

## 4.7 HYDROLOGY AND WATER QUALITY

*Development under the LOCP would introduce new development that could result in increased impervious surfaces, and result in uses that could degrade water quality. New development would be located outside designated 100-year flood hazard areas, but existing development could still be subject to potential sources of localized flooding during heavy rainstorms. Although the intensity of development would be less than currently envisioned under the Estero Area Plan, impacts to water quality and flooding are still possible. While the LOCP includes a robust policy framework intended to guide future development, and mitigate potential impacts to water quality and flooding, additional policy language is needed to address drainage and flooding impacts associated with new development under the LOCP. Such impacts are considered significant but mitigable (Class II).*

### 4.7.1 Setting

#### a. Physical Setting

Regional and Local Hydrology and Drainage. Los Osos/Baywood Park is located within the Central California Coastal Watershed. Nine watersheds cross San Luis Obispo County. The community of Los Osos-Baywood Park (together with the communities of San Luis Obispo, Cambria, and Oceano) is located within the Central Coastal watershed (United States Geological Survey [USGS] Hydrological Unit 18060006). Within this watershed, Los Osos Creek is located within the Estero Bay Sub-Hydrologic Unit number 310.

Annual average precipitation in the region is 17.62 inches, with average highs of 3.69 inches in February, and 0.03 inches in July. Rainfall increases further inland (the average annual precipitation at the San Luis Obispo Polytech rain gauge, located approximately 7 miles to the southeast, is 23.3 inches).

Creeks within and immediately surrounding the community of Los Osos either flow generally southwest from the Santa Lucia Mountains (these include hills that comprise Park Ridge, such as Hollister Peak), or northward from the Irish Hills. The two principal waterways that drain the community of Los Osos are Los Osos Creek and Warden Creek. Los Osos Creek and Warden Creek drainages form a confluence at a wetland less than a mile southeast of Morro Bay, within the Los Osos Valley. Drainage which does not flow into Morro Bay and which does not evaporate is left to infiltrate into underlying aquifers. Near Morro Bay, these include a shallower aquifer located from approximately 30 feet to 200 feet below ground level, and a deeper aquifer located approximately 500 feet below the earth's surface.

Regional and Local Stormwater Runoff. The definition of stormwater runoff is the amount of surface water produced from melted snow and precipitation, measured after evaporation, evapotranspiration, and percolation. Flow paths of stormwater within the region are identified with separate geographical Hydrologic Subunits. Within the Estero Bay unit, stormwater runoff originates

from the communities of Oceano (Arroyo Grande Creek and Meadow Creek), the urban fringe of San Luis Obispo (Prefumo Creek, Froom Creek, San Luis Obispo Creek), Cambria (Santa Rosa Creek, Monterey Bay National Marine Sanctuary), and the community of Los Osos (Los Osos Creek, Morro Bay).

Regional and Local Surface Water Quality. The 2006 Clean Water Act (CWA) Section 303(d) list of limited water quality segments indicates that thirteen of the 114 impaired water bodies in the Central Coastal Regional Water Quality Control Board (RWQCB) region are located within the Estero Bay Sub-Hydrologic Unit, ten of which are impaired due to pathogens. The source of pathogens within Chorro Creek is identified as agriculture; the source for Morro Bay is identified as upland range grazing, septage disposal, and urban runoff. Although livestock can be a source of pathogens, the Central Coast RWQCB principally describes the sources as unidentified.

Existing Flood Hazards. Areas subject to flooding during 100-year events are limited to areas immediately adjacent to creek channels, as well as the Morro Bay estuary. The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) identified regions that are adjacent to Los Osos Creek and Warden Creek within and adjacent to the community of Los Osos as being inundated during a 100- year storm.

The April 1998 County study titled Preliminary Engineering Evaluation, Los Osos/Baywood Park Community Drainage Project, County Service Area No. 9J, concluded that natural sumps cause much of the flooding in Los Osos. Sumps are small pits into which water can drain and which lack outlets. These exist in the region adjacent to Morro Bay due to the sandy soil. Whereas sumps usually drain naturally, that capacity has been reduced during the past two decades due to the diminished number of permeable regions caused by development, and due to rising groundwater levels. The study recommended constructing a community drainage system that would consist of surface improvements such as curbs, gutters, and pavements, as well as storm drains.

**b. Regulatory Setting.** Various federal and state regulations set forth criteria and specific requirements to address hydrology and water quality issues.

Federal. The following discussion summarizes the key federal regulations that relate to water quality and hydrology issues.

### ***Clean Water Act***

Section 303 of the Clean Water Act requires states to adopt water quality standards for all surface waters of the United States. Water quality standards are typically numeric, although narrative criteria based upon biomonitoring methods may be employed where numerical standards cannot be established or where they are needed to supplement numerical standards. (See a description of the State Porter-

Cologne Water Quality Control Act, below.) Standards are based on the designated beneficial use(s) of the water body. Where multiple uses exist, water quality standards must protect the most sensitive use.

Section 402 of the Clean Water Act mandates that certain types of construction activity comply with the requirements of National Pollutant Discharge Elimination System (NPDES) stormwater program. The Phase II Rule, issued in 1999, requires that construction activities that disturb land equal to or greater than 1 acre require permitting under the NPDES program. In California, permitting occurs under the General Permit for Stormwater Discharges Associated With Construction Activity, issued to the State Water Resources Control Board (SWRCB) and implemented and enforced by the nine Regional Water Quality Control Boards. The project site is within the boundaries of the Central Coast Regional Water Quality Control Board (CCRWQCB).

This General Permit requires all dischargers, where construction activity disturbs 1 or more acres, to take the following measures:

- 1. Develop and implement a Storm Water Pollution Prevention Plan (SWPPP), which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving off site into receiving waters.*
- 2. Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the State.*
- 3. Perform inspections of all BMPs.*

To obtain coverage, the landowner must file a Notice of Intent (NOI) with the SWRCB. The NOI is required to include the requirements listed above. When project construction is completed, the landowner must file a notice of termination.

### *C.3 Provisions*

In 2003, the CCRWQCB issued a municipal stormwater permit under the NPDES permit program. The purpose of the permit is to reduce the discharge of pollutants in stormwater to the maximum extent practicable and to effectively prohibit non-stormwater discharges into municipal storm drain systems and watercourses. The permit incorporates Provision C.3, which establishes stormwater pollution management requirements for new development and redevelopment projects. Provision C.3 requires that certain new development and redevelopment projects incorporate post-construction stormwater pollution management measures, including stormwater treatment measures, stormwater site design measures, and source control measures, to reduce stormwater pollution after the construction of the project. These requirements are in addition to standard BMPs.

Other relevant provisions of the Clean Water Act include the following:

- Section 208, requiring that states develop programs to identify and control non-point sources of pollution, including runoff.
- Section 304(a)(1), requiring the administrator of the U.S. Environmental Protection Agency (USEPA) to develop and publish water quality criteria that reflect the latest scientific knowledge regarding the effects of pollutants in any body of water.
- Section 313(a), requiring that federal agencies observe state and local water quality regulations.
- Section 405 of the Water Quality Act of 1987 added to Section 402(p) to the CWA. Pursuant to Section 402(p)(4) of the CWA, the EPA is required to promulgate regulations for NPDES permit applications for storm water discharges.
- Safe Drinking Water Act, 40 U.S.C. 100 et seq. This act sets limits on concentrations of pollutants in drinking water sources.

#### ***Federal Emergency Management Agency (FEMA)***

FEMA is the federal agency that oversees floodplains and manages the National Flood Insurance Program (NFIP). FEMA also prepares the FIRMs for communities participating in the NFIP. The FIRMs indicate the regulatory floodplain to assist communities with land use and floodplain management decisions, so that the requirements of the NFIP are met in the event of damaging floods. However, FEMA studies and maps are not necessarily an accurate, up-to-date reflection of all physical flood risk or hazards.

The San Luis Obispo County Flood Control and Irrigation District provides for control, disposition, and distribution of flood and storm waters of the district and of streams flowing into the district and for protection of the watersheds and watercourses in the district from such waters. Section 23.05.050 of the Coastal Zone Land Use Ordinance establishes the County's standards for the control of drainage to minimize the harmful effects of storm water runoff. However, incorporated cities within the County have their own responsibilities with regard to drainage and flood control. County restrictions on development in floodplains require that incorporated cities, at a minimum, enforce the current federal floodplain management regulations as defined in the FEMA NFIP.

#### ***U.S. Army Corps of Engineers (USACE)***

The USACE is the federal agency that studies, constructs, and operates regional-scale flood protection systems in partnership with state and local agencies. Specific agreements between the USACE and its state and local partners on particular projects are used to define shared financial responsibilities and regulations that affect the local partners. Any work that is within USACE jurisdiction requires permitting through USACE.

State. The following discussion summarizes the key state regulations that relate to water quality and hydrology issues.

***Porter-Cologne Water Quality Control Act***

The Porter-Cologne Water Quality Control Act of 1969 authorized the SWRCB to provide comprehensive protection for California’s waters through water allocation and water quality protection. The SWRCB implements the requirement of the Clean Water Act Section 303, indicating that water quality standards have to be set for certain waters by adopting water quality control plans under the Porter-Cologne Act. The Porter-Cologne Act established the responsibilities and authorities of the nine RWQCBs, which include preparing water quality plans for areas in the region, identifying water quality objectives, and issuing NPDES permits and Waste Discharge Requirements (WDRs). Water quality objectives are defined as limits or levels of water quality constituents and characteristics established for reasonable protection of beneficial uses or prevention of nuisance. The Porter-Cologne Act was later amended to provide the authority delegated from the United States Environmental Protection Agency (EPA) to issue NPDES permits.

***Waste Discharge Requirements***

It is the responsibility of the Water Boards to preserve and enhance the quality of the state's waters through the development of water quality control plans and the issuance of waste discharge requirements. The Porter-Cologne Act provides for the issuance of WDRs. This requirement is very similar to the NPDES program under the federal Clean Water Act (CWA), and in most cases, the two processes are combined by the RWQCBs. However, the Porter-Cologne Act definition of discharge is somewhat broader than the CWA; in addition, waters of the state include certain water bodies that are not waters of the United States. As a result, certain discharges are solely regulated under the Porter-Cologne Act. The SWRCB has adopted general WDRs for land application of biosolids, discharges to isolated wetlands, and land discharge of groundwater or surface water from cleanup of petroleum pollution.

The SWRCB establishes policies and regulations that help protect and restore the water quality in California, coordinates with and supports Regional Water Board efforts, and reviews Regional Water Board actions. The RWQCBs monitor and enforce state and federal plans, policies, and regulations. Each Regional Water Board makes critical water quality decisions for its region. In addition to issuing WDRs, these decisions include setting standards, determining compliance with WDRs, and taking appropriate enforcement actions.

The NPDES program provides for both general permits (those that cover a number of similar or related activities) and individual permits.

Most construction projects that disturb 1 acre of land or more are required to obtain coverage through an NPDES General Permit for Construction Activities (General Construction Permit), which requires the applicant to file a public notice of intent (NOI) to discharge stormwater and to prepare and implement a stormwater pollution prevention plan (SWPPP). The SWPPP includes a site map and a description of proposed construction activities, along with demonstration of compliance with relevant local ordinances and regulations, and an overview of the best management practices (BMPs) that will be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources. The permit holder is further required to conduct monitoring and reporting to ensure that BMPs are correctly implemented and effective in controlling the discharge of stormwater-related pollutants.

### ***Central Coast Regional Water Quality Control Board***

In accordance with the California Water Code, the Central Coast RWQCB developed a Basin Plan (1994) designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. The Basin Plan covers a 300-mile long by 40-mile wide section of the State's central coast. Its geographic area encompasses all of Santa Cruz; San Benito, Monterey, San Luis Obispo (which includes the project area), and Santa Barbara Counties; the southern one-third of Santa Clara County; and small portions of San Mateo, Kern, and Ventura Counties. The Basin Plan consists of a designation or establishment for waters of beneficial uses to be protected, water quality objectives to protect those uses, and a program of implementation needed for achieving the objectives. Water quality objectives are defined as limits or levels of water quality constituents and characteristics established for reasonable protection of beneficial uses or prevention of nuisance. The Porter-Cologne Act was later amended to provide the authority delegated from the EPA to issue NPDES permits.

Local. Local regulations pertaining to protection and management of water quality and hydrology resources are found in the San Luis County General Plan, the Estero Area Plan (updated 2009), the Local Coastal Plan, the Coastal Zone Framework for Planning, the Coastal Zone Land Use Ordinance, and Los Osos/Baywood Park Community Services District Storm Water Management Plan. In aggregate, these are intended to implement federal and state regulations described above. They provide a regulatory framework for existing and future development, and are requirements that pre-emptively mitigate potential impacts related to water quality.

The key provisions of each are summarized below, but all relevant portions of each regulatory document are incorporated by reference.

### ***Coastal Plan Policies***

#### ***Chapter 9, Coastal Watersheds***

- *Policy 1: Preservation of Groundwater Basins*

- *Policy 3: Monitoring of Resources*
- *Policy 5: Los Osos Groundwater Management*
- *Policy 7: Siting of New Development*
- *Policy 8: Timing of Construction and Grading*
- *Policy 9: Techniques for Minimizing Sedimentation*
- *Policy 10: Drainage Provisions*
- *Policy 11: Preserving Groundwater Recharge*
- *Policy 13: Vegetation Removal*
- *Policy 14: Soil Conservation Techniques*

The most relevant of these is Policy 5, which calls for developing a basin-wide management program for the Los Osos groundwater basin. Commonly referred to as the Basin Plan (and not to be confused with the RWQCB's 1994 Basin Plan), this document has since been prepared (updated January 2015), and is discussed below.

#### ***Updated Basin Plan for the Los Osos Groundwater Basin (January 2015)***

All of the domestic drinking water in Los Osos is extracted from the Los Osos Groundwater Basin. Through the Resource Management System (RMS), the County has certified this basin to have a Level of Severity III. This means that the basin is at or approaching overdraft conditions. Water quality issues facing the basin include nitrate contamination in the upper aquifer from septic systems and seawater intrusion due to over-extraction from the lower aquifer.

The basin is subject to adjudication by the San Luis Obispo Superior Court in the case of *Los Osos Community Services District v. Golden State Water Company et al.* The adjudication resulted in the Interlocutory Stipulated Judgment (ISJ), which required the County and three community water purveyors —Los Osos Community Services District (LOCS), Golden State Water Company (GSWC) and S&T Mutual Water Company (S&T)—to cooperate on the development of a Basin Plan.

The Basin Plan establishes several immediate and continuing goals for management of the water resources of the Basin. The most important goals are to halt seawater intrusion into the Basin and to provide sustainable water supplies for existing and future residential, commercial, institutional, recreational and agricultural development within Los Osos. The Basin Plan calls for a series of water conservation, water reuse, management, and infrastructure programs to be implemented to ensure a long-term sustainable supply of water for Los Osos. The community supports an intensive water conservation program. Such a program would include greywater reclamation, reuse of treated wastewater, and stormwater retention and infiltration.

Outside of the framework of the Basin Plan, but consistent with that plan, the County is also addressing water quality degradation through construction and operation of the Los Osos Wastewater Project (LOWWP), a community wastewater collection, treatment and reinvestment project in Los Osos.

***General Plan Conservation and Open Space Element***

The following goals, policies and implementation measures provide a robust mitigation framework that address potential water quality impacts related to new development. These are continually implemented on an on-going basis, and would apply to development under the LOCP.

- *Goal 3. Excellent Water Quality Will Be Maintained For The Health Of People And Natural Communities*
- *Policy WR 3.1 Prevent water pollution. Take actions to prevent water pollution, consistent with federal and state water policies and standards, including but not limited to the federal Clean Water Act, Safe Drinking Water Act, and National Pollutant Discharge Elimination System (NPDES).*
  - *Implementation Strategy WR 3.1.1. Support TMDL's Participate in and support the development and implementation of Total Maximum Daily Loads (TMDLs) with the Regional Water Quality Control Board and State Water Resources Board.*
  - *Implementation Strategy WR 3.1.2. Employ pollution prevention in County operations. Employ pollution prevention techniques in all County operations and maintenance activities consistent with the Best Management Practices outlined in the County's Stormwater Management Program.*
  - *Implementation Strategy WR 3.1.3. Minimize construction-related impacts to water quality. Minimize construction and post-construction impacts of development through implementation of the County's Stormwater Management Program and Stormwater Pollution Prevention and Discharge Control Ordinance in compliance with Phase II of the National Pollutant Discharge Elimination System (NPDES).*
  - *Implementation Strategy WR 3.1.4. Continue water quality-related public education. Continue to work collaboratively throughout the county to promote water quality and pollution prevention through education programs as identified in the County's Stormwater Management Program (SWMP).*
- *Policy WR 3.2. Protect watersheds. Protect watersheds, groundwater and aquifer recharge areas, and natural drainage systems from potential adverse impacts of development projects.*



- *Implementation Strategy WR 3.2.1. Minimize runoff from new development. Ensure that public and private developments subject to discretionary review are designed to minimize runoff from such sources as homes, golf courses, swimming pools, and roadway maintenance.*
- *Implementation Strategy WR 3.2.2. Permeable Materials. Encourage the use of permeable materials in areas where hardscape is proposed.*
- *Policy WR 3.3. Improve groundwater quality. Protect and improve ground water quality from point and non-point source pollution, including nitrate contamination; MTBE and other industrial, agricultural, and commercial sources of contamination; naturally occurring mineralization, boron, radionuclides, geothermal contamination; and seawater intrusion and salts.*
  - *Implementation Strategy WR 3.3.1. Prioritization and preparation of groundwater management plans. Give highest priority to preparing and implementing groundwater management plans for basins with evidence of seawater intrusion or other water quality problems.*
  - *Implementation Strategy WR 3.3.2. Maintain database of onsite wastewater systems. Maintain an electronic database and map database of septic and onsite wastewater treatment systems.*
  - *Implementation Strategy WR 3.3.3. Abatement of failing septic systems. Pursue the abatement of failing septic systems that are a health and safety hazard and prohibit septic systems in areas where impairment of groundwater quality is likely*
- *Policy WR 3.4. Water quality restoration. Pursue opportunities to participate in programs or projects for water quality restoration and remediation with agencies and organizations such as the Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW), National Marine Fisheries Service (NMFS), and Resource Conservation Districts (RCDs) in areas where water quality is impaired.*

***Estero Area Plan, Revised 2009***

*Chapter 4. Land Use and Marine Resources Policy*

*Section I, Areawide Land Use and Marine Resources Policy*

- *C.1. Marine Resources Policy. Make every effort to secure permanent protection and management of the county's significant marine resources using programs and legislation such as the national estuary, state and national marine sanctuary program, and other methods.*

*Chapter 6. Environmental and Cultural Resource Protection Policies and Programs*

*Section V, Morro Bay Estuary and Its Watershed*

- A.1. *Slow the process of bay sedimentation. Keep Chorro and Los Osos Creeks and other watercourses free of excessive sediment.*
- A.2. *Implement provisions of the Total Maximum Daily Levels (TMDLs) as they are developed for Chorro Creek, Los Osos Creek, and the Morro Bay estuary consistent with Regional Board requirements.*
- A.3. *Support efforts to ensure a level of water quality in the bay that supports recreation, viable commercial fishing and shellfish mariculture industries, healthy eelgrass beds, and thriving fish and shellfish populations.*
- A.4. *Promote a voluntary, cooperative, educational, and incentive-based approach to protect Morro Bay and its watershed.*
- A.5. *Where feasible, implement applicable provisions of the Comprehensive Conservation and Management Plan for Morro Bay published by the Morro Bay National Estuary Program through special programs, land use planning strategies, review of development proposals, and public education.*
- A.6. *Where appropriate, continue to obtain open space easements for sensitive wetlands and bayfront areas, and encourage other agencies and conservation organizations to obtain open space and conservation easements and fee title to these areas.*
- A.7. *Support efforts to find a consensus-based resolution to the conflicts between hunting and other human uses of and adjacent to the bay.*
- A.8. *Use a watershed approach to land use planning, such as initiating a change to the planning area boundaries of the Estero and adjacent planning areas to make them correspond to the boundaries of the Morro Bay watershed.*
- A.9. *Reduce bay sedimentation by reducing the potential for a large, damaging fire through good fuel management practices such as livestock grazing and prescribed fire. Land use should be consistent with the ability to implement those practices.*

Chapter 7. Planning Area Standards

Section VII, Los Osos Urban Area Standards, Combining Designations

B. Sensitive Resources Area (SRA)

- *Sweet Springs and Cuesta-by-the-Sea SRA*
  - *Wetland Setback. If acquisition is not completed, a buffer area to be determined by the detail survey of the property by a qualified biologist will be required to be retained in a natural condition. This should be dedicated to the appropriate public agency or secured through open space easements. Development shall be clustered to minimize impacts on the surrounding wetland.*
  - *Runoff. Upland Development will be required to provide measures to handle runoff on-site.*
- *Morro Bay SRA*
  - *Permit Requirement. Where government acquisition of privately owned parcels within or adjacent to the bay is not feasible, development proposals for unsubdivided areas are to cluster uses in the least sensitive portions of*

*properties and preserve the remainder for open space. Site design shall include a survey of the property by a qualified biologist to determine the extent of the wetland and other habitat values of the site. Mitigation measures to include setbacks, shall be incorporated in site design. Density shall be computed on the gross site area excluding the portion that is identified as wetland. The cluster division or planned development process should be used to allow an adequate buffer for the habitat and to incorporate public access requirements. Native vegetation is to be retained as much as possible.*

- *Wetland Setbacks. The following setbacks shall be required to provide appropriate separation between development and the wetland vegetation and habitat. Setbacks established here supersede the 100 foot setback requirement by the Coastal Zone Land Use Ordinance. However, in no case shall a setback be adjusted pursuant to Section 23.07.172 of the CZLUO to less than the following standards. Setbacks are measured between the upland extent of the wetland vegetation and development. The minimum setbacks are as follows:*
  - a. For the area west of Tract 316 (APN 74-022-03): To be determined by the Coastal Zone Land Use Ordinance;*
  - b. For Tract 316 (Butte Drive Neighborhood): 50 feet;*
  - c. For the area between Butte Drive and Pecho Road: On the lots located between Butte Drive and Pecho Road all structures shall be located a minimum of 100 feet from the wetland and its riparian area.*
  - d. For the area between Pecho Road and Doris Avenue which is the south half of Cuesta Inlet (Blocks 4 and 5 Cuesta-by-the-Sea Tracts): 75 feet;*
  - e. For the area comprising the north half of Cuesta Inlet (Blocks 13, 14, and 35 of Cuesta-by-the-Sea Tract): 50 feet;*
  - f. For the area between Doris Avenue northeast to Tract 40 near First Street: 75 feet;*
  - g. For lots within Tract 40: 75 feet except where adjusted down to no closer than 50 feet from ;the wetland pursuant to Section 23.07.112d(2) of the CZLUO*
  - h. For the area east and northeast of Tract 40: 50 feet except where adjusted pursuant to Section 23.07.172d(2) of the CZLUO. In no case shall development occur closer than 25 feet from the mean high tide line.*
- *Shoreline Access. Public access shall be monitored or controlled in those cases where degradation of habitat resources occurs.*

*Chapter 7. Planning Area Standards  
Section VI, Los Osos Urban Area Standards*

*C.1. Drainage. Los Osos Lowland Areas--Drainage Plan Requirement. In areas designated in Figure 7-40 [i.e., generally west of South Bay Boulevard and north of Los Osos Valley Road], all land use permit applications for new structures or additions to the ground floor of existing*

*structures shall require drainage plan approval pursuant to Coastal Zone Land Use Ordinance Sections 23.05.040 et seq. unless the County Engineer determines that the individual project site is not subject to or will not create drainage problems.*

#### **Low Impact Development Requirements**

The County of San Luis Obispo Coastal Zone Land Use Ordinances contains requirements for grading and drainage (Section 23.05020 – 23.05.050). Grading plans and erosion and sedimentation control plans are required as part of the permitting process. In addition, the County has adopted Low Impact Development (LID) standards that provide guidance for post-construction storm water management application and maintenance requirements for development and redevelopment projects. The following section describes the basic LID principles from the County of San Luis Obispo Low Impact Development Handbook (April 20, 2009). Low Impact Development (LID) uses a basic principle modeled after nature: Manage rainfall at the source using uniformly distributed, decentralized micro-scale controls. For new development projects, LID focuses on the site design. The project should:

- *Minimize the impacts of increased storm water runoff from impervious surfaces and land conversions by maintaining peak flow frequencies and durations of the site's predevelopment hydrologic condition*
- *Retain and incorporate natural site features that promote infiltration of storm water*
- *Fit the terrain instead of grading the topography to fit the project's structures*
- *Preserve existing drainage patterns, pervious areas, and sensitive habitat areas within the project limits*
- *Minimize the extent of proposed impervious surfaces (roofing, parking lots, streets, etc.)*
- *Minimize the use of structural storm water controls (pipes, inlets, etc.)*
- *Use multifunctional landscapes to infiltrate, store, and intercept as much runoff as possible and as close to the origin as possible*
- *Limit the connectivity of impervious areas*

Also note that the proposed Los Osos Community Plan is a regulatory document that is intended to expand upon the policy framework described above. Because this is not an existing document, but the subject of the EIR analysis, it is not included in the existing Regulatory Setting. However, its policies are analyzed in the Impact Analysis section relative to their adequacy to provide sufficient regulatory protections for water quality and drainage, when considered in combination with the existing regulations described above.

## 4.7.2 Impact Analysis

### a. Methodology and Significance Thresholds.

Methodology. The analysis is based on a programmatic evaluation of the potential for future development under the LOCP to cause adverse impacts on hydrology and water quality, based on the proposed project's compliance with existing regulations that address the issue.

Significance Thresholds. In accordance with Appendix G of the State CEQA Guidelines and County thresholds, impacts would be significant if development under the Community Plan would result in any of the following:

- *Violate any water quality standards or waste discharge requirements;*
- *Discharge into surface waters or otherwise alter surface water quality (e.g., turbidity, sediment, temperature, dissolved oxygen, etc.)*
- *Change the quality of groundwater (e.g., saltwater intrusion, nitrogen-loading, etc);*
- *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide additional sources of polluted runoff;*
- *Change rates of soil absorption, or amount or direction of surface runoff;*
- *Change the drainage patterns where substantial on- or off-site sedimentation/ erosion or flooding may occur;*
- *Involve activities within the 100-year flood zone;*
- *Expose people to a risk of loss, injury or death involving flooding (e.g., dam failure, etc.), or inundation by seiche, tsunami or mudflow. (Refer to Section 4.4, Coastal Hazards, for an analysis of hazards related to sea level rise and coastal flooding)*

**b. Impacts and Mitigation Measures.** The following impact analysis examines the proposed LOCP at a programmatic level of detail.

***Threshold: Would actions under the Community Plan violate any water quality standards?***

***Threshold: Would actions under the Community Plan change the quality of groundwater?***

***Threshold: Would actions under the Community Plan discharge into surface waters or otherwise alter surface water quality?***

**Impact HYD-1 Construction and operational activities associated with future development under the proposed project has the potential to degrade water quality. However, because the existing regulatory framework to address these issues provides sufficient protection, this is considered a less than significant (Class III) impact.**

Development in accordance with the proposed LOCP would modify the natural infiltration capacity of the area and generate pollutants associated with denser populations, causing increased storm water runoff volumes and pollutant loading. The number of impervious surfaces would increase as undeveloped parcels and other natural vegetation with infiltration abilities are converted to rooftops, parking lots, and roadways with limited ability to absorb water. Storm water runoff would wash over these impervious surfaces, picking up pollutants while gaining speed and volume because of the inability to disperse and filter in the ground. Development of each residential or commercial unit facilitated by the proposed LOCP would contribute to increased impermeable surfaces and associated peak storm water discharge and volumes of runoff.

In addition to impervious surfaces, future development would bring new sources of pollutants as population densities increase and bring larger concentrations of car emissions, pet wastes, car maintenance wastes, and household hazardous wastes. The Community Plan would facilitate the development of up to 1,861 new residential units and 364,000 square feet of non-residential development. This level of development is expected to increase the quantities of pollutants potentially entering stream courses with runoff from streets, lawns, and gardens. Other activities that may increase pollutants include: motor vehicle operations in the area, pesticide/herbicide/fertilizer uses, human littering, careless material storage and handling, and pavement disintegration.

However, implementation of the existing and proposed policy framework would mitigate potential impacts at a programmatic level. The application of these requirements on a project-by-project basis would ensure that potential impacts are reduced to a less than significant level as development occurs. Program level impacts would be less than significant (Class III).

In some cases, subsequent CEQA review for specific projects determined to have the potential to result in significant impacts would require project-specific mitigation that builds on the existing and proposed regulatory framework.

Proposed LOCP Policies to Address Potential Impacts. The proposed LOCP includes the following policy framework to address potential impacts, which would be applied to future development within the area as appropriate:

#### *2.2.2 Water Resources*

*This section refers to Basin Plan requirements, but also includes the following provision:*

*“In order to ensure that growth does not result in further impacts upon the basin, the County proposes to use the Growth Management Ordinance as a tool for metering out construction permits.”*

#### *2.4.1 Environment, Open Space, and Agriculture Policies*

*Refers to implementation of:*

- *Coastal Plan Watershed policies 1, 3 and 5.*
- *Estero Area Plan Chapter 3, Policies II.A.1 and II.B.*
- *Estero Area Plan Chapter 4, Policy I.C.1*
- *Estero Area Plan Chapter 6, Policies V.A.1 through V.A.9*

#### *2.5.2 Public Services and Facilities*

In addition to those policies identified in the County’s General Plan, the Community Plan introduces new policies and programs that are specific to the community of Los Osos, as follows:

*PS-1. Monitor water demand through the Resource Management System to assure that new development can be supported by available water supplies without depleting groundwater supplies and/or degrading water quality. Continue to monitor the capacity of public facilities and services through the Resource Management System, and recommend adjustments to growth and development policies as needed.*

*Program PS-1.1: **Water – Allocations for new development.***

- A. Recommend an annual amendment to Title 26 (Growth Management Ordinance) to establish allocations for new development within the*

*entire Los Osos Groundwater Basin area rather than only the Los Osos Prohibition Zone).*

- B. When updating the Growth Management Ordinance annually, consider data collected from the Groundwater Monitoring Program (Program M in the Basin Plan) to ensure that the program is successfully achieving the goals.*
- C. As each additional program in the Basin Plan is successfully implemented, recommend modifications to the Growth Management Ordinance to allow the construction of additional dwelling units up to a Basin Yield Metric of 80 percent as identified in the Basin Plan.*

*PS-2. Implement the provisions of an adopted Basin Plan for the Los Osos Groundwater Basin.*

*Program PS-2.1: **Water – Groundwater management.** The Los Osos Groundwater Basin Watermaster, the County, and the Water Purveyors should work cooperatively to reduce water demands in the Los Osos Groundwater Basin. Actions should include, but not be limited to, the following programs identified in the Basin Plan:*

- A. Groundwater Monitoring Program (M)*
- B. Urban Water Efficiency Program (E)*
- C. Urban Water Reinvestment Program (U)*
- D. Wellhead Protection (P)*
- E. Infrastructure Program A (A)*
- F. Infrastructure Program C (C)*

*PS-3. Continue to work cooperatively with other local government agencies to coordinate location of new facilities and shared use of existing facilities.*

- A. Concentrate government functions in Los Osos into a centrally located, user-friendly services center near the community park. The center should include a community hall, sheriff's substation, and medical and social services.*

#### *2.5.5 Environmental Resources*

In addition to those policies identified in the County's General Plan, the Community Plan introduces new policies and programs that are specific to the community of Los Osos, as follows:

*EN-2. Manage urban runoff to reduce discharge of pollutants from the community of Los Osos into Morro Bay.*



***Program EN-2.1: Los Osos runoff control.** The County Public Works Department should coordinate with and assist the Los Osos Community Services District in developing and implementing Best Management Practices to control runoff in Los Osos, consistent with the State's Nonpoint Source Pollution Plan and Phase II of the NPDES Storm Water Regulations.*

***Program EN-2.2: Los Osos urban watershed management.** To facilitate a communitywide drainage system that allows for off-site treatment and retention of stormwater consistent with Central Coast Post Construction Requirements, the Los Osos Community Services District, the County Public Works Department and/or the County Flood Control and Water Conservation District should prepare an urban watershed management plan for Los Osos and vicinity. The plan should use a watershed management approach to achieve the following goals:*

- *Minimize flooding, erosion, sedimentation and stormwater pollutants, while providing for reuse and recharge of water and where appropriate;*
- *Reduce the sediment load in surface drainage from the Los Osos street system into Morro Bay in streets such as Skyline Drive, Pine Avenue, Ramona Avenue, Pismo Avenue, El Moro Avenue, and Santa Ysabel Avenue;*
- *Sustain fresh-water flow to the Morro Bay estuary; and*
- *Provide opportunities for recreation and environmental enhancement.*

*These goals should be accomplished through measures such as:*

- *Emphasizing use of engineered, vegetated treatment systems such as constructed wetlands, vegetated swales or vegetated filter strips, as well as retention basins, culverts, filters, or other appropriate measures;*
- *Using retention and percolation basins for recreation as an integral part of the landscape; and*
- *Using agricultural and landscape management practices to reduce water usage and pollution from fertilizers, herbicides and pesticides.*

*After completion of the urban watershed management plan, the County should amend this plan for new development.*

#### 7.4 Combining Designation Standards

The LOCP includes standards that are consistent with those included in the Estero Area Plan Combining Designation Standards that apply to Los Osos. There are several new additions that relate to Water Quality:

- There is a proposed minimum 100-foot setback from wetlands for the area identified as the area “West of Tract 316” (Butte Drive Residential Single Family). The Estero Area Plan noted that this setback would be determined through the *Coastal Zone Land Use Ordinance*.
  
- A new Los Osos Ecosystem (SRA) is established, which includes large areas within the community, generally east of South Bay Boulevard, and along the southern and western boundaries of the plan area, as shown on Figure 7-8 of the LOCP. For sites located within the Los Osos Ecosystem SRA, approval of a land use permit shall not occur unless the Review Authority first finds that, in addition to the required findings for Environmentally Sensitive Habitats specified in Chapter 23.07 of the Coastal Zone Land Use Ordinance, a project incorporates all feasible and reasonable means of maintaining Coastal Sage Scrub, Maritime Chaparral, and Coast Live Oak Woodland habitats as described in Chapter 4, Section 4.5.6.F of the LOCP. Specifically that section of the LOCP states that “together, these communities support a diversity of native plant species and a number of rare, endangered or threatened species of plants and animals, including the Morro manzanita, Indian Knob mountainbalm, Morro shoulderband snail, and perhaps the last known population of the endangered Morro Bay kangaroo rat. Many species in these habitats are found nowhere else in the world. Due to their small geographic range, narrow habitat parameters, and small and declining populations, these four species have been listed as either threatened or endangered under the federal Endangered Species Act and/or California Endangered Species Act. In order to comply with these laws, landowners and others seeking to conduct projects that would impact these species or their habitats must receive an incidental take permit, from the US Fish and Wildlife Service.”

These policies and standards address a variety of water quality and hydrology-related issues throughout the community. In the aggregate, they build on the existing federal, state and County regulatory framework, and when applied to new development, will enhance the protection of water quality beyond what is called for in the existing regulatory framework. Collectively, they provide a high level of programmatic protection, and serve as a clear basis for protecting these resources when applied to future development through the entitlement process associated with that development.

Impacts to water quality are therefore considered to be **less than significant (Class III)**.

Mitigation Measures. No mitigation measures are required, because the impact is less than significant.

**Threshold:** *Would actions under the Community Plan change the rate of soil absorption or amount or direction of surface runoff?*

**Threshold:** *Would actions under the Community Plan change the drainage patterns where substantial on- or off-site sedimentation/erosion or flooding may occur?*

**Threshold:** *Would actions under the Community Plan Involve activities within the 100-year flood zone?*

**Threshold:** *Would actions under the Community Plan expose people to a risk of loss, injury or death involving flooding (e.g., dam failure, etc.), or inundation by seiche, tsunami or mudflow?*

**Impact HYD-2** Buildout under the LOCP could expose structures and people to flood hazards. While the existing regulatory framework to address these issues generally provides sufficient protection, drainage improvement recommendations from the County's 1998 Engineering Evaluation for community drainage improvements should be included in the proposed LOCP policy framework, but are not. This is considered a significant but mitigable (Class II) impact.

Future development within the plan area could be exposed to flood hazards, notably within areas identified as within the 100-year flood zone. (Please refer to Section 4.4, Coastal Hazards, for a discussion of impacts related to sea level rise and other coastal flooding hazards.)

Areas subject to flooding during 100-year events are limited to areas immediately adjacent to creek channels, as well as the Morro Bay estuary. The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) identified regions that are adjacent to Los Osos Creek and Warden Creek within and adjacent to the community of Los Osos as being inundated during a 100- year storm. Localized flooding associated with heavy rainfall also occurs at several street intersections and other low-lying areas throughout the community.

For the most part, areas subject to 100-year flood hazards are not designated for urban development, and are designated as Open Space. The LOCP recognized this hazard, which is one reason why several

areas would be re-designated from urban uses to Open Space under the LOCP. **Table 4.7-1** describes the areas within Los Osos subject to flood hazard.

<b>Table 4.7-1. Areas Subject to 100-Year Flood Hazard</b>					
<b>Reference Code Shown in Figure 2-4</b>	<b>Description of Area</b>	<b>Flood Hazard Potential</b>	<b>Existing Designation</b>	<b>Proposed Designation</b>	<b>Acreege of Site <sup>2</sup></b>
1	Elfin Forest	Along northern boundary near Los Osos Creek	Uncertified <sup>1</sup>	OS	84.0
2	Sweet Springs	Most of site, along Bay	Uncertified	OS	24.9
3	Sweet Springs East	Most of site, along Bay	RSF	OS	2.5
4	Sweet Springs (Morro Palisades Co.)	Most of site, along Bay	Uncertified	REC	1.15
5	West of 3rd between Pismo and El Morro Aves.	Most of site, along bay	OS	REC	3.81
9	LOCSD well site west of 3rd St., s/o El Moro Ave.	Most of site, along bay	OS	PF	0.19
14	Powell Property Adjacent to Los Osos Creek (State owned)	Eastern edge of site, along Los Osos Creek	RR	OS	40.0
20	URL to conform to property boundary	Majority of the site along Los Osos Creek	OS (Rural Estero)	OS	17.0
23	Terminus Butte Dr.	Northern edge of site along Bay	RS	OS	15.2
25	Northeast properties RS to OS (State owned)	Eastern edge of site, along Los Osos Creek	RS	OS	40.0
27	Los Olivos and Fairchild	074-293-015	OP	CS	1.5
N/A	Several residential properties along Freeman Lane and the end of Hollister Avenue: APN 074-411-010; 074-411-013; 074-282-006; 074-282-007; 074-284-008	Properties are already developed with homes; flood hazard area is on undeveloped portions of properties, near Eto Lake	RS	RS	
N/A	13 residential parcels along north side of Butte Drive	Properties are already developed with homes, which are within flood zone along bay	RSF	RSF	
N/A	10 residential parcels along north side of Mitchell Drive	Properties are already developed with homes, some of which are partially within flood zone along bay	RSF	RSF	
N/A	Several residential parcels along west side of Pasadena Drive	Properties are already developed with homes; flood hazard area is on undeveloped portions of properties along bay	RSF	RSF	

1. "Uncertified" refers to areas where the Coastal Commission currently has retained jurisdiction, because the County and the Coastal Commission could not agree on land use designations and standards. These areas would be redesignated as shown in the table.  
2. Acreege is for entire area. Portion in 100-year flood plain is generally less than that, unless entire site is identified as subject to flood hazard

Several flood hazard areas will be redesignated from residential to Open Space under the LOCP, which will minimize the potential impact in those areas. The Open Space designation would prohibit new development in those areas, thereby avoiding flood-related hazards.

A few areas currently designated for residential development are subject to flood hazard, but these areas are already developed with residential uses. In general, most of these homes are located outside the 100-year flood zone, although undevelopable portions of these properties are within flood hazard areas. A few homes along Mitchell Drive are currently subject to flood hazards from the bay. Because this is an existing condition, and the homes are already in place, no new impact would be caused by implementation of the LOCP.

The April 1998 County study titled *Preliminary Engineering Evaluation, Los Osos/Baywood Park Community Drainage Project, County Service Area No. 9J*, concluded that natural sumps cause much of the flooding in Los Osos. Sumps are small pits into which water can drain and which lack outlets. These exist in the region adjacent to Morro Bay due to the sandy soil. Whereas sumps usually drain naturally, that capacity has been reduced during the past two decades due to the diminished number of permeable regions caused by development, and due to rising groundwater levels. The study recommended constructing a community drainage system that would consist of surface improvements such as curbs, gutters, and pavements, as well as storm drains. As noted in that study, the implementation of the sewer project will substantially reduce infiltration from septic systems. Nevertheless, the central recommendation of that study, which is to implement a series of drainage improvements throughout the community, has not been carried forward in the policy framework of the proposed LOCP. The 17 drainage improvement projects identified in that study were prioritized and ranked relative to their importance or need. Although the study was conducted in 1998, and some of these improvements may have already been completed, this study and its recommendations should be referenced in the proposed LOCP. This omission results in a **Class II, significant but mitigable** impact.

Proposed LOCP Policies to Address Potential Impacts. The proposed LOCP includes the following policy framework to address potential impacts, which would be applied to future development within the area as appropriate:

#### *2.4.1 Environment, Open Space, and Agriculture Policies*

*Refers to implementation of:*

- *Coastal Plan Watershed policies 1, 3 and 5.*
- *Estero Area Plan Chapter 3, Policies II.A.1 and II.B.*
- *Estero Area Plan Chapter 4, Policy I.C.1*
- *Estero Area Plan Chapter 6, Policies V.A.1 through V.A.9*

### 2.5.5 Environmental Resources

In addition to those policies identified in the County's General Plan, the Community Plan introduces new policies and programs that are specific to the community of Los Osos, as follows:

***Program EN-2.2: Los Osos urban watershed management.** To facilitate a communitywide drainage system that allows for off-site treatment and retention of stormwater consistent with Central Coast Post Construction Requirements, the Los Osos Community Services District, the County Public Works Department and/or the County Flood Control and Water Conservation District should prepare an urban watershed management plan for Los Osos and vicinity. The plan should use a watershed management approach to achieve the following goals:*

- *Minimize flooding, erosion, sedimentation and stormwater pollutants, while providing for reuse and recharge of water and where appropriate;*
- *Reduce the sediment load in surface drainage from the Los Osos street system into Morro Bay in streets such as Skyline Drive, Pine Avenue, Ramona Avenue, Pismo Avenue, El Moro Avenue, and Santa Ysabel Avenue;*
- *Sustain fresh-water flow to the Morro Bay estuary; and*
- *Provide opportunities for recreation and environmental enhancement.*

*These goals should be accomplished through measures such as:*

- *Emphasizing use of engineered, vegetated treatment systems such as constructed wetlands, vegetated swales or vegetated filter strips, as well as retention basins, culverts, filters, or other appropriate measures;*
- *Using retention and percolation basins for recreation as an integral part of the landscape; and*
- *Using agricultural and landscape management practices to reduce water usage and pollution from fertilizers, herbicides and pesticides.*

*After completion of the urban watershed management plan, the County should amend this plan for new development.*

These policies and standards address flood-related issues throughout the community. In the aggregate, they build on the existing federal, state and County regulatory framework, and when applied to new development, will improve flood protection beyond what is called for in the existing regulatory framework. Collectively, they provide a high level of programmatic protection, and serve as a clear basis

for protecting these resources when applied to future development through the entitlement process associated with that development. However, in the case of proposed LOCP Program EN-2.2, there is no clear link to the timing of the watershed management study, implementation of the needed drainage improvements, and timing of new development that may benefit from such improvements. Similarly, there is no direct link to the study and the recommended improvements included in the 1998 Preliminary Engineering Evaluation study referenced in the above analysis. For these reasons, programmatic impacts related to drainage and flood hazards are considered potentially **significant but mitigable (Class II)**.

Mitigation Measures. In addition to the policies discussed above, the following mitigation measure is required to reduce Impact HYD-2 to a less than significant level.

**HYD-2(a) Communitywide Drainage Improvements.** Proposed LOCP Program EN-2.2 shall be followed with a new program as follows to more directly link the proposed watershed management study in Program EN-2.2 with future drainage improvements and new development:

*New LOCP Program EN-2.3. Community Drainage Improvements. Based on the outcome of the Urban Watershed Management study identified in Program EN-2.2, the County shall implement its recommendations, as well as those included in the 1998 Preliminary Engineering Evaluation. These may include drainage improvements at various locations in the community, as well as other related measures. These improvements shall be completed prior to, or as conditions of, new development in the community that may be impacted by flooding or drainage impacts identified in either the 1998 study of the Urban Watershed Management Program EN-2.2.*

**Plan Requirements and Timing.** The Planning and Building Department shall add the recommended policy to the LOCP prior to Plan adoption.

**Monitoring.** Planning and Building shall ensure that the above language is included in the LOCP prior to adopting the plan.

Residual Impacts. With proposed mitigation, impacts would be less than significant.

**c. Cumulative Impacts.** The evaluation of the LOCP in this EIR, which includes buildout of the Los Osos community, accounts for all of the expected and foreseeable growth in the Los Osos area. For that reason, project-specific impacts are considered the same as cumulative impacts. As described above, this includes significant but mitigation impacts related to flooding and drainage. Cumulative Impacts related to water quality are expected to be **Class III, less than significant**, through the implementation of existing and proposed policies, including those included in the proposed LOCP. Cumulative impacts were evaluated comprehensively in this EIR at a programmatic level based on available information. As future applications for individual projects are submitted at a project level of detail, the precise evaluation of future project cumulative impacts would be coordinated through individual project-level environmental review as appropriate.

**d. Subsequent Environmental Review for Future Development Projects in the Community Plan Area.** Pursuant to CEQA Guidelines Section 15183, additional CEQA review is not required for projects that are consistent with the development density established by existing zoning, community plan or general plan policies for which an EIR was certified, except as might be necessary to examine whether there are project-specific effects which are peculiar to the project or its site. **Table 4.7-2** describes conditions under which future development in the study area would require additional CEQA review, pursuant to Section 15183.

<b>Table 4.7-2. Conditions Under Which Future Development in the Community Plan Area Would Require Additional CEQA Review</b>	
<b>Condition</b>	<b>Impact to Address</b>
<i>The future project is inconsistent with underlying General Plan and zoning designations.</i>	HYD-1 and HYD-2
<i>The future project is inconsistent with Community Plan policies or design guidelines.</i>	HYD-1 and HYD-2
<i>The future project would result in an impact peculiar to the project or parcel in any issue area. An effect is not considered peculiar if uniformly applied development policies or standards previously adopted by the County would substantially mitigate the environmental effect.</i>	Impact that is peculiar to the project or parcel
<i>The future project would result in an impact or impacts not analyzed above, including off-site or cumulative effects.</i>	Impact other than HYD-1 and HYD-2
<i>The future project would result in an impact or impacts analyzed above, but at a higher level of severity as a result of substantial new information not known at the time the EIR was certified.</i>	Worsened HYD-1 and HYD-2, as applicable