
Mammals	
Sciurus griseus	Western Gray Squirrel
Fire Break trail from Generals Road (P25) to Camp Roberts Boundary (P29)	
Birds	
Aphelocoma californica	Western Scrub-jay
Cathartes aura	Turkey Vulture
Melanerpes formicivorus	Acorn Woodpecker
Pica nuttalli	Yellow-billed Magpie
Sturnella neglecta	Western Meadowlark
Zenaida macroura	Mourning Dove
Mammals	
Canis latrans (dead)	Coyote
Lepus californicus	Black-tailed Jack Rabbit
Spermophilis beecheyi	California Ground Squirrel
One-way Lane Site off Generals Road	
Birds	
Zenaida macroura	Mourning Dove
Water Treatment Plant Water Storage Facility (P26) off Generals Road	
Birds	
Aphelocoma californica	Western Scrub-jay
Cathartes aura	Turkey Vulture
Corvus brachyrhynchos	American Crow
Pica nuttalli	Yellow-billed Magpie
Zenaida macroura	Mourning Dove
Water Treatment Plant and Pump Station on Camp Roberts (P28 and P29)	
Mammals	
Vulpes macrods mutica (marked den between P27 and P28; dens (?) under *Quercus lobata* [with sign] near boundary fence)	San Joaquin Kit Fox
Creek Crossing at Mahoney Road (P30)	
Birds	
Aphelocoma californica	Western Scrub-jay
Callipepla californica	California Quail
Corvus brachyrhynchos	American Crow
Pica nuttalli	Yellow-billed Magpie
Zenaida macroura	Mourning Dove
Mammals	
Lepus californicus	Black-tailed Jack Rabbit
Odocoileus hemionus	Mule Deer
Spermophilis beecheyi	California Ground Squirrel
Seasonal Creek Crossings on Mahoney Road (P30 to P32)	
Birds	
Buteo jamaicensis (partially fledged juvenile sitting in tall grass below *Quercus lobata* near 3rd creek; adult flying and calling)	Red-tailed Hawk
Sturnella neglecta	Western Meadowlark
Perimeter Vineyard Road (P32 to P35)	
Birds	

Table B.2 Fauna Observed at Field Survey Locations for the Nacimiento Water Project

Scientific Name/Pipeline ROW Location [1]	Common Name
Aphelocoma californica	Western Scrub Jay
Buteo jamaicensis	Red-tailed Hawk
Callipepla californica	California Quail
Carduelis tristis	American Goldfinch
Cathartes aura	Turkey Vulture
Chondestes grammacus	Lark Sparrow
Melanerpes formicivorus	Acorn Woodpecker
Pipilo crissalis	California Towhee
Zenaida macroura	Mourning Dove
San Marcos Creek Crossing at San Marcos Road\Wellsona Road (P35 and P36)	
Birds	
Carpodacus mexicanus	House Finch
Cathartes aura	Turkey Vulture
Corvus brachyrhynchos	American Crow
Sturnella neglecta	Western Meadowlark
Mammals	
Lepus californicus	Black-tailed Jack Rabbit
Salinas River Crossings (P41 to P43)	
Crustaceans	
Family Astacidea (dead)	Crayfish Family
Fish	
	Fingerlings
Reptiles and Amphibians	
Rana catesbeiana	Bullfrog
Sceloporus occidentalis	Western Fence Lizard
Birds	
Anas platyrhynchos	Mallard
Carduelis psaltria	Lesser Goldfinch
Cistothorus palustris	Marsh Wren
Geothlypis trichas	Common Yellowthroat
Hirundo rustica	Barn Swallow
Mimus polyglottos	Northern Mockingbird
Pipilo crissalis	California Towhee
Psaltriparus minimus	Bushtit
Sayornis nigricans	Black Phoebe
Sitta carolinensis	White-breasted Nuthatch
Stelgidopteryx serripennis	Northern Rough-winged Swallow
Tachycineta thalassina	Violet-green Swallow (nesting in hollow tree)
Thryomanes bewickii	Bewick's Wren
Tyto alba	Barn Owl
Wilsonia pusilla	Wilson's Warbler
Zenaida macroura	Mourning Dove
Mammals	
Procyon lotor (tracks)	Raccoon
Spermophilis beecheyi	California Ground Squirrel
Paso Robles Salinas River Discharge Area (P65)	
Reptiles and Amphibians	
Sceloporus occidentalis	Western Fence Lizard
Birds	
Aphelocoma californica	Western Scrub-jay
Calypte anna	Anna's Hummingbird

Table B.2 Fauna Observed at Field Survey Locations for the Nacimiento Water Project

Scientific Name/Pipeline ROW Location [1]	Common Name
Cathartes aura	Turkey Vulture
Hirundo rustica	Barn Swallow
Pica nuttalli	Yellow-billed Magpie
Mammals	
Spermophilis beecheyi	California Ground Squirrel
Salinas River Microtunnel Crossing Santa Ysabe1Ranch (P66 to P70)	
Insects	
Artogeia rapae	Cabbage Butterfly
Papilio rutulus	Western Tiger Swallowtail
Birds	
Aphelocoma californica	Western Scrub-jay
Buteo jamaicensis	Red-tailed Hawk
Cathartes aura	Turkey Vulture
Melanerpes formicivorus	Acorn Woodpecker
Pica nuttalli	Yellow-billed Magpie
Tyrannus verticalis	Western Kingbird
Zenaida macroura	Mourning Dove
Mammals	
Spermophilis beecheyi	California Ground Squirrel
Salinas River Microtunnel Crossing at Piney Woods (P70 to P74)	
Birds	
Buteo jamaicensis	Red-tailed Hawk
Cathartes aura (nest)	Turkey Vulture
Corvus brachyrhynchos	American Crow
Phainopepla nitens	Phainopepla
Vireo huttoni	Hutton's Vireo
Mammals	
Odocoileus hemionus (dead)	Mule Deer
Sciurus griseus	Western Gray Squirrel
Spermophilis beecheyi	California Ground Squirrel
Creek Crossing near Vaquero Drive (P75 to P76)	
Birds	
Aphelocoma californica	Western Scrub-jay
Baeolophus inornatus	Oak Titmouse
Callipepla californica	California Quail
Carduelis psaltria	Lesser Goldfinch
Cathartes aura	Turkey Vulture
Falco sparverius	American Kestrel
Zenaida macroura	Mourning Dove
TCSD Discharge Area (P78)	
Birds	
Charadrius vociferus (nesting)	Killdeer
Euphagus cyanocephalus	Brewer's Blackbird
Hirundo rustica	Bam Swallow
Sturnus vulgaris	European Starling
Atascadero River Discharge Area	
Birds	
Bubo virginianus	Great Horned Owl
Cathartes aura	Turkey Vulture
Euphagus cyanocephalus	Brewer's Blackbird
Mammals	

Table B.2 Fauna Observed at Field Survey Locations for the Nacimiento Water Project

Scientific Name/Pipeline ROW Location [1]	Common Name
Spermophilis beecheyi	California Ground Squirrel
Open Area (Rolling A Ranch) (P81)	
Birds	
Cathartes aura	Turkey Vulture
Euphagus cyanocephalus	Brewer's Blackbird
Melanerpes formicivorus	Acorn Woodpecker
Passer domesticus	House Sparrow
Sturnus vulgaris	European Starling
Creek Crossing on Templeton Road at P83	
Birds	
Aphelocoma californica	Western Scrub-jay
Corvus brachyrhynchos	American Crow
Rocky Canyon Road Tank and Happy Valley PS (P84)	
Insects	
Colias eurytheme	Common Sulfur
Birds	
Carduelis tristis	American Goldfinch
Melospiza melodia	Song Sparrow
Corvus brachyrhynchos	American Crow
Zenaida macroura	Mourning Dove
Mammals	
Spermophilis beecheyi	California Ground Squirrel
Salinas River Crossing at Taft Ranch [2] (P86)	
Mammals	
Castor canadensis (lodge and dam)	Beaver
Trout Creek Crossing at Union Pacific Railroad Bridge (P88)	
Insects	
Papilio rutulus	Western Tiger Swallowtail
Fish	
	Fingerlings
Reptiles and Amphibians	
Eumeces skiltonianus	Western Skink
Hyla regilla	Pacific Tree Frog
Birds	
Aphelocoma californica	Western Scrub Jay
Corvus brachyrhynchos	American Crow
Melospiza melodia	Song Sparrow
Yerba Buena Creek Crossing at Street, Santa Margarita	
Birds	
Carpodacus mexicanus	House Finch
Sayornis nigricans	Black Phoebe
Reptiles and Amphibians	
Rana catesbeiana	Bullfrog
Staging Areas in Santa Margarita	
Second Staging Area from North End - Dry Drainage	
Birds	
Carpodacus mexicanus	House Finch
Zonotrichia leucophrys	White-crowned Sparrow
Third Staging Area from North End - Dry Drainage	
Insects	

Table B.2 Fauna Observed at Field Survey Locations for the Nacimiento Water Project

Scientific Name/Pipeline ROW Location [1]	Common Name
Apis mellifera	Honey Bee
Birds	
Carpodacus mexicanus	House Finch
Corvus hrachyrhynchos	American Crow
Sturnus vulgaris	European Starling
Tyrannus verticalis	Western Kingbird
Freshwater Seep and Creek Drainages, Santa Margarita Booster Pump Station (P95 - P97)	
First Creek Drainage South of P95	
Insects	
Vanessa cardui	Painted Lady
Reptiles and Amphibians	
Hyla regilla	Pacific Tree Frog
Birds	
Aphelocoma californica	Western Scrub-jay
Second Creek Drainage South of P95	
Birds	
Corvus brachyrhynchos	American Crow
Sayornis nigricans	Black Phoebe
Tassajara Creek (P98 - P10)	
Fish	
	Fingerlings
Reptiles and Amphibians	
Sceloporus occidentalis	Western Fence Lizard
Birds	
Aphelocoma californica	Western Scrub-jay
Baeolophus inornatus	Oak Titmouse
Carduelis psaltria	Lesser Goldfinch
Cathartes aura	Turkey Vulture
Junco hyemalis	Dark-eyed Junco
Melanerpes formicivorus	Acorn Woodpecker
Sayomis nigricans	Black Phoebe
Chorro Creek	
Reptiles and Amphibians	
Sceloporus occidentalis	Western Fence Lizard
Birds	
Buteo jamaicensis	Red-tailed Hawk
Zenaida macroura	Mourning Dove

Notes:
1. For P numbers see Figures 2-3 through 2-24, Project Description, Section 2.0.

2. McGovern, M. 1999. *Biological Assessment of a Bridge Across the Salinas River on the Taft Ranch.* Assessed for Jerry Taft, Atascadero, CA. November.

Source: AMEC Earth and Environmental, *Draft Biological Resources Report to the Proposed Nacimiento Water Project*. November 2001.

Table B.3 Oak Trees and Oak Woodlands Potentially Affected by the Proposed NWP

	Individual Oak Species				Oak Woodlands Areas +		
	Valley*	Blue*	Coast Live*		Areas acreage++	Number of areas	Comments/Locations
Corridor Segment (see Figures 2-4 through 2-24)							
Dam gate (P1) to Nacimiento River Crossing (P4) **	7	10	5				
Nacimiento River Crossing (P4) to Boy Scout Rd. at P15		39	6		0.23	1	at Sta. 165+00 to 170+00
Boy Scout Road at P15 to CMP on W. Perimeter (P21)		20			0.05	1	at P11 (Sta. 250+00)
W. Perimeter at CMP (P21) to Fire Break Trail (P25)		44			0.02	1	after P18
One-way Tank Line		5			0.17	1	access road to tanks
WTP Storage tanks Site and line on Camp Roberts		23			0.23	1	at P26
Fire Break Trail (P25) to Camp Roberts Boundary (P29)	5	11			0.05	1	at P27
WTP Site (P28 and P29)		4					
Camp Roberts Boundary (P29) to Mahoney Road (P30)		22			0.05	1	at P30 (Creek)
Mahoney Road (P30) to Texas Road Intersection (P32)	8	65	1		0.24	2	at P34, and at 665+00 (Creek)
P32 through Perimeter Vineyard Road (P35)		100	4				
San Marcos Creek (P36) to Salinas River Crossing (P41)	1	3	1				
P41 to P43							
North River Road (P43) to South River Road (P52)	27		1				
South River Road (P53) to Niblick (P59)	10	1					
Niblick (P59) to Paso Robles Discharge area (P65)	29	5					
Paso Robles Discharge area (P65) to Salinas River	3						
Microtunnels start, P66 to P69	7				0.02	1	at P68A (Salinas River)
Microtunnels end, P70 to P74	1		12		0.30	4	at P71-P73 (microtunnels)
P75 to P76	32						
Vaquero Drive (P76) to TCSD Discharge (P78)	82	1	4		0.17	1	at P78, TCSD discharge area access road
TCSD Discharge line (P78) to Salinas River	3						
TCSD Discharge area (P78) to P80	156		1		1.55	2	at P79C (Salinas River riparian)
Rolling A Ranch (P80)	25	3					
P81 to Atascadero Treated Water Connection	11				0.28	1	at Sta. 1685+00-1690+00
Atascadero Treated Water Connection to Halcon Rd. (P85)	130		6		0.11	1	at Sta. 1760+00
Rocky Canyon Storage Tank (P84)		5			0.11	1	at the tank site

Table B.3 Oak Trees and Oak Woodlands Potentially Affected by the Proposed NWP

	Individual Oak Species				Oak Woodlands Areas +		
	Valley*	Blue*	Coast Live*		Areas acreage++	Number of areas	Comments/Locations
Staging Area at Rocky Canyon and Halcon Roads (P85)	5		2				
Taft Ranch (P86) ***	6						
Trout Creek Crossing (P88)	2						
Santa Margarita Staging Areas	1						
Santa Margarita (P91) to Santa Margarita Booster Pump Station (P97)	30	5	95				
Tassajara Creek to Cuesta Tunnel			50				
Stenner Creek Rd. (P111-P112)					0.14	1	at Sta. 2500+00
Chorro Creek			10				
Total individual oak trees affected -	**581**	**366**	**198**		**3.72**	**Total acres of woodland affected**	
	Total (all species) affected		**1145**		**74**	**No. of trees affected within woodlands**	

Notes:

* Approximate numbers within 200-foot pipeline corridor used for design purposes. The width of pipeline construction corridor would not exceed 100 feet, and would be substantially smaller under special circumstances, such as avoiding sensitive vegetation.

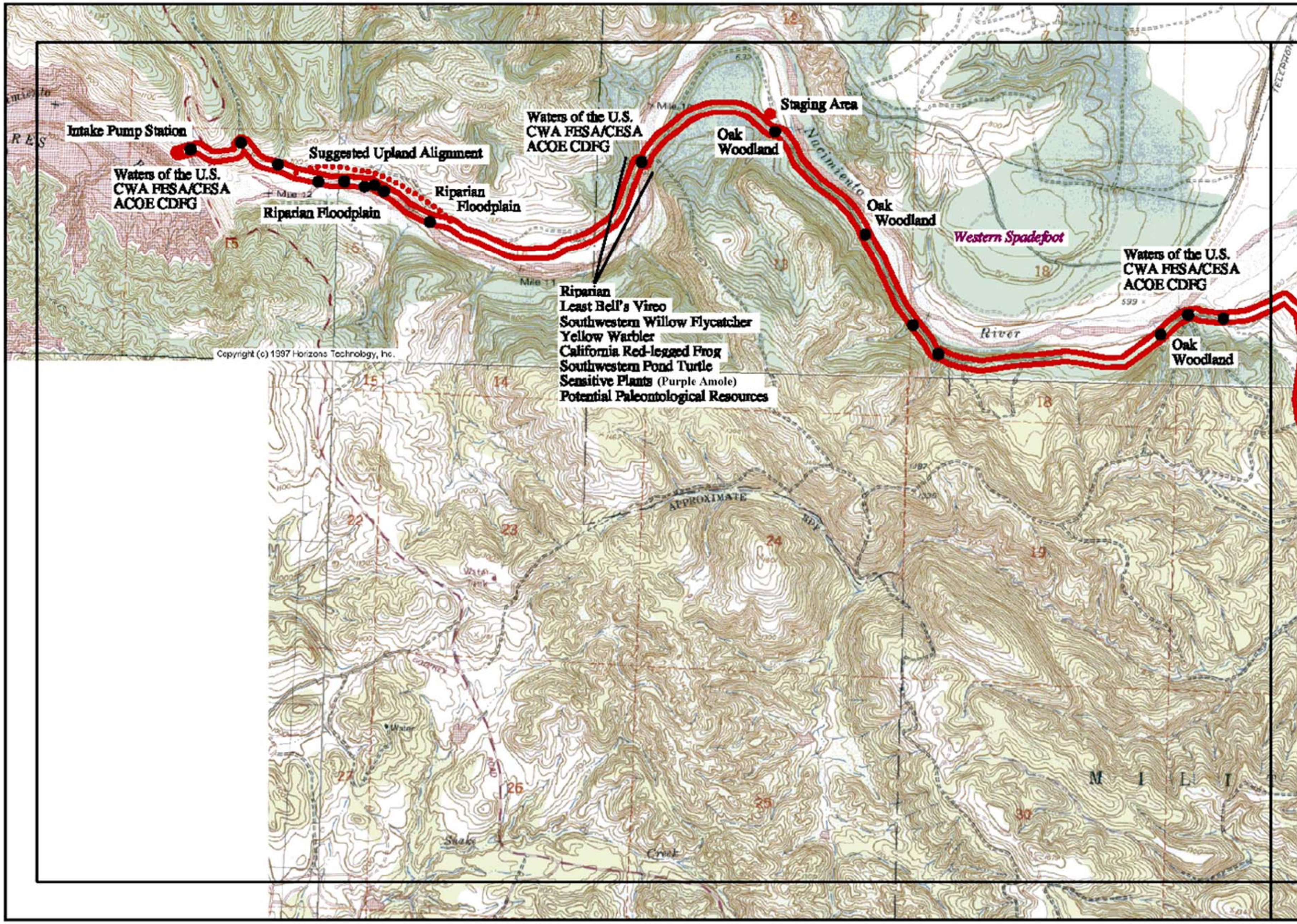
** Valley Oak and Blue Oak grown together at base approximately 2' up the trunk.

*** Estimate of oaks from aerial photographs due to inability to access site, unknown species.

\+ Woodland oak density was assumed to be 20 oaks per acre (Source: California Oaks Society, www.californiaoaks.org/ExtAssets/evaluation.pdf)

++ Estimated from aerial maps Figures 2-3 through 2-24

Sources: AMEC Earth and Environmental, Draft Biological Resources Report to the Proposed Nacimiento Water Project. November 2001.
MRS verification from NWP Aerial Maps, Carollo Engineers, April 2002.



LEGEND

- Pipeline Corridor (100 feet each side of pipeline centerline)
- Project Component
- USGS Blue Line Stream Crossing
- Map Sheet Match Line

Species in purple italics are from the California Natural Diversity Database (CNDDB) 1999.

Map Sheet Index

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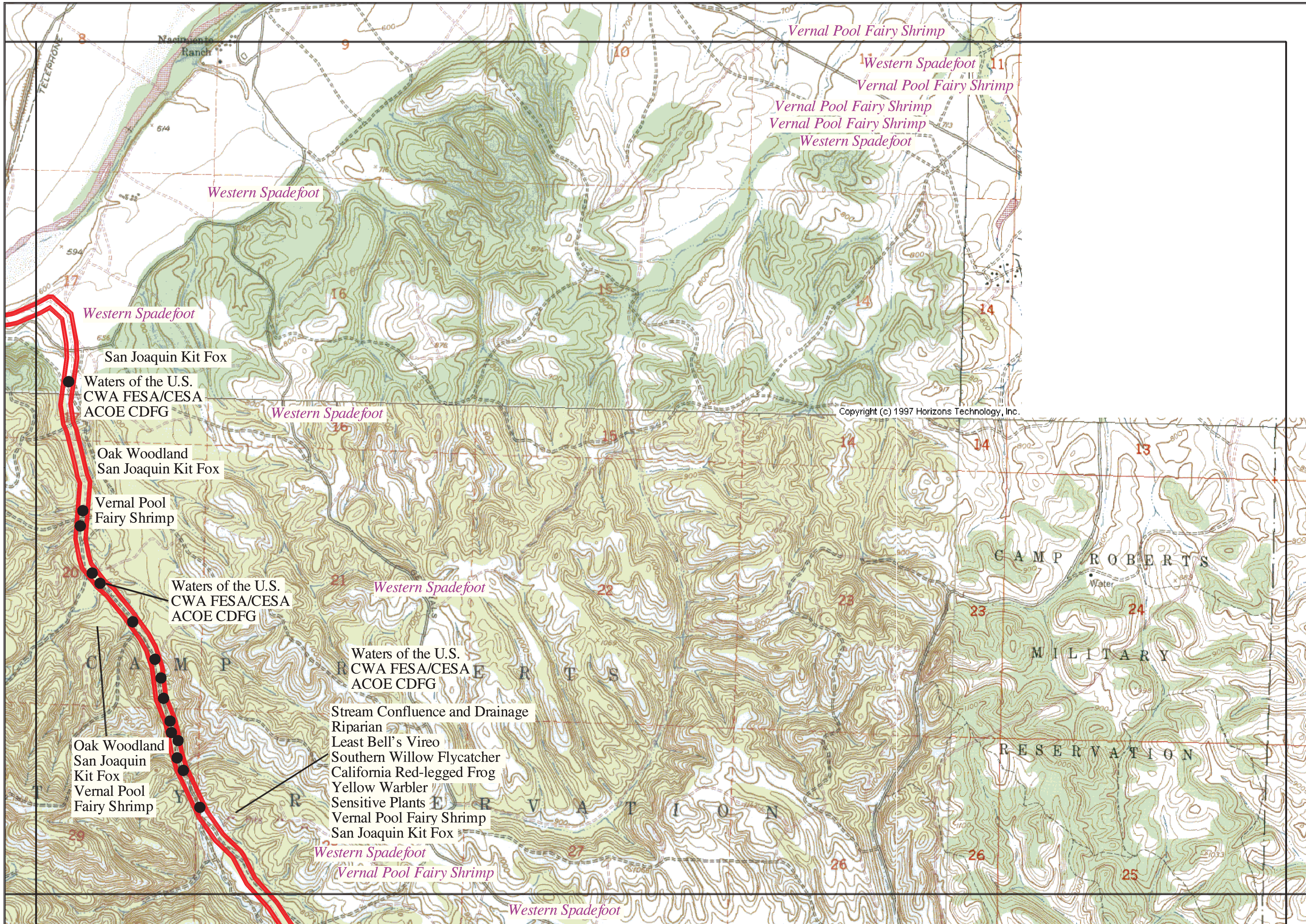
Nacimiento Project Potential Natural Resource Issues of Concern
Map #1 of 12

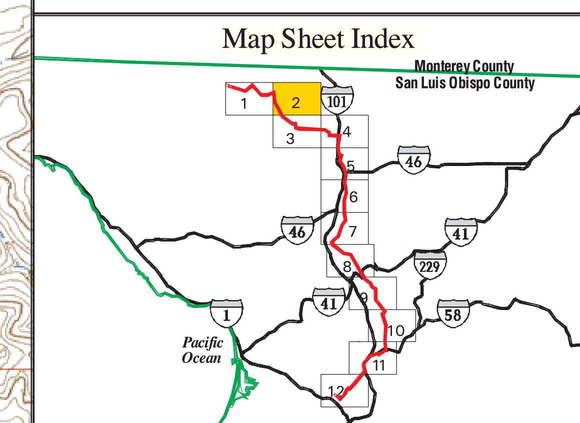
FIGURE
1



LEGEND

- Pipeline Corridor (100 feet each side of pipeline centerline)
- Project Component
- USGS Blue Line Stream Crossing
- Map Sheet Match Line

Species in purple italics are from the California Natural Diversity Database (CNDDB) 1999.



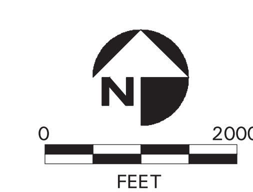
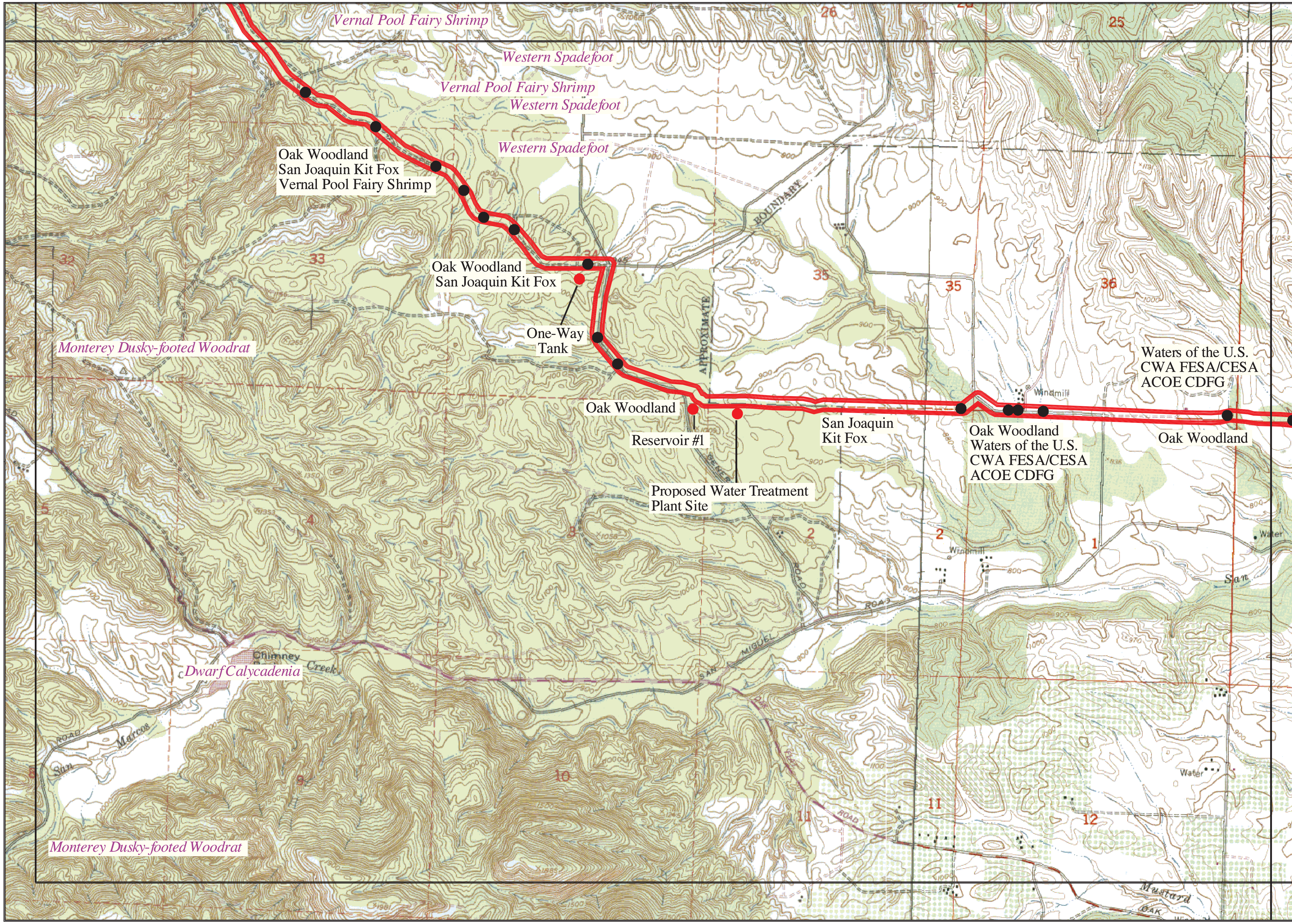


FIGURE **2**

Nacimiento Project Potential Natural Resource Issues of Concern
Map #2 of 12



LEGEND

- Pipeline Corridor (100 feet each side of pipeline centerline)
- Project Component
- USGS Blue Line Stream Crossing
- Map Sheet Match Line

Species in purple italics are from the California Natural Diversity Database (CNDDB) 1999.

Map Sheet Index

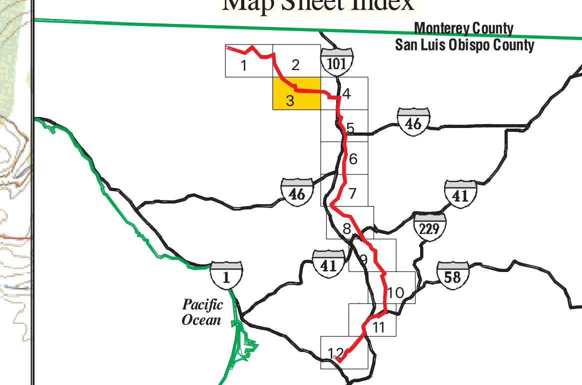


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FIGURE

3

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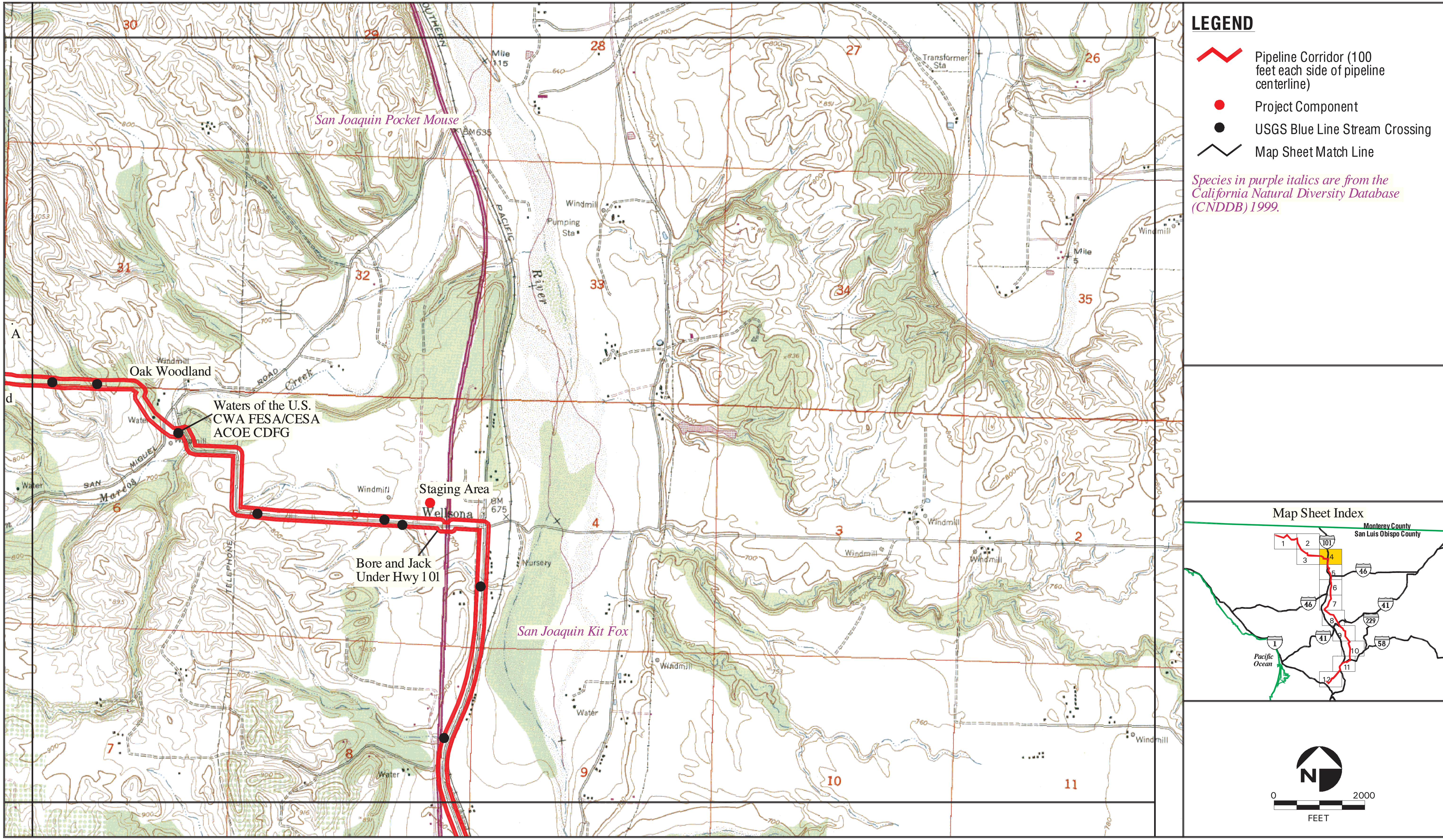
Nacimiento Project Potential Natural Resource Issues of Concern
Map #3 of 12

/alta/nacim/plots/figures/fatalflaws.aml

07/11/01



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Nacimiento Project Potential Natural Resource Issues of Concern
Map #4 of 12

FIGURE
4

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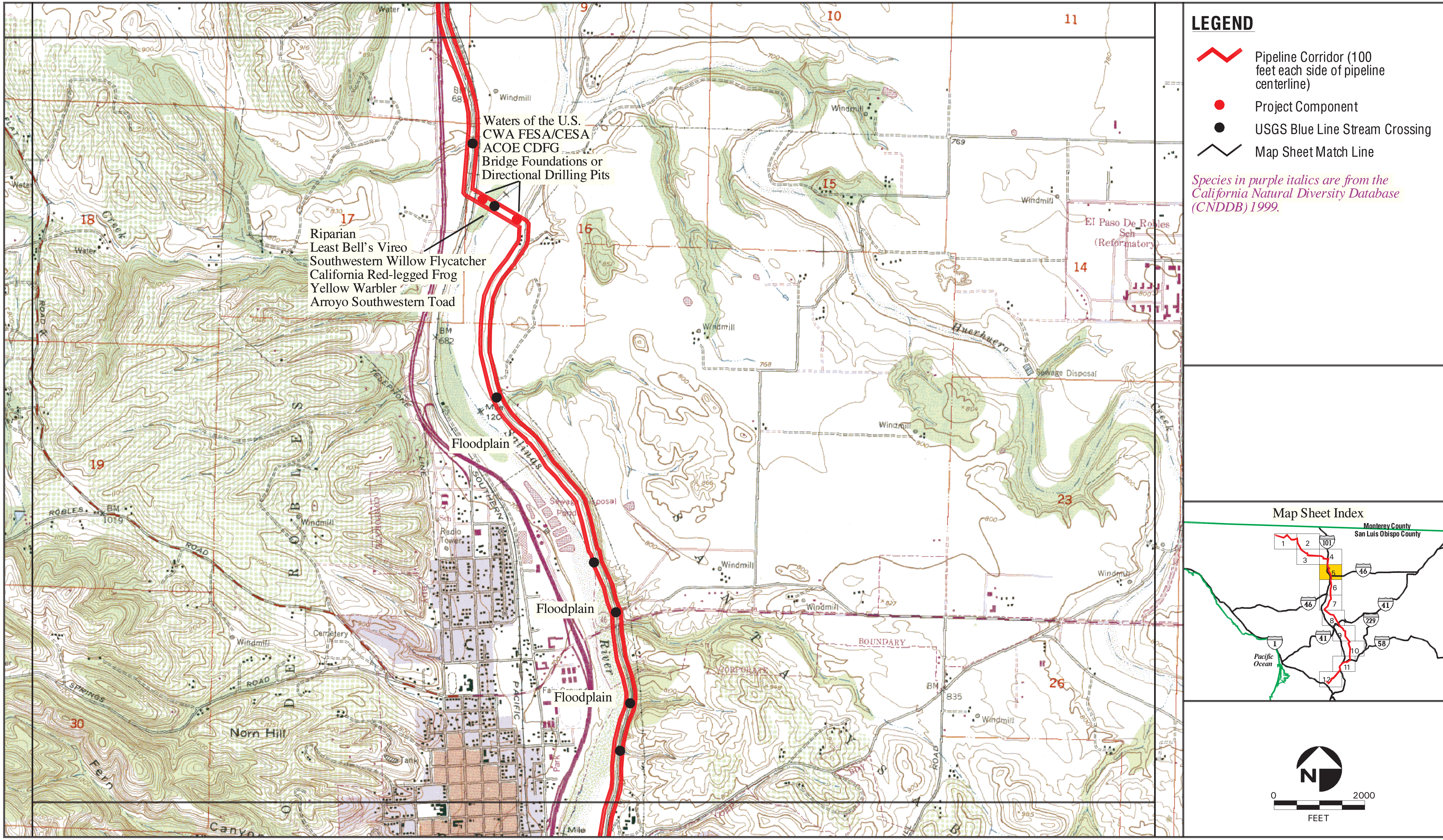
07/11/01



amec

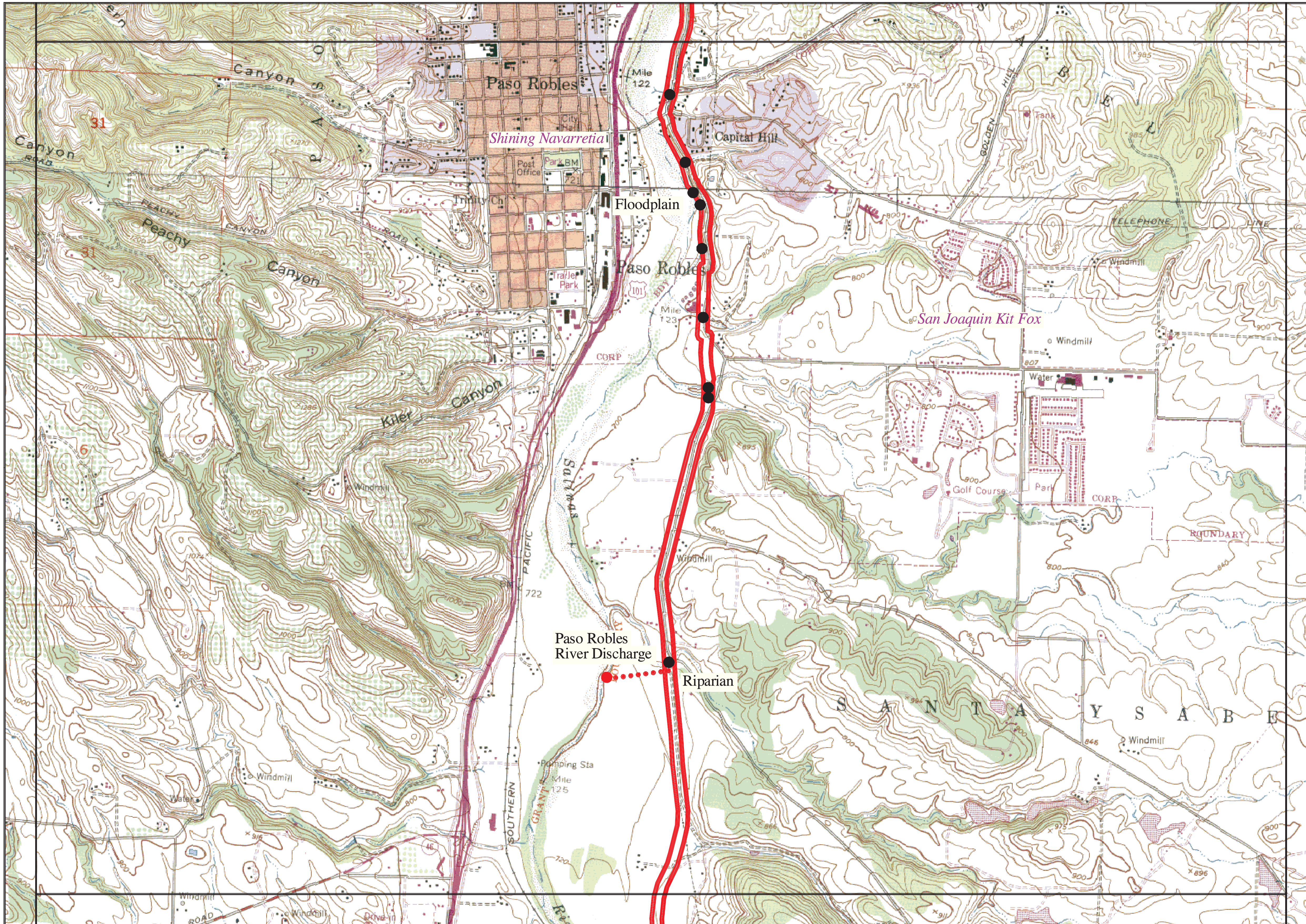
Nacimiento Project Potential Natural Resource Issues of Concern
Map #5 of 12

FIGURE

5

/alta/nacim/plots/figures/fatalflaws.aml

07/11/01

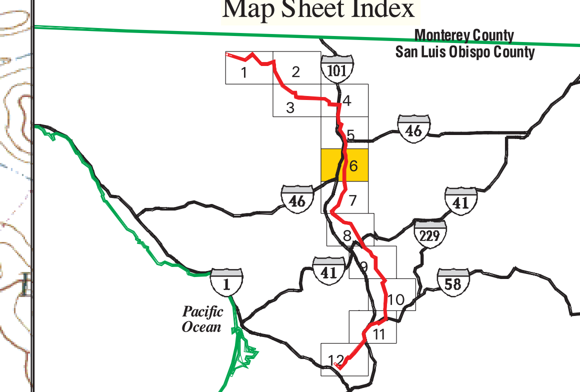


LEGEND

- Pipeline Corridor (100 feet each side of pipeline centerline)
- Project Component
- USGS Blue Line Stream Crossing
- Map Sheet Match Line

Species in purple italics are from the California Natural Diversity Database (CNDDB) 1999.

Map Sheet Index



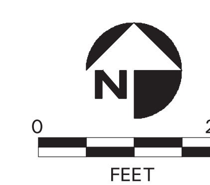


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FIGURE 6

Nacimiento Project Potential Natural Resource Issues of Concern
Map #6 of 12

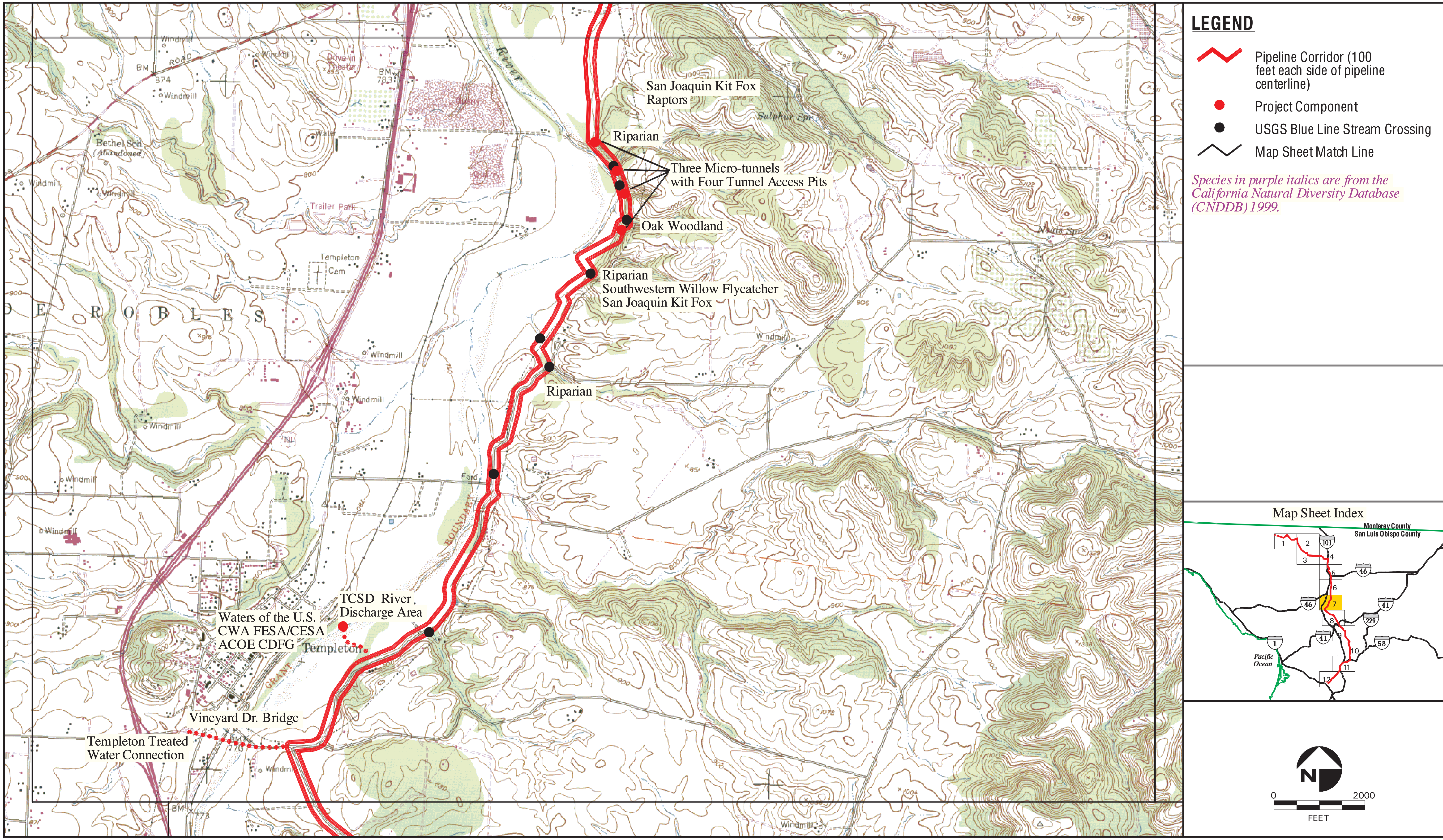

FIGURE 7

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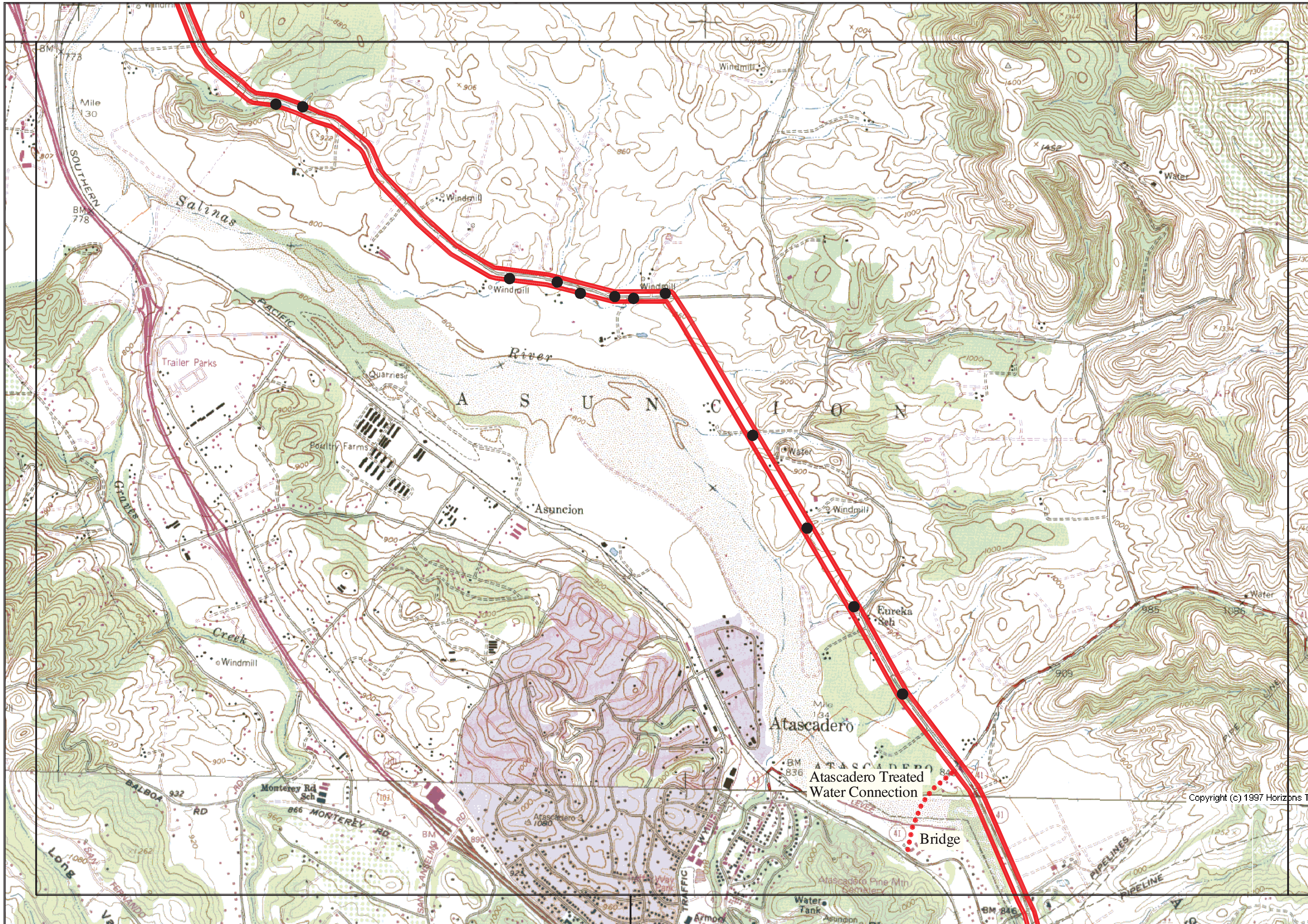
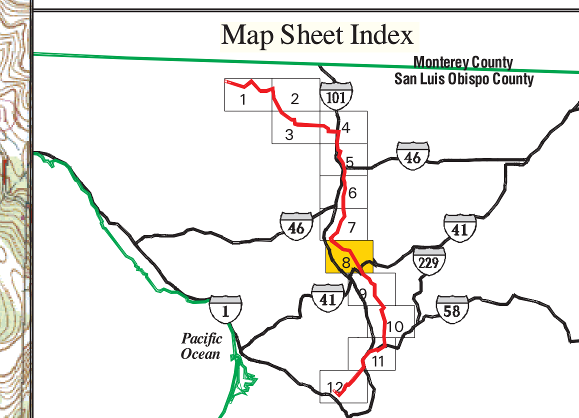
Nacimiento Project Potential Natural Resource Issues of Concern
Map #7 of 12

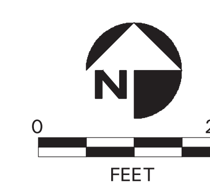


LEGEND

- Pipeline Corridor (100 feet each side of pipeline centerline)
- Project Component
- USGS Blue Line Stream Crossing
- Map Sheet Match Line

Species in purple italics are from the California Natural Diversity Database (CNDDB) 1999.





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Nacimiento Project Potential Natural Resource Issues of Concern
Map #8 of 12

FIGURE

8

/alta/nacim/plots/figures/fatalflaws.aml

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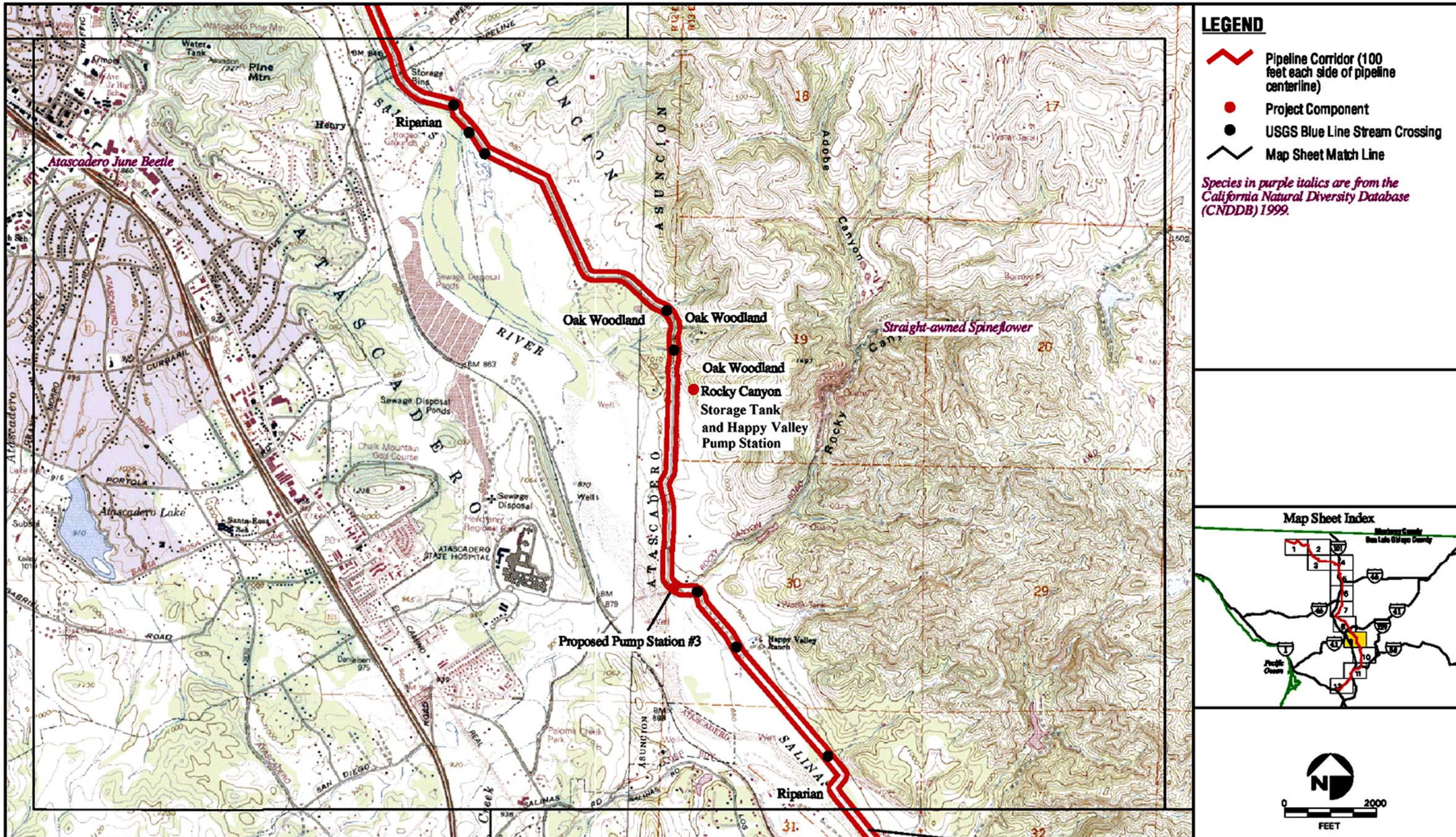
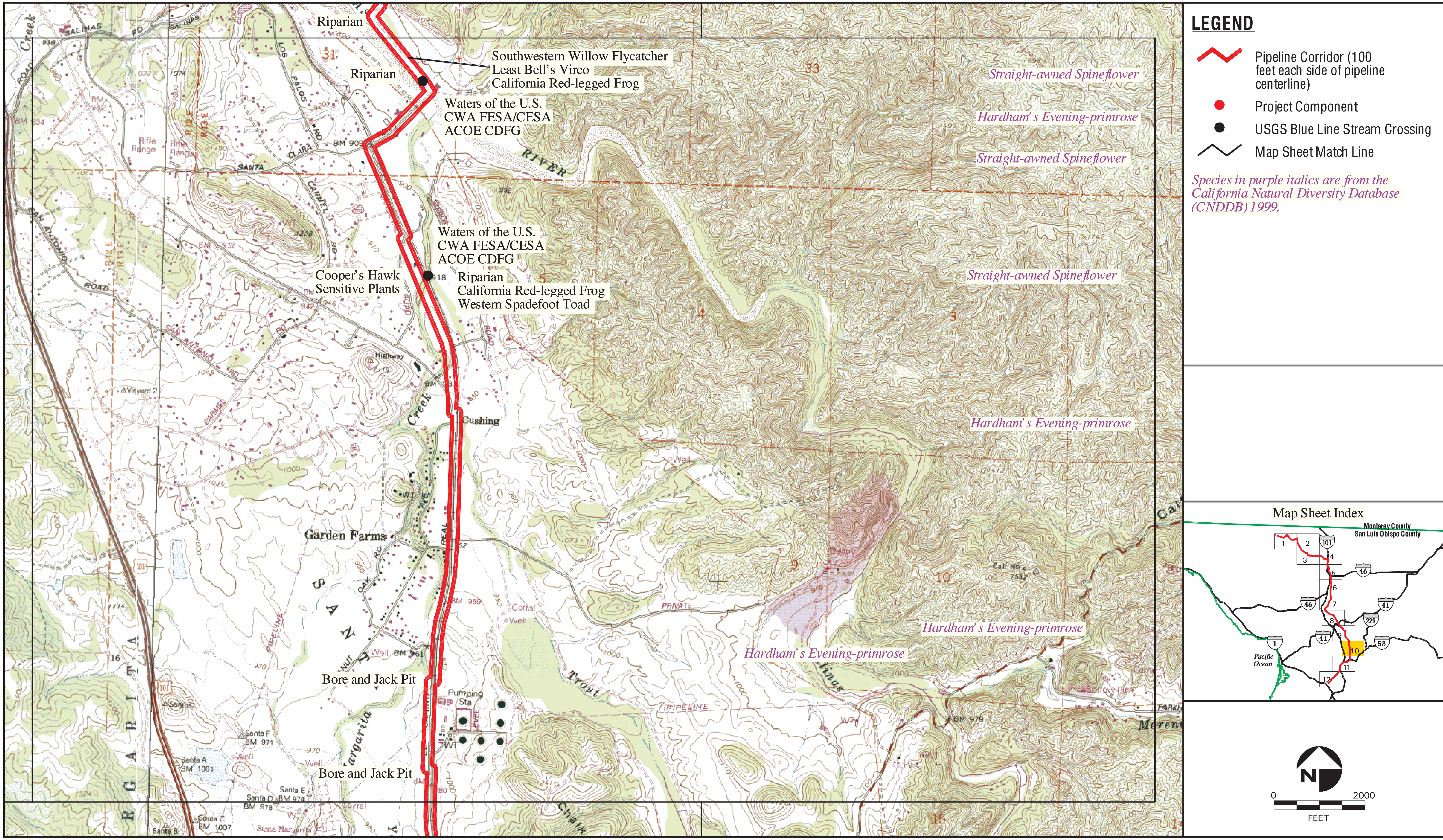


Nacimiento Project Potential Natural Resource Issues of Concern
Map #9 of 12

FIGURE
9



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Nacimiento Project Potential Natural Resource Issues of Concern
Map #10 of 12

FIGURE
10

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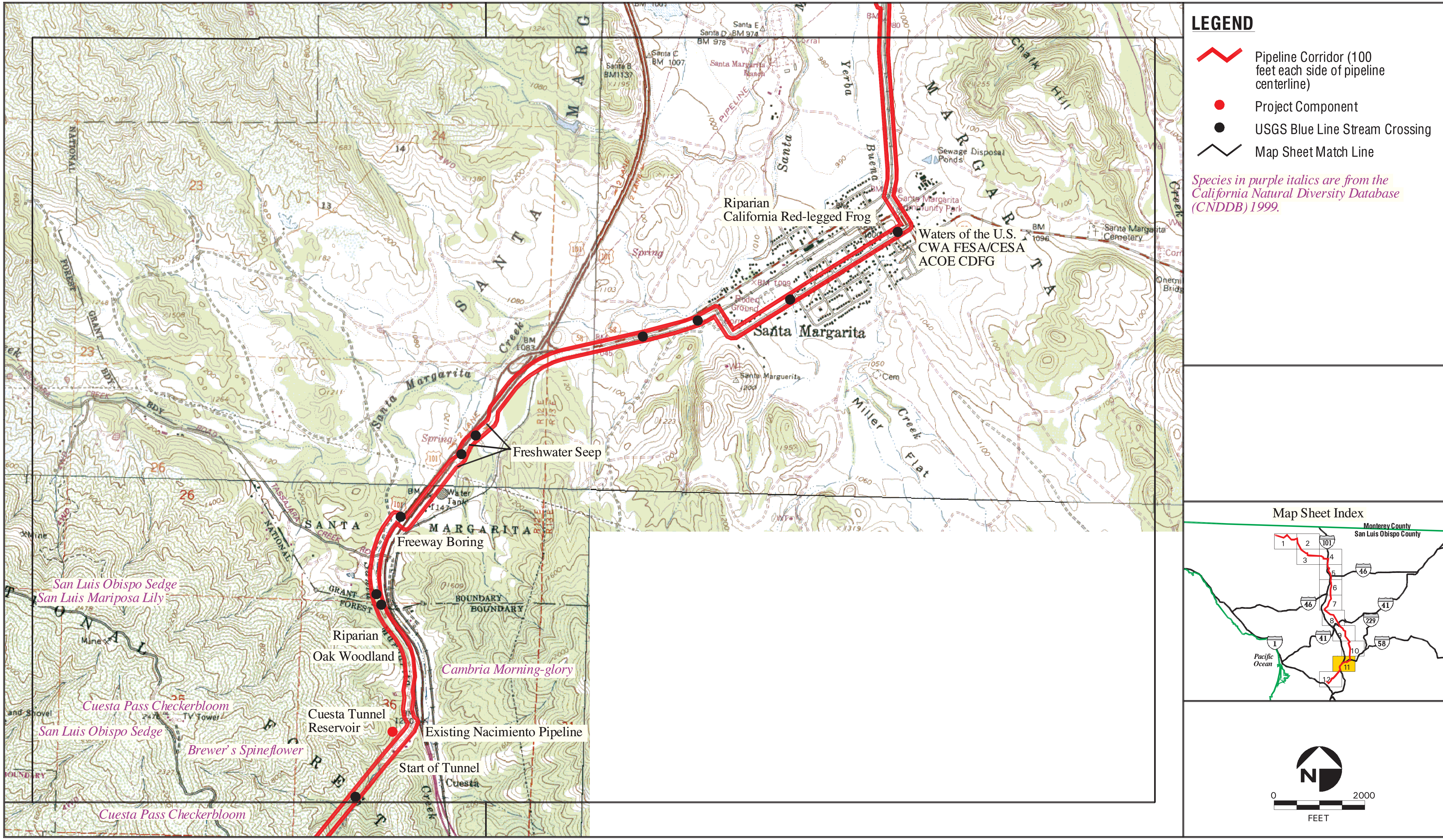

FIGURE 11

Nacimiento Project Potential Natural Resource Issues of Concern
Map #11 of 12

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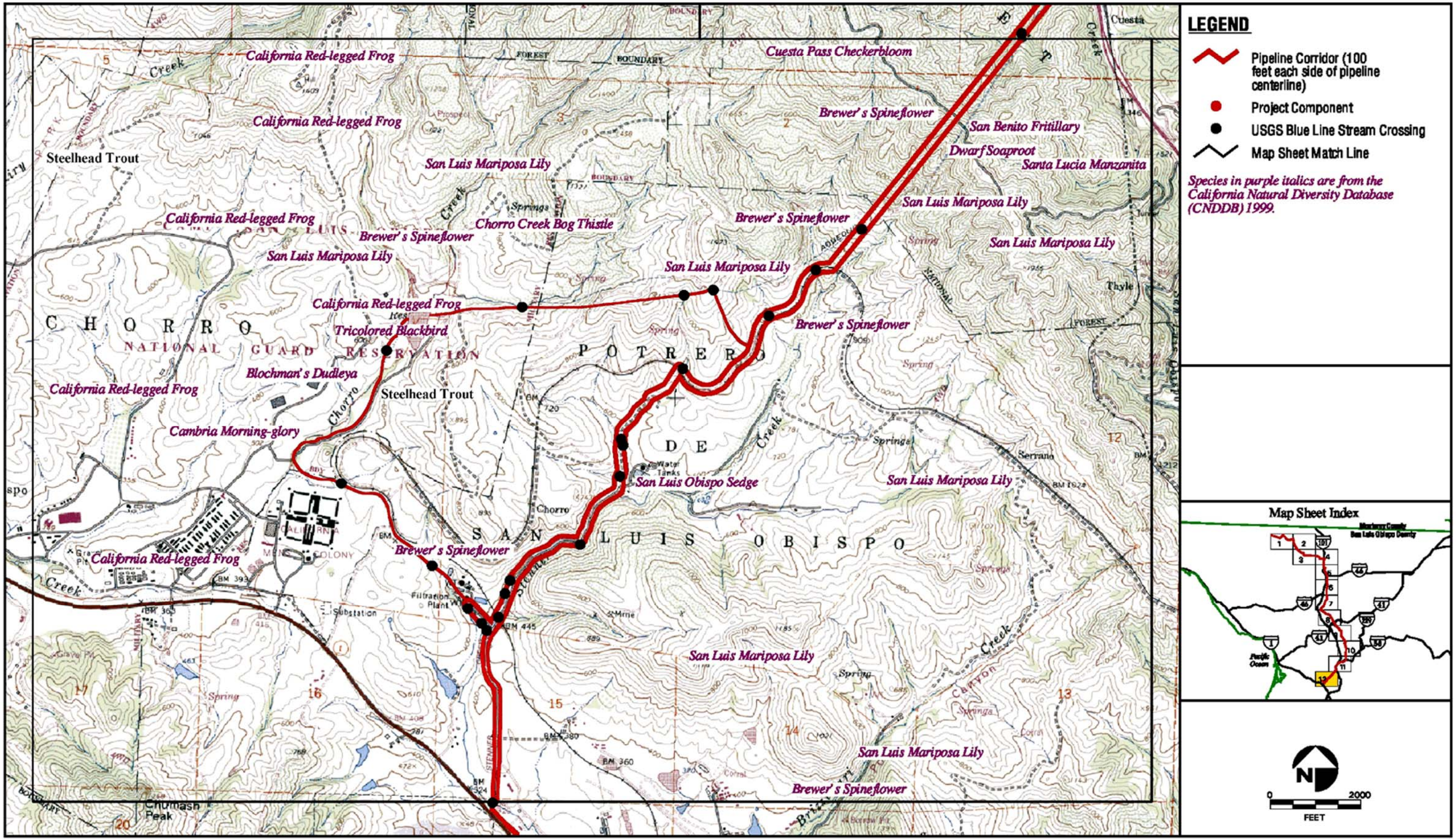

Nacimiento Project Potential Natural Resource Issues of Concern
Map #12 of 12

FIGURE
12

Appendix C Air Quality

Construction Air Emissions Summary - Nacimiento Water Project

Emissions Summary - Treated Water Option

Location and Construction Activity	Peak Daily Emission (lbs/day)					Quarterly Emissions (tons/qtr)					Annual Emissions (tons/year)				
	CO	ROC	NOx	SO_2	PM_{10}	CO	ROC	NOx	SO_2	PM_{10}	CO	ROC	NOx	SO_2	PM_{10}
Water Intake and Intake PS	86.9	16.8	179.2	18.2	17.2	2.91	0.57	5.41	0.55	0.45	5.29	1.00	11.05	1.17	0.90
WTP and WTP PS	94.3	19.2	187.0	18.1	29.5	3.30	0.68	6.04	0.58	0.87	11.55	2.34	23.02	2.28	2.83
Happy Valley PS	61.4	11.2	138.9	14.8	11.6	1.47	0.29	3.22	0.33	0.25	1.90	0.40	4.42	0.45	0.33
Pipeline (four headings)	417.8	80.0	872.4	89.2	118.4	18.21	3.67	31.22	2.92	2.96	55.17	10.59	114.46	11.68	11.10
WTP Water Storage Facility	57.5	10.8	120.7	13.0	16.8	1.46	0.29	2.83	0.30	0.30	1.95	0.37	4.06	0.43	0.38
Rocky Road Water Tank	57.5	10.8	120.7	13.0	16.8	1.46	0.29	2.83	0.30	0.30	1.95	0.37	4.06	0.43	0.38
Cuesta Tunnel Water Tank	57.5	10.8	120.7	13.0	16.8	1.46	0.29	2.83	0.30	0.30	1.95	0.37	4.06	0.43	0.38
Construction Total Emissions	**623.6**	**118.8**	**1,311.2**	**135.2**	**164.0**	**24.03**	**4.83**	**42.68**	**4.09**	**3.96**	**68.19**	**13.09**	**142.11**	**14.59**	**13.48**
Significance Criteria	**-**	**185**	**185**	**-**	**185**	**-**	**2.5-6.0**	**2.5-6.0**	**-**	**2.5-6.0**					
Significant?		**No**	**Yes**		**No**		**Yes**	**Yes**		**Yes**					

Emissions Summary - Raw Water Option

Location and Construction Activity	Peak Daily Emission (lbs/day)					Quarterly Emissions (tons/qtr)					Annual Emissions (tons/year)				
	CO	ROC	NOx	SO_2	PM_{10}	CO	ROC	NOx	SO_2	PM_{10}	CO	ROC	NOx	SO_2	PM_{10}
Water Intake and Intake PS	86.9	16.8	179.2	18.2	17.2	2.91	0.57	5.41	0.55	0.45	5.29	1.00	11.05	1.17	0.90
WTP PS	61.4	11.2	138.9	14.8	11.6	1.47	0.29	3.22	0.33	0.25	1.90	0.40	4.42	0.45	0.33
Happy Valley PS	61.4	11.2	138.9	14.8	11.6	1.47	0.29	3.22	0.33	0.25	1.90	0.40	4.42	0.45	0.33
Pipeline (four headings)	417.8	80.0	872.4	89.2	118.4	18.21	3.67	31.22	2.92	2.96	55.17	10.59	114.46	11.68	11.10
Discharge Area (Atascadero)	36.9	5.9	81.3	9.5	17.6	1.16	0.18	2.61	0.31	0.32	1.41	0.22	3.19	0.38	0.37
Discharge Area (Templeton)	36.9	5.9	81.3	9.5	17.6	1.16	0.18	2.61	0.31	0.32	1.41	0.22	3.19	0.38	0.37
Discharge Area (Paso Robles)	36.9	5.9	81.3	9.5	17.6	1.16	0.18	2.61	0.31	0.32	1.41	0.22	3.19	0.38	0.37
WTP Water Storage Facility	57.5	10.8	120.7	13.0	16.8	1.46	0.29	2.83	0.30	0.30	1.95	0.37	4.06	0.43	0.38
Rocky Road Water Tank	57.5	10.8	120.7	13.0	16.8	1.46	0.29	2.83	0.30	0.30	1.95	0.37	4.06	0.43	0.38
Cuesta Tunnel Water Tank	57.5	10.8	120.7	13.0	16.8	1.46	0.29	2.83	0.30	0.30	1.95	0.37	4.06	0.43	0.38
Construction Total Emissions	**623.6**	**118.8**	**1,311.2**	**135.2**	**164.0**	**24.03**	**4.83**	**42.68**	**4.09**	**3.96**	**74.31**	**14.15**	**156.11**	**16.18**	**14.94**
Significance Criteria	**-**	**185**	**185**	**-**	**185**	**-**	**2.5-6.0**	**2.5-6.0**	**-**	**2.5-6.0**					
Significant?		**No**	**Yes**		**No**		**Yes**	**Yes**		**Yes**					

Construction Emissions Summary by Separate Facilities

	Peak Daily Emission (lbs/day)					Quarterly Emissions (tons/qtr)					Annual Emissions (tons/year)				
WTP	**CO**	**ROC**	**NOx**	**SO_2**	**PM_{10}**	**CO**	**ROC**	**NOx**	**SO_2**	**PM_{10}**	**CO**	**ROC**	**NOx**	**SO_2**	**PM_{10}**
Construction	71.05	13.63	177.05	17.97	12.60	2.24	0.43	5.59	0.57	0.40	8.87	1.69	22.10	2.26	1.56
Offsite	23.22	5.59	9.96	0.12	0.66	1.06	0.25	0.45	0.01	0.03	2.69	0.66	0.92	0.01	0.06
Fugitive Dust	-	-	-	-	16.20	-	-	-	-	0.44	-	-	-	-	1.21
Total	94.27	19.22	187.01	18.09	29.45	3.30	0.68	6.04	0.58	0.87	11.55	2.34	23.02	2.28	2.83
Pipeline															
Construction	375.23	70.23	845.04	88.96	68.27	12.20	2.28	27.46	2.89	2.22	49.16	9.20	110.70	11.65	8.94
Offsite	42.53	9.80	27.37	0.20	1.93	6.01	1.39	3.76	0.03	0.26	6.01	1.39	3.76	0.03	0.26
Fugitive Dust	-	-	-	-	48.17	-	-	-	-	0.47	-	-	-	-	1.89
Total	417.76	80.03	872.42	89.16	118.37	18.21	3.67	31.22	2.92	2.96	55.17	10.59	114.46	11.68	11.10
Intake															
Construction	72.56	13.37	171.65	18.17	13.22	2.13	0.39	5.07	0.54	0.39	4.52	0.81	10.71	1.16	0.82
Offsite	14.37	3.39	7.58	0.07	0.52	0.77	0.19	0.34	0.00	0.02	0.77	0.19	0.34	0.00	0.02
Fugitive Dust	-	-	-	-	3.51	-	-	-	-	0.04	-	-	-	-	0.05
Total	86.93	16.76	179.23	18.24	17.25	2.91	0.57	5.41	0.55	0.45	5.29	1.00	11.05	1.17	0.90
Pump Station															
Construction	54.24	9.48	135.09	14.78	10.19	1.21	0.23	3.11	0.33	0.22	1.64	0.33	4.30	0.45	0.31
Offsite	7.18	1.70	3.79	0.04	0.26	0.26	0.06	0.11	0.00	0.01	0.26	0.06	0.11	0.00	0.01
Fugitive Dust	-	-	-	-	1.17	-	-	-	-	0.02	-	-	-	-	0.02
Total	61.42	11.18	138.88	14.81	11.62	1.47	0.29	3.22	0.33	0.25	1.90	0.40	4.42	0.45	0.33
Water Storage															
Construction	46.74	8.26	114.49	12.95	9.22	1.07	0.20	2.63	0.30	0.22	1.56	0.28	3.87	0.43	0.30
Offsite	10.80	2.53	6.21	0.05	0.43	0.39	0.09	0.19	0.00	0.01	0.39	0.09	0.19	0.00	0.01
Fugitive Dust	-	-	-	-	7.13	-	-	-	-	0.07	-	-	-	-	0.07
Total	57.54	10.79	120.70	13.00	16.79	1.46	0.29	2.83	0.30	0.30	1.95	0.37	4.06	0.43	0.38
Discharge Area															
Construction	32.70	4.96	78.32	9.50	6.49	1.06	0.16	2.55	0.31	0.21	1.31	0.20	3.13	0.38	0.26
Offsite	4.23	0.96	3.00	0.02	0.21	0.10	0.02	0.06	0.00	0.00	0.10	0.02	0.06	0.00	0.00
Fugitive Dust	-	-	-	-	10.92	-	-	-	-	0.11	-	-	-	-	0.11
Total	36.94	5.92	81.32	9.52	17.63	1.16	0.18	2.61	0.31	0.32	1.41	0.22	3.19	0.38	0.37

Assumptions used in Emissions Calculations for the NWP

1. Each of the 4 headings of the pipeline construction would be moving at 100-300 feet per day on active construction days.
2. Equipment (backhoes, cranes, etc) delivered to and removed from construction site as 2 separate trips.
3. Staging areas for the pipeline equipment storage are constructed as part of pipeline construction.
4. There are 65 work days in 3 months, 86 work days in 4 months.
5. Construction materials are delivered every other day during active construction.
6. Construction of the pipeline would often be during Saturdays also.
7. Construction of Water Intake includes construction of Pump Station at the Intake
8. Construction of WTP includes construction of Pump Station at the WTP
9. The worst quarter or day is when the pipeline and two other facilities are constructed simultaneously
10. The worst year is when the pipeline and all other facilities except for the WTP are constructed

Onsite Construction Equipment Emissions - Proposed Project

Construction Equipment	No.	Daily Usage	Daily Hours	Duration		Emission Factors (lb/hr)					Peak Daily Emission (lbs/day)					Quarterly Emissions (tons/qtr)					Total (Yearly) Emissions (tons)				
				Days	Quarters	CO	ROC	NO_x	SO_2	PM_{10}	CO	ROC	NO_x	SO_2	PM_{10}	CO	ROC	NOx	SO2	PM_{10}	CO	ROC	NO_x	SO_2	PM_{10}
WTP (Includes Pump Station #2)																									
Air Compressor	1	0.8	10	262	4.0	**0.15**	**0.04**	**0.71**	**0.09**	**0.06**	1.21	0.32	5.70	0.69	0.49	0.04	0.01	0.19	0.02	0.02	0.16	0.04	0.75	0.09	0.06
Backhoe	1	0.8	10	262	4.0	**0.35**	**0.12**	**1.26**	**0.14**	**0.11**	2.77	0.97	10.08	1.10	0.90	0.09	0.03	0.33	0.04	0.03	0.36	0.13	1.32	0.14	0.12
Bulldozer	1	0.5	10	262	4.0	**0.95**	**0.19**	**2.00**	**0.19**	**0.10**	4.75	0.95	9.98	0.95	0.48	0.15	0.03	0.32	0.03	0.02	0.62	0.12	1.31	0.12	0.06
Concrete Truck	1	0.5	10	262	4.0	**1.79**	**0.19**	**4.17**	**0.45**	**0.26**	8.97	0.96	20.83	2.27	1.28	0.29	0.03	0.68	0.07	0.04	1.18	0.13	2.73	0.30	0.17
Compactor	1	0.5	10	262	4.0	**0.68**	**0.15**	**1.69**	**0.14**	**0.14**	3.38	0.76	8.46	0.72	0.70	0.11	0.02	0.27	0.02	0.02	0.44	0.10	1.11	0.09	0.09
Crane	1	0.5	8	262	4.0	**0.30**	**0.07**	**0.86**	**0.07**	**0.05**	1.22	0.27	3.45	0.27	0.20	0.04	0.01	0.11	0.01	0.01	0.16	0.04	0.45	0.04	0.03
Dredger	1	0.7	8	262	4.0	**0.68**	**0.15**	**1.69**	**0.14**	**0.14**	3.78	0.85	9.47	0.80	0.78	0.12	0.03	0.31	0.03	0.03	0.50	0.11	1.24	0.10	0.10
Dump Truck	2	0.5	10	262	4.0	**1.79**	**0.19**	**4.17**	**0.45**	**0.26**	17.94	1.92	41.66	4.54	2.56	0.58	0.06	1.35	0.15	0.08	2.35	0.25	5.46	0.59	0.34
Excavator	1	0.5	10	262	4.0	**0.68**	**0.15**	**1.69**	**0.14**	**0.14**	3.38	0.76	8.46	0.72	0.70	0.11	0.02	0.27	0.02	0.02	0.44	0.10	1.11	0.09	0.09
Forklift	1	0.5	10	262	4.0	**0.52**	**0.17**	**1.54**	**0.14**	**0.09**	2.60	0.85	7.70	0.72	0.47	0.08	0.03	0.25	0.02	0.02	0.34	0.11	1.01	0.09	0.06
Grader	1	0.7	8	262	4.0	**0.35**	**0.12**	**1.26**	**0.14**	**0.11**	1.94	0.68	7.06	0.77	0.63	0.06	0.02	0.23	0.02	0.02	0.25	0.09	0.92	0.10	0.08
Boring Machine	1	0.7	8	30	0.5	**0.68**	**0.15**	**1.69**	**0.14**	**0.14**	3.78	0.85	9.47	0.80	0.78	0.06	0.01	0.14	0.01	0.01	0.06	0.01	0.14	0.01	0.01
Loader	1	0.7	10	262	4.0	**0.57**	**0.25**	**1.89**	**0.18**	**0.17**	4.00	1.75	13.23	1.27	1.20	0.13	0.06	0.43	0.04	0.04	0.52	0.23	1.73	0.17	0.16
Generator	2	1	10	262	4.0	**0.24**	**0.04**	**0.40**	**0.04**	**0.02**	4.84	0.88	7.92	0.88	0.44	0.16	0.03	0.26	0.03	0.01	0.63	0.12	1.04	0.12	0.06
Water Truck	1	0.3	8	262	4.0	**1.79**	**0.19**	**4.17**	**0.45**	**0.26**	4.31	0.46	10.00	1.09	0.61	0.14	0.01	0.32	0.04	0.02	0.56	0.06	1.31	0.14	0.08
Welding Truck	1	0.5	8	262	4.0	**0.55**	**0.10**	**0.90**	**0.10**	**0.10**	2.20	0.40	3.60	0.40	0.40	0.07	0.01	0.12	0.01	0.01	0.29	0.05	0.47	0.05	0.05
Total											**71.05**	**13.63**	**177.05**	**17.97**	**12.60**	**2.24**	**0.43**	**5.59**	**0.57**	**0.40**	**8.87**	**1.69**	**22.10**	**2.26**	**1.56**
Pipeline (Each Heading at up to 4 Headings)																									
Backhoe	1	0.8	10	262	4.0	**0.346**	**0.121**	**1.26**	**0.137**	**0.11**	2.77	0.97	10.08	1.10	0.90	0.09	0.03	0.33	0.04	0.03	0.36	0.13	1.32	0.14	0.12
Blade	1	0.7	10	262	4.0	**0.151**	**0.04**	**0.713**	**0.086**	**0.06**	1.06	0.28	4.99	0.60	0.43	0.03	0.01	0.16	0.02	0.01	0.14	0.04	0.65	0.08	0.06
Broom	1	0.5	10	262	4.0	**0.151**	**0.04**	**0.713**	**0.086**	**0.06**	0.76	0.20	3.57	0.43	0.31	0.02	0.01	0.12	0.01	0.01	0.10	0.03	0.47	0.06	0.04
Bulldozer	1	0.7	10	262	4.0	**1.257**	**0.282**	**2.84**	**0.463**	**0.41**	8.80	1.97	19.88	3.24	2.84	0.29	0.06	0.65	0.11	0.09	1.15	0.26	2.60	0.42	0.37
Stringing Eq.	1	0.5	10	262	4.0	**1.17**	**0.39**	**2.99**	**0.26**	**0.39**	5.85	1.95	14.95	1.30	1.95	0.19	0.06	0.49	0.04	0.06	0.77	0.26	1.96	0.17	0.26
Concrete Truck	1	0.5	10	262	4.0	**1.794**	**0.192**	**4.166**	**0.454**	**0.26**	8.97	0.96	20.83	2.27	1.28	0.29	0.03	0.68	0.07	0.04	1.18	0.13	2.73	0.30	0.17
Compactor	1	0.5	10	262	4.0	**0.675**	**0.152**	**1.691**	**0.143**	**0.14**	3.38	0.76	8.46	0.72	0.70	0.11	0.02	0.27	0.02	0.02	0.44	0.10	1.11	0.09	0.09
Drilling Rig	1	0.5	10	262	4.0	**4.18**	**0.627**	**5.016**	**0.418**	**0.31**	20.90	3.14	25.08	2.09	1.57	0.68	0.10	0.82	0.07	0.05	2.74	0.41	3.29	0.27	0.21
Dump Truck	1	0.7	10	262	4.0	**1.794**	**0.192**	**4.166**	**0.454**	**0.26**	12.56	1.34	29.16	3.18	1.79	0.41	0.04	0.95	0.10	0.06	1.65	0.18	3.82	0.42	0.23
Excavator	1	0.5	10	262	4.0	**0.675**	**0.152**	**1.691**	**0.143**	**0.14**	3.38	0.76	8.46	0.72	0.70	0.11	0.02	0.27	0.02	0.02	0.44	0.10	1.11	0.09	0.09
Forklift	1	0.7	10	262	4.0	**0.52**	**0.17**	**1.54**	**0.143**	**0.09**	3.64	1.19	10.78	1.00	0.65	0.12	0.04	0.35	0.03	0.02	0.48	0.16	1.41	0.13	0.09
Loader	1	0.7	10	262	4.0	**0.572**	**0.25**	**1.89**	**0.182**	**0.17**	4.00	1.75	13.23	1.27	1.20	0.13	0.06	0.43	0.04	0.04	0.52	0.23	1.73	0.17	0.16
Microtunneling Eq.	1	0.5	10	262	4.0	**0.675**	**0.152**	**1.691**	**0.143**	**0.14**	3.38	0.76	8.46	0.72	0.70	0.11	0.02	0.27	0.02	0.02	0.44	0.10	1.11	0.09	0.09
Trailer w/ Dozer	1	0.5	10	262	4.0	**1.8**	**0.19**	**4.17**	**0.45**	**0.26**	9.00	0.95	20.85	2.25	1.30	0.29	0.03	0.68	0.07	0.04	1.18	0.12	2.73	0.29	0.17
Water Truck	1	0.3	10	262	4.0	**1.794**	**0.192**	**4.166**	**0.454**	**0.26**	5.38	0.58	12.50	1.36	0.77	0.17	0.02	0.41	0.04	0.02	0.71	0.08	1.64	0.18	0.10
Total - each heading											**93.81**	**17.56**	**211.26**	**22.24**	**17.07**	**3.05**	**0.57**	**6.87**	**0.72**	**0.55**	**12.29**	**2.30**	**27.68**	**2.91**	**2.24**
Total for 4 headings											**375.23**	**70.23**	**845.04**	**88.96**	**68.27**	**12.20**	**2.28**	**27.46**	**2.89**	**2.22**	**49.16**	**9.20**	**110.70**	**11.65**	**8.94**

Onsite Construction Equipment Emissions - Proposed Project (Continued)

Construction Equipment	No.	Daily Usage	Daily Hours	Duration		Emission Factors (lb/hr)					Peak Daily Emission (lbs/day)					Quarterly Emissions (tons/qtr)					Total (Yearly) Emissions (tons)				
				Days	Quarters	CO	ROC	NO_x	SO_2	PM_{10}	CO	ROC	NO_x	SO_2	PM_{10}	CO	ROC	NOx	SO2	PM_{10}	CO	ROG	NO_x	SO_2	PM_{10}
Water Intake (Includes Pump Station																									
Barge	2	0.8	10	30	0.5	**0.24**	**0.04**	**0.40**	**0.04**	**0.02**	3.87	0.70	6.34	0.70	0.35	0.06	0.01	0.10	0.01	0.01	0.06	0.01	0.10	0.01	0.01
Bulldozer	1	0.5	10	150	2.3	**1.26**	**0.28**	**2.84**	**0.46**	**0.41**	6.29	1.41	14.20	2.32	2.03	0.20	0.05	0.46	0.08	0.07	0.47	0.11	1.07	0.17	0.15
Concrete Truck	1	0.7	10	100	1.5	**1.79**	**0.19**	**4.17**	**0.45**	**0.26**	12.56	1.34	29.16	3.18	1.79	0.41	0.04	0.95	0.10	0.06	0.63	0.07	1.46	0.16	0.09
Compactor	1	0.5	10	100	1.5	**0.68**	**0.15**	**1.69**	**0.14**	**0.14**	3.38	0.76	8.46	0.72	0.70	0.11	0.02	0.27	0.02	0.02	0.17	0.04	0.42	0.04	0.03
Crane	2	0.5	10	120	1.8	**0.30**	**0.07**	**0.86**	**0.07**	**0.05**	3.04	0.67	8.62	0.67	0.50	0.10	0.02	0.28	0.02	0.02	0.18	0.04	0.52	0.04	0.03
Dredger	1	0.5	10	20	0.3	**0.68**	**0.15**	**1.69**	**0.14**	**0.14**	3.38	0.76	8.46	0.72	0.70	0.03	0.01	0.08	0.01	0.01	0.03	0.01	0.08	0.01	0.01
Dump Truck	1	0.7	10	180	2.8	**1.79**	**0.19**	**4.17**	**0.45**	**0.26**	12.56	1.34	29.16	3.18	1.79	0.41	0.04	0.95	0.10	0.06	1.13	0.12	2.62	0.29	0.16
Excavator	1	0.5	10	150	2.3	**0.68**	**0.15**	**1.69**	**0.14**	**0.14**	3.38	0.76	8.46	0.72	0.70	0.11	0.02	0.27	0.02	0.02	0.25	0.06	0.63	0.05	0.05
Greader	1	0.7	10	100	1.5	**0.35**	**0.12**	**1.26**	**0.14**	**0.11**	2.42	0.85	8.82	0.96	0.78	0.08	0.03	0.29	0.03	0.03	0.12	0.04	0.44	0.05	0.04
Boring Machine	1	0.7	10	30	0.5	**0.68**	**0.15**	**1.69**	**0.14**	**0.14**	4.73	1.06	11.84	1.00	0.97	0.07	0.02	0.18	0.02	0.01	0.07	0.02	0.18	0.02	0.01
Loader	1	0.7	10	170	2.6	**0.57**	**0.25**	**1.89**	**0.18**	**0.17**	4.00	1.75	13.23	1.27	1.20	0.13	0.06	0.43	0.04	0.04	0.34	0.15	1.12	0.11	0.10
Generator	2	1	10	180	2.8	**0.24**	**0.04**	**0.40**	**0.04**	**0.02**	4.84	0.88	7.92	0.88	0.44	0.16	0.03	0.26	0.03	0.01	0.44	0.08	0.71	0.08	0.04
Water Truck	1	0.3	10	180	2.8	**1.79**	**0.19**	**4.17**	**0.45**	**0.26**	5.38	0.58	12.50	1.36	0.77	0.17	0.02	0.41	0.04	0.02	0.48	0.05	1.12	0.12	0.07
Welding Truck	1	0.5	10	100	1.5	**0.55**	**0.10**	**0.90**	**0.10**	**0.10**	2.75	0.50	4.50	0.50	0.50	0.09	0.02	0.15	0.02	0.02	0.14	0.03	0.23	0.03	0.03
Total											**72.56**	**13.37**	**171.65**	**18.17**	**13.22**	**2.13**	**0.39**	**5.07**	**0.54**	**0.39**	**4.52**	**0.81**	**10.71**	**1.16**	**0.82**
Each Pump Station																									
Backhoe	1	0.5	10	100	1.5	**0.35**	**0.12**	**1.26**	**0.14**	**0.11**	1.73	0.61	6.30	0.69	0.56	0.06	0.02	0.20	0.02	0.02	0.09	0.03	0.32	0.03	0.03
Bulldozer	1	0.5	10	20	0.3	**1.26**	**0.28**	**2.84**	**0.46**	**0.41**	6.29	1.41	14.20	2.32	2.03	0.06	0.01	0.14	0.02	0.02	0.06	0.01	0.14	0.02	0.02
Concrete Truck	1	0.7	10	15	0.2	**1.79**	**0.19**	**4.17**	**0.45**	**0.26**	12.56	1.34	29.16	3.18	1.79	0.09	0.01	0.22	0.02	0.01	0.09	0.01	0.22	0.02	0.01
Crane	1	0.7	10	60	0.9	**0.30**	**0.07**	**0.86**	**0.07**	**0.05**	2.13	0.47	6.03	0.47	0.35	0.06	0.01	0.18	0.01	0.01	0.06	0.01	0.18	0.01	0.01
Dump Truck	1	0.7	10	100	1.5	**1.79**	**0.19**	**4.17**	**0.45**	**0.26**	12.56	1.34	29.16	3.18	1.79	0.41	0.04	0.95	0.10	0.06	0.63	0.07	1.46	0.16	0.09
Excavator	1	0.5	10	50	0.8	**0.68**	**0.15**	**1.69**	**0.14**	**0.14**	3.38	0.76	8.46	0.72	0.70	0.08	0.02	0.21	0.02	0.02	0.08	0.02	0.21	0.02	0.02
Fork Lift	1	0.5	10	120	1.8	**0.52**	**0.17**	**1.54**	**0.14**	**0.09**	2.60	0.85	7.70	0.72	0.47	0.08	0.03	0.25	0.02	0.02	0.16	0.05	0.46	0.04	0.03
Loader	1	0.7	10	120	1.8	**0.57**	**0.25**	**1.89**	**0.18**	**0.17**	4.00	1.75	13.23	1.27	1.20	0.13	0.06	0.43	0.04	0.04	0.24	0.11	0.79	0.08	0.07
Tractor	1	0.5	10	50	0.8	**1.80**	**0.19**	**4.17**	**0.45**	**0.26**	9.00	0.95	20.85	2.25	1.30	0.23	0.02	0.52	0.06	0.03	0.23	0.02	0.52	0.06	0.03
Total											**54.24**	**9.48**	**135.09**	**14.78**	**10.19**	**1.21**	**0.23**	**3.11**	**0.33**	**0.22**	**1.64**	**0.33**	**4.30**	**0.45**	**0.31**
Each Water Storage Facility																									
Backhoe	1	0.5	10	100	1.5	**0.35**	**0.12**	**1.26**	**0.14**	**0.11**	1.73	0.61	6.30	0.69	0.56	0.06	0.02	0.20	0.02	0.02	0.09	0.03	0.32	0.03	0.03
Bulldozer	1	0.5	10	50	0.8	**1.26**	**0.28**	**2.84**	**0.46**	**0.41**	6.29	1.41	14.20	2.32	2.03	0.16	0.04	0.36	0.06	0.05	0.16	0.04	0.36	0.06	0.05
Concrete Truck	1	0.7	10	15	0.2	**1.79**	**0.19**	**4.17**	**0.45**	**0.26**	12.56	1.34	29.16	3.18	1.79	0.09	0.01	0.22	0.02	0.01	0.09	0.01	0.22	0.02	0.01
Crane	1	0.7	10	80	1.2	**0.30**	**0.07**	**0.86**	**0.07**	**0.05**	2.13	0.47	6.03	0.47	0.35	0.07	0.02	0.20	0.02	0.01	0.09	0.02	0.24	0.02	0.01
Dump Truck	1	0.8	10	120	1.8	**1.79**	**0.19**	**4.17**	**0.45**	**0.26**	14.35	1.54	33.33	3.63	2.05	0.47	0.05	1.08	0.12	0.07	0.86	0.09	2.00	0.22	0.12
Grader	1	0.7	10	20	0.3	**0.35**	**0.12**	**1.26**	**0.14**	**0.11**	2.42	0.85	8.82	0.96	0.78	0.02	0.01	0.09	0.01	0.01	0.02	0.01	0.09	0.01	0.01
Loader	1	0.5	10	100	1.5	**0.57**	**0.25**	**1.89**	**0.18**	**0.17**	2.86	1.25	9.45	0.91	0.86	0.09	0.04	0.31	0.03	0.03	0.14	0.06	0.47	0.05	0.04
Welding Truck	1	0.8	10	50	0.8	**0.55**	**0.10**	**0.90**	**0.10**	**0.10**	4.40	0.80	7.20	0.80	0.80	0.11	0.02	0.18	0.02	0.02	0.11	0.02	0.18	0.02	0.02
Total											**46.74**	**8.26**	**114.49**	**12.95**	**9.22**	**1.07**	**0.20**	**2.63**	**0.30**	**0.22**	**1.56**	**0.28**	**3.87**	**0.43**	**0.30**
Each Water Discharge Area																									
Backhoe	1	0.7	9	80	1.2	**0.35**	**0.12**	**1.26**	**0.14**	**0.11**	2.18	0.76	7.94	0.86	0.71	0.07	0.02	0.26	0.03	0.02	0.09	0.03	0.32	0.03	0.03
Bulldozer	1	0.7	9	80	1.2	**1.26**	**0.28**	**2.84**	**0.46**	**0.41**	7.92	1.78	17.89	2.92	2.56	0.26	0.06	0.58	0.09	0.08	0.32	0.07	0.72	0.12	0.10
Dump Truck	2	0.7	9	80	1.2	**1.79**	**0.19**	**4.17**	**0.45**	**0.26**	22.60	2.42	52.49	5.72	3.23	0.73	0.08	1.71	0.19	0.10	0.90	0.10	2.10	0.23	0.13
Total											**32.70**	**4.96**	**78.32**	**9.50**	**6.49**	**1.06**	**0.16**	**2.55**	**0.31**	**0.21**	**1.31**	**0.20**	**3.13**	**0.38**	**0.26**

Mobile Emissions - Offsite

	Parameters								Peak Day Emissions, lbs/day					Quarterly Emissions, Tons					Annual Emissions, Tons				
Source	Vehicle Type	Include in Peak Day? 1-yes, 0-no	No. per Day	Daily Trips (one way)	No.* of days per year	Distance One Way (miles)	Speed (mph)	Time of Trip (min)	CO	ROC	NOx	SO2	PM10	CO	ROC	NOx	SO2	PM10	CO	ROC	NOx	SO2	PM10
WTP & PS																							
Workers Commuting	Gasoline	1	60	120	270	5	25	12	14.03	3.60	1.29	0.08	0.03	0.640	0.164	0.059	0.011	0.004	1.894	0.486	0.174	0.011	0.004
Truck Travel	Diesel	1	7	14	215	10	25	24	4.29	0.93	4.04	0.02	0.30	0.196	0.042	0.185	0.001	0.013	0.461	0.100	0.435	0.002	0.032
Construction Equipment Delivery	Diesel	0	5	10	4	20	25	48	6.12	1.32	5.78	0.03	0.42	0.012	0.003	0.012	0.000	0.001	0.012	0.003	0.012	0.000	0.001
Construction Equipment Removal	Diesel	0	5	10	4	20	25	48	6.12	1.32	5.78	0.03	0.42	0.012	0.003	0.012	0.000	0.001	0.012	0.003	0.012	0.000	0.001
Construction Materials Delivery	Diesel	1	4	8	135	20	25	48	4.90	1.06	4.62	0.02	0.34	0.224	0.048	0.211	0.001	0.015	0.331	0.072	0.312	0.001	0.023
Total									***23.2***	***5.6***	***10.0***	***0.1***	***0.7***	***1.1***	***0.3***	***0.5***	***0.0***	***0.0***	***2.7***	***0.7***	***0.9***	***0.0***	***0.1***
Pipeline																							
Workers Commuting	Gasoline	1	64	128	300	5	25	12	14.97	3.84	1.38	0.08	0.03	2.245	0.576	0.207	0.013	0.004	2.245	0.576	0.207	0.013	0.004
Truck Travel	Diesel	1	12	24	300	10	25	24	7.35	1.59	6.93	0.03	0.51	1.102	0.238	1.040	0.005	0.076	1.102	0.238	1.040	0.005	0.076
Construction Equipment Delivery	Diesel	0	5	10	5	20	25	48	6.12	1.32	5.78	0.03	0.42	0.015	0.003	0.014	0.000	0.001	0.015	0.003	0.014	0.000	0.001
Construction Equipment Removal	Diesel	0	5	10	5	20	25	48	6.12	1.32	5.78	0.03	0.42	0.015	0.003	0.014	0.000	0.001	0.015	0.003	0.014	0.000	0.001
Construction Materials Delivery	Diesel	1	4	8	150	20	25	48	4.90	1.06	4.62	0.02	0.34	0.367	0.079	0.347	0.002	0.025	0.367	0.079	0.347	0.002	0.025
Traffic idling on lane closures	Gasoline	1	1000	2000	300	0.25	5	3	15.31	3.31	14.44	0.07	1.06	2.297	0.497	2.166	0.010	0.158	2.297	0.497	2.166	0.010	0.158
Total									***42.5***	***9.8***	***27.4***	***0.2***	***1.9***	***6.0***	***1.4***	***3.8***	***0.0***	***0.3***	***6.0***	***1.4***	***3.8***	***0.0***	***0.3***
Water Intake & PS																							
Workers Commuting	Gasoline	1	30	60	130	5	25	12	7.02	1.80	0.65	0.04	0.01	0.456	0.117	0.042	0.003	0.001	0.456	0.117	0.042	0.003	0.001
Truck Travel	Diesel	1	4	8	130	10	25	24	2.45	0.53	2.31	0.01	0.17	0.159	0.034	0.150	0.001	0.011	0.159	0.034	0.150	0.001	0.011
Construction Equipment Delivery	Diesel	0	5	10	5	20	25	48	6.12	1.32	5.78	0.03	0.42	0.015	0.003	0.014	0.000	0.001	0.015	0.003	0.014	0.000	0.001
Construction Equipment Removal	Diesel	0	5	10	5	20	25	48	6.12	1.32	5.78	0.03	0.42	0.015	0.003	0.014	0.000	0.001	0.015	0.003	0.014	0.000	0.001
Construction Materials Delivery	Diesel	1	4	8	65	20	25	48	4.90	1.06	4.62	0.02	0.34	0.159	0.034	0.150	0.001	0.011	0.159	0.034	0.150	0.001	0.011
Total									***14.4***	***3.4***	***7.6***	***0.1***	***0.5***	***0.8***	***0.2***	***0.3***	***0.0***	***0.0***	***0.8***	***0.2***	***0.3***	***0.0***	***0.0***

Mobile Emissions - Offsite (Continued)

	Parameters								Peak Day Emissions, lbs/day					Quarterly Emissions, Tons					Annual Emissions, Tons				
Source	Vehicle Type	Include in Peak Day? 1-yes, 0-no	Number of Vehicles per Day	Daily Trips (one way)	No.* of days per year	Distance One Way (miles)	Speed (mph)	Time of Trip (min)	CO	ROC	NOx	SO2	PM10	CO	ROC	NOx	SO2	PM10	CO	ROC	NOx	SO2	PM10
Pump Station (each)																							
Workers Commuting	Gasoline	1	15	30	86	5	25	12	3.51	0.90	0.32	0.02	0.01	0.151	0.039	0.014	0.001	0.000	0.151	0.039	0.014	0.001	0.000
Truck Travel	Diesel	1	2	4	86	10	25	24	1.22	0.26	1.16	0.01	0.08	0.053	0.011	0.050	0.000	0.004	0.053	0.011	0.050	0.000	0.004
Construction Equipment Delivery	Diesel	0	2	4	2	20	25	48	2.45	0.53	2.31	0.01	0.17	0.002	0.001	0.002	0.000	0.000	0.002	0.001	0.002	0.000	0.000
Construction Equipment Removal	Diesel	0	2	4	2	20	25	48	2.45	0.53	2.31	0.01	0.17	0.002	0.001	0.002	0.000	0.000	0.002	0.001	0.002	0.000	0.000
Construction Materials Delivery	Diesel	1	2	4	43	20	25	48	2.45	0.53	2.31	0.01	0.17	0.053	0.011	0.050	0.000	0.004	0.053	0.011	0.050	0.000	0.004
Total									***7.2***	***1.7***	***3.8***	***0.0***	***0.3***	***0.3***	***0.1***	***0.1***	***0.0***	***0.0***	***0.3***	***0.1***	***0.1***	***0.0***	***0.0***
Water Storage Facility (each)																							
Workers Commuting	Gasoline	1	20	40	86	5	25	12	4.68	1.20	0.43	0.03	0.01	0.201	0.052	0.019	0.001	0.000	0.201	0.052	0.019	0.001	0.000
Truck Travel	Diesel	1	4	8	86	10	25	24	2.45	0.53	2.31	0.01	0.17	0.105	0.023	0.099	0.000	0.007	0.105	0.023	0.099	0.000	0.007
Construction Equipment Delivery	Diesel	0	4	8	2	20	25	48	4.90	1.06	4.62	0.02	0.34	0.005	0.001	0.005	0.000	0.000	0.005	0.001	0.005	0.000	0.000
Construction Equipment Removal	Diesel	0	4	8	2	20	25	48	4.90	1.06	4.62	0.02	0.34	0.005	0.001	0.005	0.000	0.000	0.005	0.001	0.005	0.000	0.000
Construction Materials Delivery	Diesel	1	3	6	43	20	25	48	3.67	0.79	3.47	0.02	0.25	0.079	0.017	0.075	0.000	0.005	0.079	0.017	0.075	0.000	0.005
Total									***10.8***	***2.5***	***6.2***	***0.1***	***0.4***	***0.4***	***0.1***	***0.2***	***0.0***	***0.0***	***0.4***	***0.1***	***0.2***	***0.0***	***0.0***
River Discharge Area (each)																							
Workers Commuting	Gasoline	1	5	10	65	5	25	12	1.17	0.30	0.11	0.01	0.00	0.038	0.010	0.003	0.000	0.000	0.038	0.010	0.003	0.000	0.000
Truck Travel	Diesel	1	1	2	65	10	25	24	0.61	0.13	0.58	0.00	0.04	0.020	0.004	0.019	0.000	0.001	0.020	0.004	0.019	0.000	0.001
Construction Equipment Delivery	Diesel	0	1	2	2	20	25	48	1.22	0.26	1.16	0.01	0.08	0.001	0.000	0.001	0.000	0.000	0.001	0.000	0.001	0.000	0.000
Construction Equipment Removal	Diesel	0	1	2	2	20	25	48	1.22	0.26	1.16	0.01	0.08	0.001	0.000	0.001	0.000	0.000	0.001	0.000	0.001	0.000	0.000
Construction Materials Delivery	Diesel	1	2	4	33	20	25	48	2.45	0.53	2.31	0.01	0.17	0.040	0.009	0.038	0.000	0.003	0.040	0.009	0.038	0.000	0.003
Total									***4.2***	***1.0***	***3.0***	***0.0***	***0.2***	***0.1***	***0.0***	***0.1***	***0.0***	***0.0***	***0.1***	***0.0***	***0.1***	***0.0***	***0.0***

Emissions calculations based on EMFAC7G. See Emission Factors spreadsheet

* - Some parts of the project (e.g., pipeline) would take several years to complete; number of days is per each year of construction.

Construction Air Emissions - Fugitive Dust Emissions (PM_{10})

Emission factors for travel on unpaved roads are based on the following inputs

Inputs		Assumptions	Data Sources
Surface silt loading in percent	*28*		*Site debris clearing based on CEQA SCAQMD Tables 9-9 & 9-9-f*
Dust reduction due to watering,%	*38*		
Mean vehicle speed in mph	*5*		*Graded surface based on SCAQMD Table 9-9*
Mean vehicle weight in tons	*2*	Light vehicles only	
Mean number of wheels/vehicle	*4*	All vehicles are small	
Mean number of rain days/year	*40*		
Soil, tons/yd ^{3}	*1.01*		
Silt content of soil	*7.5*	Overburden	
PM10 grading emission factor	*50*	PM10 lbs/acre-day	*SLOC APCD CEQA Handbook*
		Cut and fill piles would be a third of all graded/disturbed area	

Construction Activity	Source	Source Units	Number of Days per year	Emission Factor	Emission Factor Units	Mitigation Reduction %	Peak Day Emissions, lbs/day	Quarterly Emissions, tons	Total PM10 Emissions, tons
Water Treatment Plant & PS									
Site grading/Disturbed Area	31.7	acres	150	50	lbs/acre	38	6.55	0.26	0.491
Fill dumping	202,500	tons of soil	150	0.009	lbs/ton	38	7.60	0.14	0.570
Travel on dirt roads - estimate	1.42	vehicle-miles	250	0.55	lbs/vehicle-miles	38	0.00	0.00	0.000
Fill Storage Piles - estimate	10.56	acres	150	0.31	lbs/day/acre	38	2.05	0.04	0.154
Total							**16.20**	**0.44**	**1.21**
Pipeline									
Site grading/Disturbed Area	97	acres	79	50	lbs/acre	38	38.26	0.38	1.503
Fill dumping	50,625	tons of soil	79	0.009	lbs/ton	38	3.63	0.04	0.142
Travel on dirt roads - estimate	2.27	vehicle-miles	250	0.55	lbs/vehicle-miles	38	0.00	0.00	0.000
Fill Storage Piles - estimate	32.32	acres	79	0.31	lbs/day/acre	38	6.28	0.06	0.247
Total							**48.17**	**0.47**	**1.89**

Assumptions		
Average number of vehicles per day	15	
Travel distance (each vehicle) on site, ft	500	
Site disturbed area, acres per year	*31.67*	28 acres site; 4000'x40' road
Total days of excavation	*100*	Grading will occur during 1st year
Total fill excavated/delivered, yd ^{3} /year	*200,000*	28 acre site preparation
Average number of vehicles per day	40	10 per each of 4 headings
Travel distance (each vehicle) on site, ft	300	
Site disturbed area, acres/year	*97*	64 miles x 50 feet wide, 4 years
Total days of excavation/year	*275*	64 miles @ 200-300 feet/day
Total fill excavated/delivered, yd ^{3} /year	*50,000*	200,000 cu yds in 4 yrs

Construction Air Emissions - Fugitive Dust Emissions (PM_{10}) (Continued)

Construction Activity	Source	Source Units	Number of Days per year	Emission Factor	Emission Factor Units	Mitigation Reduction %	Peak Day Emissions, lbs/day	Quarterly Emissions, tons	Total PM10 Emissions, tons
Water Intake & PS									
Site grading/Disturbed Area	2.5	acres	30	50	lbs/acre	38	2.58	0.03	0.039
Fill dumping	4,050	tons of soil	30	0.009	lbs/ton	38	0.76	0.01	0.011
Travel on dirt roads - estimate	0.57	vehicle-miles	100	0.55	lbs/vehicle-miles	38	0.00	0.00	0.000
Fill Storage Piles - estimate	0.83	acres	20	0.31	lbs/day/acre	38	0.16	0.00	0.002
Total							**3.51**	**0.04**	**0.05**
Pump Station - Happy Valley PS									
Site grading/Disturbed Area	0.7	acres	30	50	lbs/acre	38	0.71	0.01	0.011
Fill dumping	1,470	tons of soil	20	0.009	lbs/ton	38	0.41	0.00	0.004
Travel on dirt roads - estimate	0.20	vehicle-miles	20	0.55	lbs/vehicle-miles	38	0.00	0.00	0.000
Fill Storage Piles - estimate	0.23	acres	20	0.31	lbs/day/acre	38	0.04	0.00	0.000
Total							**1.17**	**0.02**	**0.02**
Water Storage Facility (each)									
Site grading/Disturbed Area	1.2	acres	20	50	lbs/acre	38	1.92	0.02	0.019
Fill dumping	18,225	tons of soil	20	0.009	lbs/ton	38	5.13	0.05	0.051
Travel on dirt roads - estimate	0.14	vehicle-miles	40	0.55	lbs/vehicle-miles	38	0.00	0.00	0.000
Fill Storage Piles - estimate	0.41	acres	20	0.31	lbs/day/acre	38	0.08	0.00	0.001
Total							**7.13**	**0.07**	**0.07**
Water Discharge Area (each)									
Site grading/Disturbed Area	5.0	acres	20	50	lbs/acre	38	7.75	0.08	0.078
Fill dumping	10,125	tons of soil	20	0.009	lbs/ton	38	2.85	0.03	0.028
Travel on dirt roads - estimate	0.14	vehicle-miles	40	0.55	lbs/vehicle-miles	38	0.00	0.00	0.000
Fill Storage Piles - estimate	1.67	acres	20	0.31	lbs/day/acre	38	0.32	0.00	0.003
Total							**10.92**	**0.11**	**0.11**

Assumptions		
Average number of vehicles per day	10	
Travel distance (each vehicle) on site, ft	300	
Site disturbed area, acres	*2.50*	
Total days of excavation	*150*	
Total fill excavated/delivered, yd^3	*4,000*	
Average number of vehicles per day	7	
Travel distance (each vehicle) on site, ft	150	
Site disturbed area, acres	*0.69*	150' x 200' - PS #3
Total days of excavation	*80*	
Total fill excavated/delivered, yd^3	*1,452*	140' x 70' x 4' pond
Average number of vehicles per day	5	
Travel distance (each vehicle) on site, ft	150	
Site disturbed area, acres	*1.24*	360' x 150' area, largest reservoir
Total days of excavation, grading	*80*	
Total fill excavated/delivered, yd^3	*18,000*	
Average number of vehicles per day	5	
Travel distance (each vehicle) on site, ft	150	
Site disturbed area, acres	*5.00*	each area is 5 acres
Total days of excavation	*80*	
Total fill excavated/delivered, yd^3	*10,000*	

Equipment Emission Factors

Equipment	Hp	Type	Load Factor, %	Emission Factors (lb/hr) CO	ROG	NO_x	SO_2	PM_{10}	Emission Factors (lb/hp-hr) CO	ROG	NO_x	SO_2	PM_{10}	Reference
Air Compressor (400 ACFM)	150	Diesel	na	0.675	0.15	1.7	0.143	0.14	-	-	-	-	-	1) for misc. equip
Air Compressor				0.151	0.04	0.713	0.086	0.061						3)
Backhoe/Loader (510C)	86	Diesel	na	0.572	0.23	1.9	0.182	0.17	-	-	-	-	-	1) for wheeled loader
Backhoe				0.346	0.121	1.26	0.137	0.112						3)
Blade				0.151	0.04	0.713	0.086	0.061						3)
Concrete Saw	56	Diesel	100	1.12	1.344	0.112	0.168	0.056	0.020	0.024	0.002	0.003	0.001	1) concrete saw
Broom				0.151	0.04	0.713	0.086	0.061						3)
Concrete Pump Truck (65 CY/hr)	90	Diesel	na	1.8	0.19	4.17	0.45	0.26	-	-	-	-	-	1) for off-highway truck
Concrete Truck				1.794	0.192	4.166	0.454	0.256						3)
Compactor				0.675	0.152	1.691	0.143	0.139						3)
Crane (20 ton)	130	Diesel	100	1.17	0.39	2.99	0.26	0.39	0.009	0.003	0.023	0.002	0.003	2) for cranes
Crane				0.304	0.067	0.862	0.067	0.05						3)
Crawler Crane (250 ton)	330	Diesel	100	2.97	0.99	7.59	0.66	0.99	0.009	0.003	0.023	0.002	0.003	2) for cranes
Dozer	95	Diesel	100	0.95	0.19	1.995	0.19	0.095	0.010	0.002	0.021	0.002	0.001	2) for rubber tired dozer
Bulldozer				1.257	0.282	2.84	0.463	0.406						3)
Dredger				0.675	0.152	1.691	0.143	0.139						3)
Drill Rig				0.675	0.152	1.691	0.143	0.139						3)
Bore/Drill Rig	209	Diesel	100	4.18	0.627	5.016	0.418	0.3135	0.020	0.003	0.024	0.002	0.002	1) bore/drill rig
Dump Truck (16 CY)	250	Diesel	na	1.8	0.19	4.17	0.45	0.26	-	-	-	-	-	1) for off-highway truck
Dump Truck				1.794	0.192	4.166	0.454	0.256						3)
Excavator				0.675	0.152	1.691	0.143	0.139						3)
Fork Lift (7 ton)	100	Diesel	na	0.52	0.17	1.54	0.143	0.093	-	-	-	-	-	1) for 175 hp fork lift
Front End Loader (3 CY)	140	Diesel	na	0.572	0.23	1.9	0.182	0.17	-	-	-	-	-	1) for wheeled loader
Grader - SCAQMD	150	Diesel	na	1.25	0.27	3.84	0.46	0.41	-	-	-	-	-	1) for scraper
Grader				0.346	0.121	1.26	0.137	0.112						3)
Hydro Crane (18 ton)	130	Diesel	100	1.17	0.39	2.99	0.26	0.39	0.009	0.003	0.023	0.002	0.003	2) for cranes
Hydro Crane (30 ton)	130	Diesel	100	1.17	0.39	2.99	0.26	0.39	0.009	0.003	0.023	0.002	0.003	2) for cranes
Jack and Boring Machine				0.675	0.152	1.691	0.143	0.139						3)
Loader				0.572	0.25	1.89	0.182	0.172						3)
Man Lift (40 ft)	32	Diesel	na	0.18	0.053	0.441	0.143	0.031	-	-	-	-	-	1) for 50 hp forklift
Man Lift (80 ft)	63	Diesel	na	0.18	0.053	0.441	0.143	0.031	-	-	-	-	-	1) for 50 hp forklift
Misc. Equipment	50	Diesel	na	0.675	0.15	1.7	0.143	0.14	-	-	-	-	-	1) for misc. equip
Motor Grader	-	Diesel	na	0.151	0.039	0.713	0.086	0.061	-	-	-	-	-	1) for motor grader
Motor/Generator				0.675	0.152	1.691	0.143	0.139						3)
Pick-up Truck (3/4 ton)	250	Gasoline	na	17.02	0.543	0.412	0.023	0.026	-	-	-	-	-	1) for misc. equip
Pumps	20	Diesel	na	0.011	0.002	0.018	0.002	0.002	-	-	-	-	-	2) for pumps
Shovel/Breaker	128	Diesel	na	0.675	0.15	1.7	0.143	0.14	-	-	-	-	-	1) for misc. equip
Tractor/Trailer (60 ton, 40 ft)	225	Diesel	na	1.8	0.19	4.17	0.45	0.26	-	-	-	-	-	1) for off-highway truck
Trailer/dozer				0.151	0.04	0.713	0.086	0.061						3)
Truck Crane (65 ton)	400	Diesel	na	1.8	0.19	4.17	0.45	0.26	-	-	-	-	-	1) for off-highway truck
Vibro Roller	42	Diesel	na	0.3	0.065	0.87	0.067	0.05	-	-	-	-	-	1) for rollers
Water Truck (4,000 gal)	200	Diesel	na	1.8	0.19	4.17	0.45	0.26	-	-	-	-	-	1) for off-highway truck
Water Truck				1.794	0.192	4.166	0.454	0.256						3)
Welding Machine	50	Diesel	100	0.55	0.1	0.9	0.1	0.1	0.011	0.002	0.018	0.002	0.002	2) for welders
Welding Truck				1.794	0.192	4.166	0.454	0.256						3)
Paint emissions, per gallon	-	-	-	0.00	1.31	0	0	0	-	-	-	-	-	3) per gallon
Boiler/Reformer	-	-	-	6.5	6.5	10.0	0.30	7.8	-	-	-	-	-	4)
Flare, hydrogen combustion	-	-	-	0.000	0.000	0.072	0.000	0.000	-	-	-	-	-	5) lb/10^6 btu
Flare, natural gas combustion	-	-	-	0.370	0.120	0.072	0.0006	0.020	-	-	-	-	-	6) lb/10^6 btu
Flare, natural gas combustion	-	-	-	0.370	0.120	0.072	0.0000	0.020	-	-	-	-	-	7) lb/106 btu
Asphalt Paver	91	Diesel	100	0.637	0.091	2.093	0.182	0.091	0.007	0.001	0.023	0.002	0.001	1) for paving equip (4-strk)
Tug (EMD 12-645E5)	3000	Diesel	100	0.775	0.351	12.494	0.162	0.684						3)
Barge Generator (800 HP)	800	Diesel	100	8.712	1.584	14.256	1.584	0.792						3)
Generator sets <50HP	22	Diesel	100	0.242	0.044	0.396	0.044	0.022	0.011	0.002	0.018	0	0.001	1) for generator sets <50 HP

References
1) Emission factors taken from SCAQMD CEQA Air Quality Handbook, Table 9-8-A
2) Emission factors taken from SCAQMD CEQA Air Quality Handbook, Table 9-8-C. Pounds/hour calculated from load factor and hp rating
3) US EPA 1985

Operations

	Parameters									Peak Day Emissions, lbs/day					Quarterly Emissions, Tons					Annual Emissions, Tons				
Source	Engine Type	Emission Factor Code	Include in Peak Day? 1-yes, 0-no	Number of Vehicles per Day	Daily Trips (one way)	No. of days per year	Distance One Way (miles)	Speed (mph)	Time of Trip (min)	CO	ROC	NOx	SO2	PM10	CO	ROC	NOx	SO2	PM10	CO	ROC	NOx	SO2	PM10
WTP & PS																								
Workers Commuting	Gasoline	101	1	10	20	365	15	35	26	5.02	1.23	0.48	0.04	0.01	0.229	0.056	0.022	0.007	0.002	0.916	0.224	0.088	0.007	0.002
Truck Travel	Diesel	102	1	2	4	250	15	35	26	1.84	0.40	1.73	0.01	0.13	0.084	0.018	0.079	0.000	0.006	0.230	0.050	0.217	0.001	0.016
-	Diesel	-	1	-	-	-	-	-	2	3.87	0.70	6.34	0.70	0.35	0.126	0.023	0.206	0.023	0.011	0.145	0.026	0.238	0.026	0.013
Commercial Building			0							0.00	0.00	0.00	0.00	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL										***10.73***	***2.33***	***8.55***	***0.75***	***0.49***	***0.44***	***0.10***	***0.31***	***0.03***	***0.02***	***1.29***	***0.30***	***0.54***	***0.03***	***0.03***

Assumption: Emergency generators are used 8 hours per day, at a maximum of one location.

Emissions from two 50 hp generators

Appendix D Recreational Resources

State of California—Health and Human Services Agency
Department of Health Services

California Department of Health Services
DIANA M. BONTÁ, R.N., Dr. P.H.
Director

GRAY DAVIS
Governor

April 29, 2003

Christine Ferrara, Utilities Division Manager
San Luis Obispo County, Public Works
County Government Center, Room 207
San Luis Obispo, CA 93408

Dear Ms. Ferrara

Subject: Nacimiento Water Project, Recreation Plan

The State Department of Health Services, Drinking Water Field Operations Branch, has received and commented on the Nacimiento Water Project (NWP) Recreation Plan Draft Report and now has reviewed and approved the final report dated June 2002.

The NWP needs to update their watershed sanitary survey every five years in compliance with the Surface Water Treatment Rule. The NWP Recreation Plan needs to be reviewed and updated every five years.

The SLO County Public Works Department needs to continue to update this office as information on the proposed project continues to be developed. An updated permit will be needed prior to startup of any facilities.

If you have any questions regarding this letter, please call this office at (805) 566-1326.

Sincerely,

Kurt Souza, P.E.
District Engineer
Santa Barbara District

Cc: County EHD

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Nacimiento Water Supply Project: Report on Recreational Use at Lake Nacimiento

Prepared By:
San Luis Obispo County
Flood Control and Water Conservation District

June 2002

County of San Luis Obispo
Flood Control and Water Conservation District

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Peg Pinard, District 3
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Public Works Department
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John Waddell, Utilities Division Engineer
John Beaton, Senior Water Systems Chemist
Faith Zenker, Water Systems Chemist

REGISTERED PROFESSIONAL ENGINEER
CHRISTINE M. FERRARA
No. C 042090
Exp. 3-31-04
CIVIL
STATE OF CALIFORNIA

Submitted to:
California Department of Health Services
Drinking Water Field Operations Branch
Santa Barbara District
Carpenteria, CA
Kurt Souza, Director

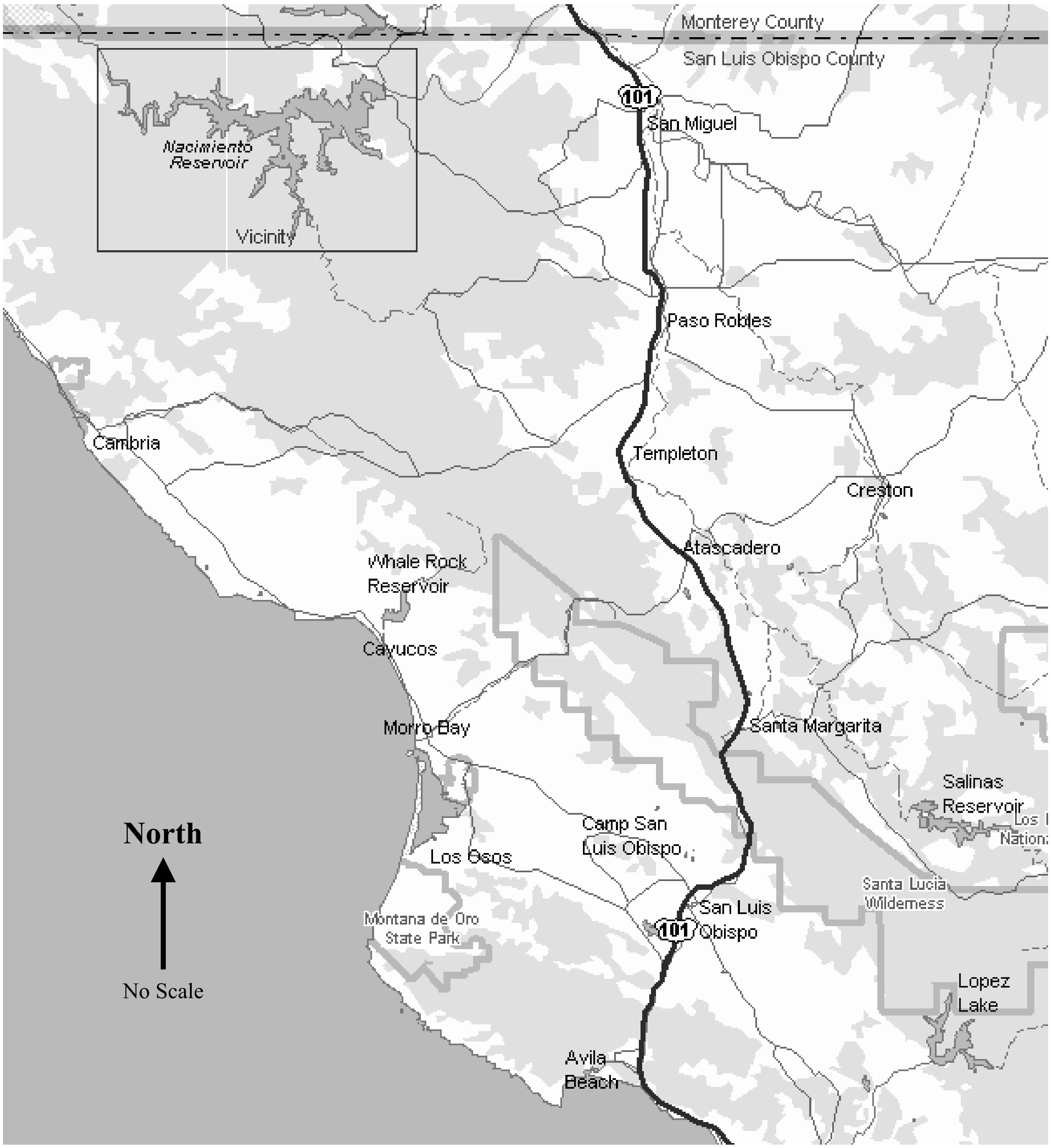
INTRODUCTION

Nacimiento Dam, in northern San Luis Obispo County, was constructed in 1957 by Monterey County Flood Control and Water Conservation District (now Monterey County Water Resources Agency (MCWRA)). The dam and the reservoir continue to be operated by the MCWRA. The lake has a capacity of 377,900 acre feet, and a surface area of 5,727 acres at spillway crest elevation. Water is collected from a 324 square mile watershed (MCWRA 1996). The watershed is comprised of grazing lands and rugged wilderness.

San Luis Obispo County Flood Control and Water Conservation District (District) has an entitlement for 17,500 acre feet per year of water from the lake. Of this amount, the proposed Nacimiento Water Supply Project will transport a maximum of 16,200 acre feet of water per year from the lake for delivery to about 9 purveyors throughout San Luis Obispo County. This proposed direct domestic usage of the lake represents less than 5% of the total lake capacity. There are two proposals for water delivery. The Treated Water Alternative would utilize a water treatment plant at Camp Roberts before water is delivered to participants. The Raw Water Alternative would deliver untreated water to all participants. Participants will either provide treatment at local water treatment plants or percolate water into the Salinas River underflow and extract it from existing well fields in the aquifer (Carollo 2000). The District will develop this project on behalf of the Nacimiento project participants and will act as the Lead Agency. As Lead Agency, the District will be responsible for ensuring the implementation of the programs outlined in this Report.

Extensive recreational use and supporting facilities have developed around the lake. The largest of these is Lake Nacimiento Resort (Resort) which has a 50 year lease from the MCWRA (signed in 1972). Heritage Ranch and Oak Shores are residential subdivisions which also provide recreational opportunities for their gated communities. The primary access for all of these facilities is Nacimiento Lake Drive, or G-14, which runs from Paso Robles, to the Lake and across the Nacimiento Dam, then northerly to Monterey County.

On September 28, 1997 Governor Wilson signed AB 1460. This bill authorized continued “recreational activity in which there is bodily contact with the water by any participant...to be allowed in the Nacimiento Reservoir,” along with the removal of water from the reservoir for domestic uses, in accordance with certain requirements. A copy of the text of AB 1460 is included in the Appendix.



Source: DeLorme 3D TopoQuads

Vicinty Map
Figure 1

BACKGROUND

The Department of Health Services (DHS) developed “Public Health Guidelines for Recreational and Other Development at Reservoirs Used as Sources of Domestic Water Supply” in 1974 and draft “Guidelines for Evaluating Applications for Recreational Use Permits at Domestic Water Supply Reservoirs” in 2000. These guidelines were developed to provide guidance for managers of domestic supply reservoirs which have existing or proposed recreational uses. The MCWRA Water Rights Permit (Number 10137) is for the purpose of irrigation, domestic, municipal, industrial and recreational uses. The MCWRA operates the reservoir for all of these uses. Relative to the volume of the reservoir, the amount of water to be used for domestic purposes is small. The District has prepared this Report to review the existing and potential lakeside uses and to identify monitoring criteria. This Report is intended to facilitate the revision of the Water Supply Permit of each participant as required in the California Code of Regulations, Title 17, Article 5, Sections 7626 through 7629.

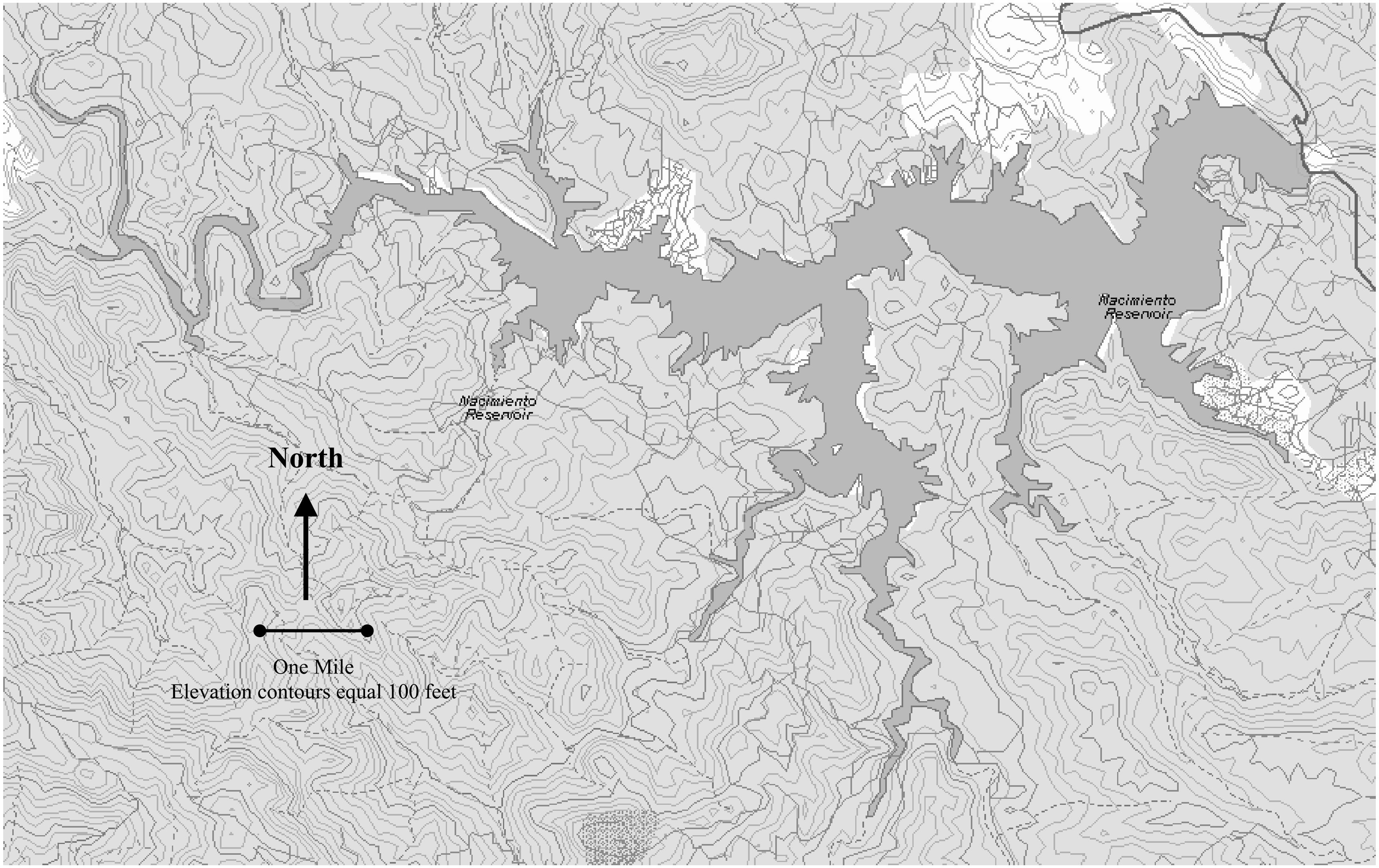
The information in this Report was based on existing codes, discussions with facility owners and operators, the Heritage Ranch Community Services District Sanitary Survey and other resources available at the time. It was prepared at the request of the Department of Health Services. The District anticipates that this Report will be updated every five years, once water deliveries begin.

RESERVOIR AND WATERSHED INFORMATION

A 324 square mile watershed channels runoff to Lake Nacimiento. The majority of the watershed consists of rural grazing lands and rugged National Forests and Wilderness Areas. There are three significant developments adjacent to the lake shore: Heritage Ranch, Oak Shores, and Lake Nacimiento Resort. The remaining watershed area adjacent to the lake shore is rugged and largely undeveloped. A topography map of the immediate watershed is shown in Figure 2.

Lake Nacimiento has a maximum storage capacity of 377,900 acre-feet and a surface area of 5,727 acres at the spillway crest elevation of 800 feet. There is approximately 10,000 acre-feet of storage below the low level outlet works invert elevation of 670 feet. Table 1 shows the relationship of capacity and surface area to various lake elevations.

The average annual release for a 29 year period from 1957 to 1985 was 213,000 acre-feet per year (Boyle 1992). For the maximum storage capacity, the residence time is 21 months. If the water level drops to 687.8 feet, a capacity of 22,300 acre-feet, a 1959 agreement between the District and the MCWRA requires that the only water to be released will be to meet the District’s entitlement of 17,500 acre-feet per year. In this case the residence time would be 15 months.



Source: DeLorme 3D TopoQuads

Lake Nacimiento Area Topographical Map
Figure 2

Table 1: Surface Area and Reservoir Capacity by Elevation at Lake Nacimiento

Elevation (feet)	Capacity (acre-feet)	Surface Area (acres)
800[1]	377,900	5,727
790	323,050	5,339
780[2]	272,900	4,786
770	227,500	4,289
760[3]	186,950	3,829
750[4]	150,950	3,362
740	119,450	2,939
730[5]	92,150	2,520
720	69,000	2,108
710	50,150	1,670
700	35,450	1,292
690[6]	24,300	960
680	16,150	680
670[7]	10,300	520

[1] Spillway elevation
[2] During winter months, maximum elevation is slightly above 780 feet, due to flood rule curve.
[3] Approximate elevation of primary public boat launches is 766 feet.
[4] Elevation 748 and below is considered a “drought condition” per agreement between MCWRA and the California Department of Fish and Game.
[5] Elevation above which most boat launches are operational.
[6] “Minimum pool” is at elevation 687.8; lowest elevation at which water is available for release to MCWRA.
[7] Location of Low Level Outlet Works at dam.

Source: Monterey County Water Resources Agency

RESERVOIR OUTLET WORKS

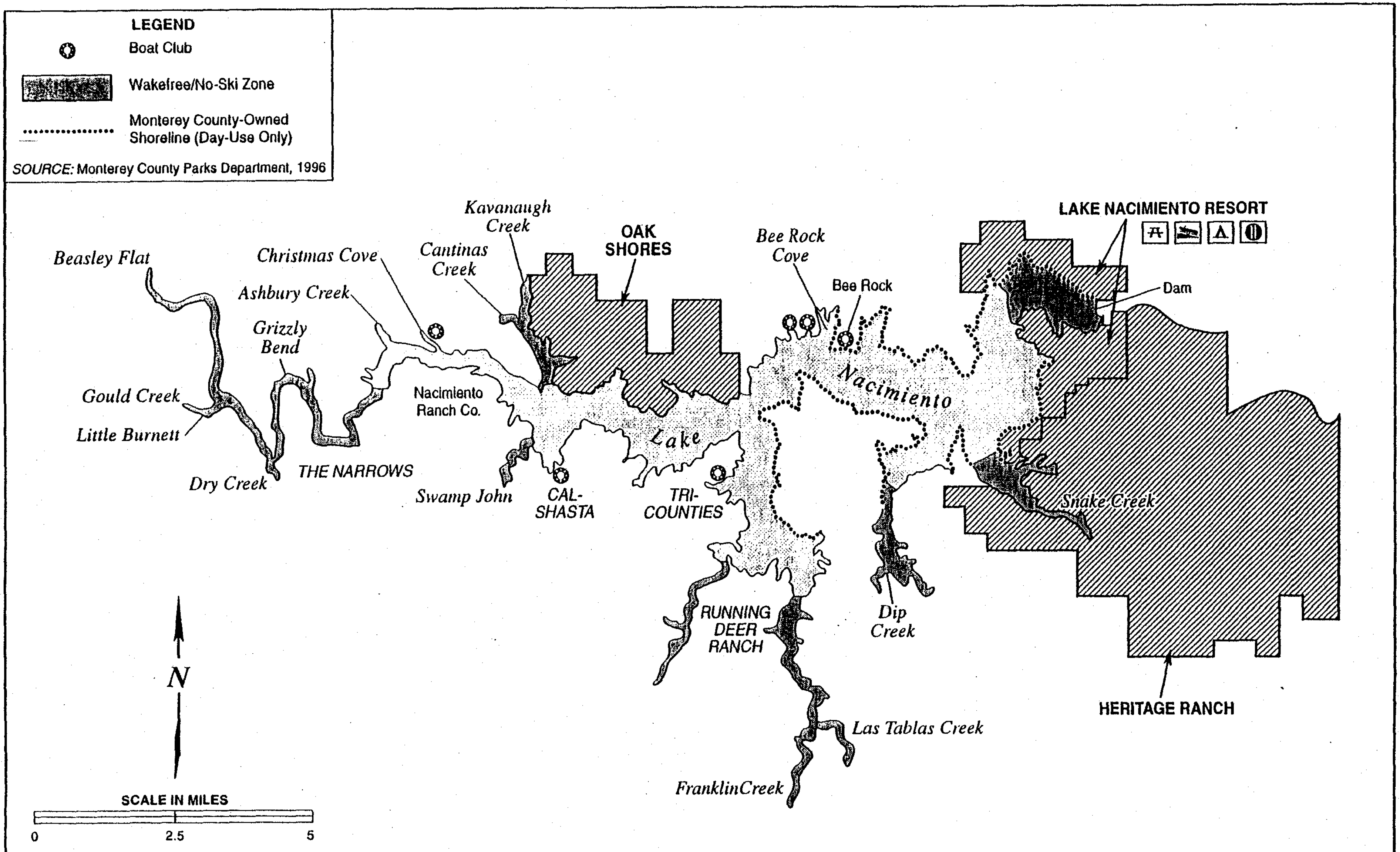
The currently proposed intake facilities would be located on the lake shore at the northerly abutment of the dam. The proposed water supply intake is a 20 foot diameter vertical shaft drilled down 170 feet and connected to three horizontal intake tunnels. A pump station facility will be constructed at the intake site, above the high water line (HWL), and includes pumps, motor control center building, transformer yard and parking area. All of these proposed facilities would be fenced and protected from unauthorized entry (Carollo 2000). The surrounding terrain, outside of the intake facility yard, is rugged and there are essentially no safe locations available for parking. Therefore, unauthorized access to the lake in the area around the intake facilities is unlikely. Section 11.20.480 of Title 11, prohibits parking in other than designated areas.

Monterey County has installed and maintains a log boom to prevent access to the dam and spillway. The boom is currently anchored 1250 feet from the dam on the south side and 500 feet away on the north side. If necessary, the boom will be repositioned around the proposed intake structure to provide a protection zone of 500 feet.

RECREATIONAL ACTIVITIES

Lake Nacimiento allows for many types of recreation, both on shore and on the water, including camping, hiking and horseback riding trails, fishing, boating, swimming, water skiing, and personal water craft. Lake Nacimiento Resort provides the most extensive recreation facilities. The Resort includes approximately 330 camping spaces, boat launch ramps, marina, picnic areas, fish cleaning station, and additional parking. According to the MCPD Revenue and Attendance Report the maximum number of visitors at the Resort on a peak weekend is approximately 20,000. Heritage Ranch, Oak Shores, other lakeside residential developments, and recreational clubs also contribute visitors to the lake area at their respective facilities.

Recreation on Lake Nacimiento and within the Resort is governed by San Luis Obispo County Ordinance 1650, which is codified in Title 11 of the SLO County Code. A full copy of Section 20 of Title 11 is included in the Appendix and referenced throughout this report. An abbreviated list of pertinent regulations from this ordinance is distributed by the Resort to each lake user at the Resort entry gate. A copy of this handout is included in the Appendix. The Resort and its operations are also bound by the conditions of their lease agreement with the MCWRA. The Heritage Ranch Owners Association Rules and Regulations regulate activities within their community; a copy of the pertinent sections is included in the Appendix.



Lake Nacimiento Recreational Areas
Figure 3

CONTROL PROGRAM

1) Boating Activities. Title 11 of the SLO County Code provides regulations concerning the appropriate type of boat for use on Lake Nacimiento. These include the sea-worthiness of boats (11.20.290 (1)); prohibition of toilets or sink drains that can discharge into the lake (11.20.290 (3)); reference to the California Harbor and Navigation Code (11.20.400); and limitations on the number of passengers to be carried by each boat (11.20.330). All boaters must obtain a boat permit from the Monterey County Parks Department (MCPD) on either a daily or yearly basis. The permits must be carried on the boat for presentation to Lake Patrol. The MCPD operates a Boat Entry Station at the boat launch ramp at the Resort and maintains year round patrols of the Lake.

A fueling facility is located at the marina at the Resort. Fuel storage tanks, pumps, and piping must comply with local, State, and Federal Regulations for containment.

The number of boats which can safely operate on the lake is a function of the surface area. According to the California State Department of Parks and Recreation the maximum recommended density is one boat for every 4 or 5 acres. The MCPD follows this guideline, which allows approximately 1,000 boats on the lake at one time during the summer months, based on historical average elevations. The nature of the boat launch ramps at Lake Nacimiento naturally limits the number of boats which can access the lake as the elevation decreases. Table 2 shows the lake elevations at which selected launch areas are no longer functional.

Table 2: Lake Nacimiento Water Surface Elevations at which Boat Launch Areas Can No Longer Function

Boat Launch Area	Water Surface Elevation (feet above sea level)
MCPD Condo Dock	777
MCPD Resort Main Launch (high level)	767
Heritage Ranch	735
Oak Shores	725
MCPD North Ramp	719
MCPD Resort Main Launch (low level)	680

Source: MCPD 1996 (taken from Ogden 1997)

Heritage Ranch has a fish cleaning facility located approximately 200-feet from the HWL and more than four river miles from the proposed intake. Wastes flows into the sewage system through a grinder pump and bacteriological filter. The Resort has a fish cleaning facility at the top of the boat ramp, and the spring loaded faucets prevent any excessive waste flows. The fish cleaning facility drain flows to one of the Resort septic systems. Section 11.20.240 of the SLO County Code prohibits cleaning fish anywhere in the park except at designated locations.

2) Swimming. Developed day use areas, including parking lots, picnic facilities, and boat launch ramps, are located within the first two river miles from the Nacimiento Dam. The majority of shoreline along the first eight river miles from the Dam is open for day use and swimming. Water skiing and personal water craft use are allowed on the main body of the Lake, up to the log boom at the Dam. All pets must be on a leash and attended at all times, per Section 11.20.270 of the SLO County Code.

3) Toilets. All of the residential communities provide restrooms and/or portable toilets for their members. They also do routine inspection and maintenance at these facilities. Some of these private facilities are also available for public usage. The Resort has restroom facilities at all campgrounds, picnic and service facilities. There are at least ten portable toilets distributed around the beach areas. These are relocated as necessary as Lake levels fluctuate. The Resort services these daily during the summer. The MCPD maintains two floating restrooms to serve boaters; these are located approximately 1.5 miles and 4 miles, respectively, from the dam. The floating restrooms are serviced daily and are towed to facilities on shore to pump the holding tanks, as needed (MC Parks, 2001). Title 11 of the SLO County Code, Section 11.20.230 (3), requires that all campers and RV's be equipped to prevent discharge of graywater or sewage onto the ground.

4) Trailer Sanitation Stations. A recreational vehicle “Dump Station” is located at the Resort gas and propane station, approximately 250 feet from the HWL for the use of Resort visitors. This Station is connected to the Resort sewerage system.

5) Individual, Onsite Sewage Disposal Systems. Section 20 of Title 19 of the SLO County Code, Buildings and Construction Ordinance, addresses the design and installation of sewage disposal systems within the unincorporated areas of San Luis Obispo County. A copy of the pertinent sections is included in the Appendix. Additionally, new individual systems shall meet RWQCB Basin Plan 83-12 requirements.

These regulations include site area restrictions, groundwater separation minimums, surface flow constraints, and percolation minimums. Septic systems are required to have sufficient area for a 100% replacement system. Each system is required to be located at least 200 feet from HWL. All site plans and construction projects are inspected by the County building officials.

6) Sewerage Systems. The majority of recreational activity near the shores of Lake Nacimiento is concentrated in four developments: Heritage Ranch and Oak Shores residential communities, and the Lake Nacimiento Resorts and North Shore Ski & Boat Club recreational facilities.

Heritage Ranch
Heritage Ranch Community Services District (HRCSD) operates the Heritage Ranch Sewage Treatment Plant which is located over 500 feet from the reservoir HWL. All sewers and appurtenances are located at least 300 feet horizontally and 25 feet above the HWL. Effluent is pumped out of the watershed to a holding pond and sand filter beds. There are a total of five lift stations: a major station, two large residential stations, and two small stations serving the RV and campground areas. Each of these lift stations has two pumps and a minimum of four hours of storage capacity. The HRCSD owns four trailer-mounted generators (80 kW and 100 kW) which can be rotated between the pump stations as necessary during an extended power outage. The treatment plant utilizes two aeration ponds which are oversized to provide up to two weeks of storage. The plant and the main lift station have a Supervisory Control and Data Acquisition (SCADA) system that is linked to an auto dialer which provides 24-hour emergency notification. HRCSD operates the system under the California Regional Water Quality Control Board Waste Discharge Order No. 95-36 and NPDES number CA0048941. They employ a Grade 2 Wastewater Treatment Plant Operator for system supervision and two Grade 1 Wastewater Treatment Plant Operators for system operations (HRCSD, 2001).

Oak Shores
San Luis Obispo County, through County Service Area 7A, operates the waste water facilities that serve the Oak Shores development. This facility was constructed in 1975 and has been meeting discharge requirements since then. Because the residential development extends to the HWL, the gravity sewage system includes an interceptor which is buried within the HWL. This was constructed using pressure pipe materials and is inspected by CSA 7A for leakage annually using dye in accordance with RWQCB requirements. The sewage collection system includes five small pump stations and one large one on the interceptor. Each pump station has dual pumps. Three are equipped with auto dialer alarms, and the remaining three have annunciator lights. The alarms have battery backup and utilize an auto dialer to provide 24-hour emergency notification. The smaller wet wells have 8-12 hours of emergency storage and three are constructed to operate using CSA 7A's gasoline powered pumps or a generator. The large interceptor wet well has about three days of storage and a generator onsite for operation during extended power outages.

The Oak Shores sewage treatment plant is located approximately 1000 feet horizontally and 100 feet above the HWL. The treatment plant has 24 hour design flow storage capacity. Although the facility is located near the lake shore, the Oak Shores Development is located almost ten river miles from the dam and intake structure. The plant was constructed with dual facilities for redundancy. The effluent disposal area is a spray field within the Kavanaugh Creek area, which is another mile further up the watershed from the lake. This area has a capacity for two million gallons, whereas the system typically handles 50,000 gallons per day, thus giving approximately 40 days of storage. All surface runoff is diverted around the spray field. The County employs a Grade 2 Wastewater Treatment Plant Operator for this system. All facilities are operated in accordance with California Regional Water Quality Control Board Waste Discharge Requirements (CSA 7A, 2001).

Lake Nacimiento Resorts
Water World Resorts, Inc. operates the community septic system at Lake Nacimiento Resort. The septic tanks are located near the facilities they serve. The effluent from each tank is consolidated in a holding tank approximately 100' from the HWL and then pumped to a spray field located outside the watershed. The septic tank pump stations are inspected weekly by the Resort and pumped as needed, with the wastes being trucked out of the watershed. There are alarms on the effluent pump facilities, with a portable generator available for secondary power. A Grade 2 Wastewater Treatment Plant Operator operates the system including the inspection and reporting, as specified in the California Regional Water Quality Control Board Waste Discharge Requirements No. 96-26. Additionally, the San Luis Obispo County Environmental Health Department performs monthly inspections of the public service facilities at the Resort.

North Shore Ski & Boat Club
North Shore Ski & Boat Club utilizes a septic tank system with effluent pumped to a leach field located within 100 feet of the lake HWL. This system is designed for 10,000 gallons per day, but is currently operating at about 25% of design capacity. Although the leach field is near the water's edge, it is located six river miles from the water intake structure. Facilities are operated in accordance with California Regional Water Quality Control Board Waste Discharge Requirement Order No. 89-74.

7) Refuse Disposal. Refuse collection containers are conveniently located and well maintained at all public facilities. The Resort has a large number of 55 gallon trash cans located throughout their campgrounds, beaches, launching ramp, store, marina and cottages. These are maintained by the Resort staff; during the peak season, they are emptied twice a day and during the off season they are emptied daily or as needed. The collected refuse is removed from the watershed for disposal at an approved landfill. Heritage Ranch and Oak Shores are residential communities with weekly private home refuse service. Heritage Ranch has dumpsters at the fish cleaning station and campground. Oak Shores has four receptacles at the main launching ramp, two more, plus a recycling station, at the west ramp, and two at the campground. These dumpsters are serviced weekly or as needed (OSCA, 2001).

SLO County Code, Section 11.20.230, prohibits littering at the resort and the lake. Section 11.20.470 prohibits littering from vehicles. Section 11.20.540 prohibits improper disposal of burning material.

8) Equestrian Activities. The Nacimiento Lake watershed is in a rural portion of Central California. The entire watershed has open rangelands populated by wildlife and cattle.

The lower, more developed reaches are primarily large parcels with abundant wildlife, some cattle, and horses. Open range livestock and wildlife have access to the lake shore and tributaries. Due to the rugged terrain and arid climate there are no feed lots. The Resort does not have any equestrian facilities other than trails, and in accordance with Section 11.20.620, horses are required to stay on designated equestrian trails and are specifically prohibited from the campground and picnic areas.

9) Visitor Limitation. The MCPD is responsible for patrolling and controlling recreational use of the lake. They conform to State boating guidelines for limiting the density of boats on the Lake. Access to the lake from boat ramps decreases substantially as lake levels recede; this results in a direct limitation on the number of boats as the surface area of the lake diminishes. There are limited support facilities around Lake Nacimiento for overnight camping. The residential communities have campgrounds, but they are relatively small and their use is limited to owners and guests. The Resort has a defined capacity and limits overnight campers to that number.

The average annual number of visitors to Lake Nacimiento according to the MCPD Revenue and Attendance Report for an eight year period from 1994 to 2001 was 202,700. The months with the highest average attendance are May, June and July. The District measured the temperature profile in the lake in May, June, and July of 1997 and May 1998. The average storage above the thermocline for these four months was 100,800 acre-feet, and the average annual attendance for 1997 and 1998 was 201,150. The average number of annual visitors per acre-foot of storage above the thermocline for these years is 2.0. The District resumed regular water quality and temperature monitoring at the lake in August 2001, therefore more data will be available for future updates of this Report. Attendance tables and charts, temperature profiles, and calculation worksheets are shown in the Appendix.

10) Water Quality Monitoring. The District has consulted with DHS and has developed a schedule for water quality monitoring on Lake Nacimiento, which is included in the Appendix. The results of water quality testing conducted under this schedule are also included in the Appendix.

11) Reservoir Area Closure. SLO County Code, Section 11.20.220, authorizes park personnel or the operator to restrict public use of the park for sanitary protection of the watershed, fire prevention, construction, dangerous or unsafe conditions, to prevent damage to the park, or for conservation of fish and game. Section 11.20.430 authorizes the SLO County Sheriff or the MCPD Director to close the park due to dangerous conditions.

12) Reservoir Patrol. The Resort employs two permanent rangers year-round and eight additional full-time employees during the peak summer season. These employees patrol the Resort facilities and enforce the Resort rules. In addition, there are approximately five permanent and five seasonal employees on the maintenance crew, which is responsible for servicing restrooms, collecting refuse, and maintaining the grounds. SLO County Code, Sections 11.20.050 and 11.20.051, convey enforcement

authority to park personnel. The MCPD employs two permanent full-time and three seasonal part-time employees to patrol the lake seven days per week. A MCWRA employee lives at the dam and makes daily inspections of the dam area, including the log boom. During peak summer weekends the SLO County Sheriff places patrols on the lake. Due to extensive fishing at the lake, the California Department of Fish and Game conducts frequent, unscheduled visits to the lake. Heritage Ranch Homeowners Association has three full-time and twelve part-time employees to patrol their community. During the summer, two additional part-time employees are hired (HRCSD, 2001). Oak Shores Community Association has three full-time and three part-time security employees; they also employ four maintenance workers. There is an onsite volunteer fire department with a fire/rescue boat (OSCA, 2001).

13) Emergency Plan. The MCWRA has developed the 1996 *Emergency Action Plan for Nacimiento Dam*. This plan is for emergency situations that may be caused by the possible failure of Nacimiento Dam. In conjunction with the development of the proposed water delivery system, the District will develop an action plan for emergency situations which may affect the water quality of the Nacimiento Water Supply Project.

14) Public Health Surveillance. The majority of the Lake shoreline is privately owned and nominally developed. A relatively small portion of the Lake is developed for public recreation; this public area is the most intensively used area and is geographically closest to the intake facilities. Due to these factors, the Public Health Surveillance Program is structured to provide monthly inspections at the more heavily used public areas and an annual inspection of the entire lake. The monthly lake inspections will be scheduled to occur within two weeks after major holiday events (such as Memorial Day, Fourth of July, or Labor Day weekends). The annual inspections will occur during the summer season. The inspection forms included in the Appendix have been tailored to reflect the existing site improvements and will be amended as facilities change. The District will coordinate with the MCPD, the SLO County Environmental Health Division, or contract with a qualified private consultant to perform the inspections. A copy of each inspection report will be submitted to DHS. The Public Health Surveillance Program will be implemented upon completion of the Nacimiento Water Supply Project, prior to beginning water deliveries.

If problems are noticed during an inspection, the District will inform the appropriate agency to ensure that applicable ordinances, building codes, and health and safety codes are enforced.

15) Public Notification. Currently, there is a public information network, which includes handouts, newsletters and signs in the Lake Nacimiento area. The District will work closely with the organizations which maintain this network to keep the recreational users of Nacimiento Lake informed of important water quality issues. This information network serves both residents and visitors at Nacimiento Lake.

All of the residential communities have newsletters and/or informational flyers that define the rules for using community facilities (such as lake shore improvements). The

District will coordinate with each of these communities to include the following statement in their rules or newsletters: “Nacimiento Lake is a drinking water supply, please refrain from any activities that may adversely affect the quality of water in the lake.” The District will also communicate relative information to each community to be included in the newsletters or flyers.

The Resort distributes information and rule sheets to all persons entering the recreation area. The District will work with the Resort to have the above statement included on their form. Additionally, District will work with the Resort, and the lake shore communities to locate public notification signs at existing message boards in the campgrounds, restrooms, launching ramp and the marina.

The MCPD sells annual and day boat passes. The District will work with the MCPD to add the statement “Nacimiento Lake is a drinking water supply” to the receipts for annual passes and day passes.

BIOLOGICAL RISK ASSESSMENT

The average annual number of visitors at the lake, per related lake water storage, falls within the guidelines for requiring a Biological Risk Assessment. If the annual number of visitors per related lake water storage exceeded the guidelines, a Biological Risk Assessment would have been required.

REFERENCES

Boyle Engineering Corporation, 1992. *Preliminary Evaluation for the Nacimiento Water Supply Project; Phase I: Reliability Evaluation*. November, 1992.

Carollo Engineers, 2000. *Administrative Draft: EIR Preparation Phase Engineering Report; Nacimiento Project*. December, 2000.

Community Service Area 7A: San Luis Obispo County, 2001. Memorandum from San Luis Obispo County Flood Control and Water Conservation District to Community Service Area 7A operator. December, 2001.

Heritage Ranch Community Services District, 2001. Fax memorandum from the Heritage Ranch Community Services District to San Luis Obispo County Flood Control and Water Conservation District. December, 2001.

Monterey County Parks Department, 2001. Telephone conversations between San Luis Obispo County Flood Control and Water Conservation District personnel and Monterey County Parks Department personnel. December, 2001.

Oak Shores Community Association, 2001. Telephone conversation between San Luis Obispo County Flood Control and Water Conservation District personnel and Oak Shores Community Association personnel. December, 2001.

Ogden Environmental and Energy Services Co., Inc., 1997. *Draft Environmental Impact Report: Nacimiento Water Project ED 92-271*. August, 1997.

Monterey County Water Resources Agency, 1996. “Nacimiento Reservoir Capacity Table.”

APPENDIX A, LAWS, RULES AND REGULATIONS OF THE NACIMIENTO WATER SUPPLY PROJECT: REPORT ON RECREATIONAL USE AT LAKE NACIMIENTO (JUNE 2002)

Assembly Bill No. 1460

CHAPTER 524

An act to amend Section 115825 of, and to add Section 115841 to, the Health and Safety Code, relating to water.

[Approved by Governor September 28, 1997. Filed
with Secretary of State September 29, 1997.]

LEGISLATIVE COUNSEL'S DIGEST

AB 1460, Bordonaro. Nacimiento Reservoir.

Under existing law, the Monterey County Water Resources Agency operates the Nacimiento Reservoir. Under existing law, bodily contact with water is generally prohibited in a reservoir in which water is stored for domestic use.

This bill would authorize recreational activity in which there is bodily contact with the water by any participant, in the Nacimiento Reservoir, in accordance with certain requirements.

The people of the State of California do enact as follows:

SECTION 1. Section 115825 of the Health and Safety Code is amended to read:

115825. (a) It is hereby declared to be the policy of this state that multiple use should be made of all public water within the state, to the extent that multiple use is consistent with public health and public safety.

(b) Except as provided in Sections 115840 and 115841, recreational uses shall not, with respect to a reservoir in which water is stored for domestic use, include recreation in which there is bodily contact with the water by any participant.

SEC. 2. Section 115841 is added to the Health and Safety Code, to read:

115841. Recreational activity in which there is bodily contact with the water by any participant shall continue to be allowed in Nacimiento Reservoir in accordance with all of the following requirements :

(a) Any agency that removes water from the reservoir for domestic use shall comply with any, or at a minimum, one of the following with regard to the water removed:

(1) The water subsequently receives complete water treatment in compliance with all applicable department regulations, including coagulation, flocculation, sedimentation, filtration, and disinfection, before being used for domestic purposes.

(2) The water is discharged in a manner that allows percolation into a subsurface groundwater basin for subsequent extraction from only those groundwater wells that have been determined by the department not to be under the influence of surface water pursuant to Chapter 17 (commencing with Section 64650) of Division 4 of Title 22 of the California Code of Regulations and subsequently receives disinfection and complies with all applicable department regulations before being used for domestic purposes.

(3) The water is discharged in a manner that allows percolation into a subsurface groundwater basin for subsequent extraction from groundwater wells under the influence of surface water that receives treatment pursuant to Chapter 17 (commencing with Section 64650) of Division 4 of Title 22 of the California Code of Regulations and complies with all applicable department regulations.

(b) The reservoir is operated in compliance with regulations of the department.

(c) The water stored for domestic purposes that may be excepted from the requirements of subdivision (b) of Section 115825 is removed from the reservoir by an agency for domestic purposes only in San Luis Obispo County and only in an amount for which that agency has a contractual right.

SEC. 3. The Legislature finds and declares that Section 2, which is applicable only to the Nacimiento Reservoir, is necessary because of the unique recreational needs in the County of San Luis Obispo. It is therefore, declared that a general law within the meaning of Section 16 of Article IV of the California Constitution cannot be made applicable, and that the enactment of this special law is necessary for the use of water for the public good.

Appendix E Socioeconomic Resources

Appendix E Sociological Resources

Field Visit and Background Information

List of lake-related businesses in immediate vicinity

- Lake Nacimiento Resort and Water World Resorts
- Lake Nacimiento Marina
- Scott's Boat Repair
- North Shore Boat and Ski
- Bee Rock Store
- Al's Marine Service and Galley
- Batrum's Boat Repair
- Oak Shores Realty
- Cal-Shasta Club
- Tri-Counties Boat Club
- Oak Shores Community Association
- Lakeside Deli (Heritage Ranch)

Partial list of lake-related businesses in surrounding area (Paso Robles, etc.)

- The Boat Doc
- Central Coast Watersports
- Maxum Sport Boats
- VS Marine
- Mid-State Marine
- R&R Sport Center
- Davis Boats
- T&M Marine
- Jet Boat Performance
- Junior's Boat Repair
- Rainbow Marine Auto Body & Painting
- J-n-J's Texaco
- Paso Robles Unocal
- Savage Spirits
- Spring Street Auto

Interview Information

- Daniel Heath, owner and operator of Lake Nacimiento Resort, was contacted via telephone several times between November 2002 and January 2003, with no response. On March 25, 2003 we spoke with Dustin Heath of Lake Nacimiento Resorts and requested attendance and revenue information from the resort. He indicated that he would have Daniel Heath get in touch with the consultant. At the time of publication of this document, Lake Nacimiento Resort had not communicated with the consultant.

- The manager of the Bee Rock Store was contacted and discussed the typical seasonal patterns of visitors to the region and sales. While summer is by far the busiest time of year, the store is able to remain open throughout winter months due to the amount of year-round residents located within the area.

Local Websites Accessed
http:///www.savethedragon.org
http://www.nacimientoresort.com
http://www.prcity.com/index.asp
http://www.pasorobleschamber.com/

Taxable Sales, By County
County of San Luis Obispo
(Taxable transactions in thousands of dollars)

Year	Sales Tax Permits			Taxable Transactions				
	Incorporated cities	Outside incorporated cities	Total	Incorporated cities	Outside incorporated cities	Unallocated	Total	Pecent Change year to year
1980	3,670	1,711	5,381	542,334	133,359	50,187	725,880	8.9
1981	3,884	1,856	5,740	612,776	147,599	52,769	813,144	12.0
1982	4,257	2,104	6,361	636,665	139,734	60,207	836,606	2.9
1983	4,437	2,376	6,813	762,127	157,560	69,280	988,967	18.2
1984	4,201	2,187	6,388	861,741	182,135	88,187	1,132,063	14.5
1985	-	-	-	-	-	-	-	-
1986	4,242	2,187	6,429	963,541	211,531	139,613	1,314,685	6.5
1987	4,270	2,170	6,440	1,036,577	228,145	168,045	1,432,767	9.0
1988	4,541	2,282	6,823	1,104,211	238,041	206,887	1,549,139	8.1
1989	4,787	2,418	7,205	1,212,964	253,510	173,623	1,640,097	5.9
1990	5,224	2,621	7,845	1,252,506	255,799	222,206	1,730,511	5.5
1991	5,229	2,720	7,949	1,197,408	249,720	215,438	1,662,566	-3.9
1992	5,403	2,959	8,362	1,204,153	252,588	222,335	1,679,076	1.0
1993	5,638	3,014	8,652	1,195,633	249,616	212,072	1,657,321	-1.3
1994	5,842	3,131	8,973	1,257,448	249,266	233,438	1,740,152	5.0
1995	6,051	3,182	9,233	1,342,834	264,069	239,146	1,846,049	6.1
1996	6,089	3,193	9,282	1,451,831	287,674	258,400	1,997,905	8.2
1997	6,092	3,032	9,124	1,577,744	379,127	220,307	2,177,178	9.0
1998	6,148	3,016	9,164	1,676,216	377,804	232,850	2,286,870	5.0
1999	6,213	2,904	9,117	1,905,314	416,484	276,382	2,598,180	13.6
2000	6,359	2,922	9,281	2,132,339	457,693	334,539	2,924,571	12.6
2001	6,480	2,945	9,425	2,257,873	492,875	328,767	3,079,515	5.3

Source: State Board of Equalization

Taxable Sales in the 35 Largest Counties, By Type of Business
San Luis Obispo County
(Taxable transactions in thousands of dollars)

	Drug Stores	Other General Merchandise	General merchandise stores	Sporting Goods	Food Stores Selling all Types of Liquor	All Other Food Stores	Packaged Liquor Stores	Eating Places: No Alcoholic Beverages	Eating Places: Beer and Wine	Eating and Drinking: All Types of Liquor	Eating and Drinking Group	Service Stations	Mobile Homes, Trailers and Campers	Boat, Motorcycle, and Plane Dealer	Retail Stores Totals	Business and Personal Services	All Other Outlets	Totals All Outlets
1980																		
Permits	36	10	100	57	22	134	41	152	150	71	373	173	27	27	1,901	648	2,832	5,381
Taxable Transactions	18,783	2,503	56,161	5,245	38,028	18,559	13,474	29,511	24,088	37,057	90656	100391	8,924	4,013	558,384	30,191	137,305	725,880
1981																		
Permits	36	9	99	52	23	138	42	153	166	74	393	169	29	28	1,963	662	3,115	5,740
Taxable Transactions	20,246	2,551	62,412	5,544	45,103	21,416	14,050	32,779	29,597	43,065	105,441	111162	6,997	4,711	622,696	32,920	157,528	813,144
1982																		
Permits	36	9	98	54	24	143	44	171	181	75	427	163	26	35	2,115	715	3,531	6,361
Taxable Transactions	23,809	2,386	69,431		49,468	20,467	13,816	33,666	33,811	41,648	109,125	107868	4,530	4,985	636,811	35,712	164,083	836,606
1983																		
Permits	37	12	99	52	24	144	45	199	185	77	461	161	28	33	2,204	728	3,881	6,813
Taxable Transactions	26,362	2,576	97,271	5,827	55,431	22,209	15,234	39,167	38,909	45,911	123,987	109,442	5,216	6,524	759,143	37,372	192,452	988,967
1984																		
Permits	37	15	98	50	25	135	48	198	205	78	481	155	22	32	2,246	711	3,431	6,388
Taxable Transactions	27,663	3,657	110,297	6,259	62,183	25,004	16,740	45,250	46,179	49,759	141,188	112,274	4,958	7,317	873,584	45,580	212,899	1,132,063
1985																		
Permits	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Taxable Transactions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986																		
Permits	39	15	102	53	24	145	47	209	218	93	520	141	21	28	2,399	783	3,247	6,429
Taxable Transactions	32,177	4,394	126,759	8,054	68,836	28,871	16,567	47,890	51,460	52,245	151,595	100,822	5,538	7,787	962,565	53,086	299,034	1,314,685
1987																		
Permits	42	12	102	63	25	159	48	207	227	88	522	128	18	31	2,484	807	3,149	6,440
Taxable Transactions	32,530	4,581	145,493	13,750	68,589	33,829	16,762	52,568	61,929	61,837	176,334	102,528	6,007	7,520	1,036,431	61,900	334,436	1,432,767
1988																		
Permits	44	9	99	64	25	162	49	231	237	87	555	131	19	32	2,657	859	3,307	6,823
Taxable Transactions	37,791	2,583	151,885	16,832	69,747	36,667	17,141	55,791	67,643	62,898	186,332	113,575	5,712	7,347	1,101,202	62,124	385,813	1,549,139
1989																		
Permits																		
Taxable Transactions																		
1990																		
Permits	44	7	102	64	26	167	48	257	243	81	581	111	23	35	2,876	952	4,017	7,845
Taxable Transactions	41,979	2,151	169,033	19,681	87,687	37,768	17,644	58,699	78,893	67,533	205,125	141,772	8,214	7,747	1,260,520	74,753	395,238	1,730,511
1991																		
Permits	47	7	104	66	25	161	52	271	243	80	594	109	19	32	2,833	969	4,147	7,949
Taxable Transactions	45,805	1,505	164,259	18,039	87,354	46,852	18,673	65,309	79,141	65,119	209,569	127364	6,450	7,327	1,202,830	69,753	389,983	1,662,566
1992																		
Permits	46	7	101	62	24	164	52	254	244	82	580	106	16	30	2,866	969	4,527	8,362
Taxable Transactions	54,193	1,753	173,617	18,083	91,871	53,206	20,900	62,619	78,769	63,831	205,219	132,526	5,176	6,857	1,212,345	69,052	397,679	1,679,076
1993																		
Permits	41	7	96	62	24	164	52	267	244	86	597	98	18	26	2,876	981	4,795	8,652
Taxable Transactions	53,500	2,015	167,476	20,226	72,830	45,069	19,263	63,582	81,305	62,893	207,780	138,083	5,025	8,215	1,197,473	70,352	389,496	1,657,321

Source: State Board of Equalization

	Drug Stores	Other General Merchandise	General merchandise stores	Sporting Goods	Food Stores Selling all Types of Liquor	All Other Food Stores	Packaged Liquor Stores	Eating Places: No Alcoholic Beverages	Eating Places: Beer and Wine	Eating and Drinking: All Types of Liquor	Eating and Drinking Group	Service Stations	Mobile Homes, Trailers and Campers	Boat, Motorcycle, and Plane Dealer	Retail Stores Totals	Business and Personal *Services*	All Other *Outlets*	Totals All *Outlets*
1994																		
Permits	42	8	90	67	26	164	51	265	254	89	608	102	18	29	2,933	1,006	5,034	8,973
Taxable Transactions	53,853	14,222	179,012	25,503	68,741	41,994	18,235	62,876	88,207	60,982	212,065	135,331	5,374	9,572	1,246,975	72,315	420,862	1,740,152
1995																		
Permits	43	8	91	74	26	165	55	289	257	89	635	97	19	27	3,047	1,040	5,146	9,233
Taxable Transactions	51,551	35,142	189,042	24,122	73,652	42,175	18,688	66,139	89,829	62,261	218,229	138,094	9,628	10,714	1,321,785	73,997	450,267	1,846,049
1996																		
Permits	34	13	85	81	33	162	52	294	259	84	637	100	20	26	3,040	1,050	5,192	9,282
Taxable Transactions	53,016	38,870	197,487	24,993	86,371	43,333	18,513	71,299	94,016	64,952	230,267	157,586	11,741	13,156	1,433,800	78,420	485,685	1,997,905
1997																		
Permits	37	86	49	81	34	160	194	288	263	81	632	98	21	28	2,988	1,024	5,112	9,124
Taxable Transactions	55,427	207,761	152,334	29,118	96,048	46,475	142,523	78,507	98,056	66,815	243,378	160,528	11,520	15,366	1,543,297	86,548	547,333	2,177,178
1998																		
Permits	38	88	50	88	34	152	186	285	266	87	638	101	21	31	2,989	1,044	5,131	9,164
Taxable Transactions	53,931	230,575	176,644	31,978	92,116	47,804	139,920	83,111	102,945	72,459	258,515	145,488	13,326	16,659	1,643,560	96,719	546,591	2,286,870
1999																		
Permits	37	87	50	88	284	252	90	626	224	41	265	87	18	33	3,087	1,033	4,997	9,117
Taxable Transactions	52,423	261,462	209,039	36,572	89,392	112,493	76,773	278,658	52,169	22,171	74,340	173,452	14,651	21,630	1,851,556	114,810	631,814	2,598,180
2000																		
Permits	38	86	48	100	35	145	84	288	255	97	640	88	23	33	3,280	1,036	4,965	9,281
Taxable Transactions	52,039	274,058	222,019	43,455	106,244	58,162	27,065	98,929	121,315	84,973	305,217	206,016	14,555	23,857	2,080,718	4,965	724,508	2,924,571
2001																		
Permits	36	77	41	106	36	138	174	308	261	101	670	93	23	35	3,421	1,041	4,963	9,425
Taxable Transactions	53,776	290,006	236,230	45,963	114,010	54,680	168,690	107,046	124,759	91,971	323,776	202,790	18,020	26,205	2,242,055	122,380	715,080	3,079,515

Source: State Board of Equalization

Taxable Sales in the 272 Largest Cities, By Type of Business

Atascadero and Paso Robles

(Taxable transactions in thousands of dollars)

Source: State Board of Equalization

Type of Business	Atascadero		Paso Robles	
	Permits	Taxable Transactions	Permits	Taxable Transactions
1980				
Apparel Stores	15	2,135	17	3,515
General Merchandise Stores	9	3,143	12	6,005
Drug Stores	4	2,787	4	1,269
Food Stores	12	7,073	10	7,065
Packaged Liquor Stores	3	-	6	2,160
Eating and Drinking Places	37	6,766	28	8,956
Home Furnish. and Applicances	22	2,022	15	1,868
Bldg. Matrl. Abd Farm Implmts.	15	6,849	18	9,556
Autop Dealers and Supplies	9	3,904	11	6,063
Service Stations	18	10,775	24	13,683
Other Retail Stores	57	6,184	46	5,780
Retail Stores Total	201	51,638	191	65,920
All Other Outlets	359	12,436	248	15,067
Totals All Outlets	560	64,074	439	80,987
1981				
Apparel Stores	17	2,576	17	3,856
General Merchandise Stores	9	3,724	11	6,651
Drug Stores	4	3,078	4	1,241
Food Stores	14	8,881	11	9,574
Packaged Liquor Stores	4	-	6	2,132
Eating and Drinking Places	39	7,872	31	10,603
Home Furnish. and Applicances	28	3,119	17	2,306
Bldg. Matrl. Abd Farm Implmts.	14	6,720	16	8,527
Autop Dealers and Supplies	10	5,376	11	6,303
Service Stations	18	12,368	23	15,369
Other Retail Stores	57	5,943	46	6,328
Retail Stores Total	214	59,657	193	72,890
All Other Outlets	433	15,069	271	18,790
Totals All Outlets	647	74,726	464	91,680
1982				
Apparel Stores	20	2,697	17	3,556
General Merchandise Stores	8	3,675	11	8,435
Drug Stores	4	3,262	4	1,380
Food Stores	15	9,527	12	10,358
Packaged Liquor Stores	3	-	6	1,877
Eating and Drinking Places	39	8,605	36	11,810
Home Furnish. and Applicances	27	2,357	19	2,389
Bldg. Matrl. Abd Farm Implmts.	14	6,342	14	7,867
Autop Dealers and Supplies	12	4,623	12	6,529
Service Stations	19	12,707	24	15,779
Other Retail Stores	65	7,610	50	6,568
Retail Stores Total	226	61,405	205	76,548
All Other Outlets	458	15,849	291	18,338
Totals All Outlets	684	77,254	496	94,886
1983				
Apparel Stores	19	2,500	15	3,460
General Merchandise Stores	8	4,000	12	14,780
Drug Stores	4	-	4	-

Type of Business	Atascadero		Paso Robles	
	Permits	Taxable Transactions	Permits	Taxable Transactions
Food Stores	15	10,983	11	10,420
Packaged Liquor Stores	2	-	6	2,095
Eating and Drinking Places	47	10,030	42	13,516
Home Furnish. and Applicances	31	3,065	15	2,508
Bldg. Matrl. Abd Farm Implmts.	14	7,510	16	11,180
Autop Dealers and Supplies	10	7,606	14	4,725
Service Stations	17	13,358	23	17,230
Other Retail Stores	67	10,940	59	9,476
Retail Stores Total	234	69,992	217	89,390
All Other Outlets	511	20,321	331	23,133
Totals All Outlets	745	90,313	548	112,523
1984				
Apparel Stores	15	2,453	15	3,317
General Merchandise Stores	8	4,462	11	15,961
Drug Stores	4	3,712	4	1,256
Food Stores	14	12,482	10	12,175
Packaged Liquor Stores	3	-	7	2,442
Eating and Drinking Places	48	10,524	43	15,462
Home Furnish. and Applicances	26	4,494	19	3,110
Bldg. Matrl. Abd Farm Implmts.	16	9,574	16	14,918
Autop Dealers and Supplies	12	8,253	17	13,071
Service Stations	16	14,025	22	17,595
Other Retail Stores	78	9,337	66	10,128
Retail Stores Total	240	79,316	230	109,435
All Other Outlets	451	24,006	300	24,182
Totals All Outlets	691	103,322	530	133,617
1985				
Apparel Stores	-	-	-	-
General Merchandise Stores	-	-	-	-
Drug Stores	-	-	-	-
Food Stores	-	-	-	-
Packaged Liquor Stores	-	-	-	-
Eating and Drinking Places	-	-	-	-
Home Furnish. and Applicances	-	-	-	-
Bldg. Matrl. Abd Farm Implmts.	-	-	-	-
Autop Dealers and Supplies	-	-	-	-
Service Stations	-	-	-	-
Other Retail Stores	-	-	-	-
Retail Stores Total	-	-	-	-
All Other Outlets	-	-	-	-
Totals All Outlets	-	-	-	-
1986				
Apparel Stores	20	2,725	16	3,524
General Merchandise Stores	11	4,440	10	17,453
Drug Stores	4	3,673	5	2,714
Food Stores	16	14,524	15	15,791
Packaged Liquor Stores	4	1,270	7	2,041
Eating and Drinking Places	48	12,444	52	16,000
Home Furnish. and Applicances	35	7,020	25	4,369
Bldg. Matrl. Abd Farm Implmts.	21	11,992	19	19,194
Autop Dealers and Supplies	15	11,967	14	13,526
Service Stations	13	11,258	22	13,794
Other Retail Stores	82	9,956	70	12,439
Retail Stores Total	269	91,269	255	120,845
All Other Outlets	441	15,595	302	34,027

Type of Business	Atascadero		Paso Robles	
	Permits	Taxable Transactions	Permits	Taxable Transactions
Totals All Outlets	710	106,864	557	154,872
1987				
Apparel Stores	20	2,574	16	4,155
General Merchandise Stores	10	11,264	8	16,888
Drug Stores	4	3,525	6	2,780
Food Stores	17	15,913	16	16,209
Packaged Liquor Stores	5	1,952	7	1,886
Eating and Drinking Places	46	14,189	58	17,531
Home Furnish. and Applicances	32	6,922	23	4,959
Bldg. Matrl. Abd Farm Implmts.	18	10,438	20	18,534
Autop Dealers and Supplies	16	14,058	14	12,302
Service Stations	13	10,580	17	14,679
Other Retail Stores	78	11,062	73	12,130
Retail Stores Total	259	102,659	258	122,053
All Other Outlets	434	18,369	318	31,503
Totals All Outlets	693	121,028	576	153,556
1988				
Apparel Stores	21	2,292	17	4,677
General Merchandise Stores	7	14,882	8	16,637
Drug Stores	4	3,805	6	3,144
Food Stores	15	16,250	16	16,750
Packaged Liquor Stores	7	2,327	6	2,030
Eating and Drinking Places	51	14,360	60	18,206
Home Furnish. and Applicances	34	7,688	27	5,054
Bldg. Matrl. Abd Farm Implmts.	16	10,653	23	19,085
Autop Dealers and Supplies	15	12,005	13	14,084
Service Stations	13	10,434	20	18,974
Other Retail Stores	80	11,102	78	13,083
Retail Stores Total	263	105,798	274	131,724
All Other Outlets	443	20,333	349	33,679
Totals All Outlets	706	126,131	623	165,403
1989				
Apparel Stores	18	1,773	19	5,022
General Merchandise Stores	8	16,173	7	18,652
Drug Stores	6	4,963	6	3,067
Food Stores	18	19,516	15	19,071
Packaged Liquor Stores	7	2,822	6	1,941
Eating and Drinking Places	53	15,166	62	20,340
Home Furnish. and Applicances	28	8,612	31	5,855
Bldg. Matrl. Abd Farm Implmts.	15	15,103	22	25,391
Autop Dealers and Supplies	19	15,418	16	23,325
Service Stations	10	13,223	20	22,927
Other Retail Stores	86	12,377	77	15,748
Retail Stores Total	268	125,119	281	161,339
All Other Outlets	479	21,848	372	35,927
Totals All Outlets	747	146,967	653	197,266
1990				
Apparel Stores	20	1,537	21	5,297
General Merchandise Stores	7	16,957	8	18,702
Drug Stores	6	6,804	5	3,039
Food Stores	18	21,202	13	19,428
Packaged Liquor Stores	5	2,406	5	2,032
Eating and Drinking Places	54	17,294	65	20,879
Home Furnish. and Applicances	31	8,722	29	5,948
Bldg. Matrl. Abd Farm Implmts.	22	13,093	23	24,796

Type of Business	Atascadero		Paso Robles	
	Permits	Taxable Transactions	Permits	Taxable Transactions
Autop Dealers and Supplies	22	15,141	19	25,323
Service Stations	11	15,682	22	33,354
Other Retail Stores	89	13,132	90	17,477
Retail Stores Total	285	131,970	300	176,275
All Other Outlets	515	20,018	426	34,749
Totals All Outlets	800	151,988	726	211,024
1991				
Apparel Stores	19	1,685	22	5,123
General Merchandise Stores	7	16,506	8	17,160
Drug Stores	7	7,183	6	4,691
Food Stores	18	21,978	12	21,285
Packaged Liquor Stores	5	2,639	4	1,465
Eating and Drinking Places	62	16,756	65	20,763
Home Furnish. and Applicances	31	7,346	24	5,819
Bldg. Matrl. Abd Farm Implmts.	21	13,812	27	22,958
Autop Dealers and Supplies	23	13,851	18	22,075
Service Stations	13	16,398	21	22,745
Other Retail Stores	99	14,302	85	15,235
Retail Stores Total	305	132,456	292	159,319
All Other Outlets	501	18,471	411	35,920
Totals All Outlets	806	150,927	703	195,239
1992				
Apparel Stores	16	1,375	19	4,865
General Merchandise Stores	9	16,574	7	17,798
Drug Stores	7	9,091	6	8,347
Food Stores	16	24,475	13	21,580
Packaged Liquor Stores	5	2,688	4	1,286
Eating and Drinking Places	58	16,266	62	20,431
Home Furnish. and Applicances	21	7,022	26	5,125
Bldg. Matrl. Abd Farm Implmts.	19	11,433	28	25,970
Autop Dealers and Supplies	23	12,679	15	18,771
Service Stations	13	16,023	21	24,982
Other Retail Stores	109	13,668	92	14,796
Retail Stores Total	296	131,474	293	163,951
All Other Outlets	536	20,834	441	34,145
Totals All Outlets	832	152,308	734	198,096
1993				
Apparel Stores	13	1,350	16	4,376
General Merchandise Stores	8	15,789	8	15,444
Drug Stores	7	8,683	4	8,224
Food Stores	17	20,785	10	17,918
Packaged Liquor Stores	4	-	5	1,836
Eating and Drinking Places	60	16,037	66	22,384
Home Furnish. and Applicances	24	8,255	26	6,004
Bldg. Matrl. Abd Farm Implmts.	18	11,891	27	24,868
Autop Dealers and Supplies	22	16,871	18	23,267
Service Stations	11	15,336	20	29,028
Other Retail Stores	104	16,436	104	15,758
Retail Stores Total	288	131,433	304	169,107
All Other Outlets	583	19,669	484	31,918
Totals All Outlets	871	151,102	788	201,025
1994				
Apparel Stores	8	3,918	22	4,354
General Merchandise Stores	6	14,334	9	25,142
Drug Stores	7	8,760	5	8,144

Type of Business	Atascadero		Paso Robles	
	Permits	Taxable Transactions	Permits	Taxable Transactions
Food Stores	21	20,504	10	17,267
Packaged Liquor Stores	3	-	3	-
Eating and Drinking Places	59	17,304	66	21,146
Home Furnish. and Applicances	28	8,638	29	6,762
Bldg. Matrl. Abd Farm Implmts.	19	11,420	21	24,319
Autop Dealers and Supplies	20	21,822	17	25,804
Service Stations	10	15,271	18	26,408
Other Retail Stores	116	17,619	114	19,419
Retail Stores Total	297	139,590	314	178,765
All Other Outlets	612	21,933	543	33,807
Totals All Outlets	909	161,523	857	212,572
1995				
Apparel Stores	17	11,391	23	3,755
General Merchandise Stores	7	12,464	8	42,176
Drug Stores	6	8,324	6	-
Food Stores	17	20,337	14	17,566
Packaged Liquor Stores	4	2,893	3	-
Eating and Drinking Places	61	17,752	70	22,393
Home Furnish. and Applicances	29	8,151	29	7,103
Bldg. Matrl. Abd Farm Implmts.	16	11,670	23	22,493
Autop Dealers and Supplies	23	24,542	18	31,737
Service Stations	8	15,593	17	26,988
Other Retail Stores	120	15,297	119	27,642
Retail Stores Total	308	148,414	330	201,853
All Other Outlets	616	24,689	586	42,110
Totals All Outlets	924	173,103	916	243,963
1996				
Apparel Stores	25	12,342	18	4,151
General Merchandise Stores	5	12,481	9	46,549
Drug Stores	5	8,322	3	-
Food Stores	17	21,743	15	18,338
Packaged Liquor Stores	4	2,884	2	-
Eating and Drinking Places	58	18,263	68	23,650
Home Furnish. and Applicances	29	6,791	29	7,052
Bldg. Matrl. Abd Farm Implmts.	16	12,202	20	23,633
Autop Dealers and Supplies	24	25,560	19	36,992
Service Stations	9	19,573	17	31,031
Other Retail Stores	115	16,386	117	28,328
Retail Stores Total	307	156,547	317	219,724
All Other Outlets	654	26,156	616	48,581
Totals All Outlets	961	182,703	933	268,305
1997				
Apparel Stores	19	13,761	17	4,106
General Merchandise Stores	11	21,803	13	58,468
Drug Stores	-		-	-
Food Stores	16	23,644	17	19,039
Packaged Liquor Stores	-		-	-
Eating and Drinking Places	58	19,827	71	26,141
Home Furnish. and Applicances	25	5,994	33	7,856
Bldg. Matrl. Abd Farm Implmts.	17	13,822	20	27,817
Auto Dealers and Supplies	22	31,507	23	40,534
Service Stations	10	19,450	17	32,597
Other Retail Stores	111	19,340	122	27,482
Retail Stores Total	289	169,148	333	244,040
All Other Outlets	677	29,908	628	50,701

Type of Business	Atascadero		Paso Robles	
	Permits	Taxable Transactions	Permits	Taxable Transactions
Totals All Outlets	966	199,056	961	294,741
1998				
Apparel Stores	22	12,803	16	4,301
General Merchandise Stores	12	21,719	14	77,089
Drug Stores	-	-	-	-
Food Stores	15	23,113	17	19,602
Packaged Liquor Stores	-	-	-	-
Eating and Drinking Places	65	20,370	78	30,235
Home Furnish. and Applicances	23	7,421	28	8,868
Bldg. Matrl. Abd Farm Implmts.	17	15,081	22	25,771
Autop Dealers and Supplies	22	34,256	22	43,507
Service Stations	10	16,981	18	27,933
Other Retail Stores	124	19,829	120	35,807
Retail Stores Total	310	171,573	335	273,113
All Other Outlets	677	33,106	696	52,910
Totals All Outlets	987	204,679	1,031	326,023
1999				
Apparel Stores	21	13,567	15	4,523
General Merchandise Stores	10	22,896	16	84,098
Drug Stores	-	-	-	-
Food Stores	15	25,833	18	20,901
Packaged Liquor Stores	-	-	-	-
Eating and Drinking Places	61	21,522	80	33,988
Home Furnish. and Applicances	26	9,382	29	10,462
Bldg. Matrl. Abd Farm Implmts.	16	20,558	23	31,847
Auto Dealers and Supplies	28	38,761	29	51,938
Service Stations	8	15,437	15	33,559
Other Retail Stores	134	23,691	144	46,678
Retail Stores Total	319	191,647	369	317,994
All Other Outlets	645	39,126	720	63,785
Totals All Outlets	964	230,773	1,089	381,779
2000				
Apparel Stores	20	12,259	17	5,023
General Merchandise Stores	9	22,767	15	91,002
Drug Stores	-	-	-	-
Food Stores	16	32,122	21	22,131
Packaged Liquor Stores	-	-	-	-
Eating and Drinking Places	58	22,218	81	41,784
Home Furnish. and Applicances	23	9,558	34	11,976
Bldg. Matrl. Abd Farm Implmts.	16	25,023	24	35,344
Autop Dealers and Supplies	30	43,066	30	67,855
Service Stations	8	17,322	15	39,736
Other Retail Stores	152	27,840	166	50,298
Retail Stores Total	332	212,175	403	365,149
All Other Outlets	652	43,378	723	66,642
Totals All Outlets	984	255,553	1,126	431,791
2001				
Apparel Stores	22	10,535	17	6,174
General Merchandise Stores	7	23,227	16	96,216
Drug Stores	-	-	-	-
Food Stores	17	31,402	19	22,270
Packaged Liquor Stores	-	-	-	-
Eating and Drinking Places	63	23,668	87	44,372
Home Furnish. and Applicances	21	10,300	41	12,656
Bldg. Matrl. Abd Farm Implmts.	19	57,620	23	42,525

Type of Business	Atascadero		Paso Robles	
	Permits	Taxable Transactions	Permits	Taxable Transactions
Autop Dealers and Supplies	29	48,778	35	83,111
Service Stations	10	17,231	15	38,301
Other Retail Stores	154	29,376	180	50,817
Retail Stores Total	342	252,137	433	396,442
All Other Outlets	641	43,457	761	72,635
Totals All Outlets	983	295,594	1,194	469,077

San Luis Obispo County Home Sale Data for Selected Census Tracts

Source: DataQuick Information Systems

Sales Volume

Year	Qtr	100	101	102	SLO Cty
1989	1	28	22	115	1,419
	2	50	34	135	1,846
	3	52	36	117	1,706
	4	41	31	91	1,248
1990	1	26	17	78	1,043
	2	26	15	58	994
	3	16	15	52	875
	4	14	11	35	632
1991	1	16	13	40	607
	2	20	12	41	865
	3	16	14	40	816
	4	9	14	41	707
1992	1	14	9	42	684
	2	14	8	38	873
	3	17	13	34	700
	4	10	10	45	774
1993	1	15	6	28	593
	2	16	7	34	773
	3	17	10	37	835
	4	27	12	51	870
1994	1	17	13	47	812
	2	25	13	49	980
	3	11	14	38	867
	4	18	15	42	784
1995	1	13	8	20	566
	2	27	17	37	709
	3	29	18	37	783
	4	19	27	29	748
1996	1	11	13	38	669
	2	21	15	32	875
	3	21	19	48	860
	4	17	12	37	783
1997	1	20	10	36	727
	2	19	9	49	1,043
	3	27	19	51	1,176
	4	20	11	55	1,018
1998	1	15	15	44	838
	2	25	24	63	1,326
	3	22	16	54	1,545
	4	16	16	61	1,401
1999	1	23	13	45	1,109
	2	34	28	70	1,583
	3	28	27	87	1,501
	4	16	24	79	1,252
2000	1	21	12	73	1,129
	2	32	28	81	1,443

Median Sales Price

Year	Qtr	100	101	102	SLO Cty
1989	1	$95,250	$85,000	$114,000	$134,000
	2	$103,750	$96,500	$125,000	$148,000
	3	$97,500	$125,000	$129,500	$160,000
	4	$112,500	$123,000	$139,250	$165,500
1990	1	$117,500	$117,750	$146,000	$180,000
	2	$114,500	$166,500	$160,000	$185,000
	3	$136,500	$137,500	$155,500	$190,000
	4	$156,000	$124,250	$148,500	$185,000
1991	1	$90,000	$89,250	$130,000	$169,500
	2	$115,000	$89,000	$152,000	$177,500
	3	$132,000	$138,750	$152,000	$182,000
	4	$128,750	$123,000	$127,000	$180,000
1992	1	$145,500	$122,500	$146,000	$169,000
	2	$126,750	$115,000	$153,000	$164,500
	3	$141,500	$121,250	$151,000	$160,000
	4	$145,000	$165,000	$138,000	$162,000
1993	1	$124,000	$124,500	$137,750	$160,000
	2	$120,500	$106,000	$115,000	$163,000
	3	$148,500	$144,250	$140,000	$168,000
	4	$147,500	$106,500	$145,000	$161,000
1994	1	$137,500	$135,000	$124,000	$160,500
	2	$131,500	$140,250	$125,000	$160,000
	3	$123,500	$135,500	$122,000	$161,500
	4	$138,750	$125,000	$128,000	$155,000
1995	1	$114,000	$120,000	$120,000	$150,000
	2	$138,000	$95,000	$123,000	$155,000
	3	$138,500	$82,000	$131,000	$155,000
	4	$175,000	$111,000	$128,000	$157,500
1996	1	$150,000	$121,500	$119,750	$152,000
	2	$137,500	$130,000	$116,250	$158,000
	3	$131,000	$137,000	$126,000	$158,000
	4	$116,000	$126,750	$127,000	$159,000
1997	1	$140,000	$103,750	$135,750	$165,000
	2	$117,500	$128,500	$137,000	$165,000
	3	$106,500	$117,500	$126,500	$172,500
	4	$134,000	$155,000	$121,500	$168,000
1998	1	$111,000	$137,000	$130,000	$166,136
	2	$155,000	$105,000	$136,000	$171,500
	3	$122,750	$124,000	$141,000	$180,000
	4	$132,750	$124,750	$153,500	$182,500
1999	1	$185,000	$118,000	$160,000	$178,500
	2	$137,750	$127,750	$152,750	$194,250
	3	$160,000	$130,000	$159,000	$195,000
	4	$160,000	$140,250	$152,250	$200,000
2000	1	$168,000	$224,250	$172,500	$209,250
	2	$160,000	$159,500	$176,000	$222,500

	3	27	45	91	1,422
	4	34	61	73	1,315
2001	1	19	53	69	1,166
	2	37	67	93	1,342
	3	22	55	74	1,437
	4	24	21	61	1,130
2002	1	24	21	56	1,214
	2	27	43	76	1,545
	3	23	34	83	1,453
	4	23	36	74	1,207

	3	$169,500	$179,500	$195,000	$230,250
	4	$172,000	$188,500	$193,000	$240,250
2001	1	$170,000	$216,500	$195,000	$250,000
	2	$195,000	$198,000	$228,500	$265,000
	3	$222,000	$200,000	$228,500	$272,000
	4	$219,250	$230,000	$200,500	$280,000
2002	1	$225,000	$260,000	$227,000	$289,000
	2	$257,500	$273,500	$250,000	$310,000
	3	$289,500	$262,000	$264,000	$327,250
	4	$213,750	$261,000	$270,000	$330,000

FINAL

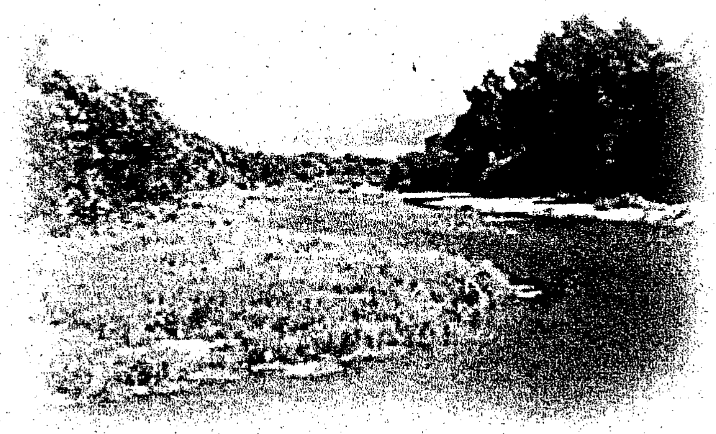
ENVIRONMENTAL IMPACT REPORT/
ENVIRONMENTAL IMPACT STATEMENT

for the

Salinas Valley Water Project

SCH# 2000034007

VOLUME I



April 2002

Monterey County Water Resources Agency

U.S. Army Corps of Engineers

Economic Development Administration

MR-6 ECONOMIC AND PROPERTY VALUE EFFECTS

A number of comments were received pertaining to the economic effects of the proposed project. It is acknowledged that the proposed project could affect local economic conditions in a number of ways. The project would affect recreational opportunities, which would adversely affect the recreation economy reliant on use of Lake Nacimiento and Lake San Antonio and could also affect the value of properties around Lake Nacimiento. The project also would affect the urban and agricultural economies of the Salinas Valley, which are heavily reliant on the use of groundwater.

CEQA requirements regarding economic and social effects are provided in §15131 of the State CEQA Guidelines. In summary, CEQA states that economic/social effects of a project shall *not* be treated as significant effects on the environment, but may be considered if these effects, in turn, lead to physical changes to the environment. CEQA also states that economic/social effects of a project may be used to determine the significance of physical changes caused by the project. Similarly, economic and social effects are not considered to be significant environmental effects under NEPA ("... economic and social effects and not intended by themselves to require preparation of an environmental impact statement." CEQ NEPA regulations §1508.14). The CEQ NEPA regulations do state "when an environmental impact statement is prepared and economic or social and natural or physical environmental effects are interrelated, then the environmental impact statement will discuss all of these effects on the human environment." (40 CFR §1508.14). There is little guidance under NEPA on what is meant by the interrelationship between economic and social effects and natural or physical environmental effects.

Both social and economic issues were considered in the Draft EIR/EIS evaluation of impacts of the SVWP. For instance, effects on recreation were considered to represent potential environmental impacts, even though it can be argued that recreation is a social issue rather than a physical environmental issue. The extent to which the project could affect recreational opportunities was used as a threshold of significance for environmental effects. The analysis considered the correlation between historical use of the lake and lake levels and identified a threshold below which visitation would be expected to be substantially diminished. This analysis concluded that the number of quality visitor days would be substantially diminished by the project and significant and unavoidable impacts would result. Project effects on aesthetics, which can also be considered a social issue, were evaluated as well. Regarding homes and visitors with views of the lakes, the Draft EIR/EIS concluded that the lake elevations would be sufficiently lowered by the project such that significant and unavoidable adverse visual impacts would occur. Social and economic effects to agriculture and urban uses were also considered. With regard to agriculture and urban uses, the Draft EIR/EIS concluded that halting seawater intrusion would have a substantial beneficial effect related to water quality. This would, in turn, result in continued productive use of agricultural land, which is a substantial component of the local economy. While these economic and social factors were considered in the environmental impact analysis consistent with NEPA and CEQA guidance, economic effects were not, by themselves, quantified or considered. Substantial public interest in potential economic effects related to changes in lake levels has been expressed in comments on the Draft EIR/EIS. In response to these comments, an analysis of these economic effects has been completed and is presented in this final EIR/EIS to further the disclosure of the severity of physical impacts related to changes in lake levels. The results are provided below. The economic effects quantified here are not considered environmental effects in themselves under CEQA and NEPA. Accordingly, no conclusions are made regarding the significance of these effects and no mitigation is required.

Before reviewing the results of the economic analysis, several items are worth noting.

1. The economic analysis shows that the project would adversely affect visitor spending at the lakes and, to a lesser extent, in the local and regional economy. It also shows that property values around Lake Nacimiento would be negatively affected. This conclusion is consistent with the findings of the Draft EIR/EIS, which states that recreation and visual resources at Lake Nacimiento (and San Antonio) would be significantly affected and that this effect would be an unavoidable consequence of project implementation (i.e., the effect is not mitigable).

2. The reservoirs were built by the predecessor to the MCWRA and funded entirely by agricultural and urban uses in the Salinas Valley for the express purpose of providing flood control and water conservation benefits to the Salinas Valley. The agricultural and urban economies of the Salinas Valley rely on the reservoirs for their health. Although the presence of the reservoirs provides recreational and aesthetic amenities, these are not the primary purposes for which the reservoirs were constructed. An analysis of the project's economic benefits to landowners in the Salinas Valley and to the local and regional economy in Monterey County has not been conducted. Nevertheless, it needs to be recognized that the agricultural industry in Monterey County, most of which is in the Salinas Valley, is a $2 billion plus/year industry, and the northern Salinas Valley, where the project would halt seawater intrusion, is home to some of the most productive agricultural land in the Valley (and the world). The northern Salinas Valley is also home to over 150,000 people. Both agricultural and urban uses rely on groundwater as their primary and nearly singular source of water. While this economic analysis does not examine the project's benefits, they would appear substantial. As described in Master Response MR-1, demand management options (no supplemental supply) would remove over $32,000,000 annually in primary agricultural crop revenues, and secondary impacts (farm labor wages, processing, transportation, etc.) would add to this economic loss. A complete evaluation of economic effects of the project would need to consider these effects in addition to the adverse effects related to reservoir lake levels and curtailment of recreational opportunities.

3. The MCWRA owns the reservoirs and operates them in accordance with the water right license granted to it by the State of California, which specifies the beneficial uses for the water stored in the reservoirs. The priority beneficial uses specified in the MCWRA's water rights license are flood control and groundwater recharge for the agricultural, domestic, municipal, industrial, and recreational uses in the Salinas Valley. Recreational use of San Antonio and Nacimiento reservoirs is not the primary beneficial use. The Agency has an agreement to provide up to 17,500 AFY to San Luis Obispo County for its use.

The economic analysis focuses on two main issues raised in public comment: (1) the regional economic and fiscal effects of the project resulting from changes in lake levels at Lake Nacimiento and Lake San Antonio, and (2) the indirect impacts to property values surrounding Lake Nacimiento resulting from changes in lake levels there (no residential properties exist at Lake San Antonio).

ECONOMIC/FISCAL EFFECTS

Methodology. Changes in recreational activity at Lake Nacimiento and Lake San Antonio resulting from project operations were predicted using a recreation visitation model, which evaluated the quantitative relationships between historical attendance data (1985-2000) and hydrologic (lake-level), demographic, economic, and climate data. Based on the results of the recreation visitation model, changes in recreational spending by visitors to each lake were estimated using estimates of visitor spending by type of recreational user. Based on estimated changes in recreational spending onsite, in Paso Robles, and in San Luis Obispo County as a whole, the economic effects of the project, as measured by changes in employment and income levels, were then estimated using information obtained from the resort operator and from the IMPLAN economic input-output model. IMPLAN is a commonly used analytical tool for estimating regional economic effects associated with changes in economic inputs. Fiscal impacts were evaluated by applying relevant tax rates to predicted changes in levels of recreational spending on retail goods and hotel/motel services to determine changes in local government revenues.

Results. The proposed project is predicted to result in changes in recreational activity at Lake Nacimiento and Lake San Antonio, which would, in turn, affect visitor spending, jobs, and personal income at the lakes and within Paso Robles and San Luis Obispo County. Under with-project conditions, recreational use, as expressed in annual visitor days, is predicted to decline by an average of 10.5% at Lake Nacimiento and by 33.9% at Lake San Antonio compared to use levels under without-project conditions. This is an average, and effects would be greater or lesser in a particular year depending on rainfall and reservoir levels.

The economic analysis estimates that annual visitor spending at the two lakes would decrease by an average of $2.0 million under the project, a 24% reduction compared to without-project conditions. This reduction in visitor spending would result in an estimated 57 jobs being eliminated and total personal income being reduced by approximately $900,000 annually onsite. Within Paso Robles, the project is expected to result in a decrease in visitor spending of approximately $1.1 million (19% decrease), with 28 jobs being eliminated and a reduction of personal income of roughly $924,000. Compared to 2000 employment figures, the reduction of jobs represents about 1% of jobs in recreation-serving businesses and roughly 0.2% of all jobs in Paso Robles. Based on information from the California Employment Development Department, job creation in Paso Robles averaged about 200 jobs per year between 1991 and 2000.

In San Luis Obispo County as a whole, which includes Paso Robles, average annual visitor spending is expected to decrease by $2.3 million, resulting in the elimination of 74 jobs and a decrease in personal income of about $1.5 million. Relative to employment within the county as a whole, these estimates represent a reduction of 0.2% of jobs in recreation-serving businesses and approximately 0.05% all jobs in San Luis Obispo County. Based on information from the California Employment Development Department, job creation in San Luis Obispo County averaged about 2,500 jobs per year between 1991 and 2000.

Potential fiscal impacts in the project area are associated with changes in recreational use of Lake Nacimiento and Lake San Antonio and related effects on property values near the reservoirs. Fiscal impacts would include reductions in sales tax, transient occupancy, business license fees, and property tax revenues. For San Luis Obispo County, the proposed project is expected to result in a decrease of approximately $10,500 (-0.2%) in sales taxes, $35,700 (-0.9%) in transient occupancy taxes, $100 (-0.2%) in business license fees, and $60,300 (-0.1%) in property taxes. In total, the annual fiscal impacts on San Luis Obispo County are estimated to be $106,600, or a reduction of 0.1% in the affected revenue sources. For the City of Paso Robles, sales tax revenue is expected to decrease by roughly $6,400 (-0.1%), transient occupancy taxes would decrease by $19,400 (-2.0%), and business license fees would fall by $200 (-0.1%); there would be no property tax effects because the affected properties at Lake Nacimiento are not located within the City's jurisdiction. In total, fiscal impacts on the City of Paso Robles are estimated to be $26,100, or a reduction of 0.3% in the affected revenue sources.

In addition, reductions in recreational visitation would affect revenues received by Monterey County Parks Department (MCPD). MCPD generates revenue through its lease agreements with on-site concessionaires and through campground/day-use fees for facilities it directly operates. Assuming MCPD revenues change at the same rate as recreation use levels, annual revenues could be expected to decline by $30,800 at Lake Nacimiento and by $360,400 at Lake San Antonio based on average annual (unadjusted) revenues between 1985 and 2001. Taken together, the reductions at the reservoirs could total $391,200, or 28.8% of total (unadjusted) annual average revenues generated for the MCPD between 1985 and 2000.

Property Value Effects

Methodology. The property value analysis was conducted by evaluating historical property sales data at Lake Nacimiento. Anecdotal data from discussions with knowledgeable locals and results from other comparable studies also were considered. Historical property sales data (1987-2001) were correlated with reservoir levels and other structural and location characteristics of properties to evaluate the relationship between these variables. A hedonic property-pricing methodology, which relies on multiple regression techniques to analyze the marginal contribution of parts of commodities to their overall value, was used to estimate the effect of reservoir levels and housing characteristics on a home's value (sales price).

Results. A statistically significant relationship was found between property sales price and lake levels. Under the preferred alternative (Alternative A), the average minimum summer lake elevation at Lake Nacimiento would be reduced from 748 feet above mean sea level under the baseline (without-project) conditions to 734 feet above mean sea level, a reduction of 14 feet or 1.9 %. Based on observed responses in property sales to annual fluctuations in lake levels explained by the hedonic model, this reduction in lake levels would cause the average residential home at Lake Nacimiento (with an average market value of $177,000) to decline in value by $2,255 (1.3%).

Historical fluctuations in lake levels have been primarily related to short termclimatic variations rather than more permanent changes in Monterey County's operation of the two reservoirs, a situation likely understood by existing homeowners and potential buyers. Because reoperation of the reservoirs under the SVWP would cause a long-term reduction in lake levels, it is expected that the impact on property values would be more pronounced than can be deduced from short-term (annual) fluctuations. A more pronounced effect on property values is likely because the project is expected to more frequently result in lake level conditions that are too low to support boating activities and would adversely affect aesthetic qualities of the immediate area. Based on conditions that occurred during the 1989-1991 drought years as a proxy, the long-term impact of the project on property values is estimated to be $7,700 per home (4.4% of the average value of improved property). Lakefront and lake view properties likely would experience substantially higher reductions in property values.

The fiscal impact to San Luis Obispo County, in terms of the potential loss in property tax revenues, is described above under the fiscal impact discussion for the economic impact report.

IMPLICATIONS OF THE ECONOMIC ANALYSES

The economic analyses prepared for the SVWP indicate that the project is expected to indirectly result in lower recreational visitation to Lake Nacimiento and Lake San Antonio, which would, in turn, have economic and fiscal impacts for the local region. Economic impacts would be more pronounced at the reservoirs (e.g., resort operators, MCPD) relative to local and regional impacts within the City of Paso Robles and the County as a whole. The predicted change in fiscal revenues generated for these jurisdictions would be relatively minor compared to total annual revenues.

As stated in the outset of this response, these conclusions are consistent with the extent and nature of the impacts to recreational and visual resources stated in the Draft EIR/EIS; that is, impacts of the project to both these resources would be significant and adverse. There is no feasible mitigation available to reduce this mitigation to a level that is less than significant. However, please see Master Response MR-2 for a discussion of mitigation that is being considered to reduce this impact to the degree feasible.

Appendix F Notice of Preparation

Notice of Completion & Environmental Document Transmittal

UPS mailing: State Clearinghouse, 1400 Tenth St., Sacramento, CA 95814 *(916)445-0613*
U.S. Postal mailing: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044

SCH# ____________

Project Title: Name & Co. Number

Lead Agency: County of San Luis Obispo
Street Address: County Government Center, Rm 310
City: San Luis Obispo Zip: 93408-2040
Contact Person: Nancy E. Rollman
Telephone: (805)781-5008
County: San Luis Obispo

Project Location

County: San Luis Obispo City/Nearest Community: Camp Roberts, Paso Robles, Templeton, Atascadero, Santa Margarita, San Luis Obispo, Cauycos
Cross Streets: N/A Zip Code: ______ Total Acres: N/A
Assessor's Parcel Number: ______ Section: ______ Twp. ______ Range: ______ Base: ______
Within 2 miles: State Hwy #: 101 Waterways: Lake Nacimiento, Salinas River, Nacimiento River
Airports: ______ Railways: ______ Schools: ______

Document Type

CEQA: ☒ NOP ☐ Early Cons ☐ Neg Dec ☐ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.)______ ☐ Other ______
NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI
Other: ☐ Joint Document ☐ Final Document ☐ Other ______

Local Action Type

☐ General Plan Update	☐ Specific Plan	☐ Rezone	☐ Annexation
☐ General Plan Amendment	☐ Master Plan	☐ Prezone	☐ Redevelopment
☐ General Plan Element	☐ Planned Unit Development	☐ Use Permit	☐ Coastal Permit
☐ Community Plan	☐ Site Plan	☐ Land Division(Subdivision,etc.)	☒ Other Water Supply Project

Development Type

☐ Residential: *Units*___ *Acres*___
☐ Office: *Sq.ft.*___ *Acres*___ *Employees*___
☐ Commercial: *Sq.ft.*___ *Acres*___ *Employees*___
☐ Industrial: *Sq.ft.*___ *Acres*___ *Employees*___
☐ Educational: ______
☐ Recreational: ______
☒ Water Facilities *Type* *Pipeline* *MGD*___
☐ Transportation: *Type*______
☐ Mining: *Mineral*______
☐ Power: *Type*______ *Watts*___
☐ Waste Treatment: *Type*______
☐ Hazardous Waste: *Type*______
☐ Other: ______

Funding (approx.): Federal $______ State $______ Total $______

Project Issues Discussed in Document

☒ Aesthetic/Visual	☒ Flood Plain/Flooding	☐ Schools/Universities	☒ Water Quality
☒ Agricultural Land	☒ Forest Land/Fire Hazard	☐ Septic Systems	☒ Water supply/groundwater
☒ Air Quality	☒ Geologic/Seismic	☐ Sewer Capacity	☒ Wetland/Riparian
☒ Archeological/Historical	☐ Minerals	☒ Soil erosion/compaction/grading	☒ Wildlife
☐ Coastal Zone	☒ Noise	☒ Solid Waste	☒ Growth Inducing
☒ Drainage/Absorption	☐ Population/Housing Balance	☒ Toxic/Hazardous	☒ Land Use
☐ Economic/Jobs	☐ Public Services/Facilities	☒ Traffic/Circulation	☒ Cumulative Effects
☐ Fiscal	☒ Recreation/Parks	☒ Vegetation	☐ Other ______

Present Land Use/Zoning/General Plan Designations:

Various

Project Description:

1)A water delivery project from Lake Nacimiento to nine purveyors in San Luis Obispo County utilizing a water allocation of 16,200 acre feet per year; 2)construction of water distribution pipelines from the dam at Lake Nacimiento to south of the City of San Luis Obispo (approx. 66 miles); 3) construction/operation of a water treatment plant, pump stations, storage tanks, water discharge ponds and other associated facilities to deliver either treated or raw water. See attached NOP for details.

Reviewing Agencies Checklist

KEY
S = Document sent by lead agency
X = Document sent by SCH
✓ = Suggested distribution

S	**Resources Agency**
S	Boating & Waterways
S	Coastal Commission
__	Coastal Conservancy
__	Colorado River Board
S	Conservation
S	Fish & Game
__	Forestry & Fire Protection
S	Office of Historic Preservation
__	Parks & Recreation
__	Reclamation Board
__	S.F. Bay Conservation & Development Commission
S	Water Resources (DWR)
	Business, Transportation & Housing
__	Aeronautics
__	California Highway Patrol
S	CALTRANS District #5
__	Department of Transportation Planning(headquarters)
__	Housing & Community Development
__	**Food & Agriculture**
	Health & Welfare
__	Health Services ___________

	State & Consumer Services
__	General Services
__	OLA (Schools)
	Environmental Protection Agency
S	Air Resources Board
__	California Waste Management Board
__	SWRCB: Clean Water Grants
__	SWRCB: Delta Unit
✓	SWRCB: Water Quality
✓	SWRCB: Water Rights
S	Regional WQCB#_(Central Coast Region)
	Youth & Adult Corrections
S	Corrections - Calif. Men's Colony
	Independent Commissions & Offices
S	Energy Commission
S	Native American Heritage Commission
__	Public Utilities Commission
__	Santa Monica Mountains Conservancy
__	State Lands Commission
__	Tahoe Regional Planning Agency
__	OTHER ___________

Public Review Period (to be filled in by lead agency)

Starting Date June 2, 2001 Ending Date July 2, 2001

Signature Nancy E Rollman Date May 31, 2001

Lead Agency (Complete if applicable): **County of San Luis Obispo**

Consulting Firm: ______________________

Address: County Government Center, Rm 310

City/State/Zip: San Luis Obispo, CA 93408

Contact: Nancy E. Rollman, AICP, Environmental Specialist

Phone: (805)781- 5008

Applicant: ______________________

Address: ______________________

City/State/Zip: ______________________

Phone: ______________________

For SCH Use Only:

Date Received at SCH ______________

Date Review Starts ______________

Date to Agencies ______________

Date to SCH ______________

Clearance Date ______________

Notes:

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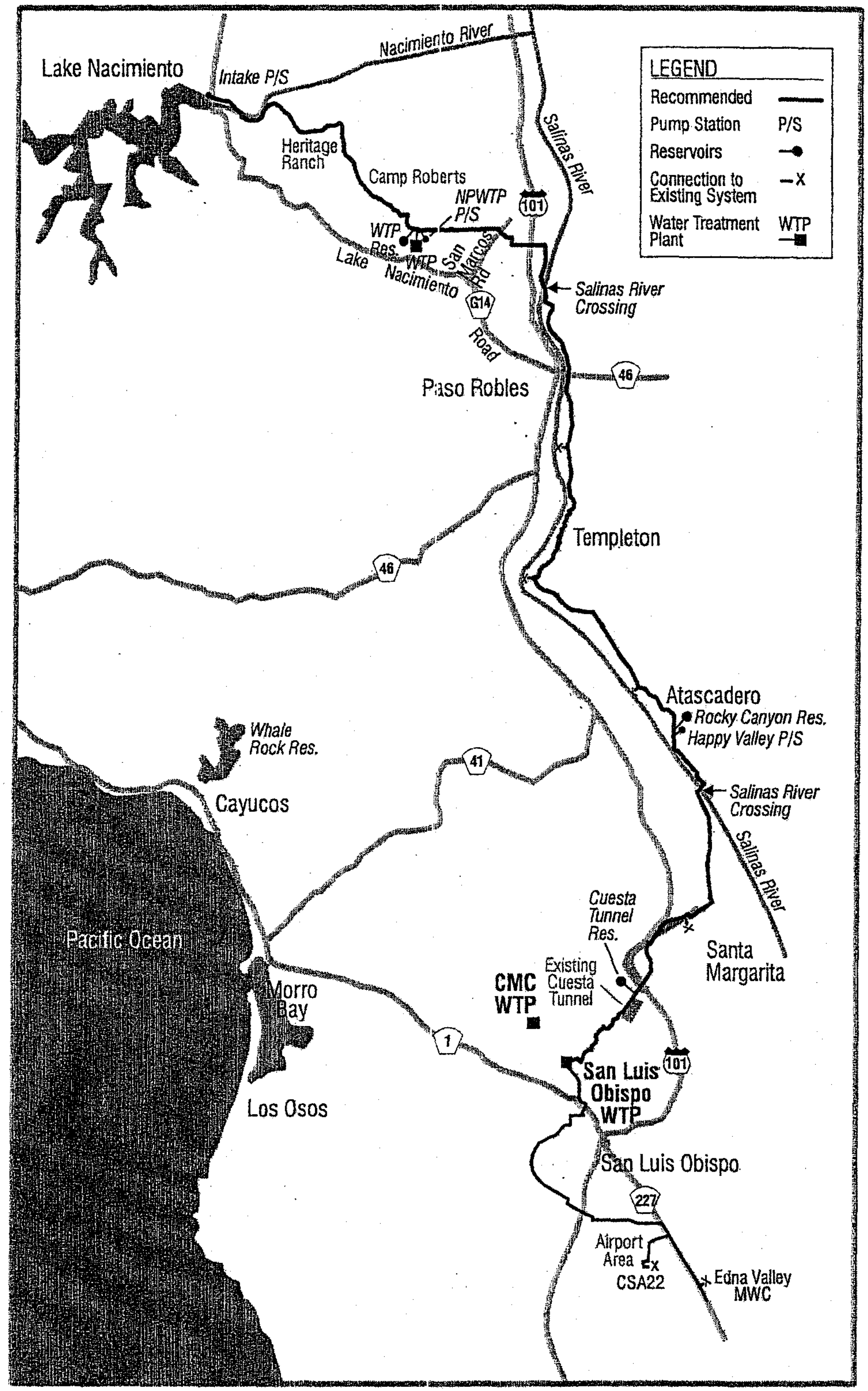

Figure 1
TREATED WATER ALTERNATIVE
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

Slo501m1-4266B.cdr

EXHIBIT 1

Table 3.1 Purveyor's Allocations
Nacimiento Project EIR Preparation Phase Engineering Report
San Luis Obispo County

Purveyor	Allocation (ac-ft/yr)	Peaking* Factor Percent	Flow Rate mgd	Flow Rate cfs
Paso Robles City	4,000	30	4.64	7.18
Templeton CSD	250	30	0.29	0.45
Atascadero MWC	3,000	30	3.48	5.38
Santa Margarita Ranch	200	10	0.20	0.30
Santa Margarita Water Works No. 6	100	30	0.12	0.19
San Luis Obispo City	2,628	10	3.05	4.00
Cayucos CSA-10	80	10	0.08	0.12
Airport CSA-22	890	10	0.87	1.35
Edna Valley MWC	700	10	0.69	1.06
Subtotal	11,848		13.42	20.03
San Luis Obispo County (Excess)	4,352	10	4.27	6.61
Pipeline Total	16,200		17.54	27.64
Lakeside	1,300			
Total Allocation	17,500			

* Peaking factor's the percent of extra project capacity requested by the purveyors to allow short term flows higher than the average of their yearly allocation.

For the purveyors that requested no peaking, 10 percent has been added to allow for system downtime.

c. Identify and discuss feasible measures or alternatives to mitigate potentially significant impacts for the proposed project.

17. Alternatives

Alternatives will be a critical component of this EIR. Proposals should contain detailed discussion on how the alternatives analysis will be approached. In the course of preparing the 1997 EIR and the subsequent new alignment, numerous alternatives were considered. All of these need to be documented somewhere in the revised EIR, either in the Alternatives chapter or as an informational section of the appendices, in accordance with CEQA requirements. Discussion and evaluation of project alternatives shall include, but not necessarily be limited to, the following:

1. **No Project.** Discuss the environmental implications of not delivering Nacimiento water, and not constructing the project;

2. **Alternative Water Supply Options.** Discuss regional alternatives and if appropriate, alternative options for the participating purveyors that would reduce otherwise significant impacts to less than significant levels.

3. **Pipeline Alternatives.** Discuss pipeline alternatives that were considered but rejected for some reason, and alternative routes that would avoid or reduce significant impacts.

4. **Pipeline Facilities.** Discuss alternative facilities and water treatment methods, as may be required by CEQA.

The EIR needs to compare alternatives, graphically if that would be useful, and identify the environmentally superior alternative. Alternatives must be discussed to a level required by CEQA.

17. Cumulative Effects

1. The EIR must address all cumulative effects within each area of analysis.
2. Identification and discussion of all cumulative impacts of the project in relation to other existing and known projects and affected roadways.

proposed release schedule as part of the Monterey County spillway improvement project (if available);

b. An updated discussion of the state legislation that was passed to allow body contact in the reservoir along with the domestic use of the water supply (Assembly Bill 1460);
c. Evaluation of the Department of Health Services required Recreation Plan prepared by the County Department of Public Works;
d. Evaluation and discussion of the responses received on the Draft EIR;
e. Identification of impacts to or conflicts with recreational activities at the lake or along the pipeline route;
f. Identification of mitigation measures to reduce potential impacts to less than significant levels.

15. Public Services and Utilities

Utility and other services could be impacted by the proposed project. Water will be needed during construction for dust control. Sludge disposal from the water treatment plant could contribute to cumulative impacts to disposal areas in the county. The water treatment plant and pump stations will require long-term power sources. The EIR analysis needs to include, but not be limited to:

a. Identification of service providers such as gas, electric, water, fire, police, and schools;
b. Discussion of sludge produced, and identification of potential sites for disposal;
c. Identification of impacts and mitigation measures.

16. Growth Inducement

The proposed project could be growth inducing and was acknowledged as such in the 1997 EIR. The discussion of growth inducing impacts shall address all CEQA requirements and include, but not necessarily be limited to the following:

a. Updated evaluation and discussion of the proposed project's potential to foster growth to the surrounding areas. This evaluation should identify those areas where potentially significant direct effects may result from land use intensification.
b. General discussion should be included that addresses impacts to existing resources, including, but not necessarily limited to, available water resources, air quality, biological resources, prime ag lands and ag operations, traffic/circulation, etc.

The proposed project could impact surface water and groundwater conditions as they relate to the construction and use of water from Lake Nacimiento. The pipeline crosses blueline streams and other intermittent drainages, which could be affected by erosion/sedimentation and accidental spills of treated water. There also could be lake water quality issues, such as the presence of mercury and methyl tertiary butyl ether (mtbe) in the existing lake water. In addition, the water discharge ponds in the raw water alternative could affect the Salinas River water table. The EIR analysis shall include, but not be limited to, the following:

a. Update as necessary the Water Resources chapter in the 1997 EIR;
b Review, evaluation, and discussion of appropriate regulations (i.e., various sections of the Clean Water Act) and reports of recently completed groundwater studies;
c. Review and evaluation of drinking water quality standards, potential water contaminants, proposed water treatment methods and chemicals;
d. A determination of whether significant impacts to public health and safety could occur from contaminants in the water;
e. A determination of whether the raw water discharge ponds will cause significant impacts to the surrounding aquifer;
f. Identification of project and cumulative impacts, and mitigation measures.

13. <u>Hazards and Hazardous Materials</u>

Risk of upset/hazardous material issues of potential concern include risks associated with construction of the proposed pipeline through contaminated areas, and risks associated with storage and use of chemicals at the proposed water treatment plant. The EIR shall:

a. Identify potentially contaminated areas along the project route;
b. Identify the types of chemicals to be used in the water treatment process;
c. Evaluate potential impacts from hazardous materials and identify mitigation measures.

14. <u>Recreational Resources</u>

Lake Nacimiento is a major recreational attraction of the Central Coast. The lake supports swimming, boating, water-skiing, and fishing. Areas around the lake are used for residences, vacation homes, camping and a recreational resort. Potential impacts of operations on the reservoir pool and resulting effects or conflicts with established recreational opportunities at the lake will need to be addressed. The EIR must include, but not be limited to:

a. An update of the analysis of lake levels prepared for the 1997 EIR, to include the revised release operation schedule for Monterey County since 1991, and the comment letter;

c. Indicate where crops are located along the proposed pipeline alignment;
d. Identify long-term agricultural suitability of the potentially affected areas, including soil types, soil capabilities, and the productivity of agricultural soils both for irrigated and non-irrigated uses;
e. Indicate where potential conflicts would occur with agricultural activities;
f. Identify impacts and mitigation measures.

10. <u>Drainage, Erosion, and Sedimentation</u>

Portions of the project will cross numerous rivers, creeks, and drainages. Potential drainage, erosion, and sedimentation impacts must be evaluated by a registered engineer or Certified Professional Erosion and Sediment Control specialist. The analysis should include, but not necessarily be limited to, the following:

a. Consultation with the County Public Works Department, the Resource Conservation District and other agencies as appropriate;
b. Identification and mapping of significant drainage courses and watersheds;
c. Identification and mapping of all areas within the project boundaries that currently experience adverse drainage and/or flooding conditions;
d. Identification of cumulative impacts on the area's ecosystem(s) which could result from additional sedimentation and drainage impacts from the project.
e. Identification of mitigation measures.

11. <u>Geology and Soils</u>

Varied terrain and soils may require special considerations for project design and location. The consultant should review the information contained in the Geohazards report and any other geological data sources, and include the following in the EIR:

a. Identification of the project setting and inclusion of a geologic map;
b. Soil suitability for proposed project improvements;
c. Determination of geologic suitability and stability for proposed project;
d. Discussion, as appropriate, of the County Safety Element;
e. Evaluation of the existing data and identification of potentially significant effects of seismic and other hazards;
f. Identification of mitigation measures to reduce potential impacts to less than significant levels.

12. <u>Hydrology and Water Quality</u>

and other existing regulatory restrictions;

e. Calculation of potential pollutant emissions from all components and phases of the project, including operation and construction activities;

f. Evaluation of the proposed project emissions to the APCD thresholds and consistency with the County Clean Air Plan;

g. Evaluation of potential short-term, long-term, and cumulative impacts;

h. Identification and discussion of feasible mitigation measures to minimize potentially adverse air quality impacts to a level of insignificance.

8. Visual and Aesthetic Resources

The above-ground facilities such as the intake structure, storage tanks, surge tanks, and pump stations will be visible from scenic corridors, i.e., Nacimiento Lake Road, Highway 101 and other public roadways. The construction corridor may have short-term visual impacts. The EIR visual analysis shall be prepared by a qualified visual specialist and shall include, but not be limited to, the following:

a. Review, update and incorporation of existing visual setting for those portions of the alignment that have not changed from the 1997 Nacimiento Water Project EIR;

b. Identification of potential viewers, key viewing areas, and visually sensitive locations such as scenic routes and parks;

c. Visual simulations showing existing condition, proposed facility, and any mitigation, if required;

d. Preparation of design elevations for the intake structure pump station and the Happy Valley pump station that reflect compatibility with the surrounding area (i.e., recreational area, rural agricultural area);

e. Identification of short-term and long-term impacts;

f. Identification of mitigation measures.

9. Agricultural Resources

Portions of the proposed project may include prime agricultural soils or adversely affect existing agricultural operations. Agriculturally-designated lands may temporarily be affected due to the potential loss of crops along the alignment during pipeline construction and to restrictions on the types of crops that can be planted above the pipeline. Some loss of prime soils may also occur. The agricultural resource analysis should include, but not be limited to, the following:

a. Review, update and incorporation of existing setting for those portions of the alignment that have not changed from the 1997 Nacimiento Water Project EIR;

b. Consult with the County Agricultural Commissioner's Office and respond to their ambient conditions;

d. Evaluation of project consistency with the County Noise Element;

e. Identify all feasible mitigation measures where acceptable thresholds are exceeded.

6. Cultural and Paleontological Resources

Cultural resources are known to exist within the project vicinity. The possibility of these resources being impacted within the project limits is potentially high. The EIR should include:

a. An archaeological surface survey (200-foot wide corridor) to verify the identified sites and search for other evidence of archaeological resources. The survey shall include any areas off-site that would be disturbed as a result of this project (e.g. off-site utility line trenching, road improvements, etc.);

b. Location of sites and identification of potential impacts;

c. Identification of historic structures or features that could be significantly impacted by the proposed project;

d. Clear, concise identification of mitigations in the context of future survey work that would be necessary (including Section 106 compliance requirements);

e. Preparation of text for a survey report and the EIR;

f. Preparation of maps showing site locations for inclusion in a confidential survey report;

g. Preparation of a general geological evaluation and field reconnaissance for paleontological resources;

h. Identification of impacts to paleontological resources and mitigation measures, if required.

7. Air Quality

The project would generate short-term construction emissions from equipment use and PM10 emissions from grading. Operation of the water treatment plant and other facilities would result in mobile source emissions, including employee and supply trips, and also from stationary sources associated with the various mechanical and electrical equipment. Potential short- and long-term impacts to air quality must be identified and evaluated. This section of the EIR should include, but not be limited to, the following:

a. Consultation with the Air Pollution Control District (APCD);

a. Review, update and incorporation of climatological data, and existing conditions presented in the 1997 Nacimiento Water Project EIR;

c. Summarize the regulatory setting;

d. Discussion of attainment status of the District relative to state air quality standards

The biological section of the EIR will also include:

a. maps showing the locations of the following:

- Habitat for rare, threatened and/or endangered plant and animal species;
- Oak woodland/forest areas;
- Chaparral areas;
- Riparian/wetland areas;
- Other areas of sensitive, unique or important biological resources.

b. Identification of short-term and long-term impacts on rare, threatened, and/or endangered species and species habitat;
c. Identification of long-term cumulative impacts on the area's ecosystems which could result from the proposed project;
d. Identification and discussion of feasible mitigation measures which could be included in the project, to protect or significantly reduce potential adverse biological impacts.
e. During preparation of the EIR, consultation shall be conducted as needed with the applicable state and federal resource agencies and their information requirements will be provided in a manner which will allow them to use the CEQA document for their permitting needs, to the greatest degree feasible.

5. <u>Noise</u>

Construction of the pipeline could result in noise levels in excess of 90 dBA at distances of 50 feet from the project. In addition, the pump stations which are located in quiet environments, will generate noise from turbines and motors. Potential short- and long-term impacts from mobile and stationary noise must be identified and evaluated. This section of the EIR should include, but not be limited to, the following:

a. Identification of existing noise conditions relating to traffic on the major roads in the vicinity. The County's Noise Element contains useful noise contour information around some of these roads;
b. Identification and mapping of potential or existing sensitive stationary noise receptors (e.g., residences, schools, etc.) along the pipeline alignment and near the proposed facilities;
c. Identification of both short-term construction noise impacts and long-term operational noise from the pump stations and treatment plant (noise measurements shall be taken at the facility locations). Each sensitive noise receptor identified shall be discussed in sufficient detail to identify if feasible mitigation is possible and to what extent the impact can be mitigated. Address comments made regarding pump station noise being within standard requirements, but higher than

geological data sources, and include the following in the EIR:

a. Identification of the project setting and inclusion of a geologic map;
b. Soil suitability for proposed project improvements;
c. Determination of geologic suitability and stability for proposed project;
d. Discussion, as appropriate, of the County Safety Element;
e. Evaluation of the existing data and identification of potentially significant effects of seismic and other hazards;
f. Identification of mitigation measures to reduce potential impacts to less than significant levels.

3. Hydrology and Water Quality

The proposed project could impact surface water and groundwater conditions as they relate to the construction and use of water from Lake Nacimiento. The pipeline crosses blueline streams and other intermittent drainages, which could be affected by erosion/sedimentation and accidental spills of treated water. There also could be lake water quality issues, such as the presence of mercury and methyl tertiary butyl ether (mtbe) in the existing lake water. In addition, the water discharge ponds in the raw water alternative could affect the Salinas River water table. The EIR analysis shall include, but not be limited to, the following:

a. Update as necessary the Water Resources chapter in the 1997 EIR;
b Review, evaluation, and discussion of appropriate regulations (i.e., various sections of the Clean Water Act) and reports of recently completed groundwater studies;
c. Review and evaluation of drinking water quality standards, potential water contaminants, proposed water treatment methods and chemicals;
d. A determination of whether significant impacts to public health and safety could occur from contaminants in the water;
e. A determination of whether the raw water discharge ponds will cause significant impacts to the surrounding aquifer;
f. Identification of project and cumulative impacts, and mitigation measures.

4. Biological Resources

The proposed project alignment and facilities include sensitive native habitats, including oak woodland/forest, wetland and riparian habitats. The pipeline will cross the Nacimiento River once and the Salinas River three times. In addition, more than 30 creek/drainages will be crossed. Biological surveys are underway and will result in a Biological Resources Technical Report. This report will be used as the basis for the existing setting section of the EIR.

Two conveyance alternatives, a treated water project as the preferred alternative and a raw water project as a co-equal alternative will be studied in the EIR. The treated water alternative consists of approximately 64 miles of 8-inch to 33-inch diameter pipeline, a multiport intake at the Nacimiento Reservoir, a WTP, 3 pump stations and 3 storage reservoirs. This alternative delivers treated water to all participants except Cayucos. Their water will be delivered to the City of San Luis Obispo, and an exchange for Whale Rock water will take place.

The raw water alternative pipeline follows the same corridor as the treated water alternative as shown on Figure 2.2. In this alternative the WTP is built as a Phase 2 scenario, and raw water is delivered to the communities of Paso Robles, Templeton, Atascadero, Santa Margarita and San Luis Obispo and to the California Men's Colony (CMC) WTP. For treatment of the raw water, the communities of Paso Robles, Templeton and Atascadero percolate their allotment into the Salinas River basin (through water discharge ponds) and re-pump the water through their respective well fields in the Salinas Water basin. Due to a shallow aquifer in Santa Margarita, their water is recharged with the Atascadero Mutual Water Company's water and then it is wheeled through the Atascadero water system to the south end of the City and picked up in a new line for the remaining distance to Santa Margarita. CMC will treat the airport area purveyors water and the Cayucos exchange will remain the same.

PROBABLE ENVIRONMENTAL EFFECTS

1. Drainage, Erosion, and Sedimentation

Portions of the project will cross numerous rivers, creeks, and drainages. Potential drainage, erosion, and sedimentation impacts must be evaluated by a registered engineer or Certified Professional Erosion and Sediment Control specialist. The analysis should include, but not necessarily be limited to, the following:

a. Consultation with the County Public Works Department, the Resource Conservation District and other agencies as appropriate;
b. Identification and mapping of significant drainage courses and watersheds;
c. Identification and mapping of all areas within the project boundaries that currently experience adverse drainage and/or flooding conditions;
d. Identification of cumulative impacts on the area's ecosystem(s) which could result from additional sedimentation and drainage impacts from the project.
e. Identification of mitigation measures.

2. Geology and Soils

Varied terrain and soils may require special considerations for project design and location. The consultant should review the information contained in the Geohazards report and any other

COUNTY OF SAN LUIS OBISPO
NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT

NACIMIENTO WATER PROJECT
(ED-00-603)

PROJECT BACKGROUND

The San Luis Obispo County Flood Control and Water Conservation District (SLOFCWCD) is entitled to 17,500 acre-feet of water per year from the Nacimiento Reservoir, per agreements dating back to 1959 with the Monterey County Water Resources Agency (owner and operator of the reservoir). A water delivery project to eighteen purveyors within San Luis Obispo County with associated pipelines and other facilities was developed and analyzed in a 1997 EIR. The project route included a pipeline corridor along Lake Nacimiento Road through the populated areas of several communities in northern San Luis Obispo County. During the public comment period on the 1997 Draft EIR, there were negative comments brought forth on the location of several facilities, as well as construction impacts in certain areas along the project alignment. Based on these comments, the County Board of Supervisors requested that a new pipeline corridor be investigated. A revised alignment through Camp Roberts and along the east side of the Salinas River was considered feasible and a project has been developed.

PROJECT LOCATION/PROJECT DESCRIPTION

Lake Nacimiento is located in northwestern San Luis Obispo County. The nine purveyors who have requested to participate in the new project are located in north county, the City of San Luis Obispo, the San Luis Obispo airport area, and Cayucos (see Exhibit 1).

The pipeline corridor (approximately 65 miles) begins at the intake on the left abutment of the Nacimiento Dam; follows the Nacimiento River east; turns southeast crossing the Nacimiento River; passes through Camp Roberts, private land and public roadways before crossing the Salinas River east and south of the Hwy. 101/Wellsona intersection. From there, it turns south following roads and over private land paralleling the east side of the Salinas River to the south end of the City of Atascadero. It then re-crosses the Salinas River to the west, paralleling railroad right-of-way and El Camino Real southward to cross Highway 101 south of Santa Margarita and join an existing segment of the Nacimiento pipeline within the Cuesta Tunnel.

From the south exit of the tunnel, the pipe crosses over open country to join Stenner Canyon Road, crosses Highway 1 west of the City of San Luis Obispo, passes through San Luis Obispo City streets to south of the San Luis Obispo airport. Cayucos would be served by an exchange of water from the Whale Rock Reservoir, pending agreements with the City of San Luis Obispo. Figure 1 is a map showing the general location of the pipeline corridor.

documentation you believe may be useful to the county in preparing the Environmental Impact Report.

8. FURTHER COMMENTS. Please provide any further comments or information which will help the county to scope the document and determine the appropriate level of environmental assessment.

The project description, location, and the probable environmental effects are contained in the attached materials.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date, but not later that 30 days after receipt of this notice.

Please send your response to **Nancy E. Rollman, AICP, Environmental Specialist** at the address shown above. We will need the name for a contact person in your agency.

PROJECT TITLE: NACIMIENTO WATER PROJECT (ED00-603)

PROJECT APPLICANT: SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RESPONSES DUE BY: JULY 2, 2001

Signature Nancy E. Rollman
Environmental Specialist
Telephone: (805) 781-5008

Reference: California Administrative Code, Title 14, Section 15082.

G:\Telecom\Nancy\NANCYROL\NAC\NaciNOP1.wpd

COUNTY OF SAN LUIS OBISPO
DEPARTMENT OF PLANNING AND BUILDING

DATE: May 31, 2001

TO:

FROM: Department of Planning and Building
County Government Center
San Luis Obispo, CA 93408

SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT

The County of San Luis Obispo will be the Lead Agency and will prepare an Environmental Impact Report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the Environmental Impact Report prepared by our agency when considering your permit or other approval for the project.

PLEASE provide us the following information at your earliest convenience, but not later than the 30 day comment period which began with your agency's receipt of the NOP.

1. NAME OF CONTACT PERSON. (Address and telephone number)

2. PERMIT(S) or APPROVAL(S) AUTHORITY. Please provide a summary description of these and send a copy of the relevant sections of legislation, regulatory guidance, etc.

3. ENVIRONMENTAL INFORMATION. What environmental information must be addressed in the Environmental Impact Report to enable your agency to use this documentation as a basis for your permit issuance or approval?

4. PERMIT STIPULATIONS/CONDITIONS. Please provide a list and description of standard stipulations (conditions) which your agency will apply to features of this project. Are there others that have a high likelihood of application to a permit or approval for this project? If so, please list and describe.

5. ALTERNATIVES. What alternatives does your agency recommend be analyzed in equivalent level of detail with those listed above?

6. REASONABLY FORESEEABLE PROJECTS, PROGRAMS or PLANS. Please name any future project, programs or plans that you think may have an overlapping influence with the project as proposed.

7. RELEVANT INFORMATION. Please provide references for any available, appropriate

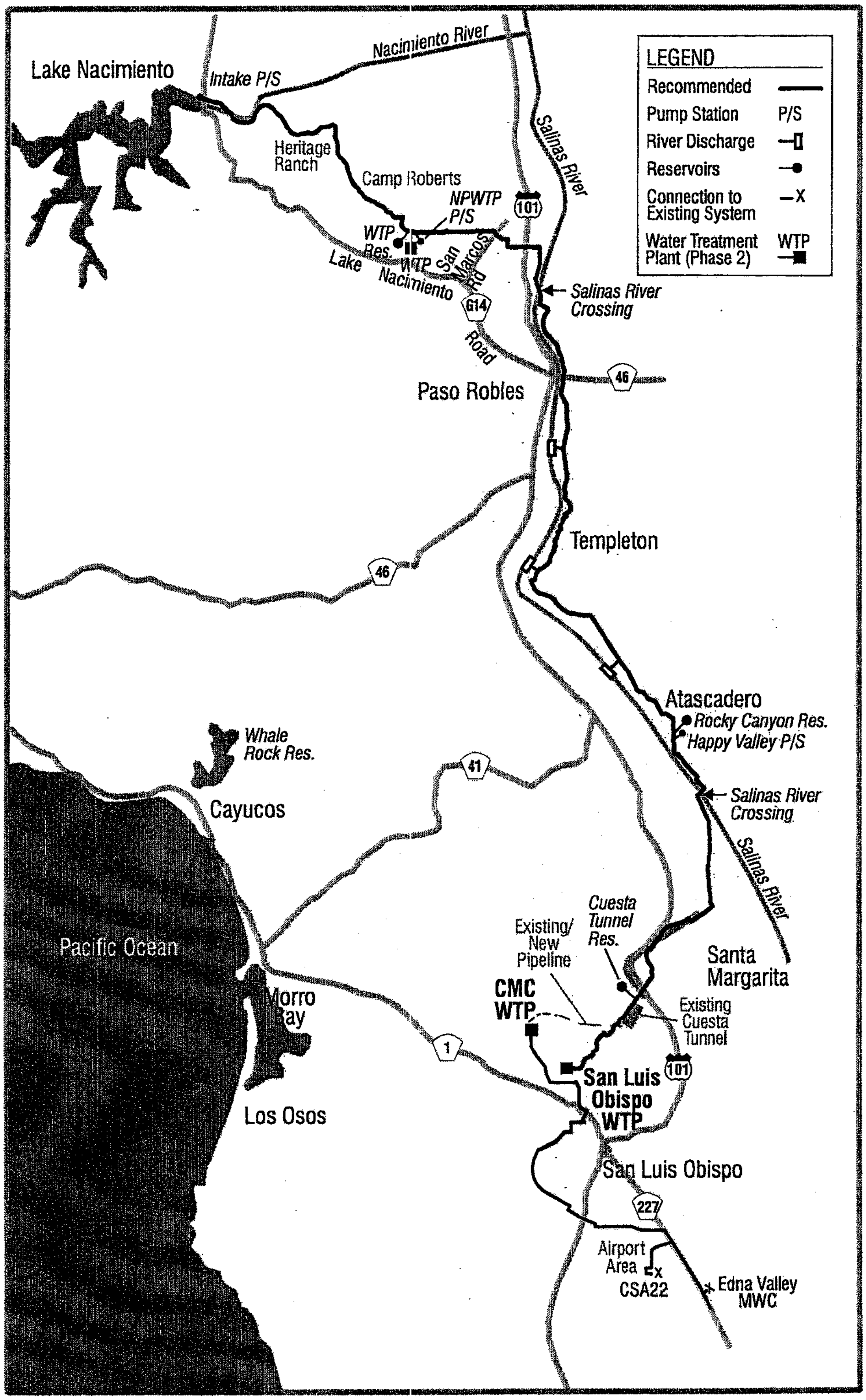

Figure 2
RAW WATER ALTERNATIVE
NACIMIENTO PROJECT
SAN LUIS OBISPO COUNTY

carollo engineers

Slo501m2-4266B.cdr

Nacimiento Water Project
Notice of Preparation (NOP) dated June 1, 2001.

Responses received:

National Marine Fisheries Service
State Dept. of Health Services (Kurt Souza)
State Native American Heritage Commission
County Agricultural Commissioner's Office
Air Pollution Control District
CDF/County Fire Department
City of Atascadero

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404-6515

In reply please refer to:
JUL - 2 2001 151422-SWR-01-SR-456: REL

RECEIVED
JUL - 5 2001
Planning & Bldg

Ms. Nancy E. Rollman
San Luis Obispo County Flood Control and Water Conservation District
County Government Center, Room 310
San Luis Obispo, California 93408

Dear Ms. Rollman:

Thank you for the opportunity to comment on the Notice of Preparation for the Draft Environmental Impact Report (DEIR) for the Nacimiento Water Project (NWP), dated May 31, 2001. The San Luis Obispo County Flood Control and Water Conservation District (SLOFCWCD) proposes to construct a water delivery project from the Nacimiento Reservoir to eighteen purveyors within San Luis Obispo County, California. The proposed project will convey 17,500 acre-feet of water per year.

The following Federally listed threatened species and/or critical habitat may be affected by the Nacimiento Water Project: South-Central California Coast steelhead (*Oncorhynchus mykiss*). South-Central California Coast steelhead, found in the Salinas River watershed, were listed as threatened on August 18, 1997 (62 FR 43937) and critical habitat was designated on February 16, 2000 (65 FR 7764) under the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.). The Salinas River sub-population of steelhead is at a critically low level; habitat degradation, water diversions and forest practices are a major factor in the decline of the steelhead population.

The DEIR should include an assessment of the effects of the NWP on listed species and designated critical habitat elements (including, but not limited to, safe passage conditions, steelhead habitat, water quality and quantity, and riparian vegetation) for the South-Central California Coast Evolutionarily Significant Unit (ESU) of steelhead. Please provide the following information: 1.) The Notice of Preparation states that the pipeline for the NWP will cross the Salinas River three times and that "more than 30 creek/drainages will be crossed" (p.5, #4. Biological Resources). Provide specific locations of river, creek and drainage crossings, including brief descriptions of currently existing riparian habitat and physical conditions at each of the crossing. Describe the methods used in constructing these river and creek crossings. Will water diversions be required? If so, how will they be constructed and how long will they be in place? 2.) Please include descriptions of how impacts to the stream banks, loss of habitat, and riparian functions will be avoided or minimized. 3.) Also include the effects of beneficial activities developed by the SLOFCWCD as directed by section 7(a)(1) of the ESA.

If you have any questions concerning the above comments please contact Ms. Rosemary Laird at (707) 575-6096.

Sincerely,

Patrick J. Rutten
Northern California Supervisor
Protected Resources Division

cc: J. Lecky - NMFS
J. Nelson - CDFG

STATE OF CALIFORNIA—HEALTH AND HUMAN SERVICES AGENCY

GRAY DAVIS, *Governor*

DEPARTMENT OF HEALTH SERVICES
DIVISION OF DRINKING WATER AND ENVIRONMENTAL MANAGEMENT
1180 Eugenia Place, Suite 200
Carpinteria, CA 93013
(805) 566-1326
FAX (805) 566-4790

June 14, 2001

Department of Planning and Building
County Government Center
San Luis Obispo, CA 93408

RECEIVED
JUN 1 8 2001
Planning & Bldg

Attention: **Ms. Nancy E. Rollman**
Environmental Specialist

Subject: **Nacimiento Water Project (ED-00-603)**

The State Department of Health Services, Drinking Water Field Operations Branch (SDHS-DWFOB) has reviewed the documentation subject: Notice of Preparation of a Draft Environmental Impact Report. The address for this agency has been changed to:

State Department of Health Services
Drinking Water Field Operations Branch
1180 Eugenia Place, Suite 200
Carpinteria, CA 93013

Contact: Mr. Kurt Souza, P.E.
District Sanitary Engineer

The SDHS-DWFOB has previously issued a domestic water supply permit to the Nacimiento Water Project dated October 12, 1999, Water Permit Number 03-06-99P-014. The permit contains provisions for compliance with the State Health and Safety Codes and California Code of Regulations related to drinking water. The permit has been attached for your use.

If you have any questions concerning this letter, please contact me at (805) 566-1326.

Sincerely,

Kurt Souza, P.E.
District Sanitary Engineer
Santa Barbara District (SDHS-DWFOB)

Cc: San Luis Obispo County Environmental Health

LEIR-06142001.doc

Department of Health Services
Division of Drinking Water
and Environmental Management
Drinking Water Program

WATER PERMIT NO. 03-06-99P-014

Nacimiento Water Project
Serving San Luis Obispo County
San Luis Obispo County
4010080

October 12, 1999

Engineering Report Prepared By

Kurt T. Souza, P.E.
Associate Sanitary Engineer

Approved By

John N. Curphey, P.E.
District Sanitary Engineer
Santa Barbara District (DWFOB)

DEPARTMENT OF HEALTH SERVICES
DIVISION OF DRINKING WATER AND ENVIRONMENTAL MANAGEMENT
1180 Eugenia Place, Suite 200
Carpinteria, CA 93013
(805) 566-1326
FAX (805) 566-4796

October 12, 1999

Nacimiento Water Project
San Luis Obispo County
Engineering Department
County Government Center
San Luis Obispo, CA 93408

Attention: Mr. Timothy P. Nanson
County Engineer

WATER PERMIT NO. 03-06-99P-014

System Number: 4010080

Application of the Nacimiento Water Project (NWP), dated January 23, 1997, has been considered by the State Department of Health Services. The application was made in accordance with Section 116525 of the California Health and Safety Code. Enclosed is an engineering report, dated October 7, 1999, prepared by the State Department of Health Services, Drinking Water Field Operations Branch (SDHS-DWFOB), regarding your application.

It is the Finding of the State Department of Health Services that Sections 116270 to 116750, inclusive, of the Health and Safety Code, can be met by the water system. This finding is based on the cited report. A domestic water supply permit is hereby granted to the Nacimiento Water Project to construct and operate a domestic water system supplying water from the Nacimiento Reservoir utilizing either a raw or treated water system to supply domestic water to the Nacimiento Water Project water purveyors and environs, subject to the following provisions:

- SDWA -

1. The NWP and the water purveyors it serves shall comply with all state laws applicable to public water systems, including, but not limited to the Health and Safety Code and any regulations, standards, or orders adopted thereunder.

- Operator Certification Program -

2. The treatment facilities using NWP water shall be operated by personnel who have been certified in accordance with the Regulations Relating to Certification of Water Treatment Facility Operation, California Code of Regulations, Title 17.

- Cross-Connection Control Program -

3. The NWP shall maintain an active Cross-Connection Control Program in accordance with the Regulations Relating to Cross-Connections, California Code of Regulations, Title 17. Yearly cross-connection surveys shall be conducted by a person qualified in cross-connection control. All cross-connections shall be abated within 30 days of their identification. Backflow prevention devices shall be tested at least yearly. The NWP shall submit a yearly report outlining the status of the cross-connection control program and list any needed improvements to the program. Any treatment facility bypass pipeline shall be protected with an approved air gap. Any use of the bypass of a Surface Water Treatment Plant would require SDHS - DWFOB approval along with public notification.

- SWTR -

4. All water supplied directly to consumers from the Nacimiento Reservoir through the NWP shall comply with the Surface Water Treatment Rule and shall consist of conventional filtration and disinfection treatment facilities. Additional treatment, including iron and manganese removal filtration facilities, hydrogen sulfide treatment, nitrate blending or treatment facilities, etc., shall be provided to bring the water quality into compliance if the water quality does not comply with the California Domestic Water Quality and Monitoring Regulations. The plans and specifications for any treatment facilities shall be submitted to the State Department of Health Services, Drinking Water Field Operations Branch (SDHS - DWFOB), Santa Barbara District office for review and approval prior to construction.

5. All water treatment facilities using NWP water shall comply with requirements of the Surface Water Treatment Regulations (SWTR). The SWTR requires that a surface water treatment plant reliably achieve at least a 3 log (99.9 %) reduction of Giardia cysts and a 4 log (99.99 %) reduction of viruses through filtration and disinfection. A tracer study or equivalent calculation shall be conducted to verify that the disinfection CT values are adequate. Conventional treatment plants will be granted 2.5 log removal of Giardia and 2 log removal of viruses and the treatment disinfection facilities will be required to provide 0.5 log inactivation of Giardia and 2 log inactivation of viruses.

6. All treatment facilities using NWP water shall provide conventional treatment and comply with a performance turbidity standard of 0.5 NTU or less in 95 percent of the measurements taken each month. The turbidity level of the filtered water shall not exceed 1.0 NTU for more than eight consecutive hours while the plant is in operation. The turbidity of the filtered water effluent shall not exceed 5.0 NTU at any time. The treatment plant should be operated to achieve an optimum performance turbidity goal of 0.1 NTU or less. When any individual filter is placed back into service the filtered water

turbidity of the filter effluent from that filter shall not exceed any of the following: (a) 2.0 NTU at any time (b) 1.0 NTU in at least 90 percent of the interruption events during any consecutive 12 month period and (c) 0.5 NTU after the filter has been in operation for 4 hours. Turbidity and chlorine residual measurements shall be taken at four hour intervals or from continuous monitoring. The water delivered to the distribution system shall contain a disinfectant residual of at least 0.2 mg/l based on the four hour readings but shall be enough to meet CT requirements continuously. Furthermore a disinfectant residual shall be detectable in at least 95 percent of the samples taken from the distribution system based on the samples collected during two consecutive months. The presence of heterotrophic plate count (HPC) of 500 or less can be substituted for a detectable residual. Residual measurements shall be made in conjunction with bacteriological sampling.

7. All treatment facilities using NWP water shall comply with the SWTR's design standards for any initial or future plant expansion.

8. All treatment facilities using NWP water shall comply with the SWTR's reliability features including:

   a. Alarms - for all critical functions including pressure sensing devices on the discharge of all chemical feed equipment to signal a failure of chemical feed pumps, motors, power outages.

   b. Dedicated standby replacement equipment and chemical storage available to assure continuous operation and control of unit processes for coagulation, filtration and disinfection.

   c. Multiple filter units which provide redundant capacity when filters are out of service for backwashing or maintenance.

   d. Backup power supply.

   Alternatives to these requirements may be accepted provided it is demonstrated that a proposed alternative will assure an equal degree of reliability.

9. The treatment facilities using NWP water shall comply with the Operation Criteria of the SWTR.

10. The treatment facilities using NWP water shall develop and follow an Emergency Disinfection Plan (EDP) to prevent undisinfected or inadequately disinfected water from being delivered to the consumers. The EDP shall be submitted to the SDHS - DWFOB and should be updated yearly.

11. The treatment facilities using NWP water shall develop and follow an Operations Plan. A copy of the plan shall be submitted to the SDHS-DWFOB. The operations plan shall be designed to produce optimal water quality. The operations plan shall consist of a description of the treatment plant's monitoring program; maintenance program; operating personnel including their responsibilities and certification levels; how and

when each unit process is operated; laboratory procedures; procedures to determine chemical dosages; records; plans for responses to plant and watershed emergencies, and reliability features. Optimum coagulation shall be maintained at all times.

12. The treatment facilities using NWP water shall submit a monthly operation and monitoring report to this office by the tenth of each month signed by the Manager, Superintendent or Chief Operator. The report shall include the daily amount of water treated, turbidity measurements, chlorine residual measurements of the treated water and from the distribution system, CT parameters and a list of water quality complaints and reports of waterborne illness received from consumers. Treatment plant records shall be maintained for at least two years. The NWP treatment facilities shall contact this office by phone concerning any acute violation or the occurrence of a hazardous situation. MCL violations will require public notification pursuant to the SWTR requirements.

13. The NWP and its water purveyors shall conduct a sanitary survey of the Nacimiento Reservoir and its watershed every five years. The first survey shall be completed prior to the Nacimiento Water Project's startup. A report of the survey shall be submitted to the SDHS-DWFOB not later than 60 days following completion of the survey. The survey and report shall include physical and hydrogeological description of the watershed, a summary of source water quality monitoring data, a description of activities and sources of contamination, a description of any significant change that have occurred since the last survey which could affect the quality of the source water, a description of watershed control and management practices, an evaluation of the system's ability to meet requirements of the SWTR and recommendations for corrective actions.

Surface Water Treatment Rule – Spreading/Extraction Wells

14. If the NWP or the systems it serves elects to utilize spreading/extraction wells they shall comply with requirements of the Surface Water Treatment Regulations (SWTR) whenever there is surface water within 150 feet of the wells. The SWTR requires that surface water treatment plants reliably achieve at least 3 logs (99.9 %) reduction of Giardia cysts and 4 logs (99.99 %) reduction of viruses through filtration and disinfection. The wells will be used only if there is no surface water within 150 feet of the wells or filtration treatment shall be provided as outlined below. The concept of using the wells in this manner will be contingent on that the well water when used shall comply with the turbidity performance standard of 0.5 NTU. If the operation cannot comply with the turbidity and disinfection performance standards additional treatment including filtration shall be provided. The following operation parameters need be followed to comply with the SWTR:

Extraction Wells - SWTR

A. If it is greater than 150 feet to surface water the well operation is not subject to the SWTR. However if the distance to water is less than 150 feet at any time during the past year, the Utility must:

Take monthly turbidity measurements and meet a turbidity level of 0.5 TU when the well is used.
Provide reliable chlorination to a 0.5 to 1.0 mg/l residual.
Pump the well to waste before using if it is not used for a period of time.
Check and record daily chlorine residuals.
Make and report a daily observation of feet to surface water from each well.

B. If it is from 100 to 150 feet to surface water we will allow natural filtration. The Utility must monitor turbidity, chlorine and meet CT requirements to comply with SWTR including:

Turbidity every 4 hours and meet 0.5 TU 95%.
Chlorine residual every 4 hours.
Maintain a chlorine residual in system or HPC (Heterotrophic Plate Count) less than 500.
Meet CT requirements.
Make and report a daily observation of feet to surface water from each well.

C. If it is less than 100 feet to surface water the Utility must provide filtration and disinfection treatment. The Utility must monitor turbidity, chlorine and meet CT requirements to comply with SWTR including:

Turbidity every 4 hours and meet 0.5 TU 95%.
Chlorine residual every 4 hours.
Maintain a chlorine residual in system or HPC (Heterotrophic Plate Count) less than 500.
Meet CT requirements.
Make and report a daily observation of feet to surface water from each well.

15. The extraction well operation to use wells only if there is no water within 150 feet of the wells or utilize natural filtration if the wells are from 100 to 150 feet to surface water in order to comply with the SWTR shall comply with a performance turbidity standard of 0.5 NTU or less in 95 percent of the measurements taken each month and shall not exceed 5.0 NTU at any time. Turbidity and chlorine residual measurements shall be taken when the wells are operated. The water delivered to the distribution system shall contain a disinfectant residual necessary to comply with the disinfection requirement of the SWTR. The well operation shall include a disinfection process which must provide at least 1.0 log (90.0%) inactivation of Giardia and 3.0 log (99.9%) inactivation of viruses. A disinfection tracer study or pipeline flow calculation shall be conducted to verify that the disinfection CT values are adequate. Furthermore a disinfectant residual shall be detectable in at least 95 percent of the samples taken from the distribution system based on the samples collected during two consecutive months. The presence of heterotrophic plate count (HPC) of 500 or less can be substituted for a detectable residual. Residual measurements shall be made in conjunction with bacteriological sampling.

- Nacimiento Reservoir Recreation -

16. The NWP and its water purveyors shall submit a Nacimiento Reservoir Recreation Plan. The plan shall include all recreational activities on and around the Reservoir. The plan shall evaluate the recreation facilities, waste disposal facilities and operation as well as control of the number and supervision the persons using the facilities. Monthly recreation area inspections shall be made and an inspection report shall be submitted to the SDHS – DWFOB Santa Barbara District office by the tenth of each month.

- Submittal of Documents -

17. The NWP shall submit to the SDHS-DWFOB copies of all engineering reports, EIRs, plans and specifications, etc. for our review.

- Approved Sources -

18. This permit authorizes the NWP to use the following sources and required treatment facilities: Nacimiento Reservoir water which shall receive conventional filtration and disinfection treatment for direct use. No other sources or treatment facilities shall be used by the Nacimiento Water Project without receiving an amended permit and prior approval from this Department.

This permit supersedes all the domestic water supply permits previously granted to Nacimiento Water Project. If you have any questions regarding this permit, please call this office, at (805) 963-8616.

Sincerely,

John Curphey

John Curphey, P.E.
District Sanitary Engineer
Santa Barbara District (DWFOB)

Enclosure

cc: San Luis Obispo County Environmental Health
bcc: District (2), Region

CALIFORNIA—HEALTH AND HUMAN SERVICES AGENCY
GRAY DAVIS, Governor

DEPARTMENT OF HEALTH SERVICES
DIVISION OF DRINKING WATER AND ENVIRONMENTAL MANAGEMENT
1180 Eugenia Place, Suite 200
Carpinteria, CA 93013
(805) 566-1326
FAX (805) 566-4790

Engineering Report
For Consideration of the Permit
Application From
NACIMIENTO WATER PROJECT
Serving Purveyors in San Luis Obispo County
San Luis Obispo County
October 7, 1999

State Department of Health Services
Division of Drinking Water and Environmental Management
Field Operations Branch

Kurt Souza, P.E., Associate Sanitary Engineer
John Curphey, Senior Sanitary Engineer

SUMMARY OF RECOMMENDATIONS

The Nacimiento Water Project (NWP) is a conceptual water project which will provide water from the Nacimiento Reservoir to various communities in San Luis Obispo County. Presently a revised EIR for the Project is being prepared. Attached are portions of the draft EIR relative to the NWP. The NWP will consist of either a raw water delivery or treated water delivery system. Initially the NWP will most likely be a raw water delivery system with the communities it serves treating the water either by individual treatment plants or by water spreading along with a well extraction system. The treatment facilities must be conventional treatment plants as body contact recreation is allowed at the Nacimiento Reservoir. If raw water spreading along with extraction wells is developed for some systems then the wells must be located at least 150 feet from the surface water or the well water will need to be treated by filtration and disinfection in compliance with the Surface Water Treatment Rule. The San Luis Obispo County Engineering Department as the NWP manager needs to keep this office appraised of all items related to the NWP. Copies of all engineering reports, EIRs, etc pertaining to the Nacimiento Water Project shall be submitted for our review. A draft of this permit was sent to the County Engineering Department on March 17, 1999 for their review. If the NWP's concept changes then this permit will be amended as required.

This domestic water supply permit is being issued to the NWP as a conceptual water project and will be updated as the project's final design is developed. Issuance of a domestic water supply permit by the SDHS-DWFOB to the NWP is recommended, subject to the following provisions:

- SDWA -

1. The NWP and the water purveyors it serves shall comply with all state laws applicable to public water systems, including, but not limited to the Health and Safety Code and any regulations, standards, or orders adopted thereunder.

- Operator Certification Program -

2. The treatment facilities using NWP water shall be operated by personnel who have been certified in accordance with the Regulations Relating to Certification of Water Treatment Facility Operation, California Code of Regulations, Title 17.

- Cross-Connection Control Program -

3. The NWP shall maintain an active Cross-Connection Control Program in accordance with the Regulations Relating to Cross-Connections, California Code of Regulations, Title 17. Yearly cross-connection surveys shall be conducted by a person qualified in cross-connection control. All cross-connections shall be abated within 30 days of their identification. Backflow prevention devices shall be tested at least yearly. The NWP shall submit a yearly report outlining the status of the cross-connection control program and list any needed improvements to the program. Any treatment facility bypass pipeline shall be protected with an approved air gap. Any use of the bypass of a Surface Water Treatment Plant would require SDHS - DWFOB approval along with public notification.

- SWTR -

4. All water supplied directly to consumers from the Nacimiento Reservoir through the NWP shall comply with the Surface Water Treatment Rule and shall consist of conventional filtration and disinfection treatment facilities. Additional treatment, including iron and manganese removal filtration facilities, hydrogen sulfide treatment, nitrate blending or treatment facilities, etc., shall be provided to bring the water quality into compliance if the water quality does not comply with the California Domestic Water Quality and Monitoring Regulations. The plans and specifications for any treatment facilities shall be submitted to the State Department of Health Services, Drinking Water Field Operations Branch (SDHS - DWFOB), Santa Barbara District office for review and approval prior to construction.

5. All water treatment facilities using NWP water shall comply with requirements of the Surface Water Treatment Regulations (SWTR). The SWTR requires that a surface water treatment plant reliably achieve at least a 3 log (99.9 %) reduction of Giardia cysts and a 4 log (99.99 %) reduction of viruses through filtration and disinfection. A tracer study or equivalent calculation shall be conducted to verify that the disinfection CT values are adequate. Conventional treatment plants will be granted 2.5 log removal of Giardia and 2 log removal of viruses and the treatment disinfection facilities will be required to provide 0.5 log inactivation of Giardia and 2 log inactivation of viruses.

6. All treatment facilities using NWP water shall provide conventional treatment and comply with a performance turbidity standard of 0.5 NTU or less in 95 percent of the measurements taken each month. The turbidity level of the filtered water shall not exceed 1.0 NTU for more than eight consecutive hours while the plant is in operation. The turbidity of the filtered water effluent shall not exceed 5.0 NTU at any time. The treatment plant should be operated to achieve an optimum performance turbidity goal of 0.1 NTU or less. When any individual filter is placed back into service the filtered water turbidity of the filter effluent from that filter shall not exceed any of the following: (a) 2.0 NTU at any time (b) 1.0 NTU in at least 90 percent of the interruption events during any consecutive 12 month period and (c) 0.5 NTU after the filter has been in operation for 4 hours. Turbidity and chlorine residual measurements shall be taken at four hour intervals or from continuous monitoring. The water delivered to the distribution system shall contain a disinfectant residual of at least 0.2 mg/l based on the four hour readings but shall be enough to meet CT requirements continuously. Furthermore a disinfectant residual shall be detectable in at least 95 percent of the samples taken from the distribution system based on the samples collected during two consecutive months. The presence of heterotrophic plate count (HPC) of 500 or less can be substituted for a detectable residual. Residual measurements shall be made in conjunction with bacteriological sampling.

7. All treatment facilities using NWP water shall comply with the SWTR's design standards for any initial or future plant expansion.

8. All treatment facilities using NWP water shall comply with the SWTR's reliability features including:

   a. Alarms - for all critical functions including pressure sensing devices on the discharge of all chemical feed equipment to signal a failure of chemical feed pumps, motors, power outages.

   b. Dedicated standby replacement equipment and chemical storage available to assure continuous operation and control of unit processes for coagulation, filtration and disinfection.

   c. Multiple filter units which provide redundant capacity when filters are out of service for backwashing or maintenance.

   d. Backup power supply.

   Alternatives to these requirements may be accepted provided it is demonstrated that a proposed alternative will assure an equal degree of reliability.

9. The treatment facilities using NWP water shall comply with the Operation Criteria of the SWTR.

10. The treatment facilities using NWP water shall develop and follow an Emergency Disinfection Plan (EDP) to prevent undisinfected or inadequately disinfected water from being delivered to the consumers. The EDP shall be submitted to the SDHS - DWFOB and should be updated yearly.

11. The treatment facilities using NWP water shall develop and follow an Operations Plan. A copy of the plan shall be submitted to the SDHS-DWFOB. The operations plan shall be designed to produce optimal water quality. The operations plan shall consist of a description of the treatment plant's monitoring program; maintenance program; operating personnel including their responsibilities and certification levels; how and when each unit process is operated; laboratory procedures; procedures to determine chemical dosages; records; plans for responses to plant and watershed emergencies, and reliability features. Optimum coagulation shall be maintained at all times.

12. The treatment facilities using NWP water shall submit a monthly operation and monitoring report to this office by the tenth of each month signed by the Manager, Superintendent or Chief Operator. The report shall include the daily amount of water treated, turbidity measurements, chlorine residual measurements of the treated water and from the distribution system, CT parameters and a list of water quality complaints and reports of waterborne illness received from consumers. Treatment plant records shall be maintained for at least two years. The NWP treatment facilities shall contact this office by phone concerning any acute violation or the occurrence of a hazardous situation. MCL violations will require public notification pursuant to the SWTR requirements.

13. The NWP and its water purveyors shall conduct a sanitary survey of the Nacimiento Reservoir and its watershed every five years. The first survey shall be completed prior to the Nacimiento Water Project's startup. A report of the survey shall be submitted to the SDHS-DWFOB not later than 60 days following completion of the survey. The survey and report shall include physical and hydrogeological description of the watershed, a summary of source water quality monitoring data, a description of activities and sources of contamination, a description of any significant change that have occurred since the last survey which could affect the quality of the source water, a description of watershed control and management practices, an evaluation of

the system's ability to meet requirements of the SWTR and recommendations for corrective actions.

Surface Water Treatment Rule – Spreading/Extraction Wells

14. If the NWP or the systems it serves elects to utilize spreading/extraction wells they shall comply with requirements of the Surface Water Treatment Regulations (SWTR) whenever there is surface water within 150 feet of the wells. The SWTR requires that surface water treatment plants reliably achieve at least 3 logs (99.9 %) reduction of Giardia cysts and 4 logs (99.99 %) reduction of viruses through filtration and disinfection. The wells will be used only if there is no surface water within 150 feet of the wells or filtration treatment shall be provided as outlined below. The concept of using the wells in this manner will be contingent on that the well water when used shall comply with the turbidity performance standard of 0.5 NTU. If the operation cannot comply with the turbidity and disinfection performance standards additional treatment including filtration shall be provided. The following operation parameters need be followed to comply with the SWTR:

Extraction Wells - SWTR

A. If it is greater than 150 feet to surface water the well operation is not subject to the SWTR. However if the distance to water is less than 150 feet at any time during the past year, the Utility must:

Take monthly turbidity measurements and meet a turbidity level of 0.5 TU when the well is used.
Provide reliable chlorination to a 0.5 to 1.0 mg/l residual.
Pump the well to waste before using if it is not used for a period of time.
Check and record daily chlorine residuals.
Make and report a daily observation of feet to surface water from each well.

B. If it is from 100 to 150 feet to surface water we will allow natural filtration. The Utility must monitor turbidity, chlorine and meet CT requirements to comply with SWTR including:

Turbidity every 4 hours and meet 0.5 TU 95%.
Chlorine residual every 4 hours.
Maintain a chlorine residual in system or HPC (Heterotrophic Plate Count) less than 500.
Meet CT requirements.
Make and report a daily observation of feet to surface water from each well.

C. If it is less than 100 feet to surface water the Utility must provide filtration and disinfection treatment. The Utility must monitor turbidity, chlorine and meet CT requirements to comply with SWTR including:

Turbidity every 4 hours and meet 0.5 TU 95%.
Chlorine residual every 4 hours.
Maintain a chlorine residual in system or HPC (Heterotrophic Plate Count) less than 500.
Meet CT requirements.
Make and report a daily observation of feet to surface water from each well.

15. The extraction well operation to use wells only if there is no water within 150 feet of the wells or utilize natural filtration if the wells are from 100 to 150 feet to surface water in order to comply with the SWTR shall comply with a performance turbidity standard of 0.5 NTU or less in 95 percent of the measurements taken each month and shall not exceed 5.0 NTU at any time. Turbidity and chlorine residual measurements shall be taken when the wells are

operated. The water delivered to the distribution system shall contain a disinfectant residual necessary to comply with the disinfection requirement of the SWTR. The well operation shall include a disinfection process which must provide at least 1.0 log (90.0%) inactivation of Giardia and 3.0 log (99.9%) inactivation of viruses. A disinfection tracer study or pipeline flow calculation shall be conducted to verify that the disinfection CT values are adequate. Furthermore a disinfectant residual shall be detectable in at least 95 percent of the samples taken from the distribution system based on the samples collected during two consecutive months. The presence of heterotrophic plate count (HPC) of 500 or less can be substituted for a detectable residual. Residual measurements shall be made in conjunction with bacteriological sampling.

- Nacimiento Reservoir Recreation -

16. The NWP and its water purveyors shall submit a Nacimiento Reservoir Recreation Plan. The plan shall include all recreational activities on and around the Reservoir. The plan shall evaluate the recreation facilities, waste disposal facilities and operation as well as control of the number and supervision the persons using the facilities. Monthly recreation area inspections shall be made and an inspection report shall be submitted to the SDHS – DWFOB Santa Barbara District office by the tenth of each month.

- Submittal of Documents -

17. The NWP shall submit to the SDHS-DWFOB copies of all engineering reports, EIRs, plans and specifications, etc. for our review.

- Approved Sources -

18. This permit authorizes the NWP to use the following sources and required treatment facilities: Nacimiento Reservoir water which shall receive conventional filtration and disinfection treatment for direct use. No other sources or treatment facilities shall be used by the Nacimiento Water Project without receiving an amended permit and prior approval from this Department.

PR0399.DOC

/ Yacimiento Water Project

STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES

DOMESTIC WATER PERMIT APPLICATION

FROM: San Luis Obispo County Flood Control & Water Conservation District

TO: Department of Health Services
Division of Drinking Water
and Environmental Health
P.O. Box 4339
Santa Barbara, CA 93140-4339

Pursuant and subject to all of the terms, conditions and provisions of Division 5, Part 1, Chapter 7, Water and Water Systems of the California Health and Safety Code and all amendments thereto, relating to domestic water supplies, application is hereby made for a domestic water permit to:

Construct New Works (see attached)

(Applicant must state specifically what is being applied for, whether to construct new works, to use existing works, to make alternations or additions in works or sources. Note: Section 4012, H&S Code regarding information to be submitted with application. Additional sheets may be attached.)

Date 1.23.97

By Louis G. Gibson

Affix

Title Project Engineer

Official Seal

Address County Engineering
Room 207 County Govt
SLO CA 93408

Here

DWPA993.DOC

805-781-5267

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
(916) 657-5390 - Fax

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June 13, 2001

Nancy E. Rollman
San Luis Obispo County
County Government Center
Room 310
San Luis Obispo, CA 93408

RE: SCH# 2001061022 – Nacimiento Water Project (ED-00-603)

Dear Ms. Rollman:

The Native American Heritage Commission has reviewed the above mentioned NOP. To adequately assess the project-related impact on archaeological resources, the Commission recommends the following actions be required:

✓ Contact the appropriate Information Center for a records search. The record search will determine:
  - Whether a part or all of the project area has been previously surveyed for cultural resources.
  - Whether any known cultural resources have already been recorded on or adjacent to the project area.
  - Whether the probability is low, moderate, or high that cultural resources are located within the project area.
  - Whether a survey is required to determine whether previously unrecorded cultural resources are present.

✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - The report containing site significance and mitigation measurers should be submitted immediately to the planning department.
  - The site forms and final written report should be submitted within 3 months after work has been completed to the Information Center.

✓ Contact the Native American Heritage Commission for:
  - A Sacred Lands File Check.
  - A list of appropriate Native American Contacts for consultation concerning the project site and assist in the mitigation measures.

✓ Provisions for accidental discovery of archeological resources:
  - Lack of surface evidence of archeological resources does not preclude the existence of archeological resources. Lead agencies should include provisions for accidentally discovered archeological resources during construction per California Environmental Quality Act (CEQA) §15064.5 (f).

✓ Provisions for discovery of Native American human remains
  - Health and Safety Code §7050.5, CEQA §15064.5 (e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery and should be included in all environmental documents.

If you have any questions, please contact me at (916) 653-4040.

Sincerely,

Rob Wood

Rob Wood
Associate Governmental Program Analyst

CC: State Clearinghouse

COUNTY OF SAN LUIS OBISPO

Department of Agriculture/Measurement Standards

2156 SIERRA WAY, SUITE A • SAN LUIS OBISPO, CALIFORNIA 93401-4556

RICHARD D. GREEK (805) 781-5910

AGRICULTURAL COMMISSIONER/SEALER FAX (805) 781-1035

AgCommSLO@co.slo.ca.us

June 5, 2001

TO: **Nancy Rollman, Environmental Specialist**

FROM: **Robert Hopkins, Deputy Agricultural Commissioner** Robert Hopkins

SUBJECT: ***Revised Nacimiento Water Project Notice of Preparation of An Environmental Impact Report***

The following report is in response to your request for comments on the revised Nacimiento Water Project. The comments and recommendations in our report are based on agricultural policies in the San Luis Obispo County Agriculture and Open Space Element and current departmental policy to conserve agriculture resources and to provide for public health, safety and welfare while mitigating negative impacts of development to agriculture. If you need further clarification of these issues please give me a call.

The Notice of Preparation (NOP) contains a description (page 8 & 9) of the agricultural issues to be evaluated in the Environmental Impact Report. The list fairly well summarizes the potential agricultural impacts related to the construction of the pipeline. For further clarification I have included the specific list of issues from our NOP response June 5, 1995. The list of issues appropriate for analysis are as follows:

1. Inventory the acreage and type of crop land which would be displaced by the pipeline. Include impacts from the temporary direct loss of crop land and rangeland as a result of construction activities.
2. Impacts from potential disruption of cultural and other agricultural practices such as harvesting, pest management, shipping cattle either within or adjacent to construction areas
3. Construction related safety hazards to livestock and/or construction damage to existing fence lines and access roads.
4. Disruption of the existing soil profiles (e. g. excavation and soil replacement), with an emphasis on the loss of prime agricultural soils.
5. Potential impacts to agricultural lands from concentrated erosion problems within the construction corridor.

6. Potential contamination of crop land, rangeland and roadsides with noxious weed species and the potential movement of noxious weed species by soil movement and equipment.

Due to the site specific nature of impacts to agriculture, we have not at this time recommended specific mitigation measures. Generally mitigation measures such as, maximizing the use of existing road right-of-ways, construction scheduling, and equipment sanitation could be used for specific site mitigation.

We look forward to commenting on the draft Environmental Impact Report.

H:\RLHLUP\NOP\Revised Nacimiento Project.wpd

CDF/SAN LUIS OBISPO COUNTY FIRE DEPARTMENT

Dan Turner, Chief

General Information 805/543-4244
FAX 805/543-4248

635 N. Santa Rosa • San Luis Obispo • California 93405

July 10, 2001

Nancy E. Rollman, AICP, Environmental Specialist
SLO County Building and Planning
County Government Center
San Luis Obispo, CA 93408

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Project Number: ED00-603

Dear Nancy,

I have reviewed the Notice of Preparation for the Nacimiento Water Project. I have attempted to answer your question with the following responses:

1. Robert Lewin, Battalion Chief
   Fire Protection Planning
   CDF/San Luis Obispo County Fire
   635 No. Santa Rosa St.
   San Luis Obispo, CA 93405
   (805)543-4244
2. All applicable Fire Law including the Uniform Fire Code, Public Resource Codes and Health and Safety Codes
3. Identify which areas of the pipeline cross through wild fire prone lands know as State Responsibility Areas.
4. During construction of the pipeline all activities, which pose an ignition source, will have to comply with fire safety laws. This includes welding activities and use of heavy equipment. A schedule of inspection by the fire department will have to occur particularly during declared fire season. All equipment will have to be in compliance.
5. No alternatives other than construction to be done only during low fire danger periods.
6. Unknown
7. CDF's "Industrial Operating Fire Prevention Field Guide"
8. Consideration of fuel breaks or other treatment in construction areas.

If I can provide additional information or assistance on this mater please call me at (805)543-4244.

Sincerely,

Robert Lewin
Battalion Chief

Cc: file

CALIFORNIA DEPARTMENT of FORESTRY and FIRE PROTECTION

PROVIDING COOPERATIVE FIRE PROTECTION AND RESCUE SERVICES
TO THE CITIZENS OF SAN LUIS OBISPO COUNTY

AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN LUIS OBISPO

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DATE: June 8, 2001

TO: Nancy Rollman, Environmental Specialist

FROM: Barry Lajoie, BPL Air Quality Specialist

SUBJECT: Nacimiento Water Project (ED00-603)

Thank you for providing District staff with the opportunity to comment on the Nacimiento Water Project Notice of Preparation. The following information if provided in the format requested by your agency to facilitate the environmental review process.

Name of Contact Person

All CEQA related issues should be directed to Barry Lajoie while all permit (APCD permit) related issues should be directed to Dean Carlson or Gary Willey at the following:

San Luis Obispo County Air Pollution Control District
3433 Roberto Ct.
San Luis Obispo, CA 93401

Phone: (805) 781-5912
Fax: (805) 781-1002

Permits or Approval Authority

Based on the project description we reviewed, the following project components will likely require District permit. It is possible that additional project components not identified at this time will require some form of District review or permit so the following list should not be viewed as exclusive.

Newly constructed or modified water treatment plants:

a. Potable water disinfecting equipment.
b. Portable/stationary engines and equipment (i.e. spark ignition or diesel-fired pumps and backup generators, etc).

Pipeline and Water Treatment Plant Construction:

a. Portable and stationary engines and equipment:
   i. Confined and unconfined abrasive blasting.
   ii. Portland concrete batch plants.
   iii. Sand and gravel screening, rock crushing.
   iv. Spark ignition or diesel-fired internal combustion engines used in conjunction with the following types of work:

- Well drilling, service, or workover rigs,
- Power generation
- Pumps
- Compressors
- Pile drivers
- Cranes
- Woodchippers

The project applicant should contact the District's permit engineering group at (805) 781-5912 once project details have been more thoroughly refined, and prior to commencement of construction activities to identify specific permit requirements for both construction and operation of the project.

Environmental Information
Both construction phase and operational phase air quality impacts should be assessed. Construction impacts will likely be driven to a large extent by the amount of grading and earthmoving involved and the import of materials.

To aid District efforts to understand the scope and extent of potential permit issues, the project description should include enough detail to identify the location, number, type, size/capacity and level of use of new or expanded water disinfection systems, standby generators, and pumps. In addition, the nature and proximity of receptors (residences, businesses, schools, etc) with respect to these new or expanded sources should be provided to assist the District during our permit process identify potential health risk issues.

Finally, since the District is in the process of updating the Clean Air Plan (CAP), we request a clear discussion of the growth inducing impacts of the project and potential deviations from the county's population growth projections used in the CAP to assess attainment of the State air quality standards.

Permit Stipulations/Conditions
District staff anticipates the identification of Class I impacts arising from the use of diesel powered equipment during construction of the pipeline and associated components. We therefore recommend the inclusion of the following mitigation measures designed to reduce impacts from diesel construction equipment.

a. The project owner shall require that all fossil-fueled equipment shall be properly maintained and tuned according to manufacturer specifications.
b. The project owner shall require that all off-road and portable diesel powered equipment, including but not limited to bulldozers, graders, cranes, loaders, scrapers, backhoes, generator sets, compressors, auxiliary power units, shall be fueled exclusively with CARB motor vehicle diesel fuel. Off-road equipment may use tax exempt motor vehicle fuel if not operated on public roadways.
c. The project owner shall install catalytic soot filters on 6 pieces of construction equipment involved in primary earthmoving and construction activities and projected to generate the

greatest emissions. District staff shall be included in the selection of candidate equipment along with a representative of the contractor. (This measure should be included, and clearly identified in the project bid specifications so that contractors biding on the project can include the purchase and installation costs in their bids).

All applicable dust mitigation measures from the following list should be included as conditions of your agency's approval of the project to reduce dust emissions during project construction. Reduce the amount of the disturbed area where possible.

a. Reduce the amount of the disturbed area where possible.
b. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (nonpotable) water should be used whenever possible.
c. All dirt stock-pile areas should be sprayed daily as needed.
d. Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible following completion of any soil disturbing activities.
e. Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast-germinating native grass seed and watered until vegetation is established.
f. All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD.
g. All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
h. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.
i. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114.
j. Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site.
k. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible.

Alternatives
While District staff do not recommend the analysis of any new alternatives beyond those identified in the NOP, we do request that the EIR evaluate the air quality impacts of, and alternatives to, the component of the "raw water" alternative associated with the re-pumping of Nacimiento water percolated into the Salinas River Basin aquifer by the communities of Paso Robles and Templeton. Lifting groundwater requires energy and is typically associated with some level of pollutant emissions to the air. Likewise, water treatment requires energy and so too is typically accompanied by some level of air quality impact. Is there a net environmental benefit to percolating Nacimiento water into the Salinas River Basin as opposed to delivering treated water directly to the communities of Paso Robles and Templeton?

Reasonably Foreseeable Projects, Programs, or Plans
Staff are unaware of comparable projects at this time. We are however updating the District's Clean Air Plan (CAP) and anticipate completion sometime in late 2001. While no new control measures are being proposed that would affect the Nacimiento Water Project, some information will be updated. The CAP update should not effect the preparation of the Nacimiento Water Project.

Relevant Information
Enclosed, please find copies of the District's *Annual Air Quality Report for San Luis Obispo County* for the years 1996, 1997, 1998, and 1999. Combined with the air monitoring summaries contained in the District's CAP, these reports provide a good picture of recent air quality trends in San Luis Obispo County.

Cc: Gary Willey
Dean Carlson

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CITY OF ATASCADERO

COMMUNITY DEVELOPMENT DEPARTMENT

June 29, 2001

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Nancy Rollman, Environmental Specialist
Department of Planning and Building
County Government Center
San Luis Obispo, CA 93408

SUBJECT: Notice of Preparation of a Draft EIR
Nacimiento Water Project (ED-00-603)

Nancy Rollman,

Community Development Department staff has received the Notice of Preparation for the Nacimiento Water Project on June 4, 2001. At this time it is unclear as to the impacts, if any, that may occur within or adjacent to the City of Atascadero. Additional details, such as a detailed map of the project route and water recharge area within the Salinas River area will be required in order to clearly define the scope of the project. The following information corresponds to your request:

1. **Contact Person.** Philip Dunsmore, City of Atascadero Community Development Department, 6500 Palma Avenue, Atascadero CA 93422.
2. **Permit Authority.** City of Atascadero Community Development Department. (permit scope unknown at this time)
3. **Environmental Information.** We will need accurate mapping of route within or adjacent to City of Atascadero. EIR should address construction techniques and accurate location of recharge area within the Salinas River bed near Atascadero.
4. **Permit Stipulations.** Unknown at this time.
5. **Alternatives.** None suggested.
6. **Reasonably Foreseeable projects.** The City of Atascadero is in the process of updating the General Plan. This will include amending the land use of some properties on the west side of the Salinas River to accommodate housing. The Atascadero Mutual Water Company currently owns and manages property within the Salinas River Basin and could likely be impacted by the proposed project.
7. **Relevant Information.** The County should notify the Atascadero Mutual Water Company for the Draft EIR and any future documents regarding the project.
8. **Further Comments.** Additional information will be required regarding water discharge location and construction techniques prior to additional comments.

Please call me at (805) 461-5035 if you have any questions regarding this letter.

Sincerely,

Phil Dunsmore

Philip Dunsmore, Assistant Planner
Community Development Department

Print Date: 07/02/01 1:50 PM

File: NOP draft EIR naciemento.PJD.doc

Appendix G Mitigation Monitoring Plan

Appendix G Mitigation Monitoring Plan

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
HYDROLOGY AND WATER QUALITY					
WQ-1	"No fueling" zones shall be designated wherein fueling of vehicles or equipment is prohibited within 25-feet of all drainages. All equipment used in or near drainages shall be clean and free of leaks and/or grease. Emergency provisions should be in place at all drainage crossings prior to onset of construction to deal with unintentional spills.	County PW Dept or contractor to identify "no fuelling" areas to the County prior to construction start	Dept of P&B	To review and approve the designated areas. Visits to the construction sites to review compliance with the designated zones.	Prior to Board of Supervisors approval to advertise for construction bids, and during construction
WQ-2	SLO County or the designated NWP engineer shall: 1) monitor reservoir storage and precipitation patterns, 2) notify MCWRA when conditions are such that releases down to a minimum pool on September 30th could result in a shortage for the NWP if drought persisted along historical patterns, and 3) recommend an alternative minimum level of September 30th storage for maintaining NWP deliveries through drought and ensuring SLO County's first right to water.	Establish periodic communication mechanism between SLO County and MCWRA on need for alternative minimum lake level on September 30th following a drought year.	Dept of P&B	Ongoing communication between the agencies during drought periods.	Prior to Board of Supervisors approval to advertise for construction bids.
WQ-3	SLO County shall notify both Heritage Ranch and Water World Resorts as to whether or not releases from the dam are expected to continue when water levels reach the minimum pool under NWP operations.	Notice Heritage Ranch and Water World Resorts prior to beginning NWP construction.	Dept of P&B	Review copy of notice.	Periodic review of the communication documentation
WQ-4	Operation of the intake structure shall be managed to minimize the concentration of total metals in NWP water deliveries.	SLO County, Intake operator Develop an operating plan that ensures minimization of metals in water deliveries.	Dept of P&B and RWQCB	Review of the operation plans and the collected water quality data	Periodically during operations
WQ-5	NWP raw water discharge areas shall be designed to allow raw water to percolate and flow through the subsurface a minimum of 150 feet before reaching a recovery well.	County PW Dept and design engineering firm to present final plans for review and approval prior to Board of Supervisors approval to advertise for construction bids.	County P&B Dept	Review and approval of the final design plans, verify compliance with the measure	During final design phase, and verification of compliance with design during construction

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
WQ-6	Clear vegetation in pond areas during construction and design ponds to allow for periodic drying and cleaning.	County PW Dept and Discharge areas operator Present final plans for review and approval prior to Board of Supervisors approval to advertise for construction bids.	County P&B Dept	Review the final design plans	During final plans review, prior to Board of Supervisors approval to advertise for construction bids, compliance verification during construction
WQ-7	Operate as a Discharge Area, with facility design that incorporates direct mixing and off-site transport of NWP water with Salinas River flows and surfacing underflow.	1. The final design shall allow for this type of operation. 2. Prepare operating plan/procedure that ensures the desired operation	County P&B Dept	1. Review and approval of the final design. 2. Review and approval of the operating procedures.	1. During the final design review 2. During operation
WQ-8	Develop new source capacity for underflow recovery. Assess environmental impacts in supplemental study. This mitigation is not required until such time as the City of Paso Robles desires to do so.	County PW Dept and City of Paso Robles to develop plans detailing how the new source capacity can be achieved	County P&B Dept	Review and approval of the Plans	During review of the Plans and verification of operation during operations. This measure is not required until the City of Paso Robles desires to do so.
GEOLOGY, SEISMICITY and SOILS					
GS-1	The Applicant shall conduct investigations to further clarify the ground-rupture potential and location of fault trace(s) of the Rinconada fault in the project area. Implement recommendations of the reports of these investigations in the design of the project.	County PW Dept or contracted geologist shall submit the investigations report to the lead agency prior to final design phase	Dept of P&B	Review the investigations report and the documentation of the final design; verify that the results of the investigations are incorporated in the final project design	Prior to Board of Supervisors approval to advertise for construction bids.
GS-2	Prior to final design, conduct investigations as listed in GS-1. In addition, to provide a method of secondary containment for	County PW Dept or contracted engineer	Dept of P&B	Review the submitted documentation and	Prior to Board of Supervisors

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	the stored water Rocky Canyon Storage Tank shall be constructed as a buried, concrete tank.	Before final design to submit considerations for the alternative location or considerations against the new location		make a determination on the design change if appropriate	approval to advertise for construction bids.
GS-3	Prior to construction, an evaluation of areas of serpentinite outcrops or serpentine-rich soils shall be made by a qualified professional such as a Certified Industrial Hygienist (CIH) as to whether such conditions represent a threat to human health. If so, a safety program shall be initiated and shall include providing personal protective equipment to workers and a worker education program. In addition to the dust reduction measures described in Air Quality, Section 5.4.4, (Mitigation Measure AQ-1), all applicable dust reduction measures outlined in the following document shall be implemented: 17 CCR Section 93105. Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations. The Naturally Occurring Asbestos (NOA) ATCM requirements may include but are not limited to 1) an Asbestos Dust Mitigation Plan which must be approved by the APCD before construction begins, and 2) an Asbestos Health and Safety Program will also be required for some projects (http://www.slocleanair.org/business/asbestos.asp)	County PW Dept or contracted CIH to submit the results of the evaluation to the lead agency. Develop and submit a Safety Program to the lead agency for review and approval	Dept of P&B	Review the submitted report and Safety Program, ensure that all required parts are included in the Program (e.g., worker education program), review compliance with the 17 CCR Section 93105	Prior to Board of Supervisors approval to advertise for construction bids.
DRAINAGE, EROSION and SEDIMENTATION					
DE-1	An Erosion Control Plan shall be prepared in conjunction with the required Storm Water Pollution Prevention Plan (SWPPP) to devise specific soil erosion control measures. The plan would include but not be limited to the following measures: - Construction activities through areas of concern (i.e., rivers, streams, large drainages) shall be scheduled during the dry season (April 15 to October 15) to reduce erosion, or shall implement measure DE-2 to minimize potential impacts. - Revegetation of areas disturbed or cleared during construction shall occur after construction is completed and before the rainy season.	Prior to final design approval, SLO County to include schedule for specific construction areas in SWPPP. Designated representative present at construction site.	County P&B Dept	SWPPP approval and on-site monitoring.	During Construction.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
DE-2	Direct any diverted flows to in-channel sedimentation basins that will trap fine soil materials before diverted flows are released downstream. If the cross-section of the channel is narrowed by the diversion, provide erosion protection measures at the downstream outlet point. Plan diversion structures to be in service for the shortest possible time, and remove them as soon as construction is completed. Have all diversion facilities designed by a qualified civil engineer and base the design on the best available streamflow information. Before designing in-channel sedimentation basins, consult with a qualified biologist to identify, and avoid to the degree feasible, sensitive biological resources such as wetlands and sensitive wildlife habitat (i.e., steelhead trout, California red-legged frog, southwestern pond turtle, and breeding riparian bird habitat). If wetland areas are impacted by these erosion control measures, mitigation will be required by the regulatory agencies.	Prior to final design approval County/U.S. Army Corps of Engineers to indicate in construction plans, and implement. On-site field supervisor to inspect daily.	County P&B Dept	On-site monitoring	During Construction.
DE-3	Inspect diversion facilities daily and repair all damage immediately.	During construction County/U.S. Army Corps of Engineers to include inspection schedule in construction plans, make repairs as necessary On-site field supervisor to inspect daily.	County P&B Dept	On-site monitoring	During Construction.
DE-4	Prepare in advance and have construction crews ready to implement an emergency construction site securing procedure, which shall include personnel and equipment evacuation, trench closure, and materials removal procedures.	County PW Dept to indicate in construction plans and discuss at daily field meetings. During construction implement plan and report to on-site field supervisor.	County P&B Dept	Approval of construction plans.	During Construction.
DE-5	Heavy equipment and construction activities shall be restricted to the defined construction ROW. Equipment access and construction through drainages should be conducted from the banks rather than within the drainage.	County PW Dept contractor to visually inspect in field. On-site monitor present at all construction sites during construction.	County P&B Dept	On-site monitoring and reporting.	During construction.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
DE-6	Do not store construction materials or spoils within the channel or overbanks.	County PW Dept / RWQCB to include in SWPPP. Environmental Specialist shall be present at construction site during construction.	County P&B Dept	SWPPP approval and on-site monitoring.	During construction.
DE-7	Obtain weather updates on a daily basis, or more frequently if inclement conditions are threatening.	County PW Dept to indicate in construction plans and implement. Monitor and report to on-site field supervisor during construction.	County P&B Dept	Maintain daily weather log	During construction.
DE-8	Erosion and sedimentation impacts shall be mitigated by employing standard erosion control procedures such as use of silt fencing, sandbagging, straw bales, waddles, water bars, diversion ditches, and stream bank stabilization procedures. In addition, drainages shall be spanned to the maximum degree feasible, subject to engineering or other concerns, in an attempt to avoid direct and indirect impacts.	Prior to construction County PW Dept to include in SWPPP. Designated representative present at construction site during construction.	County P&B Dept	SWPPP approval and on-site monitoring.	During construction.
DE-9	Provide in-channel sedimentation basins when constructing in a stream bed as previously directed. Monitor water leaving the sedimentation basin to satisfy the requirements of the RWQCB. If standards are exceeded, cease all construction activities in the stream bed and do not resume activities until the problem is corrected to the satisfaction of the RWQCB representative. Following construction activities, the stream channel will be restored to near its original condition.	County PW Dept/ U.S. Army Corps of Engineers to indicate in construction plans, and implement. On-site monitor present at construction sites during construction.	County P&B Dept	On-site monitoring.	During and after construction.
DE-10	A vegetation restoration plan shall be prepared and implemented by a qualified restoration biologist and native plant horticulturist for the various vegetation communities and habitats that would be temporarily disturbed during project construction but could be restored onsite.	Prior to final design approval County PW Dept to submit plan and implement. Inspect based on restoration plan.	County P&B Dept	Approval of plan, and on-site monitoring.	After construction.
DE-11	Store excavated soil and stockpiles of imported fill outside of the channel and setback at least 20 feet from the active channel banks. Protect stockpiles of loose material with secured tarps and provide silt fencing or straw bales down gradient of the stockpiles.	County PW Dept / RWQCB to include in SWPPP. Environmental Specialist present at construction site during construction.	County P&B Dept	SWPPP approval and on-site monitoring.	During construction.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
DE-12	The Lead or Responsible Agency shall develop and implement a plan providing the emergency response and repair procedures for an accidental rupture. The plan shall include remedial erosion control measures for areas downstream of the rupture.	Prior to final design approval County PW Dept to submit plan and implement. On-site monitoring and report to Lead Agency.	County P&B Dept	Approval of plan, and on-site monitoring.	After construction.
DE-13	The Lead or Responsible Agency shall implement a regular inspection and maintenance program to detect possible problems with pipeline integrity.	Prior to final design approval County PW Dept to submit plan and implement. On-site monitoring and report to Lead Agency.	County P&B Dept	Approval of plan, and on-site monitoring.	During and after construction.
DE-14	The Lead or Responsible Agency shall provide thorough inspection of the pipeline materials and construction techniques while the pipelines are being installed. The County shall specify the use of materials with proven reliability only.	Prior to final design approval County PW Dept to submit plan and implement. On-site monitoring and report to Lead Agency.	County P&B Dept	Approval of plan, and on-site monitoring.	Prior to Board of Supervisors approval to advertise for construction bids, and during construction.
DE-15	The Lead or Responsible Agency shall design checkpoints and shut-off valves for incorporation into the pipelines such that critical reaches which may be subject to damage (e.g. a suspended crossing) can be isolated.	Prior to final design approval County PW Dept to indicate on construction plans. On-site monitoring.	County P&B Dept	Approval of plan and on-site monitoring.	Prior to Board of Supervisors approval to advertise for construction bids, and during construction.
DE-16	The final engineering design shall determine the pipeline depth below the maximum scour depth at underground stream crossings of major streams. The pipe shall be reinforced beneath the active stream channel. The pipeline depth, at underground crossings of seasonal creeks, shall be a minimum of 2 feet below the maximum scour depth.	Prior to final design approval County PW Dept to indicate on construction plans. On-site monitoring.	County P&B Dept	Approval of plan and on-site monitoring.	Prior to Board of Supervisors approval to advertise for construction bids, and during construction.
DE-17	Suspended pipe crossing abutments and cable caissons shall be installed outside of stream channels.	Prior to final design approval County PW Dept to indicate on construction plans. On-site monitoring.	County P&B Dept	Approval of plan and on-site monitoring.	Prior to Board of Supervisors approval to advertise for construction bids, and during construction.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
DE-18	Impervious surfaces should be either designed to dissipate runoff uniformly, or drainage measures should be designed to convey runoff from impervious surfaces so that concentrated flows do not discharge onto unprotected slopes.	Prior to construction County PW Dept / RWQCB to include in SWPPP. Environmental Specialist present at construction site.	County P&B Dept	SWPPP approval and on-site monitoring.	During and after construction.
DE-19	Areas disturbed during construction should be revegetated, as soon as is practical, prior to the beginning of the rainy season.	During and after construction County PW Dept to implement vegetation restoration plan. Inspect based on restoration plan.	County P&B Dept	On-site monitoring.	During and after construction.
DE-20	The Lead or Responsible Agency shall implement a regular inspection and maintenance program to detect and repair damaged discharge piping, and to monitor bank erosion. Annual repairs or repairs following high stream flows should be anticipated as long as the system is in place.	During construction and ongoing - City of Paso Robles; TCSC; AMWC; U.S. Army Corps of Engineers to implement inspection and maintenance program. Periodic inspection and maintenance based on program	City of Paso Robles; TCSC; AMWC	On-site monitoring.	During construction and ongoing.
DE-21	Design discharge piping in river channel to be flexible or to have flexible couplings between pipe joints.	Prior to construction County PW Dept to indicate in construction plans and implement. On-site monitoring.	County P&B Dept	On-site monitoring.	Prior to and during construction.
DE-22	Discharge system shall be designed so that concentrated flows do not discharge onto an unprotected river bank.	Prior to construction City of Paso Robles; TCSC; AMWC; RWQCB to include in SWPPP. Environmental Specialist present at construction site during construction.	City of Paso Robles; TCSC; AMWC	SWPPP approval and on-site monitoring.	Prior to and during construction.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
AIR QUALITY					
AQ-1	In coordination with the SLOAPCD, the Applicant shall implement the following APCD standard dust reduction measures during construction. All PM10 mitigation measures required shall be shown on the contractor's grading and building plans and specifications. a. Reduce the amount of the disturbed area where possible. b. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible. c. All dirt stockpile areas shall be sprayed daily as needed. d. Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible following completion of any soil disturbing activities. e. Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast-germinating native grass seed and watered until vegetation is established. f. All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the SLOAPCD. g. All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used. h. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site. i. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of	The County PW Dept shall submit the Dust Control and Reduction Plan to the APCD prior to land use clearance.	APCD	APCD to review and approve the Dust Reduction Plan prior to start of the project. The APCD representative visits to construction sites to verify compliance	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code Section 23114. This measure has the potential to reduce PM10 emissions by 7–14%. j. Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site. This measure has the potential to reduce PM10 emissions by 40–70%. k. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible. This measure has the potential to reduce PM10 emissions by 25–60%. l. The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD prior to any site disturbance.				
AQ-2	The Applicant shall implement activity management techniques as feasible taking into account other mitigation measures that affect scheduling (e.g., Biology, Transportation/Circulation and Noise mitigation measures) during construction, as presented below: a. Development of a comprehensive construction activity management plan designed to minimize the amount of large construction equipment operating during any given time period; b. Scheduling of construction truck trips during non-peak hours to reduce peak hour emissions; c. Limiting the length of the construction work-day period, if necessary, during periods with high air pollutant levels; d. Phasing of construction activities, if appropriate.	Documentation supporting the available emission mitigations shall be submitted to the APCD.	APCD	Review and approval of the supporting documentation for the mitigations. Site visits	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
AQ-3	The Applicant shall implement the following standard NOx and ROC reduction measures to the maximum extent feasible: a. Use of Caterpillar pre-chamber diesel engines (or equivalent) together with proper maintenance and operation to reduce emissions of NOx. b. Electrify equipment where feasible. c. Maintain all fossil-fuelled equipment in tune per manufacturer's specifications, except as otherwise required above. d. Encourage use of catalytic converters on gasoline-powered equipment. e. Substitute gasoline-powered for diesel-powered equipment, where feasible. f. Implement activity management techniques as described in AQ-2. g. Use compressed natural gas (CNG) or propane powered portable equipment (e.g., compressors, generators, etc.) onsite instead of diesel-powered equipment, where feasible. h. All off-road and portable diesel powered equipment, including but not limited to bulldozers, graders, cranes, loaders, scrapers, backhoes, generator sets, compressors, auxiliary power units, shall be fuelled exclusively with CARB certified motor vehicle diesel fuel. Off-road equipment may use tax exempt motor vehicle fuel if not operated on public roads. i. Maximize to the extent feasible, the use of diesel construction equipment meeting the CARB's 1996 or newer certification standard for off-road heavy-duty diesel engines.	County PW Dept shall submit to the APCD documentation supporting the available NOx and ROC reduction measures.	APCD	Review and approval of the documentation Verified by construction site visits	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
AQ-4	Because NOx emissions are above the threshold, Best Available Control Technology for Construction Equipment (CBACT) shall be used to mitigate combustion emissions from heavy-duty construction equipment such as but not limited to the following: - Install diesel oxidation catalysts (DOC), catalyzed diesel particulate filters (CDPF) or other District-approved emission reduction retrofit devices. In particular, the Applicant shall ensure installation of CDPFs on 6 (six) pieces of construction equipment involved in the primary earthmoving and construction activities and projected to generate the greatest emissions (if DOCs are used, installing of five (5) DOCs would be an equivalent of installing of one CDPF). The SLO APCD staff shall be included in the selection of candidate equipment along with a representative of the contractor (or subcontractor). (This measure shall be included and clearly identified in the project bid specifications so that contractors bidding in the project can include the purchase, proper installation and maintenance costs in their bids.), and - Emission control device installation, use, and maintenance records shall be maintained by the contractor that operates the controlled construction equipment suing forms provided by the APCD. The APCD or lead agency representatives shall be allowed to review this documentation and the controlled equipment as needed to ensure that mitigation requirements are being met.	County PW Dept shall submit to the APCD Documentation supporting the implementation of BACT.	APCD	Review and approval of the documentation Verified by construction site visits	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction
AQ-5	The Applicant shall procure propane-powered, or low-NOx emergency generators to lower potential NOx emissions.	Present the procurement documentation to the APCD	APCD	Verification that the procured equipment meets the requirements	Prior to operations
AQ-6	Should the Applicant utilize diesel powered generators, the Applicant shall install diesel oxidation catalysts (DOC), catalyzed diesel particulate filters (CDPF) or other District-approved emission reduction retrofit devices.	Present the procurement documentation to the APCD	APCD	Verification that the procured equipment meets the requirements	Prior to operations

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
NOISE					
N-1	Equipment enclosures/noise barriers shall be used in the vicinity of sensitive receptors (per station numbers in Table 5.5.7) to reduce the noise generated by stationary equipment (i.e., generators, pumps, and other stationary construction equipment) during daytime hours.	Onsite monitor at all construction sites shall visually inspect in field during construction.	Dept of P&B or approved monitor	Onsite monitoring. Inspection and response to complaints.	Periodic.
N-2	Construction activities shall be limited to 7:00 a.m. and 7:00 p.m. on weekdays and between 8:00 a.m. and 5:00 p.m. on Saturdays except when local governments want pipeline construction through nonresidential commercial areas to occur at night to avoid disrupting daytime commerce and traffic. Construction equipment maintenance shall be limited to the same hours. Non-noise generating construction activities such as interior painting are not subject to these restrictions. Signs stating these restrictions shall be provided by the Applicant and posted onsite. Signs shall be in place prior to issuance of Land Use Permit and throughout grading and construction activities. Directional drilling shall be exempt from this mitigation measure only if a drilling event is predicted to take more than 12 hours and is begun promptly at the beginning of the work day.	Onsite monitor at all construction sites shall visually inspect in field during construction.	Dept of P&B or approved monitor	Onsite monitoring. Inspection and response to complaints.	Periodic.
N-3	Provide two-week advance notice to sensitive receptors in Paso Robles, Templeton, Atascadero, Santa Margarita, and San Luis Obispo by mail and newspaper. The announcements shall state where and when construction will be scheduled. It shall also provide tips on reducing noise intrusion, e.g. closing windows facing the construction area.	Prior to construction advertise via mail and newspaper. Environmental Specialist present at construction site.	Dept of P&B	Response to complaints	Response to complaints
N-4	Maintain proper mufflers on all internal combustion and vehicle engines to reduce noise to the maximum extent feasible.	Environmental Specialist present at construction site.	Dept of P&B	Onsite monitoring. Inspection and response to complaints.	Periodic.
N-5	Noise-generating equipment associated with operation of pump stations shall be enclosed to reduce noise levels to near ambient conditions. At the 60% design phase for each pump station, plans shall be reviewed by a qualified acoustical engineer to assure that noise levels meet the standards of the County Noise Element.	Submit design of enclosures to the Lead Agency with the final design of the facilities	Dept of P&B	Review and approve design and plans Measure noise to verify compliance	Prior to Board of Supervisors approval to advertise for construction bids. During pump station operation

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
N-6	If necessary to achieve the noise attenuation levels specified in N-5, pumps shall be set below grade, i.e. in a basement in the noise-attenuating building, to further reduce noise impacts.	Submit design of enclosures to the Lead Agency with the final design of the facilities	Dept of P&B	Review and approve design and plans Measure noise to verify compliance	Prior to Board of Supervisors approval to advertise for construction bids. During pump station operation
N-7	Periodic testing of generators shall be performed during daylight hours only.	During operation of pump stations	Dept of P&B	Response to complaints	Response to complaints
HAZARDS and HAZARDOUS MATERIALS					
HM-1	During the design phase of the project corridor, SLO County or a qualified professional retained by the County shall perform a detailed characterization of the nature and extent of hazardous materials contamination in the project corridor for high risk sites identified previously in this report. This investigation, known as Phase I and Phase II hazardous materials site assessments, shall be performed after selection of the preferred alternative, i.e., the alternative to be implemented, and prior to property acquisition or construction activities. The site characterization would be conducted in accordance with CalEPA DTSC standards and guidance, such as the Scientific and Technical Standards for Hazardous Waste Sites (DTSC 1990). At any given site, investigation may either reveal that contamination exists and is of concern, that remediation has already occurred, that the extent of contamination is extremely limited, or that no contamination has occurred. If contamination were identified during the site investigation, SLO County would report the contamination to the appropriate regulatory agencies. The lead or design agency may decide to re-route the pipeline; however, landowners would be responsible to perform additional investigation and mitigation or cleanup under review of responsible regulatory agencies, as necessary. Mitigation and remediation activities shall generally be completed before construction could proceed at any given site. However, for some types of contamination, particularly where fuel has leaked into soil and groundwater, remediation and clean up activities may be	County PW Dept or contracted safety professional shall submit Phase I or Phase II (as necessary) report to the Lead Agency prior to final approval. Report any findings to the appropriate regulatory agencies prior to construction start.	Dept of P&B	Review the report prior to the project approval	Prior to Board of Supervisors approval to advertise for construction bids.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	ongoing throughout construction due to the lengthy recovery process and difficulty of fully extracting certain pollutants. Within Camp Roberts and Camp San Luis Obispo lands any hazardous materials handling/management shall be done consistent with the Camp's Standard Operating Procedures for Environmental Protection.				
HM-2	A Hazardous Materials (HazMat) Contingency Plan shall be prepared before any excavation or trenching work is commenced. The Plan may contain but may not be limited to the following actions that must be taken by the design or Lead Agency in the case that hazardous materials are encountered: - Notify owner, engineer, and other affected persons. - Notify such agencies as are required to be notified by laws and regulations within the time stipulated by such laws and regulations. - Designate a certified industrial hygienist to issue pertinent instructions and recommendations for protection of workers and other affected persons' health and safety. - Identify and contact subcontractors and licensed personnel qualified to undertake storage, removal, transportation, disposal, and other remedial work required by, and in accordance with, laws and regulations. - Forward to engineer, copies of reports, permits, receipts, and other documentation related to remedial work. - Assume responsibility for worker health and safety, including health and safety of subcontractors and their workers. - Instruct workers on recognition and reporting of materials that may be hazardous. - File requests for adjustments to contract time and contract price due to the finding of hazardous materials in the work site in accordance with conditions of contract. - Minimize delays by continuing performance of the work in areas not affected by hazardous materials operations.	County PW Dept shall submit the HazMat Contingency Plan to the Lead Agency prior to construction start	Dept of P&B	Review and approve the Plan. Periodic site visits to assure compliance with the Plan	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	If contaminated soils or other hazardous materials are encountered during any soil moving operation during construction (e.g., trenching, excavation, grading), construction shall be halted and the HazMat Contingency Plan implemented.				
HM-3	In the event of an accidental release of a hazardous material (including fuel spills) during construction, the lead or design agency shall determine whether the release is reportable pursuant to any local, State, or Federal law, and if so would notify the regulatory agency to which the report should be submitted. The lead or design agency shall adhere to procedures listed below, which describe additional procedures to be followed in the event of an accidental release of a hazardous material. The purpose of the response procedures is to minimize exposure and risk to public health and safety. - The lead or design agency would implement and coordinate with local jurisdiction on procedures for immediate evacuation of persons from the vicinity of the spill; - promptly notify appropriate personnel and responsible agencies of the incident, such as the local fire department; - terminate NWP operations and shut-off power, if necessary; and - cooperate with responding agencies. Releases may not be of a "hazardous waste" and accordingly may not have to be managed as such. However, substances not classified as hazardous wastes may still be subject to restrictive handling requirements and would be managed in accordance with such requirements.	County PW Dept to follow measures and actions outlined in the HazMat Plan.	Dept of P&B	Periodic visits to the site during handling of encountered hazardous materials to verify compliance with the HazMat Plan.	During handling of the materials
HM-4	Prior to final design stage, the lead or design agency shall conduct a detailed utilities survey, including contacting the respective utility representatives, to accurately locate, to the extent possible, Southern California Gas lines, sewage lines and storm drains, as well as buried transmission lines within the corridor of the proposed pipeline route. The lead or design agency shall consult with Tosco and Chevron to confirm the locations of their oil and gas pipelines in the project area.	County PW Dept to submit the survey results to the Dept of P&B prior to start of project construction	Dept of P&B	Review the submitted survey and verify that communications between the necessary parties are established	Prior to Board of Supervisors approval to advertise for construction bids.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	Underground Service Alert shall be notified prior to breaking ground for construction of the pipeline so that any existing subsurface structures can be properly identified. The contractor shall be required to keep the notification current.				
HM-5	The HazMat Contingency Plan shall outline response actions including (at a minimum) clean up and reporting procedures, clean up equipment and supplies, and personnel responsibilities. As part of the plan, the Contractor shall be required to store fuels, oils, and other hazardous materials in sealed containers (tanks, cans or drums) located in storage basins within designated staging areas. The storage basins shall be located at a minimum distance of 25 feet from all natural/man made drainages or surface water bodies and should be lined and surrounded by protective dikes or other types of secondary containment to provide sufficient volume to contain any spills.	County PW Dept shall submit the HazMat Contingency Plan to the Lead Agency prior to construction start	Dept of P&B	Review and approve the Plan. Periodic site visits to assure compliance with the Plan	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction
HM-6	The HazMat Contingency Plan shall state that the Contractor shall provide for the implementation of traffic control and site control (i.e., access, fencing, drainage) to reduce the potential for accidents to occur. Fire extinguishers should be stationed in all vehicles and at strategic locations onsite.	County PW Dept shall submit the HazMat Contingency Plan to the Lead Agency prior to construction start	Dept of P&B	Review and approve the Plan. Periodic site visits to assure compliance with the Plan	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction
HM-7	The HazMat Contingency Plan shall state that the Contractor shall be required to conduct routine inspection and maintenance of construction vehicles and equipment.	County PW Dept shall submit the HazMat Contingency Plan to the Lead Agency prior to construction start	Dept of P&B	Review and approve the Plan. Periodic site visits to assure compliance with the Plan	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction
HM-8	A Process Hazards Analysis (PHA) shall be conducted during the early stage of the final design process for the WTP. This technique focuses on the hazardous materials and the major components and is used to prioritize the systems that require more detailed analysis. The study shall examine the orientation of the facilities with regard to potential residential development nearby, storage, chemical	County PW Dept shall submit the PHA report to the Lead Agency prior to approval	Dept of P&B	Review the PHA.	Prior to Board of Supervisors approval to advertise for construction bids.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	handling and chemical feeding systems, overall system design, safety systems including sensing devices, chemical scrubbing, and air pollution control devices. Transportation of chemicals to the site on a local level shall be addressed. Representative scenarios of accidental chemical releases shall be modeled to determine the extent of offsite impacts. A qualitative estimate of the likelihood of the occurrence of accidents and other events and the potential consequences of these events should be developed to produce a risk estimate. Those events with the highest risks would be analyzed in order to find possible design modifications for risk reduction. The PHA would determine areas where a Hazard and Operability Studies (HAZOP) should be performed. The structures should be consistent with information requirements for the California Accidental Release Program (CalARP) and the EPA Risk Management Program (RMP). If deemed necessary as a conclusion in the PHA, a HAZOP would be conducted that identifies the consequences of the engineering design failing to meet performance criteria, such as variations in flows, pressures, and temperatures. For example, if cryogenic oxygen production for ozonation is used, this system would be analyzed.				
HM-9	If ozonation is used as a disinfection method at the WTP, it is recommended that ozone be generated from air which would eliminate the need for liquid oxygen transport, handling and storage. If this disinfection method is used, ambient and in line ozone monitoring should be incorporated into water treatment system design to determine ozone destruct system performance. Line length between generator and contractor should be minimized in order to reduce ozone inventory in the plant. Power shutoff should be incorporated on high ambient ozone, high exhaust ozone, low water flow, or low exhaust backpressure.	County PW Dept shall submit the considerations in regards to the disinfectant method to be used to the Lead Agency prior to approval	Dept of P&B	Review the presented documentation.	Prior to Board of Supervisors approval to advertise for construction bids.
HM-10	A HazMat Delivery and Transportation Plan shall be developed that requires the drivers of the delivery companies to avoid rush traffic hours and congested routes as much as feasible.	County PW Dept shall submit the HazMat Contingency Plan to the Lead Agency prior to construction start	Dept of P&B	Review and approve the Plan. Periodic site visits to assure compliance with the Plan	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
					construction
HM-11	The Applicant shall make provisions to test the proposed pipeline with water that has not been disinfected (no chemicals that have a potential to harm aquatic organisms have been added) and to determine a way of safely disposing of the test water.	Submit plans of the test and water disposal to the Lead Agency for review shortly before construction completion.	Dept of P&B	Review and approve the plans	Prior to Board of Supervisors approval to advertise for construction bids.
BIOLOGY RESOURCES					
BR-1	The Lead or Responsible Agency shall retain a qualified biologist(s) (project biologist) to conduct and oversee construction monitoring that pertain to biological resource protection, act as the liaison between the Lead or Responsible Agency and the construction contractor(s), and to ensure compliance with the mitigation program, such as monitoring all construction activities in biologically sensitive areas and scheduling and/or implementing preconstruction surveys, if determined to be necessary by the County Environmental Coordinator. The project biologist shall be selected based on demonstrated knowledge and experience with the species potentially occurring in the project area. The project biologist shall inform the County monitoring representative as soon as possible, and the County representative shall have the authority to stop construction activities if there is eminent threat to the listed species, or to delay construction activities until appropriate mitigation measures can be implemented. In addition, all project personnel who conduct work at Camp Roberts and/or Camp San Luis Obispo must attend an environmental awareness briefing conducted by California Army Reserve National Guard (CARNG) Environmental staff prior to beginning work.	Submit documentation for funding of the biologist, and contractual documentation that would also identify the biologist's authority. At the time of permit application.	Dept of P&B	Review of submitted documentation	Prior to Board of Supervisors approval to advertise for construction bids.
BR-2	A Biology Education Program for Contractors shall be implemented to ensure that all construction personnel are fully informed of the biological sensitivities associated with this project. The program shall be conducted by a qualified biologist and shall be a requirement for all construction personnel. This program shall focus on:	Prepare the program and submit it to the Lead Agency along with other permit application documentation. Conduct the training	Dept of P&B	Review of submitted documentation.	Prior to Board of Supervisors approval to advertise for construction bids.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	a) the purpose for resource protection; b) identification of sensitive resources areas in the field (e.g., areas delineated on plans and by flags or fencing); c) sensitive construction practices; d) protocol to resolve conflicts that may arise during the construction process; e) ramifications of noncompliance.	before and during construction as needed.		Attend a training class.	Before or during construction.
BR-3	The project biologist and the project engineer shall clearly designate "sensitive resource zones" on the project maps and construction plans. Sensitive resource zones are defined as areas where construction would be limited to a 15- to 30-foot corridor, depending on the particular construction requirements, to avoid impacts to special status biological resources. The project biologist shall demark the limits of sensitive populations on the project plans, including as feasible, an adequate buffer area to avoid direct and indirect impacts. If determined necessary by the County Environmental Coordinator, survey work to demark sensitive resource zones shall be conducted during the appropriate survey window to confirm sensitive species (the exact survey timing would be determined appropriately for each specific species, and depending on the rain conditions). During construction, temporary fencing shall be erected under supervision of the project biologist to provide protection within the sensitive resource zones.	Submit the maps and plans to the Lead Agency along with other permit application documentation.	Dept of P&B	Review of submitted documentation.	Prior to Board of Supervisors approval to advertise for construction bids.
BR-4	Within sensitive resource zones, construction equipment work shall be conducted observing the following procedures: - Heavy equipment and construction activities shall be restricted to the defined construction ROW. - Vehicles and personnel shall use existing access roads to the maximum degree feasible. Any off road travel within Camp Roberts or Camp San Luis Obispo shall be subject for approval by Range Control and the Environmental Directorate. Where additional access is required, all vehicles shall use the same route, even if this requires heavy equipment to back out of such areas (safety permitting). All access routes outside of existing roads or the construction easement	Implement during construction.	Dept of P&B	Conduct site visits to verify compliance.	Periodically during construction.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	shall be clearly marked (i.e., flagged and/or staked) prior to the onset of construction, delineated on the construction plans, and reviewed by the project biologist. Additional access roads shall avoid, to the degree possible, sensitive habitat areas or special status plant populations. - Topsoil shall be segregated by windrow or stockpiled in disturbed areas without native vegetation, special status plant populations, or special status plant communities. These stockpile areas shall be located in previously disturbed areas, delineated on the construction plans, and reviewed by the project biologist. - Any expanded work areas requested, such as construction and vehicle access, width of construction corridor exceeding 100-foot width, or storage and staging areas, shall require the following review procedures: the limits of expanded work areas proposed will be depicted on construction drawings and reviewed by the project biologist; if necessary, and as determined by the County Environmental Coordinator, all expanded work areas shall be surveyed by biologists for sensitive resources during the appropriate survey time window (e.g., the month of May for most status special status plant species); the expanded work areas that impact sensitive resources may be altered to the degree feasible to avoid any additional impacts; and sensitive resource zones will be established, as described above.				
BR-5	Final design of the project shall incorporate the following: - Staging areas shall be located in disturbed habitat, to the maximum degree feasible. Staging areas are prohibited within sensitive habitat areas. All staging areas shall be delineated on the construction plans and reviewed by the project biologist. - As feasible and consistent with preliminary project design, plan placement of the proposed pipeline beneath existing roads and ROWs and away from undeveloped and previously undisturbed areas.	Submit the final design documentation to the Lead Agency along with other permit application documentation.	Dept of P&B	Review of submitted documentation.	Prior to Board of Supervisors approval to advertise for construction bids.
BR-6	The Applicant shall prepare a Vegetation Replacement/Restoration Plan (VRRP) for vegetative communities that are significantly impacted and that are to be permanently removed from project sites. The Plan shall be prepared by the project sponsors for the various	Submit the VRRP to the Lead Agency along with other permit application documentation.	Dept of P&B	Review of submitted documentation.	Prior to Board of Supervisors approval to advertise for

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	vegetative communities and habitats that would be temporarily disturbed during project construction but could be restored onsite. A qualified restoration biologist and native plant horticulturist shall be retained to supervise or participate in the design, site preparation, installation, maintenance, and monitoring of all revegetation or site restoration programs. VRRP shall include revegetation success criteria and measures to ensure after revegetation monitoring and replanting in case the revegetation is not successful. The part of the VRRP developed for lands within Camp Roberts or Camp San Luis Obispo shall be reviewed and approved by the CARNG Environmental Directorate.				construction bids.
BR-7	Construction through sensitive areas shall be scheduled to minimize potential impacts to biological resources. A specific schedule shall be developed by the project biologist and changed if necessary. The guidelines for this schedule shall be as follows: - to protect breeding sensitive bird species in wetland areas or drainages schedule construction only from mid September through October, provided that no significant rainfall occurs within this time-frame. However, if breeding bird surveys are conducted from March 15 through June 15, and no breeding birds are detected, then this window could be widened to include July and August. - to protect Tiger salamander habitat (i.e., grasslands) avoid construction in March and April. - to protect Steelhead trout habitat avoid construction in the habitat from November through May. - to protect California red legged frog habitat (wetlands) avoid construction in wetlands from December to August.	Submit construction schedule to the Lead Agency prior to construction start.	Dept of P&B	Review of submitted documentation.	Prior to Board of Supervisors approval to advertise for construction bids.
BR-8	For all the sensitive species listed in Table 5.7.1, preconstruction surveys shall be conducted to verify their presence at known sites and at potential sites where the project could impact these species. If present, impacts are to be avoided or minimized by narrowing the alignment adjacent to potential dens, nests or aquatic areas. If avoidance is not feasible, specific mitigation measures for these species will be determined through consultation with USFWS and CDFG through CESA and FESA. Formal consultation and obtaining of Incidental Take Permits would be required if the federally listed	Submit the surveys results to the Lead Agency at time of permit application.	Dept of P&B, USFWS and CDFG.	Review of submitted documentation.	Prior to Board of Supervisors approval to advertise for construction bids.

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	species could be encountered and affected.				
BR-9	To protect the San Joaquin Kit Fox the following measures shall be implemented: a) Within 30 days prior to initiation of grading or other construction, the Applicant shall hire a qualified biologist acceptable to the USFWS, CDFG, and the County Environmental Coordinator, to conduct a pre construction survey for known and potential kit fox dens. A letter shall be submitted to the Dept. of Planning and Building prior to issuance of construction permits confirming the completion of this survey. b) Before any grading or construction activities commence, all personnel associated with the project shall attend a worker education program regarding the sensitive biological resources potentially occurring in the project area (i.e., San Joaquin kit fox). Specifics of this program shall include kit fox life histories and careful review of the mitigation measures implemented to reduce impacts. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the project. The Dept. of Planning and Building shall be notified of the time that the applicant intends to hold this meeting. c) To prevent entrapment of the kit fox during the construction phase of the project, all excavation, steep walled holes, or trenches in excess of 2 feet in depth shall be covered at the close of each working day by plywood or similar materials, or filled. Trenches shall also be inspected for entrapped kit fox each morning prior to onset of field activities and immediately prior to covering with plywood at the end of each working day. Before such holes or trenches are filled, they shall be thoroughly inspected for entrapped kit fox. Any kit fox so discovered shall be allowed to escape before field activities resume, or removed from the trench or hole by a qualified biologist and allowed to escape unimpeded. d) During the construction phase, any pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at the project site for one or more overnight periods shall be thoroughly	Submit the surveys results to the Lead Agency at time of permit application.	Dept of P&B, USFWS, CDFG	Review of submitted documentation. Verify compliance during site visits	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction.

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	inspected for trapped San Joaquin kit fox before the subject pipe is subsequently buried, capped, or otherwise used or moved in any way. If during the construction phase a kit fox is discovered inside a pipe, that section of pipe will not be moved, or if necessary will be moved only once to remove it from the path of activity, until the kit fox has escaped. e) In order not to attract kit fox predators such as red fox, coyotes, or domestic dogs to the area, and in order to not attract kit foxes to the site where they can exposed to increased risk of injury or mortality, all food related trash items such as food scraps, wrappers, cans, bottles, etc., generated during the construction phase shall be disposed of in closed containers only and regularly removed from the site. No deliberate feeding of wildlife shall be allowed. f) Any contractor or employee that inadvertently kills or injures a kit fox or who finds any such animal either dead, injured, or entrapped shall be required to report the incident immediately to a supervisor overseeing the project. In the event that such observations are made of an injured or dead kit fox, the Applicant shall immediately notify USFWS and CDFG by telephone, contact information for these agencies shall be included with the project contact list prior to the project commencement. In addition, formal notification shall be provided in writing within three working days of the finding of any such animal(s). Notification shall include the date, time, location, and circumstances of the incident. Any threatened or endangered species found dead or injured shall be turned over immediately to the CDFG for care, analysis, or disposition. If any potential or known San Joaquin kit fox dens are subsequently observed during the required pre-activity survey, the following mitigation measures shall apply: g) Fenced sensitive resource zones shall be established by the project biologist around all known or potential kit fox dens that can be avoided but may be inadvertently impacted by project activities. Sensitive resource zone fencing shall consist of either large flagged stakes connected by rope or cord or survey laths or wooden stakes prominently flagged with survey ribbon. Each sensitive resource zone shall be roughly circular in configuration with a radius of the following distance measured outward from the den or burrow				

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	entrances: • Potential kit fox den: 50 feet • Known kit fox den: 100 feet • Kit fox pupping den: 150 feet h) If the sensitive resource zone intersects a road, only essential vehicle operation shall be allowed on the road within the sensitive resource zone, and simple foot traffic shall be permitted within these sensitive resource zones. Otherwise, all project activities such as vehicle operation, materials storage, etc., shall be prohibited. Sensitive resource zones shall be maintained until all project related disturbances have been terminated and then shall be removed. If specified sensitive resource zones cannot be observed for any reason, USFWS and CDFG shall be contacted for guidance prior to ground disturbing activities on or near the subject den or burrow. If any known San Joaquin kit fox dens are discovered within the project area which shall be unavoidably destroyed by the proposed project, excavation of these kit fox dens shall not proceed without authorization from USFWS and CDFG. Prior to project construction the Applicant shall consult with USFWS and CDFG to evaluate the appropriate participation in a kit fox conservation program. The Applicant will prepare a Habitat Evaluation Form using a qualified biologist to determine the appropriate level of offsite habitat mitigation necessary to offset any permanent loss of kit fox habitat, especially associated with the WTP. Permanent habitat loss will be offset at the appropriate ratio through either land acquisition, a conservation easement or in-lieu fees.				
BR-10	Construction techniques to be implemented to protect oak trees and oak woodlands (i.e., blue oak woodland, valley oak woodland, coast live oak woodland, and digger pine oak woodland): -In accordance with the County's guidance on oaks and Assembly Bill No. 242 to add Article 3.5 to Chapter 4 of Division 2 of the CDFG Code relating to oak woodland conservation, and with all local related policies and ordinances (e.g., City of Paso de Robles	Implement. Submit oak revegetaion program to the Lead Agency.	Dept of P&B, FCWCD	Review of submitted documentation. Verify compliance by	Prior to Board of Supervisors approval to advertise for construction bids. Periodically

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	Oak Tree Preservation Ordinance, Camp Roberts Integrated Natural Resources Management Plan) the final project design shall target maximum avoidance of oak trees. If avoidance is not feasible the Applicant shall prepare an Oak Tree and Woodland Mitigation Plan, which shall be prepared by a certified arborist and shall contain but not be limited to the following measures: a) The construction ROW easement shall be narrowed to a maximum of 30 feet in width through oak woodland habitat (i.e., areas suitable for the establishment of oak woodlands). During final design, the project biologist and project engineer shall identify the most appropriate location for the narrowed corridor, taking into account the preservation of as many individual oak trees as possible with the engineering requirements of the proposed project. All areas requiring this sensitive resource zone shall be clearly shown on all construction plans, and prior to the onset of construction, flagged by the project biologist/construction monitor. If determined necessary by the County Environmental Coordinator, a preconstruction survey shall be conducted by the project biologist to accurately map oak woodlands that would be unavoidably impacted. b) Construction machinery ingress, egress, and staging areas shall be placed away from woodlands and individual oak trees, and shall not be driven under the canopies of oak trees. c) Disposal or storage of fill or excavated soil is prohibited within the dripline of all oak trees. d) During construction near oak trees, no fasteners may be used on the trees. e) All reasonable measures shall be taken to avoid moving dead and downed oak logs. f) All oak trees immediately adjacent to construction areas shall be protected by erecting temporary fencing at the drip line of the woodland canopy or around individual trees. g) Any necessary oak tree pruning shall conform to the standards of the International Society of Arborculture and done under supervision of a certified arborist. Pruning shall be carried out in such a manner as to maintain a natural looking tree form upon completion of			site visits. Visit the affected (e.g., pruned or planted) trees to verify status.	during construction. At the end of the year following construction completion.

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	pruning; practices such as stub cuts, topping, flush cuts, and random branch removal shall be avoided. All pruning cuts shall correspond with the branch collar using natural target pruning, and no tree seal shall be used. Pruning or cutting of roots etc. of individual trees shall be quantified during construction and up to one year after construction. h) Oak monitoring shall be done for one year after construction completion. If any oak trees die either during construction or within one year after construction completion, the trees shall be replaced at a 3:1 ratio. i) Individual oak trees that cannot be avoided and must be removed within habitat types other than oak woodlands shall be replaced at a 4:1 replacement ratio in accordance with the County's mitigation policy for loss of individual oak trees. j) For every area of oak woodland habitat that is removed, oak woodland habitat shall be restored onsite or replaced offsite at an agreed upon offsite location with an equal area (3:1 replacement ratio). k) Offsite replacement for oak woodlands shall be at locations that currently support disturbed or nonnative habitats. Each of the four oak woodland habitat types that would be disturbed shall be replaced or restored with a similar density of oak trees by species as found in the impacted habitats. The Flood Control and Water Conservation District (FCWCD) shall prepare a detailed oak woodland restoration plan for this project. The VRRP shall contain detailed information on oak woodland replacement and address any issues of concern. Areas suitable for creation of oak conservation areas for replacement offsite shall be evaluated. Feasibility of purchasing land for oak conservation areas shall be evaluated. l) Specifically on Camp Roberts and Camp San Luis Obispo, compliance with the Camp Roberts Integrated Natural Resources Management Plan (INRMP) is required as follows: -- hand digging, mechanical digging, and blade work are prohibited under the drip lines of standing live or dead oak trees; if digging under the drip lines of oaks is unavoidable, any damage that ensues will be subject to mitigation (replacement);				

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	-- 3:1 replacement for damaged or removed oaks; -- collection of acorns from the area of impacted oaks, planting at densities approved by CA ARNG, planting during January-February, watering if necessary; -- minimum of five (5) years of monitoring, 3:1 survivorship ratio, preparation of annual monitoring reports, and compliance with all other INRMP oak management stipulations. m) These oak tree avoidance and monitoring procedures shall also be followed for construction in all areas in the vicinity of oak trees along the construction route.				
BR-11	The VRRP shall include details on needlegrass grassland habitats. The restoration of needlegrass grasslands shall include salvaging of topsoil, recontouring the impact area to its original contours, and revegetating this area with purple needlegrass, nodding needlegrass, and foothill needlegrass plugs at the appropriate time of year (November January). This will require onsite seed collection and contract growing of plugs by a nursery with demonstrated experience in propagating native plants. The needlegrass grassland areas in the project corridor also include several highly sensitive sites with serpentine rock outcrops (i.e., serpentine bunchgrass community). Seed and bulbs from native forb and corm species indigenous to the serpentine grassland sites also shall be collected and reseeded or planted into the restoration areas. Forb species found in the impact areas appropriate for reseeding including California poppy, morning glory, fascicled tarweed, dot seed plantain, Canterbury bells, and yerba santa. Corm forming species found in the impact areas (e.g., wild onion, golden bloomeria, soap plant) shall be salvaged en masse with the topsoil and replanted in the impact areas after construction. These measures will ensure that the genetic integrity of the needlegrass, native forb, and corm forming species that are locally adapted to serpentine soils are preserved. Several special status plant species to be impacted in serpentine bunchgrass habitat shall be salvaged and replanted as described below under special status plants. The selected mitigation area shall be monitored by a qualified biologist for needlegrass plug survival at 1 month, 3 months, and 6	Submit the VRRP to the Lead Agency at the time of permit application.	Dept of P&B, FCWCD	Review of submitted documentation. Verify that all necessary information is present. Site visits.	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction and at 1, 3, and 6 months after construction completion.

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	months following planting; all plug losses below 80% shall be replaced at the appropriate time of year. The percent cover of native forbs, corm forming plants, and needlegrass shall be monitored using transects or quadrants and compared with adjacent undisturbed native grassland habitat.				
BR-12	As part of the VRRP, chaparral, central coastal scrub, and nonnative grassland shall be revegetated and restored using topsoil salvage, recontouring disturbed areas to their original contours, and hydroseeding impacted areas with species characteristic of the impacted vegetative community. Appropriate species for erosion control purposes and eventual native shrub and herb cover shall be used. Because native grassland species are likely to be out competed by nonnative species, and native bunchgrasses require hand planting, it is recommended that grassland impact areas be hydroseeded with a ground cover mix. Hydroseeded areas shall be monitored by a qualified biologist for seed viability and overall success. Areas shall be re hydroseeded after 30 days if germination success is low. Topsoil salvage specifications, hydroseed mixes, and seed proportions for individual sites shall be specified in the detailed mitigation plan for this project.	Submit the VRRP to the Lead Agency at the time of permit application.	Dept of P&B, FCWCD	Review of submitted documentation. Verify that all necessary information is present. Site visits.	Prior to Board of Supervisors approval to advertise for construction bids. Site visits - periodically during construction. After construction is completed.
BR-13	To protect San Luis Mariposa lily, Brewer's spineflower, Cambria morning glory, Chorro Creek bog thistle, Obispo Indian Paintbrush, Jones Layia, Dwarf Soaproot, Most Beautiful Jewel-flower and Blochman's dudleya, the following shall be implemented in the Chorro Creek area. The location of all plant populations in or adjacent to the alignment shall be clearly shown on construction maps and labeled as sensitive areas that shall be avoided. These populations shall be flagged by a qualified biologist and protected with temporary fencing prior to construction. During the final project design phase, slight shifts and narrowing of the proposed construction ROW will be required to avoid all the sensitive plant habitats listed in Table 5.7.1. FCWCD shall prepare a detailed mitigation plan for salvage and restoration of these special status plant populations, if complete avoidance is not possible. Those individual plants to be impacted shall be salvaged and transplanted into appropriate habitat within or adjacent to the alignment after project construction is completed. Seed saving and nursery propagation before reintroduction may be necessary for restoration of Brewer's spineflower and possibly	Submit the VRRP to the Lead Agency at the time of permit application.	Dept of P&B, FCWCD	Review of submitted documentation. Verify that all necessary information is present. Site visits.	Prior to Board of Supervisors approval to advertise for construction bids. Site visits - periodically during construction. After construction is completed.

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	Blochman's dudleya populations. Any salvaging effort shall be conducted when the plants are dormant (i.e., late July through September), and transplantation or reintroduction shall occur in fall or early winter (September through January). A transplantation plan shall be prepared by the project biologist and submitted for approval to the Lead Agency prior to the onset of construction activities. This plan shall include guidelines for salvage of corms and seed, and salvage and replacement of topsoil and serpentine boulders. The plan shall also address guidelines for storage of plant material in the event that there is a delay between the salvage and transplantation efforts. Plant material storage guidelines shall include, at a minimum, the method(s) of storage and the storage facility (name and address of the institution, etc.). The plan shall also include specific information documenting the suitability of the receiver site (i.e., soils, existing vegetation, etc.), transplantation techniques, and a monitoring program. Transplanted corms and plants shall be marked and subsequently monitored during the blooming period for a minimum of three years. A status report documenting all aspects of the plan shall be submitted to the Lead Agency within one month of the final transplantation effort. Thereafter, yearly monitoring reports shall be submitted in September to the Lead Agency.				
BR-14	To protect San Luis Obispo Sedge and Cuesta Pass Checkerbloom, construction ROW shall be narrowed as feasible where these plants occur (see Table 5.7.1). The location of all plants in or adjacent to the alignment shall be clearly shown on construction maps and labeled as sensitive areas that shall be avoided. The limits of the population in or adjacent to the alignment shall be flagged by a qualified biologist prior to construction. A mitigation plan would be required for propagation and reintroduction of the species into appropriate habitat.	Submit the VRRP to the Lead Agency at the time of permit application.	Dept of P&B, FCWCD	Review of submitted documentation. Verify that all necessary information is present. Site visits.	Prior to Board of Supervisors approval to advertise for construction bids. Site visits - periodically during and after construction is completed.
BR-15	To protect Shinning Navarretia and Straight-Awned Spineflower, Dwarf Calycadenia, Prostrate Navarretia, San Benito spineflower, and Lemmon's Jewelflower, direct impacts shall be avoided by narrowing the construction ROW in those segments of the proposed alignment where they occur. The location of all plants in or adjacent to the alignment shall be clearly shown on construction maps and labeled as sensitive areas that shall be avoided. The limits of the	Submit the VRRP to the Lead Agency at the time of permit application.	Dept of P&B, FCWCD	Review of submitted documentation. Verify that all. Site visits.	Prior to Board of Supervisors approval to advertise for construction bids. Site visits -

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	population in or adjacent to the alignment shall be flagged by a qualified biologist prior to construction. If avoidance is not possible, impacts to these sensitive plant species would be adverse because of the relatively high sensitivity of the species (CNPS List 1B). A mitigation plan would be required for propagation and reintroduction of the species into appropriate habitat.				periodically during and after construction is completed.
BR-16	Potential impacts to special status bird species (in particular the Bald eagle, California condor, Yellow Warbler, Least Bell's Vireo, and Southwestern Willow Flycatcher) may be mitigated by implementing the general mitigation measures - BR-1 through BR-6. Impacts to avian species shall be avoided by not allowing construction during the breeding season in habitats special status birds are known to be breeding. Preconstruction surveys shall be conducted to assess the presence or absence of special status bird species in their breeding habitats, and areas that are in use will be flagged and avoided until the end of the breeding season. - To protect Bald eagle during November through March avoid construction at locations in Camp Roberts where bald eagles have been spotted.. Prior to beginning any construction activities, a survey for nesting bald eagles shall be performed by a qualified biologist. If a nest is discovered, construction activity shall not occur within 800 meters (2,400 feet) of the nest from 1 January to 31 August, or as stipulated by the U.S. Fish and Wildlife Service. - To protect California condor, work shall be halted by the environmental monitor if the bird(s) is observed in the vicinity. Work can be resumed only after the project biologist has determined that the bird has moved far enough away that resuming work will not result in disturbance of the bird.	Submit survey results to the Lead Agency.	Dept of P&B	Review of submitted documentation. Verify compliance by site visits.	Prior to Board of Supervisors approval to advertise for construction bids. Before construction start and periodically during construction.
BR-17	Construction activities within and/or immediately adjacent to all creek crossings, wetlands, special status plant species populations, or suitable habitats of special status wildlife of the pipeline shall be limited to a 15- to 30-foot corridor. Specific sites for this limitation would include pipeline crossings at Salinas and Nacimiento Rivers and San Marcos, Santa Margarita, Tassajara, Trout, Yerba Buena, and Chorro Creeks. Other creek crossings may be included as determined by the project biologist.	Submit construction plans (including ROW delineation) to the Lead Agency.	Dept of P&B	Review of submitted documentation. Site visits.	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction.
BR-18	The following construction techniques shall be utilized when	Submit construction plans (including ROW	Dept of P&B	Review of submitted documentation.	Prior to Board of Supervisors

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	constructing through drainages or within riparian areas: - Equipment access and construction shall be conducted from the banks rather than from within the drainage to the extent feasible. Prohibited activities within drainages or other wetland areas include staging areas and disposal or temporary placement of excess fill. - Trenching shall be scheduled during periods of minimum flow (i.e., summer through the first significant rain of fall, usually July through October) to avoid erosion and downstream sediment deposition and to avoid impacts to drainage dependent species such as California red legged frog or southwestern pond turtle. Construction through riparian or other wetland areas shall also be scheduled to avoid the breeding season (March September) and potential impacts to sensitive, riparian obligate bird species such as yellow warbler, southwestern willow flycatcher, and least Bell's vireo. - To the degree practicable, avoid any activity that places fill in or otherwise affects wetlands and streams.	delineation) to the Lead Agency.		Site visits.	approval to advertise for construction bids. Periodically during construction.
BR-19	The following shall be observed during the final design of the project: - Should it be infeasible to avoid any of the sensitive species listed in Table 5.7.2 during creek crossings, the Applicant shall utilize directional drilling or other non-invasive technique to avoid disturbance of sensitive species and/or habitat . - In planning construction adjacent to streambeds, place pipeline route away from streambed edges. - If suspended pipe crossings are used, design footings with as small a footprint in streambeds and riparian vegetation as possible. - Minimize disturbance to riparian woodlands.	Submit final construction plans to the Lead Agency.	Dept of P&B	Review of submitted documentation. Site visits.	Prior to Board of Supervisors approval to advertise for construction bids. Periodically during construction.
BR-20	If preconstruction surveys indicate that habitat conditions on any drainage within the project area are suitable for a specific sensitive species, then dewatering of that drainage shall be avoided during potential reproduction or movement periods. Dewatering activities at known sensitive amphibian and reptile habitat, such as Chorro Creek, shall be avoided. If avoidance at	Submit construction plans to the Lead Agency. Submit species relocation plans.	Dept of P&B	Review of submitted documentation. Site visits.	Prior to Board of Supervisors approval to advertise for construction bids. Periodically

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	potential habitat areas is not possible, preconstruction surveys shall be conducted, as outlined above, and all individual sensitive animals relocated to refugia elsewhere along the same drainage.				during construction.
BR-21	All equipment used in or near drainages shall be clean and free of leaks and/or grease. Emergency provisions shall be in place at all drainage crossings prior to the onset of construction to deal with accidental spills.	Implement.	Dept of P&B	Verify compliance by visiting the sites.	During construction.
BR-22	The VRRP shall also address wetland replacement. The replacement or restoration plan shall detail all impacts to wetland habitats as a result of the project and will specify in kind replacement of habitat quality. For riparian woodland and scrub communities, habitat replacement shall be required at 3:1 and 2:1 ratios, respectively, or greater. Mitigation for disturbed wetlands shall be at a 3:1 ratio. Mitigation for all riparian vegetation within Camp Roberts and Camp Luis Obispo shall be at a 3:1 ratio. As much as feasibly possible, salvaging and replanting of vegetation shall be done. The original contours of stream beds and ponds shall carefully be restored to their original configuration, including the salvaging and replacement of boulders and cobbles. Container planted shrubs and trees and species to be seeded in the riparian mitigation areas shall be based on the species composition of the impacted wetlands and specified in the riparian mitigation plan. The precise proportions and special arrangement of the plantings also shall be specified in the VRRP. In many cases, it may be necessary to hydroseed native herbaceous species on banks and planting plugs of wetland species in the channel. Mitigation for impacts to disturbed wetlands and unvegetated waters can likely take place within the alignment. Likewise, onsite mitigation for woodland and scrub communities may occur within the alignment, although additional offsite mitigation (i.e., outside the alignment) will likely be required to accommodate required mitigation ratios.	Submit the VRRP to the Lead Agency.	Dept of P&B	Review of submitted documentation. Verify compliance by visiting the sites.	Prior to Board of Supervisors approval to advertise for construction bids. During and after revegetation efforts.
BR-23	At all wetlands, vernal pools, bulldozer scrapes, low-lying areas that may pond water and roadside ditches where vernal pool fairy shrimp could be directly impacted, assume presence of the species if preconstruction surveys for 2 years during wet season can not be conducted to determine presence or absence. If present (or presence is assumed), the alignment shall be shifted to avoid the species, if	Submit the survey results to the Lead Agency. Submit proposals for realignment. In case realignment is not feasible, present a	Dept of P&B, USFWS and CDFG	Review of submitted documentation.	Prior to issuing of permits

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	possible. If impacts to the species are unavoidable the Applicant shall obtain authorization for Incidental Take Permit from the US Fish and Wildlife Service prior to construction (refer to Measure BR-8). Relocate staging area that is proposed to be near Nacimiento River (near Sta. 145+00) to be located away from documented vernal pool in the vicinity, and at least 100 feet from the river.	relocation plan/construction schedule that avoids breeding season(s).			
BR-24	All drainages affected by the project and with known occurrences of steelhead trout, arroyo chub, and tidewater goby, or with the potential to support these species shall be surveyed for presence of these species at the crossing and 500 feet up and down the stream prior to commencement of construction. Preconstruction surveys shall include the Salinas River and major tributaries the proposed pipeline would cross San Marcos, Santa Margarita, Chorro, San Luis Obispo, Trout, and Yerba Buena Creeks. The presence or absence of special status fish species shall be determined and the potential for habitat to support these species shall be reassessed. If a special status fish species is detected, the fish shall be captured and relocated downstream. Relocation of listed species requires a formal consultation for obtaining an ITP (see section 5.7.2), therefore time shall be allowed in the project schedule for the consultation and obtaining of the ITP. If relocation is not feasible, construction will avoid the spawning season for those species. If the tidewater goby, arroyo chub, or steelhead trout are found at Chorro Creek, the creek crossing shall be done via directional boring under the creek, relocate pipeline away from the Creek bed as far as feasible, if not feasible and impacts are expected, the Applicant shall consult with the National Marine Fisheries Service and CDFG to obtain an ITP and/or obtain a Streambed Alternation Agreement.	Submit the survey results to the Lead Agency. Submit proposals for realignment. In case realignment is not feasible, present a relocation plan/construction schedule that avoids breeding season(s).	Dept of P&B, USFWS and CDFG	Review of submitted documentation.	Prior to issuing of permits
BR-25	At all drainages affected by the project and with known occurrences of California red legged frogs, western spadefoot toad, southwestern pond turtles, California tiger salamander, and arroyo southwestern toads or with the potential to support these species shall be surveyed for presence of these species at the crossing and 500 feet up and down the stream prior to commencement of construction. If present, the alignment shall be shifted to avoid the species, if possible. If this is not feasible, the frogs or turtles shall be captured and relocated to refugia outside the impact area. Appropriate refugia shall be located	Submit the survey results to the Lead Agency. Submit proposals for realignment. Present a relocation plan in case realignment is not feasible.	Dept of P&B, USFWS and CDFG	Review of submitted documentation.	Prior to issuing of permits

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	on the same drainage and shall support high quality species habitat. In addition, the impact area shall be recontoured subsequent to construction to approximate high quality habitat. Relocation of the California red-legged frog and arroyo southwestern toad would require approval from USFWS and CDFG. If these agencies do not allow for such a relocation program, Chorro Creek crossing shall be done via directional boring under the creek.				
BR-26	Preconstruction surveys shall be conducted in riparian areas for presence of sensitive bird species no earlier than March 15 and at least three visits shall occur between this date and June 15. If no sensitive breeding birds are detected by June 15, it can be assumed that they will not nest in that location for that year and construction can proceed. If sensitive breeding birds are detected, construction activities shall be limited to those which will not produce significant noise impacts during the breeding season of the particular bird species (e.g., March 15 to September 15). Exact breeding time interval shall be determined by the qualified biologist. Preconstruction surveys shall be conducted in San Joaquin kit fox habitats for presence of kit fox dens. No construction shall be conducted near the kit fox dens during pupping season (December – April).	Submit the survey results to the Lead Agency.	Dept of P&B	Review of submitted documentation. Verify that required timing is observed.	Prior to starting construction in a specific location.
BR-27	After the Treated water phase would start and the raw water discharge facilities at Salinas River would no longer be needed, the Applicant shall remove and restore (e.g., revegetate) riparian habitats as feasible and all the disturbed riparian areas associated with the discharge facilities.	Submit restoration plans to the Lead Agency.	Dept of P&B	Review of submitted documentation. Visit sites after restoration completion.	Prior to Board of Supervisors approval to advertise for construction bids. After completion of restoration activities.
CULTURAL and PALEONTOLOGY RESOURCES					
CR-1	Prior to authorization to proceed or issuance of permits, the applicant shall submit a paleontological resources monitoring plan to the appropriate jurisdiction for review and approval. Monitoring shall be required for all surface alteration and subsurface excavation work including trenching, boring, grading, use of staging areas and access	Prior to the final approval, submit a Paleontology Resources Monitoring Plan to the Lead Agency.	Dept of P&B, appointed qualified paleontologist	Review and approve the Monitoring Plan. Site monitoring to verify compliance	Prior to Board of Supervisors approval to advertise for construction

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	roads, and driving vehicles and equipment within the boundaries of all exposed sensitive geological formations. A qualified professional paleontologist that is approved by the Lead Agency in consultation with all affected jurisdictions shall prepare the plan. The plan shall address (but not be limited to) the following issues: 1. Training program/workshops for all construction and field workers; 2. Person(s) responsible for conducting monitoring activities; 3. How the monitoring shall be conducted and required format and content of monitoring reports; 4. Person(s) responsible for overseeing and directing the monitors; 5. Schedule for submittal of monitoring reports and person(s) responsible for review and approval of monitoring reports; 6. Clear delineation and fencing off if necessary of sensitive geological formations/paleontology resources requiring monitoring within each pipeline reach (onsite, only the construction foreman, environmental monitor, and project engineer shall have access to this information); 7. Physical monitoring boundaries (e.g. 100 feet each side of formation); 8. Protocol for notifications in case of encountering of cultural resources, as well as methods of dealing with the encountered resources (e.g., collection, identification, curation); 9. Methods to ensure site security; 10. Protocol for notifying local authorities (i.e. Sheriff, Police) should site looting and other illegal activities occur during construction.			with the plan	bids. Periodic during construction

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
CR-2	Prior to authorization to proceed or issuance of permits, the applicant shall retain a qualified professional paleontologist to monitor construction activities pursuant to the approved paleontological resources monitoring plan. The monitoring shall include inspection of exposed rock units and microscopic examination of matrix to determine if fossils are present, preparation of monthly progress reports and filed with the applicant, the Lead Agency, and the appropriate jurisdiction pursuant to the approved paleontological resources monitoring plan. The monitor (professional paleontologist or their representative) shall have authority to temporarily divert grading and construction equipment away from exposed fossils to recover the fossil specimens if fossils or other resources are encountered.	Present documentation proving hiring of a qualified paleontologist. Prior to the final approval, submit a Paleontology Resources Monitoring Plan to the Lead Agency. The plan shall include all responsibilities and authority for the paleontologist.	Dept of P&B, appointed qualified paleontologist	Review and approve the documentation and the Monitoring Plan.	Prior to Board of Supervisors approval to advertise for construction bids.
CR-3	Prior to authorization to proceed or issuance of permits, the applicant shall present an agreement to pay associated curation fees to the chosen accredited repositories.	Present documentation proving the financial agreement(s)	Dept of P&B	Review the documentation	Prior to Board of Supervisors approval to advertise for construction bids.
CR-4	In the event fossils are discovered by the retained monitor during construction, the professional paleontologist or their representative shall ensure the implementation of the following measures as necessary: - Fossils shall be collected, prepared, tested or identified by qualified experts, and listed in a database to allow analysis; - At each fossil locality, field data forms shall record the locality, stratigraphic columns shall be measured when possible, and appropriate scientific samples submitted for analysis; and - The qualified professional paleontologist shall recommend one or more accredited repositories for collected fossils depending on the abundance and origin of those fossils.	Include as part of the Paleontology Resources Monitoring Plan	Dept of P&B, appointed qualified paleontologist.	Review and approve the Monitoring Plan. Site visits and monitoring to verify compliance and provide monitoring according to the Plan	Prior to Board of Supervisors approval to advertise for construction bids. Periodical during construction. Constant monitoring during active trenching and soil disturbance
CR-5	Prior to final inspection of the completed project, the applicant shall submit a final mitigation report prepared by the retained professional paleontologist to the Lead Agency, the appropriate jurisdiction, and the chosen accredited repository pursuant to the approved	Submit the report to the Lead Agency	Dept of P&B, or appointed qualified paleontologist.	Review the report	After construction completion, before final

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	paleontological resources monitoring plan.				inspection.
CR-6	Prior to authorization to proceed, or issuance of permits, the applicant shall prepare and submit a cultural resources monitoring plan to the appropriate jurisdiction for review and approval. Monitoring shall be required for all surface alteration and subsurface excavation work including trenching, boring, grading, use of staging areas and access roads, and driving vehicles and equipment within the boundaries of all exposed sensitive cultural resources. A qualified professional archaeologist (cultural resources monitor) that is approved by the Lead Agency in consultation with all affected jurisdictions shall prepare the plan. The plan shall address (but not be limited to) the following issues: 1. Training program for all construction involved in site disturbance and field workers; 2. Person(s) responsible for conducting monitoring activities; 3. How the monitoring shall be conducted and required format and content of monitoring reports, including any necessary archaeological re-survey of the final pipeline alignment, assessment, designation and mapping of the sensitive cultural resource areas on final project maps, assessment and survey of any previously un-surveyed areas; 4. Person(s) responsible for overseeing and directing the monitors; 5. Schedule for submittal of monitoring reports and person(s) responsible for review and approval of monitoring reports; 6. Procedures and construction methods to avoid sensitive cultural resource areas (i.e. boring conduit underneath recorded or discovered cultural resource site); 7. Clear delineation and fencing off if necessary of sensitive cultural resource areas requiring monitoring within each sub segment;	Prepare and submit the Cultural Resources Monitoring Plan to the Lead Agency	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Review and approve the plan	Prior to Board of Supervisors approval to advertise for construction bids.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	8. Physical monitoring boundaries (e.g., 100 feet each side of a site); 9. Protocol for notifications in case of encountering of cultural resources, as well as methods of dealing with the encountered resources (e.g., collection, identification, curation); 10. Methods to ensure security of cultural resources sites; 11. Protocol for notifying local authorities (i.e. Sheriff, Police) should site looting and other illegal activities occur during construction.				
CR-7	Prior to authorization to proceed or issuance of permits, the applicant shall submit plans to the appropriate jurisdiction for review and approval showing the boundaries of all known archaeological and historical sites and a buffer line drawn 100 feet from the boundaries of the known sites along the project route. For any pipeline segments where soil disturbance is expected and that have not been surveyed for presence of cultural resources, the Applicant shall ensure that such surveys are conducted prior to finalizing of the project plans, and results are included into the project plans and maps prior to submission for authorization. Limited activity may occur within the 100 foot buffer area (outside of the boundaries of known sites) as permitted by the appropriate jurisdiction in consultation with the cultural resources monitor. Due to high confidential nature of these documents, on site, only the construction foreman, environmental monitor, and project engineer shall have access to these plans.	Prepare and submit the plans	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Review and approve the plans	Prior to Board of Supervisors approval to advertise for construction bids.
CR-8	Prior to authorization to proceed or issuance of permits, the construction foreman, project manager(s), and all construction workers associated with the proposed project that would be involved in site disturbance shall participate in a cultural resources training/workshop to be conducted by the approved cultural resources monitor. The training shall highlight on the significance of cultural resources and the legal consequences of looting, disturbing, destroying these resources or violating approved mitigation measures. A declaration confirming the training's occurrence shall be prepared by the monitor and signed by all persons in attendance. This signed declaration shall be submitted to the appropriate	Include as part of the Monitoring Plan. Implement.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Verify by visiting the workshop(s)	Prior to Board of Supervisors approval to advertise for construction bids.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	jurisdiction.				
CR-9	During any soil disturbance activities (e.g., trenching, boring, excavation) in the locations with the known or potential cultural resources, cultural resource monitoring shall be conducted by a qualified archaeologist and Native American monitor familiar with the resource types potentially present in these locations. The qualified professional archaeologist (or their representative) and Native American shall conduct monitoring activities based on the cultural resources monitoring plan.	Include in the plan. Implement.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Site monitoring	Constant during active trenching at the outlined in the monitoring plan sites
CR-10	The following activities shall be excluded from known designated and discovered cultural resource sites: 1) excavation; 2) staging equipment, machinery, or vehicles on undisturbed or exposed portions of the cultural resource; 3) collection, removal or unnecessary displacement of any artifacts, "eco-facts" or other cultural remains; 4) stockpiling of imported soils within the designated sensitive area; 5) removal of native soils outside a sensitive area. Every effort shall be made to contain and collect any chemical/fuel spills immediately.	Include in the plan. Implement.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Site monitoring	Constant during active trenching at the outlined in the monitoring plan sites
CR-11	In the event unknown archaeological resources are discovered, the following standards shall apply: 1. Construction activities shall cease, and the project archeological monitor (professional archaeologist or their representative) shall be notified so that the extent and location of discovered materials may be recorded by a qualified archaeologist and disposition of artifacts may be accomplished in accordance with state and federal law. The project archaeologist shall be responsible to notify the local jurisdiction. 2. In the event archaeological resources are found to include human remains, or in any other case when human remains are discovered during construction, the County or City Coroner shall be notified in addition to the appropriate jurisdictions so proper disposition may be accomplished.	Include in the plan. Implement.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Site monitoring	Constant during active trenching at the outlined in the monitoring plan sites
CR-12	Phase II Subsurface Testing. Shall be implemented for the areas where there is a potential for intact cultural deposits to occur in the pipeline ROW. Two methods of testing may be used depending on the density of surface artifacts, surface conditions, and type of cultural site. Which specific testing would be used for which cultural	Include in the plan. Implement.	Dept of P&B, or appointed qualified archaeologist and/or	Site monitoring.	Constant during active trenching at the outlined in the monitoring plan sites.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	resource would be determined by a qualified professional archaeologist depending on the available information at the time of the project. Backhoe Testing. This is a preliminary testing method designed to determine presence or absence of cultural materials particularly in a buried context. Backhoe testing is only done until the presence of cultural materials and their integrity is confirmed. For the proposed project, this testing is recommended for the Santa Ysabel Ranch area between pipeline Sta. 1185+00 and 1200+00. No definite prehistoric sites were identified on the surface in this 50-foot wide ROW area but exist on both sides of the proposed ROW. Backhoe trenches should be excavated at approximately 100-foot intervals along the proposed ROW to a depth slightly greater that the maximum depth expected for the bottom of the trench for the pipeline. If any intact cultural deposits are encountered, then a controlled excavation method should be utilized to define the nature and extend of the cultural materials. Controlled Excavation. In cases where surface artifacts are present within or adjacent to the pipeline ROW and could be adversely impacted by actual construction excavation or staging areas, a series of controlled test units should be excavated. The tests shall be planned and executed under a supervision of a qualified professional archaeologist. Typical size should be 1 x 1 meter, excavated in 10 or 20 cm levels, screened with 1/8" mesh or smaller screen and excavated to sterile soil. In some cases these can be placed adjacent to pavement where the pipeline is scheduled to go beneath pavement. This will expose a profile of the cultural strata and allow a determination to be made about the possibility of intact cultural materials beneath the pavement that would be impacted by the pipeline construction. Test units should be placed at approximately 50-foot increments depending on the density of cultural materials encountered. Sample Analysis. Standard analyses including C-14 dating, could be recommended by a qualified archaeologist to provide information on the boundaries, content, integrity and		Native American representative.	Implementation of the Phase II and III testing or Data Recovery	As determined necessary.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	significance of cultural resources in the pipeline ROW. This controlled sample would be used to minimize adverse impacts by providing information to help define minor re-alignments of the pipe ROW to completely avoid impacts or greatly minimize them by locating the pipeline in the lowest density areas of the cultural deposits. Phase III Data Recovery Program. Finally, after all avoidance and minimizing of adverse impacts is done, this subsurface testing can be used to develop a Phase III data recovery program for all unavoidable adverse impacts to significant cultural resources.				
CR-13	Prehistoric Cultural Resource (PCR) #2. Prior to construction in this area, a small scale subsurface testing program should be conducted along the edge of the road to determine if any significant cultural materials are present and if they would be affected by the pipeline construction. If present, the testing could define the boundaries of the cultural materials and the pipeline could be moved north of the dirt road, perhaps no more than 30–50 feet to avoid adverse impacts to all cultural materials from this site.	Include in the plan. Implement. Present realignment plans to the Lead Agency or reasoning why the realignment is not feasible.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Review the realignment plans. Make a determination on whether or not to require realignment. Site monitoring. Implementation of the testing or data recovery.	Prior to Board of Supervisors approval to advertise for construction bids. Constant during active construction at the sites outlined in the Monitoring Plan
CR-14	PCR #4. It is recommended that the pipeline be located along the south side of the dirt road in areas of deepest cut. SLO-1169 could be completely avoided by moving the pipeline ROW upslope of the dirt road to the west by approximately 60-feet. If avoidance is not possible, additional subsurface testing would be needed to supplement existing information and define the boundaries, content and significance of the cultural resources of this site. Based on the Phase II testing, appropriate recommendations can be made regarding treatment of any significant cultural resources that would be affected by the proposed pipeline. A large staging area, 200-feet by 600-feet that would cover most of PCR #4 site shall be moved from this location entirely. Another location along the actual pipeline ROW shall be selected. One possible location for this staging area could be near	Include in the plan. Implement. Present realignment plans to the Lead Agency or reasoning why the realignment is not feasible.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Review the realignment plans. Make a determination on whether or not to require realignment. Site monitoring. Implementation of the testing or data recovery.	Prior to Board of Supervisors approval to advertise for construction bids. Constant during active construction at the sites outlined in the Monitoring Plan

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	Sta. 130+00.				
CR-15	PCR #5. It is recommended that subsurface testing be conducted along the south edge of the Boy Scout Road to determine if any cultural materials exist in the pipeline ROW. If the cultural deposit is shallow, the approximately 1-foot deep grading of the road may have removed the cultural deposit. If materials extend deeper, then the pipeline could encounter additional materials beneath the road. If avoidance is not possible, additional subsurface testing would be needed to define the boundaries, content and significance of the cultural resources of this site. Based on the Phase II testing, appropriate recommendations can be made regarding treatment of any significant cultural resources that would be affected by the proposed pipeline.	Include in the plan. Implement. Present realignment plans to the Lead Agency or reasoning why the realignment is not feasible.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Review the realignment plans. Make a determination on whether or not to require realignment. Site monitoring. Implementation of the testing or data recovery.	Prior to Board of Supervisors approval to advertise for construction bids. Constant during active construction at the sites outlined in the Monitoring Plan
CR-16	PCR #7. Due to the fact that the site has been deemed eligible for NRHP status and it is costly and time consuming to meet both state and federal requirements, it is strongly recommended that the pipeline ROW be re-aligned and moved south of Boy Scout Road before entering the west end of SLO-1180. If the pipeline remains south of it and crosses Dry Creek to meet West Perimeter Road, adverse impacts to the west locus could probably be avoided. Subsurface testing would be needed to find the best route south of SLO-1180 that would avoid impacting significant cultural materials. If re-routing were not possible, then an extensive testing and mitigation program would be required for this location.	Include in the plan. Implement. Present realignment plans to the Lead Agency or reasoning why the realignment is not feasible.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Review the realignment plans. Make a determination on whether or not to require realignment. Site monitoring. Implementation of the testing or data recovery.	Prior to Board of Supervisors approval to advertise for construction bids. Constant during active construction at the sites outlined in the Monitoring Plan
CR-17	PCR #9. Subsurface testing is recommended where the access road meets San Marcos Road to determine if any cultural materials from this prehistoric site are present and would be impacted. If the entrance road begins 150-feet to 300-feet east of the existing General's Road gate, it may avoid this prehistoric site. If preliminary testing cannot avoid cultural materials then additional testing would be needed to determine the boundaries, context and significance of this site and to develop appropriate recommendations.	Include in the plan. Implement. Present realignment plans to the Lead Agency or reasoning why the realignment is not feasible.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Review the realignment plans. Make a determination on whether or not to require realignment. Site monitoring. Implementation of the testing or data recovery.	Prior to Board of Supervisors approval to advertise for construction bids. Constant during active construction at

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					the sites outlined in the Monitoring Plan
CR-18	PCR #14. It is recommended that the proposed pipeline be moved east approximately 100–20 feet to the toe of the slope and east of the barbed wire fence. Subsurface testing is recommended to find an area east of the proposed pipeline ROW that would avoid impacting cultural materials from this newly recorded prehistoric site. If preliminary testing cannot avoid cultural materials then, additional testing would be needed to determine significance and appropriate actions.	Include in the plan. Implement. Present realignment plans to the Lead Agency or reasoning why the realignment is not feasible.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Review the realignment plans. Make a determination on whether or not to require realignment. Site monitoring. Implementation of the testing or data recovery.	Prior to Board of Supervisors approval to advertise for construction bids. Constant during active construction at the sites outlined in the Monitoring Plan
CR-19	To avoid impacts to PCR #16 through #23 place the pipeline ROW adjacent to the pavement of El Camino Real and west of the rail road tracks starting just north of Sta. 2015+00 and follow that alignment through the town of Santa Margarita to Sta.2105+00.	Include in the plan. Implement. Present realignment plans to the Lead Agency or reasoning why the realignment is not feasible.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Review the realignment plans. Make a determination on whether or not to require realignment. Site monitoring. Implementation of the testing or data recovery.	Prior to Board of Supervisors approval to advertise for construction bids. Constant during active construction at the sites outlined in the Monitoring Plan
CR-20	PCR #24. To avoid this prehistoric site it is recommended to move the pipeline ROW to the north side of the pavement of El Camino Real.	Include in the plan. Implement. Present realignment plans to the Lead Agency or reasoning why the realignment is not feasible.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Review the realignment plans. Make a determination on whether or not to require realignment. Site monitoring. Implementation of the testing or data recovery.	Prior to Board of Supervisors approval to advertise for construction bids. Constant during active construction at

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
					the sites outlined in the Monitoring Plan
CR-21	In the event of discovered looting or disturbance of resources, all responsible parties shall be reported to the appropriate jurisdiction and local authorities for legal action pursuant to the approved cultural resources monitoring plan.	Include in the plan. Implement.	Dept of P&B, or appointed qualified archaeologist and/or Native American representative.	Site monitoring. Reporting to the appropriate authorities	Constant during active construction at the sites outlined in the Plan. In the event of discovery of looting
UTILITIES and PUBLIC SERVICES					
UP-1	To mitigate potential adverse impacts to potable water supplies due to short term use during construction, all contractors should use (maximally as feasible) non potable water sources for dust mitigation and other non-drinking purposes.	Submit documentation for the available water sources and which sources were selected.	Dept of P&B	Approval of the water sources	Before construction at specific locations, where different water sources are used
UP-2	A Wildland Fire Prevention Plan (WFPP) shall be required for the proposed installation of the pipeline and other facilities. This plan will help to reduce the threat of wildland fires and provide a fire safe environment to communities in the area of the proposed pipeline construction.	Develop and submit the WFPP prior to final approval	Dept of P&B	Verification that the plan has been submitted to the appropriate parties	After submittal
UP-3	Final design plans for each facility shall adhere to all fire safety requirements as contained in the SLO County Fire Department and the California Department of Forestry and Fire Protection Developer's Guide.	Develop and submit the design plans prior to final approval	Dept of P&B	Verification that the plan has been submitted to the appropriate parties. CFD and Camp Roberts verify that the plans are within all required codes	After submittal
TRANSPORTATION/CIRCULATION					
T-1	All project-related traffic shall be restricted from travel on roads with a LOS of D or worse between the peak commuting hours of 7:00 a.m. to 9:00 a.m. and from 4:00 p.m. to 7:00 p.m. These include Union Rd./Highway 4; Madonna Road;	Include this limitation as part of Traffic Control Plan	Dept of P&B	Periodic site inspections.	During Construction.

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	Highway 227 in San Luis Obispo; Highway 101 at the junction with Highway 166, South Pismo Beach, Avila Road, Santa Fe Road, Los Osos Valley Road, Marsh Street, California Boulevard; and Highway 46 at Paso Robles, Spring Street, 13th Street, Creston Road, Niblick Road, Airport Road and El Camino Real.				
T-2	A Traffic Control Plan shall be prepared to detail specific roadway construction information, road surface maintenance, pedestrian/bicycle circulation and traffic safety, parking limitations, road use restrictions, emergency response procedures, signing for closures, and public notification identifying location, scheduling, and duration of construction spread. This management plan shall be finalized and approved by the appropriate agencies as designated by the lead agencies.	Submit the plan to the Lead Agency.	Dept of P&B	Review and approval of the Traffic Control Plan	Before project approval
T-3	Pipeline construction across Nacimiento Lake Drive shall be scheduled to avoid late afternoons, weekends, and holidays during the summer months.	Include this limitation as part of Traffic Control Plan	Dept of P&B	Periodic site inspections.	During Construction.
T-4	Detours shall be planned around temporary street closures through coordination with local traffic agencies, and signs shall be provided to direct motorists to alternate routes	Include this limitation as part of Traffic Control Plan	Dept of P&B	Periodic site inspections.	During Construction.
T-5	The Applicant shall ensure at least one lane remain open during construction along roadways subject to partial closure when feasible.	Include this limitation as part of Traffic Control Plan	Dept of P&B	Periodic site inspections.	During Construction.
T-6	The Applicant shall provide off-street parking and staging areas for storage of construction equipment, materials, and workers' vehicles.	Include this limitation as part of Traffic Control Plan	Dept of P&B	Periodic site inspections.	During Construction.
T-7	The Applicant shall ensure all driveways blocked by construction are provided with suitable means of vehicular access and egress.	Include this limitation as part of Traffic Control Plan	Dept of P&B	Periodic site inspections.	During Construction.
T-8	All affected parties in the vicinity of construction activities shall be notified a minimum of 30 days in advance of potential obstructions and alternative access provisions prior to the commencement of project activities.	Include this limitation as part of Traffic Control Plan. Make notifications. Combine and present list of all parties to the Lead Agency.	Dept of P&B	Periodic site inspections.	During Construction.

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T-9	The Applicant shall coordinate in advance with emergency service providers to avoid restricting movements of emergency vehicles. The County Sheriff Department, fire departments, ambulance services, and paramedic services shall be notified in advance by the Applicant of the proposed locations, nature, timing, and duration of any construction activities and consulted regarding potential access restrictions that could impact their effectiveness.	Include this limitation as part of Traffic Control Plan. Prepare a list of all the emergency services providers to be contacted.	Dept of P&B	Revision of the Traffic Control Plan, verification of the notifications list	Before approval, during Construction.
T-10	At locations where access to nearby property is blocked, provision shall be ready at all times to accommodate emergency vehicles, such as plating over trenches, short detours, and alternate routes.	Include this limitation as part of Traffic Control Plan.	Dept of P&B	Periodic site inspections.	During Construction.
T-11	The Applicant shall designate alternative routes, accessible to disabled persons, when construction activities obstruct pedestrian routes.	Include this limitation as part of Traffic Control Plan.	Dept of P&B	Periodic site inspections.	During Construction.
T-12	At locations where trenching activities cross sidewalks or other established pedestrian routes, plating shall be provided to maintain access to these routes.	Include this limitation as part of Traffic Control Plan.	Dept of P&B	Periodic site inspections.	During Construction.
T-13	The Applicant shall properly restore all roads disturbed by construction activities to ensure the long term protection of road surfaces and safety of roadway users.	Implement	Dept of P&B	Site inspections.	During and after completion of construction.
T-14	The pipeline emergency response plan shall include traffic agency and personnel contact protocols and agencies to contact for road closures, alternative traffic routes, CalTrans, SLO County. Construction for pipeline repairs that requires road or lane closures or endanger public safety must comply with the Manual of Traffic Controls for Construction and Maintenance Work Zones is published by CalTrans. The manual provides the basic standards for uniform types of warning signs, lights, and devices to be placed upon any public highway or street by any person engaged in performing work that interferes with or endangers the safe movement of traffic upon such highway or street, in accordance with Section 21400 of the California Vehicle Code.	Develop and submit the Emergency Response and Repair Plan to the Lead Agency.	Dept of P&B	Review and approval of the plan. Verify that all regulations are complied with.	Before operations startup.

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T-15	The full width of the traveled way shall be available to traffic before 9 a.m. and after 4 p.m., Monday through Friday, and at all times on weekends, and holidays. -A maximum delay of 20 minutes shall be permitted, requiring that a minimum of one lane of traffic is available. -If the contractor is unable to restore or place temporary surface, then the trench shall be covered with steel plates capable of carrying the weight of traffic; and adequate signage, reflectors or other warning devices shall be used to warn motorists of the plated roadway.	Implement	Dept of P&B	Site inspections.	During and after completion of construction.
T-16	To minimize construction on roads with LOS of D or worse, the design engineer shall coordinate construction of the pipeline with any roadway or utility work efforts.	Implement	Dept of P&B	Site inspections.	During and after completion of construction.
T-17	For construction on Nacimiento Lake Drive, to the maximum extent possible, construction shall be minimized during the summer period between June 15 and September 15. During the summer period, the full width of traveled way shall be available to traffic before 9 a.m. and after 4 p.m., Monday through Thursday, at all times from 12:00 noon Friday through Sunday and at all times on holidays.	Implement	Dept of P&B	Site inspections.	During and after completion of construction.
T-18	Coordinate pipeline construction activities with other public works and roadway improvements. Where possible, install pipeline segments in coordination with roadway improvements to avoid damaging the newly improved roadway. A detailed plan showing how Public Works Department will coordinate construction with planned roadway improvements shall be submitted to the County Department of Planning and Building prior to final project approval.	Submit a coordination plan prior to final project approval.	Dept of P&B	Review and approval of the plan.	Prior to Board of Supervisors approval to advertise for construction bids.
VISUAL and AESTHETIC RESOURCES					
VR-1	The Water Intake structures shall be visually compatible in materials of construction and color with the surrounding area of the Lake Nacimiento dam incorporating natural rock facing. During construction, the Applicant's contractor shall preserve as much of the existing vegetation (trees and shrubbery) as feasible.	Develop and submit to the Lead Agency the buildings and landscaping plan that includes color scheme.	Dept of P&B	Review and approve the plan.	Prior to Board of Supervisors approval to advertise for construction bids.
VR-2	The structures shall be screened from public views with vegetation	Develop and submit to the	Dept of P&B	Review and approve	Prior to Board

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	to the maximum extent feasible. Landscaping shall be provided in accordance with Section 22.04.186 of the San Luis Obispo County Land Use Ordinance and shall provide vegetation that will adequately screen the facilities.	Lead Agency the buildings and landscaping plan.		the plan. Site visit to verify compliance	of Supervisors approval to advertise for construction bids. On completion of the project
VR-3	The surge tank and power line shall be placed underground.	Develop and submit to the Lead Agency the final facilities design or plan.	Dept of P&B	Review and approve the design or plan.	Prior to Board of Supervisors approval to advertise for construction bids.
VR-4	The tanks shall be a neutral or dark, non-contrasting color, and landscape screening shall be provided. Landscaping shall be provided in accordance with Section 22.04.186 of the San Luis Obispo County Land Use Ordinance and shall provide vegetation that will adequately screen the facilities. Landscape material must be consistent with the surrounding area, shown to do well in existing soils and conditions, be fast-growing, evergreen and drought tolerant. Shape and size of landscape material shall be in scale with proposed tanks and surrounding native vegetation. Plans shall show how plants will be watered and what watering schedule will be applied to ensure successful and vigorous growth.	Develop and submit to the Lead Agency the final facilities design or plan including color scheme and landscape plan.	Dept of P&B	Review and approve the design or plan.	Prior to Board of Supervisors approval to advertise for construction bids.
VR-5	The perimeter of the suspended pipe crossing structural support shall be concealed using vegetation that is compatible with the surrounding area.	Develop and submit the vegetation plan.	Dept of P&B	Review and approve the plan. Visit the site and verify compliance.	Prior to Board of Supervisors approval to advertise for construction bids. After completion of construction at the site.
VR-6	The surge tank shall be constructed underground in a vault to minimize aboveground equipment.	Develop and submit to the Lead Agency the final facilities design or plan.	Dept of P&B	Review and approve the design or plan.	Prior to Board of Supervisors approval to advertise for construction bids.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
VR-7	The pump station structures shall be constructed partially underground to limit the structure height to the equivalent of a one story home or barn typical of the area. The architecture of the pump station shall resemble a home or barn typical of the area.	Develop and submit to the Lead Agency the final facilities design or plan.	Dept of P&B	Review and approve the design or plan.	Prior to Board of Supervisors approval to advertise for construction bids.
VR-8	No oak trees adjacent to Rocky Canyon Road shall be removed to accommodate the construction of the pump station or storage tank at this location.	Develop and submit to the Lead Agency the final facilities construction plan.	Dept of P&B	Review and approve the plan, verifying that no oak trees would be removed.	Prior to Board of Supervisors approval to advertise for construction bids.
VR-9	Access roads to and around the facility shall not exceed 20 feet in width.	Develop and submit to the Lead Agency the final facilities design or plan.	Dept of P&B Coordinate with County Fire Department	Review and approve the design or plan.	Prior to Board of Supervisors approval to advertise for construction bids.
VE-10	All structures at this site shall be screened from public views with vegetation to the maximum extent feasible. Landscaping shall be provided in accordance with Section 22.04.186 of the San Luis Obispo County Land Use Ordinance and shall provide vegetation that will adequately screen the facilities. For the tank area where fencing surrounding the tank site would be located, landscape screening shall be provided. Landscape material must be consistent with the surrounding area, shown to do well in existing soils and conditions, be fast-growing, evergreen and drought tolerant. Shape and size of landscape material shall be in scale with proposed tank fencing or other aboveground features and surrounding native vegetation. Plans shall show how plants will be watered and what watering schedule will be applied to ensure successful and vigorous growth.	Develop and submit to the Lead Agency the final facilities design or plan.	Dept of P&B	Review and approve the design or plan.	Prior to Board of Supervisors approval to advertise for construction bids.
VR-11	The border of cut slopes and fills accomplished to underground the water storage tank shall be rounded off to a minimum radius of five feet. For any visible slope cuts from Rocky Canyon Road, sufficient topsoil shall be stockpiled and reapplied or re-keyed over these visible cut areas to provide at least 8" of topsoil for the reestablishment of vegetation. As soon as the grading work has been completed, the cut and fill slopes shall be reestablished with non-	Develop and submit to the Lead Agency the final grading and landscaping plan.	Dept of P&B	Review and approve the plan. Site visit to verify compliance	Prior to Board of Supervisors approval to advertise for construction bids. On completion

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	invasive, fast-growing vegetation.				of the project
VR-12	The tank shall be a neutral or dark, non-contrasting color, and landscape screening shall be provided. Landscaping shall be provided in accordance with Section 22.04.186 of the San Luis Obispo County Land Use Ordinance and shall provide vegetation that will adequately screen the facilities. Landscape material must be consistent with the surrounding area, shown to do well in existing soils and conditions, be fast-growing, evergreen and drought tolerant. Shape and size of landscape material shall be in scale with proposed tank and surrounding native vegetation. Plans shall show how plants will be watered and what watering schedule will be applied to ensure successful and vigorous growth. During construction, the Applicant's contractor shall preserve as much of the existing vegetation (trees and shrubbery) as feasible.	Develop and submit to the Lead Agency the final grading and landscaping plan.	Dept of P&B	Review and approve the plan. Site visit to verify compliance	Prior to Board of Supervisors approval to advertise for construction bids. On completion of the project
VR-13	Redesign the site plan and structures to include the following: Reduce the pump station's frontage along Nacimiento Lake Drive, reduce views of the paved parking area, and provide an area for landscaping and some screening of proposed structures and fenced areas. Clad structures in the same stone materials as is used on the small structure on the Nacimiento dam. Utilize non-glare roofing materials Provide architectural breaks in the façade of the combined electrical/generator building to reduce the effect of large blank walls. Coat all chain-link fencing with brown or any other compatible color vinyl to reduce glare. Provide motion-sensitive lighting that would be turned on only when motion is present on site. Direct all lights downwards so that the light visibility from public viewsheds is minimized.	Develop and submit to the Lead Agency the final facilities design or plan.	Dept of P&B	Review and approve the design or plan.	Prior to Board of Supervisors approval to advertise for construction bids.
VR-14	Provide a detailed grading and landscaping plan which would include but not be limited to the following: - contouring of the new cut and fill slopes to demonstrate a blending	Develop and submit to the Lead Agency the final landscaping plan.	Dept of P&B	Review and approve the design or plan.	Prior to Board of Supervisors approval to advertise for

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	with the existing grades; - rounding of all tops of banks in a natural manner; - landscape screening to break-up the visual mass of the structures; vegetation shall be native to the area. - replacement of all trees removed at a ratio of four to one. Re-grade the site to approximate the original contours in order to preserve the general character of the ridgeline as viewed from Highway 101.				construction bids.
VR-15	Re-grade the site to approximate the original contours in order to preserve the general character of the ridgeline as viewed from Highway 101.	Develop and submit to the Lead Agency the final grading and landscaping plan.	Dept of P&B	Review and approve the plan. Site visit to verify compliance	Prior to Board of Supervisors approval to advertise for construction bids. On completion of the project
VR-16	The Applicant shall implement a landscaping plan to screen the tank form viewers on Highway 101. The plan shall include re-vegetation of the disturbed area with a combination of native fast and slow growing trees which visually replace those removed during construction; and replacement of the ground cover to maintain visual continuity with the adjacent hillsides.	Develop and submit to the Lead Agency the final grading and landscaping plan.	Dept of P&B	Review and approve the plan. Site visit to verify compliance	Prior to Board of Supervisors approval to advertise for construction bids. On completion of the project
VR-17	Articulate the architectural mass to appear consistent with agricultural structures or single family homes in the surrounding area. Limit the height of structural elements to 24 feet; use appropriate colors, landscape with tall trees to soften building edges, minimize night lighting with the use of motion sensors, and ensure light fixtures are hooded and directional. Final site design plans should be prepared by a licensed architect and reviewed by a qualified visual resource specialist prior to approval of a General Plan Conformity Report.	Develop and submit to the Lead Agency the final grading and landscaping plan.	Dept of P&B	Review and approve the plan. Site visit to verify compliance	Prior to Board of Supervisors approval to advertise for construction bids. On completion of the project

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
VR-18	Minimize removal of the existing trees that can screen the WTP. One method would be not to construct the earth berm in front of the facility (the action that would require removal of trees). Prepare a comprehensive landscaping plan that includes: - identification of the existing trees that would be preserved, and reestablishment and maintenance of potentially affected by the construction oaks, pines and other trees; - listing and location plan of the trees that would be planted to further screen the WTP facilities; - revegetation plan that requires placement of native forbs and shrubs over the cut and fill banks as soon as possible after grading is completed.	Develop and submit to the Lead Agency the final grading and landscaping plan.	Dept of P&B	Review and approve the plan. Site visit to verify compliance	Prior to Board of Supervisors approval to advertise for construction bids. On completion of the project
VR-19	The WTP structures plan shall be revised to articulate the architectural mass of the buildings to appear more similar to a house or commercial structure; avoid large blank walls and single horizontal parapets. Move the large building to the rear of the WPT site, rather than facing El Camino Real and Highway 101. Use color scheme that reduces the visual mass of the structure (e.g., avoid pure white).	Develop and submit to the Lead Agency the final building plan.	Dept of P&B	Review and approve the plan.	Prior to Board of Supervisors approval to advertise for construction bids.
AGRICULTURAL RESOURCES					
AG-1	Prior to and during construction, the Applicant shall coordinate construction activity time schedules with all owners of agricultural operations adjacent to the construction site. All property owners shall be notified 30-days in advance of the construction activities occurring in the vicinity of their operations.	Submit lists of owners to the agency	Dept of P&B or approved monitor	On-site monitoring. Review of the notices to the owners. Review complaints if any.	Prior and periodically during construction
AG-2	Prior to construction, the Applicant shall coordinate with landowners to discuss the timing of pipeline construction through agricultural areas containing livestock. Subject to negotiations with livestock owners, the Applicant shall either provide ample time for the livestock to be relocated during the pipeline construction, or construct a temporary fence around the pipeline corridor to keep livestock from entering the areas during construction.	Submit plans for stock relocation, and/or construction of temporary fences.	Dept of P&B or approved monitor	Review of the plans. Presence at the meeting(s) with the owners. Site visits to verify compliance.	Before construction During the meetings Periodically during construction.

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
AG-3	During construction, where construction activities require removal of existing fencing adjacent to grazing lands, a temporary fence shall be installed and maintained by the Applicant to keep grazing animals away from construction activities and trenching. Trenches shall be filled, covered, or enclosed by fencing at the end of each workday to reduce chances of animal injuries. Following construction, fences and posts shall be replaced.	Implement	Dept of P&B	Site visits to verify compliance	Periodically and after construction finish
AG-4	During construction, trenches shall be backfilled by the Applicant in such a manner as to retain the topsoil characteristics. Where soil is disturbed on lands used for agricultural purposes, topsoil shall be stockpiled and replaced on top of trenches and excavations after the backfill operations to allow rapid revegetation of these lands following construction.	Implement	Dept of P&B	Site visits to verify compliance	Periodically and after construction finish
AG-5	Upon completion of construction, areas disturbed by the project (including trenching or placement of staging areas) within agricultural grazing areas shall be re-seeded by the Applicant with a seed mixture acceptable to affected landowners.	Implement	Dept of P&B	Site visits to verify compliance	Periodically and after construction finish
AG-6	All offsite staging areas shall be restricted to areas already disturbed, when feasible, and where staging would be compatible with existing land uses.	Submit final plans for the placement of staging areas	Dept of P&B	Verify that the staging areas are located on already disturbed areas	Prior to Board of Supervisors approval to advertise for construction bids.
AG-7	Prior to construction, the Applicant shall coordinate with the Agricultural Commissioner's Office to conduct a pre-construction site evaluation for purple thistle, yellow thistle and skeletonweed. Based on the pre-construction survey, the Applicant shall prepare a map showing areas of noxious weed infestation on lands both within and adjacent to the proposed project corridor, corridor access routes, and staging areas. The Applicant shall implement equipment wash stations and other pertinent noxious weed control recommendations based on the above required map. The Applicant shall perform post-construction surveys during the spring growing season immediately following each phase of project construction to verify whether the spread of noxious weeds has occurred.	Present documentation of the communications with the Agricultural Commissioner's Office. Implement measure.	Dept of P&B	Verify during site visits	Periodically during construction, and after construction finish

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	If the post-construction survey identifies spread of noxious weeds, the Applicant shall coordinate with the affected landowner and the County Department of Agriculture to implement an appropriate eradication program.				
AG-8	During construction, topsoil shall be segregated and replaced relative to its original distribution. To the maximum extent feasible, excavated materials shall be replaced in the same location they were removed from, and shall not be transported offsite.	Implement	Dept of P&B	Site visits to verify compliance	Periodically and after construction finish
AG-9	Prior to construction, the Applicant will enter into a Quarantine Compliance Agreement with the San Luis Obispo County Agricultural Commissioner's Office for the prevention of movement of skeleton weed.	Present a copy of Agreement documentation to the agency	Dept of P&B	Review of the Agreement	Prior to Board of Supervisors approval to advertise for construction bids.
RECREATIONAL RESOURCES					
REC-1	Prior to initiating construction, the Applicant shall coordinate with the San Luis Obispo County Department of Public Works and provide signage along the length of all affected roads advising bicyclists of the temporary construction and the estimated period of construction along these routes. The signage should also alert bicyclists and vehicular traffic of the need to exercise caution.	Procure the signage. Implement.	Dept of P&B	Review availability of signage. Verify posting of the signage during site visits.	Prior to Board of Supervisors approval to advertise for construction bids. Once each site
REC-2	During construction of segments at the edge of or off pavement, the construction crews shall keep all pot hole and bore equipment and trenching equipment off of the paved roadway to the maximum extent feasible to allow bicyclists to continue to use the road. (Note: Exceptions to this measure shall include situations where sensitive habitat is located adjacent to roadways and where safety issues exist.)	Implement	Dept of P&B	Verify compliance during site visits	Periodical
REC-3	During construction when equipment is located in the roadway, the Applicant shall provide one flag person to separately guide bicyclists and motor vehicles past the construction zone.	Implement	Dept of P&B	Verify compliance during site visits	Periodical
REC-4	Upon completion of construction within this subsection, the Applicant shall replace all bicycle lanes that have been damaged by the construction process to County standards (or other jurisdictional standards such as the various Cities if applicable) for Class I and Class II bicycle lanes, as appropriate. In addition, if any paint is	Implement	Dept of P&B	Verify compliance during site visits of specific locations	After completion of the project

Mitigation Measure	Requirements of Measure	Action Required by Applicant and Action Timing	Party Responsible for Verification	Method of Verification	Verification Timing
	scuffed, the Applicant shall repaint the affected bicycle lane markings.				
REC-5	Prior to authorization to proceed or issuance of permits, the Applicant shall coordinate with the City of San Luis Obispo Parks and Recreation Department (SLOPRD) for the project schedule so that the SLOPRD can minimize conflicts with any special events that are scheduled during the construction period.	Submit the documentation to the SLOPRD	Dept of P&B	Verify that approval has been granted by the SLOPRD	Prior to Board of Supervisors approval to advertise for construction bids.
REC-6	Prior to authorization to proceed or issuance of permits, the Applicant shall coordinate with the SLOPRD and City of San Luis Obispo Public Works Department to provide signage directing traffic around construction activity.	Submit the documentation to the SLOPRD and the City of SLO	Dept of P&B	Verify that approval has been granted by the SLOPRD and the City	Prior to Board of Supervisors approval to advertise for construction bids.
REC-7	Prior to construction, the water purveyor responsible for the individual discharge facility construction shall provide for a 25-foot wide trail corridor easement, subject to County review, to connect those impacted portions of the Salinas River Trail System.	Develop and submit the plans to the Dept of P&B	Dept of P&B	Review and approval of plans to construct the trail corridor	Prior to Board of Supervisors approval to advertise for construction bids.

Note: County PW Dept=SLO County Department of Public Works (The Applicant); County P&B Dept=SLO County Department of Planning and Building (The Lead Agency).

Appendix H List of Agencies Contacted

List of Agencies Contacted

Below is a list of agencies, or their consultants, contacted for information that was used to assist in preparation of this EIR, separated by the section for which they were contacted.

2.0 Project Description

Camp Roberts Environmental Office

San Luis Obispo County; John Moss and Dan Gilmore

San Luis Obispo County; Public Works; Christine Ferrara

San Luis Obispo County; Planning and Building; Nancy Orton

Boyle Engineering; David Hardan, Mike Nunley and Christopher Alakel

Carollo Engineering; Bob Hoffman

Hamner, Jewell & Associates; Lillian Jewell and Paula Lumpkin

3.0 Alternatives

Camp Roberts Environmental Office

San Luis Obispo County, Public Works; Christine Ferrara

San Luis Obispo County, Planning and Building; Nancy Orton

Boyle Engineering; David Hardan, Mike Nunley and Christopher Alakel

Carollo Engineering; Bob Hoffman

Hamner, Jewell & Associates; Lillian Jewell and Paula Lumpkin

4.0 Cumulative Projects

Camp Roberts Environmental Office

City of Atascadero

City of El Paseo de los Robles; Ditas Esperanza

City of San Luis Obispo; John Moss and Dan Gilmore

San Luis Obispo County, Planning and Building; Nancy Orton

San Luis Obispo County, Public Works; Christine Ferrara

San Luis Obispo County, Traffic Division; Ryan Chapman

5.1 Hydrology and Water Quality

Atascadero Mutual Water Company; Ken Weathers, Director

Boyle Engineering Corporation; Mike Nunley, SLO Branch Manager, and Christopher Alakel, Project Engineer

California Men's Colony; Wade Baker, Operating Engineer.

City of El Paso de Robles; Joe Deakin, Public Works Director.

City of San Luis Obispo; Gary Henderson, Public Works Director

Fugro West, Inc.; Paul Sorensen, Hydrogeologic consultant for Templeton CSD

Heritage Ranch; David Charimonte, Water Systems Operator

John L. Wallace & Associates; Rob Miller, Project Manager, John L. Wallace, Principal, and Matt Wheeler, Project Manager

Monterey County Water Resources Agency; Brent Bookey, Dam Operations

Regional Water Quality Control Board; Tom Kukol

5.3 Drainage, Erosion and Sedimentation

California Department of Transportation; David Silberberger, Project Engineer

Essex Environmental; Mark Cassidy, Project Manager

Regional Water Quality Control Board

5.4 Air Quality

San Luis Obispo County Air Pollution Control District; Andy Mutziger and Gary Willey, Air Quality Engineers

5.5 Noise

San Luis Obispo County Department of Planning and Building; Mike Wulkan

5.6 Hazards and Hazardous Materials

San Luis Obispo County Department of Planning and Building, Julie Eliason, Environmental Specialist (prior to this position was at the National Coast Guard, Camp Roberts Environmental Office)

5.7 Biological Resources

San Luis Obispo County Department of Planning and Building, Julie Eliason, Environmental Specialist (prior to this position was at the National Coast Guard, Camp Roberts Environmental Office)

US Fish and Wildlife Service, Doug Threloff, Carol Tyson

National Marine Fisheries Service (NMFS), Korie Johnson

California Department of Fish and Game (CDFG), Bob Stafford

California Army National Guard (Camps Roberts and San Luis Obispo), Chris Wilde

Regional Water Quality Control Board (RWQCB), Donette Dunaway

5.8 Cultural Resources

Camp Roberts Environmental Office; Ethan Bertrando, Archaeologist

California State Information Office at University of California, Santa Barbara

Northern Chumash Council, San Luis Obispo County

Chumash Council, Salinan Council

5.11 Transportation/Circulation

California Department of Transportation; Roger Barnes, Rick Silva, and Donna Carter

San Luis Obispo County Department of Engineering, Traffic Division; Julia Meyers and Ryan Chapman

5.13 Agricultural Resources

San Luis Obispo County Department of Agriculture, Weights, and Measures; Robert Hopkins

San Luis Obispo County Department of Planning and Building; Frank Heinsohn

5.14 Recreational Resources

Monterey County Parks Department; Mary Lowe and Richard Brandau

San Luis Obispo County Parks and Recreation; Jan DiLeo

Boyle Engineering; Mike Nunley and Christopher Alakel

Appendix I List of Preparers

List of Preparers

Below is a list of preparers for this EIR, separated by company.

Marine Research Specialists

Steven R. Radis, Project Manager

Uliana Micovic, Chemical Engineer/Consultant

Daniel Brooks, Consultant

Bonnie Luke, Biologist/Consultant

Casey Smith, Editor

Tim Cleath & Associates

Timothy S. Cleath, Principal Hydrogeologist

Spencer J. Harris, Hydrogeologist

Dennis Burke, Engineering Geologist

David R. Williams, Geologist

Morro Group, Inc.

Mary Reents, President

Bill Henry, Vice President

Sarah Miller, Resource Specialist

Don Asquith, Engineering Geologist, Geophysicist, Hydrologist

Gibson Archeological

Robert O. Gibson, Principal Archaeologist

Jeff A. Parsons, Earth Scientist

AMEC

Ricardo Montijo, Biologist

Jeff Trow, Biologist

Appendix J List of Acronyms

Appendix J List of Acronyms and Abbreviations

AAQS	Ambient Air Quality Standards
AB	assembly bill
ACGIH	American Conference of Governmental Industrial Hygienists
ACOE	U.S. Army Corps of Engineers
AD	Anno Domini
ADT	Average Daily Trips/Traffic
af	acre-feet
afy	acre feet per year
AG	agricultural
$Al_2(SO_4)_3$	aluminum sulfate
AMWC	Atascadero Mutual Water Company
APCD	Air Pollution Control District
APHA	American Public Health Association
APN	Assessor's Parcel Number
AQAP	Air Quality Attainment Plan
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
AR	airport review
ARB	Air Resources Board
asl	above sea level
ATC	Authority to Construct
ATCM	Air Toxics Control Measure
AUSD	Atascadero Unified School District
AWWA	American Water Works Association
B	boron
B.C.	Before Christ
B.P.	Before Present
BACT	Best available control technology
bgs	below ground surface
BLM	Bureau of Land Mangement
BMPs	Best Management Practices
C	capacity
CAA	Federal Clean Air Act
CAAA	Clean Air Act Amendments of 1990
CAAQS	California Ambient Air Quality Standards
CAC	California Administrative Code
CalARP	California Accidental Release Program
CalEPA	California Environmental Protection Agency
Cal/OSHA	State of California Division of Occupational Safety and Health Administration
Cal Poly	California Polytechnic State University
CalTrans	California Department of Transportation
CAP	Clean Air Plan
CARB	California Air Resources Board
CAWO	Cayucos Area Water Organization
CC	community commercial
CCAA	California Clean Air Act
CCC	California Coastal Commission
CCR	California Code of Regulations
CCWA	Central Coast Water Authority
CDF	California Department of Forestry
CDFG	California Department of Fish and Game
CDMG	California Division of Mines and Geology
CDP	Census Demographic Profile
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CESA	California Environmental Species Act
CFC	chlorofluorocarbon
CFR	Code of Federal Regulations
cfs	cubic feet per second
CGS	California Geological Survey
CHP	California Highway Patrol
CIH	Certified Industrial Hygienist
CIP	California Improvement Plan
CIWMB	California Integrated Waste Management Board
Cl	Chlorine (atom)
Cl_2	Chlorine (gas molecule)
cm	centimeter
CMC	California Men's Colony
CMP	concrete with metal pipe
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNG	compressed natural gas
CNPPA	California Native Plant Protection Act
CNPS	California Native Plant Society
CO	Carbon Monoxide
COE Spur	Army Corps of Engineers Spur
CPUC	California Public Utilities Commission
CR	commercial retail
CRTC	Camp Roberts Training Center
CSA	County Service Area
CSD	Community Services District
CSDPR	California State Department of Parks and Recreation
CSIP	Castorville Seawater Intrusion Project
CT	crystoballite
CVC	California Vehicle Code
CWA	Clean Water Act
CWD	County Waterworks District
CZLUO	Coastal Zone Land Use Ordinance
DAU	Detailed Analysis Units
dB	decibel
dBA	decibel (A weighted) sound level
DBP	disinfection by-products
D/DBP	Disinfection/Disinfection Byproducts
DDT	dichlorodiphenyltrichloroethane
DFIS	Distribution Facilities Information System
DHS	Department of Health Services
DOGGER	Division of Oil, Gas, and Geothermal Resources
DOT	U.S. Department of Transportation
DSOD	Division of Safety of Dams
DTSC	Department of Toxic Substances Control
DWHETF	Drinking Water Health Effects Task Force
DWR	Department of Water Resources
ECO	Office of the Environmental Coordinator
EDL	Elevated Data Level
Eh	electrode potential
EI	Environmentally Inferior

EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
EQAP	Environmental Quality Assurance Program
ERPG	Emergency Response Planning Guidelines
ES	Environmentally Superior
ESA	Endangered Species Act
ESH	Environmentally Sensitive Habitat
ESWTR	Enhanced Surface Water Treatment Rule
E/W	east/west
EX	energy or extractive area
FAR	Floor area ratio
FCWCD	Flood Control and Water Conservation District
FDA	U.S. Food and Drug Administration
FEIR	Final Environmental Impact Report
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FESA	Federal Endangered Species Act
FH	Flood Hazard
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
FJR	Fee Justification Report
FR	Federal Register
ft	feet
GAC	granular activated carbon
G.C.	California Government Code Section
gpd	gallons per day
gpm	gallons per minute
gps	gallons per second
GS	Geologic Study
GSA	Geologic Study Area
GW	gigawatt
GWh	gigawatt hours
HAA	haloacetic acid
HAP	Hazardous air pollutant
HAZOP	Hazard and Operability
HGL	hydraulic grade line
HMBP	Hazardous Materials Business Plan
hp	horse-power
HRA	Health Risk Assessment
HS	Historic Site
HSA	Hydrologic Study Area
HUD	U.S. Department of Housing and Urban Development
HWCL	Hazardous Waste Control Law
ICDS	Intra-County Distribution System
ICR	Information Collection Rule
IDLH	Immediately Dangerous to Life & Health
IESWTR	Interim Enhanced Surface Water Treatment Rule
IOC	Inorganic contaminants
ITE	Institute of Transportation Engineers
KVA	Key Viewing Area
kW	kilowatt
kWh	kilowatt hours
LAFCO	Local Agency Formation Commission
LCA	Land Conservation Act
LCP	Land Coastal Plan
L_{dn}	day-night average noise level
LEA	Local Enforcement Agency
LEDPA	Least Environmentally Damaging Practicable Alternative
L_{eq}	Community Noise Level Equivalent
LOS	Level-of-Service
LTF	Local Transportation Fund
LUE	Land Use Element
LUFT	Leaking Underground Fuel Tank
LUO	Land Use Ordinance
LUST	Leaking Underground Storage Tank
MCE	Maximum credible earthquake
MCL	Maximum contaminant level
MCLG	Maximum contaminant level goals
MCPD	Monterey County Parks Department
MCWRA	Monterey County Water Resources Agency
µg/l	micrograms per liter
mg/l	milligrams per liter
mgd	million gallons per day
mm	millimeters
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPE	Maximum probable earthquake
MRM	Morro Rock Mutual Water Company
msl	mean sea level
MTBE	methyl tertiary butyl ether
MW	megawatt
MWC	Mutual Water Company
Na	sodium
NAAQS	National Ambient Air Quality Standards
NaOH	sodium hydroxide
NAS	National Academy of Sciences
NEJAC	National Environmental Justice Advisory Council
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NH_3	anhydrous ammonia
NHPA	National Historic Preservation Act
NIOSH	National Institute of Safety & Health
NO	nitric oxide
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NO_x	oxides of nitrogen
NPAC	Nacimiento Participants Advisory Committee
NPDES	National Pollution Discharge Elimination System
NPDWRs	National Primary Drinking Water Regulations
NPL	National Priorities List
NRHP	National Register of Historic Places
N/S	north/south
NTU	nephalometric turbidity unit
NWP	Nacimiento Water Project
O_3	ozone
OBP	oxidation by-products
OPA	Office of Public Archaeology
OS	open space
OSHA	Occupational Safety and Health Administration
PAC	powered activated carbon
PAH	Polynuclear aromatic hydrocarbons
Pb	lead
PCB	Polychlorinated biphenyl
PCC	Portland Concrete Construction
PCE	Perchloroethylene

PCR	Prehistoric Cultural Resource
PCRR	Pacific Coast Railroad
PEL	Permissible Exposure Limit
PF	Public Facility
PG&E	Pacific Gas & Electric
pH	hydrogen ion concentration
PHA	Preliminary Hazard Analysis
PHT	Peak Hour Trips
PM_{10}	Suspended Particulate Matter (ten microns or less)
$PM_{2.5}$	Suspended Particulate Matter (2.5 microns or less)
PMF	probable maximum flood event
ppm	parts per million
ppmv	part per million volume
ppt	parts per thousand
PRC	Public Resources Code
psi	pounds per square inch
psia	pounds per square inch atmospheric
PSM	Process Safety Management
PTA	packed tower aeration
PTO	permit-to-operate
pvc	polyvinylchloride
RCRA	Resource Conservation and Recovery Act
RCRIS	Resource Conservation and Recovery Information System
RHGA	Repeatable high ground acceleration
RL	rural land
RLOS	Recommended Level of Severity
RMP	Risk Management Program
RMPP	Risk Management and Prevention Program
RMS	Resource Management System
ROC	Reactive Organic Compounds
ROG	Reactive Organic Gases
ROW	Right-of-Way
RR	rural residential
RS	residential suburban
RSF	residential single family
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SCCAB	South Central Coast Air Basin
SCS	Soil Conservation Service
SD	sanitary district
SDWA	Safe Water Drinking Act
SEAOC	Structural Engineers Association of California
SEL	Single Event Level (Noise Level)
SiO_2	silicon dioxide
SIP	State Implementation Plan
SLBME	San Luis Bay Mobile Estates
SLCUSD	San Luis Coastal Unified School District
SLO	San Luis Obispo
SLOAPCD	SLO Air Pollution Control District
SLODEH	San Luis Obispo County Department of Environmental Health
SLOFCWCD	SLO Flood Control & Water Conservation District
SLOPRD	SLO Parks and Recreation Department
SMVWTP	Santa Maria Valley Water Treatment Plant
SO_2	sulphur dioxide
SO_4	sulfate
SOC	Synthetic organic chemicals
SO_x	oxides of sulfur
SPRR	Southern Pacific Railroad
SQG	Small Quantity Generator
S	special use
SR	State Route
SRA	Sensitive Resources Area
SWIS	Solid Waste Information System
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
SWTR	California Surface Water Treatment Rule
SVW	Salinas Valley Water
SVWP	Salinas Valley Water Project
TAC	toxic air contaminants
tons/qtr	tons per quarter (3 months)
TBM	Tunnel Boring Machine
TCP	Traffic Control Plan
TCR	Total Coliform Rule
TCSD	Templeton Community Services District
TDS	Total Dissolved Solids
THM	Trihalomethanes
TOC	Total Organic Compound
TOG	Total Organic Gases
TOX	total organic halide
TRI	toxic release inventory
TSMP	Toxic Substances Monitoring Program
TSP	Total Suspended Particulates
TUSD	Templeton Unified School District
UBC	Uniform Building Code
UCSB	University of California at Santa Barbara
UFT	underground fuel tank
UPRR	Union Pacific Railroad
URL	Urban Reserve Line
USBR	U.S. Bureau of Reclamation
USC	U.S. Code
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USL	Urban Service Line
UST	underground storage tank
UV	ultraviolet
V	volume
V/C	volume-to-capacity
VMC	Visual Modification Class
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
VR	visual resource
VRL	Village Reserve Line
VRRP	Vegetation Replacement/Restoration Plan
WFPP	Wildland Fire Protection Plan
WPA	Water Planning Areas
WTP	Water Treatment Plant