# COUNTY OF SAN LUIS OBISPO
# DEPARTMENT OF PLANNING & BUILDING

# Onsite Wastewater Treatment Systems
# Local Agency Management Program

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# TABLE OF CONTENTS

## LIST OF TABLES

**LIST OF FIGURES**

# ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| AB 885 | California State Assembly Bill 885 |
| ADU | Accessory Dwelling Unit |
| AGMP | Advanced Groundwater Management Program |
| APMP | Advanced Protection Management Program |
| APN | Assessor's Parcel Number |
| ANSI | American National Standards Institute |
| BOD | Biological Oxygen Demand |
| CA HCD | California Department of Housing and Community Development |
| CASGEM | California Statewide Groundwater Elevation Monitoring |
| CEDEN | California Environmental Data Exchange Network |
| COWA | California Onsite Wastewater Association |
| CSA | County Service Area |
| CSD | Community Service District |
| DDW | Division of Drinking Water |
| EDF | Electronic Deliverable Format |
| EMW | Environmental Monitoring Wells |
| GAMA | Groundwater Ambient Monitoring and Assessment Program |
| gpd | gallons per day |
| IAPMO | International Association of Plumbing and Mechanical Officials |
| LAMP | Local Agency Management Program |
| MCLs | Maximum Contaminant Levels |
| mg/L | milligrams per liter |
| mpi | minutes per inch |
| MPN | Most Probable Number |
| NOV | Notice of Violation |
| NOWTS | Non-conventional Onsite Wastewater Treatment System |
| NSF | National Sanitation Foundation |
| OWTS | Onsite Wastewater Treatment System |
| psi | pounds per square inch |
| PWS ID | Public Water System Identification |
| SGMA | Sustainable Groundwater Management Act |

| | |
|---|---|
| SNMP | Salt and Nutrient Management Plan |
| STS | Supplemental Treatment System |
| SWAMP | Surface Water Ambient Monitoring Program |
| SWRCB | State Water Resources Control Board |
| TCB | Total Coliform Bacteria |
| TMDL | Total Maximum Daily Load |
| TSS | Total Suspended Solids |
| USDA | United States Department of Agriculture |
| USEPA | United States Environmental Protection Agency |
| WAAP | Wasteload Allocation Attainment Plan |

**Abbreviations**

| | |
|---|---|
| Central Coast Water Board | Central Coast Regional Water Quality Control Board |
| County P&B | County of San Luis Obispo Department of Planning & Building |
| County Environmental Health | County of San Luis Obispo Department of Environmental Health Services |
| County Code Enforcement | County of San Luis Obispo Department of Planning & Building, Code Enforcement Section |
| County Public Works | County of San Luis Obispo Public Works Department |
| Survey | County of San Luis Obispo Survey of public groundwater quality records |

# SECTION 1. INTRODUCTION

## A. LOCAL AGENCY MANAGEMENT PROGRAM INTRODUCTION

The Local Agency Management Program (LAMP) is the culmination of the actions required by Assembly Bill 885 (AB 885). AB 885 was introduced to the California State Assembly on February 25, 1999 and approved on September 27, 2000. This legislation directed the State Water Resources Control Board (SWRCB) to develop regulations or standards for onsite wastewater treatment systems (OWTS) to be implemented by qualified local agencies. The SWRCB adopted the Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems on June 19, 2012 (OWTS Policy). The policy was subsequently approved by the Office of Administrative Law on November 13, 2012 and became effective on May 13, 2013. The OWTS Policy allows local agencies to approve an OWTS, based on a local ordinance, after approval of a LAMP by their respective Regional Water Quality Control Board.

The purpose of the LAMP is to allow the continued use of OWTS within the jurisdiction of the County of San Luis Obispo as well as to expand the local program to permit and regulate non-conventional OWTS while protecting water quality and public health. The LAMP also applies to OWTS on federal, state, and tribal lands to the extent authorized by law or agreement.

The County intends to become a Tier 2 Provider through adoption of an approved LAMP. The OWTS Policy categorizes systems by Tier, summarized below:

**Tier 0:** Existing OWTS that are properly functioning

**Tier 1:** New or replacement OWTS that meet the minimum standards for low-risk systems where there is not an approved LAMP

**Tier 2:** Permitted new or replacement OWTS through customized management programs (Local Agency Management Programs) that address conditions specific to the local jurisdiction and allow local permitting per an approved LAMP

**Tier 3:** Special, enhanced OWTS located near impaired water bodies

**Tier 4:** OWTS that require corrective action that are presently failing or fail at any time while this policy is in effect

On June 21, 2016, the County of San Luis Obispo Board of Supervisors authorized the Chief Building Official to submit a letter to the Central Coast Regional Water Quality Control Board (Central Coast Water Board) informing them of the County's intent to develop a LAMP in lieu of implementing Tier 1 standards. It was the intent of the Board of Supervisors, in adopting this plan, to ensure that all OWTS are constructed, modified, repaired, abandoned, operated, maintained, inspected, and serviced in a manner that prevents environmental degradation and protects the health, safety, and general welfare of the people of the County.

In October of 2016, the County issued a request for proposals for qualified consultants to conduct a septic system survey (Survey) and evaluation throughout the County of San Luis Obispo. The Survey was conducted in 2016 and primarily focused on rural areas with existing OWTS. The goal of the Survey was to refine policies within the proposed LAMP. The outcome of the Survey included recommendations for alternative treatment systems, surface and groundwater protection, and low maintenance and energy efficient wastewater systems. The results of the Survey have been incorporated into the LAMP and are summarized within Appendix II.

The LAMP is designed to protect groundwater sources and surface water bodies from contamination through the proper design, placement, installation, maintenance, and assessment of an individual OWTS. This plan develops minimum standards for the treatment and ultimate disposal of sewage through the use of OWTS in San Luis Obispo County. The LAMP does not allow permitting of any OWTS with a projected wastewater flow over 10,000 gallons per day, which must meet individual waste discharge requirements, or a waiver of individual waste discharge requirements issued by the Central Coast Water Board.

The provisions of this LAMP apply to the unincorporated areas of the County of San Luis Obispo. The authority of the Department of Planning & Building, and the adopted LAMP, do not extend into any of the incorporated cities, including the Cities of Arroyo Grande, Pismo Beach, Grover Beach, Morro Bay, San Luis Obispo, Paso Robles, and Atascadero, or to state- or federally-owned properties, including Camp Roberts and any United States Forest Service or Bureau of Land Management lands. Properties regulated by the California Department of Housing and Community Development (CA HCD), including Recreational Vehicle (RV) Parks or Mobile Home Parks, are not permitted through the Department of Planning & Building or subject to the provisions of this LAMP. The LAMP will be adopted by reference to the County Building and Construction Ordinance, Title 19, Chapter 7.

The LAMP conforms to all applicable Tier 2 criteria listed in Section 9 of the State OWTS Policy including adherence to the “prohibitions” contained in Section 9.4. While every effort was made to make this a comprehensive plan, it is likely that it will be necessary to modify it in the future for several reasons. Section 9.3.3 of the State OWTS Policy requires that a jurisdiction complete an evaluation of its monitoring program every five (5) years to determine if water quality is being impacted by OWTS and whether modifications must be made to the LAMP to address water quality impacts. In addition, modifications or revisions will be needed as technology, conditions, and experience change over time. When changes are deemed necessary, those changes will be made after consultation and approval with the Central Coast Water Board. If changes are substantive, the Department of Planning & Building will return to the County of San Luis Obispo Board of Supervisors for approval. Amendments to the originally adopted LAMP will be documented in the Amendment Log.

## B. PROGRAM ADMINISTRATION

The Building Division is a division of the County of San Luis Obispo Planning & Building Department (County P&B). The Building Division reviews and issues construction and grading permits, and inspects work completed at construction sites. Staff within the Building Division report to Supervisors, who in turn report to the Chief Building Official.

The Building Division permits new construction within all areas under County jurisdiction, including areas served by Community Service Districts (CSDs). County P&B is the sole permitting authority for OWTS areas under County jurisdiction. While CSDs may serve as potable water purveyors in some areas, they do not have authority to permit construction of an OWTS. The County does not administer construction permits for work within incorporated city limits.

Construction permit records are maintained in paper and electronic formats. County ordinance requires that a permit be obtained to construct, modify, repair, or abandon an OWTS. When a permit application is received, the information contained in the application is entered into the permit tracking database. This includes the property owner's name, the site address, and the Assessor's Parcel Number (APN), as well as the system specifications. When the project is completed and receives final approval, the application and supporting documents are maintained in electronic file archives.

Nothing contained in this LAMP shall be construed to prevent County P&B or County Environmental Health from requiring compliance with additional requirements than those contained herein, where such additional requirements are essential to maintain a safe and sanitary condition.

## C. AMENDMENT LOG

Modifications or revisions to the originally adopted LAMP will be needed as technology, conditions, and experience change over time. When it is determined that substantive changes are necessary, the County P&B will consult with the Central Coast Water Board for approval. The Central Coast Water Board approval is required for any LAMP Amendments. Approved amendments to the LAMP will be documented in the Amendment Log herein.

| Date of Amendment | LAMP Version | Description of Changes |
|---|---|---|
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# SECTION 2. OWTS PERMITTING PROCESS AND DESIGN CRITERIA

This Section describes how OWTS are reviewed and construction permits issued by the County of San Luis Obispo. This section also summarizes key design criteria for these systems and should be read together with Section 3, Groundwater Separation Requirements for Onsite Wastewater Treatment Systems.

## A. STATE AND COUNTY ROLES

OWTS have the potential to discharge pollutants to groundwater if not properly managed, and therefore are regulated by the State Water Code. The Central Coast Water Board's involvement in regulation of OWTS most often involves the formation and implementation of basic water protection policies. Requirements for siting, design, operation, maintenance, and management of onsite wastewater systems are specified in the State Water Resource Control Board's Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (OWTS Policy). The Regional Water Quality Control Boards (Water Boards) generally delegate regulatory authority for OWTS to counties, cities, or special districts, subject to the condition that the local agency commits to enforcing the minimum requirements contained in the Basin Plan policies. State Water Code Section 13282 allows Water Boards to authorize a local public agency to issue permits for and to regulate OWTS "to ensure that systems are adequately designed, located, sized, spaced, constructed, and maintained."

The Central Coast Water Board, with jurisdiction over the County of San Luis Obispo authorizes County P&B to issue certain OWTS permits throughout the County. As the Central Coast Water Board has imposed conditions and restrictions on the County's permit program, the County is authorized to issue permits for conventional OWTS and non-conventional OWTS with supplemental treatment in unincorporated areas of the County.

The goal of County P&B's OWTS program is to ensure that any installed OWTS will last the life of the structure it serves and ensure it does not cause any public exposure to surfacing sewage or any contamination of groundwater or surface waters. County P&B will maintain a dedicated Registered Environmental Health Specialist (REHS) or equivalent staff position with OWTS expertise to review design plans and conduct field inspections of OWTS. The County P&B REHS will work in coordination with REHS staff in the County of San Luis Obispo Environmental Health Services Department (County Environmental Health).

The County concurs that the groundwater separation requirements the Central Coast Water Board has imposed are appropriate minimum requirements necessary to protect groundwater quality and public health whenever an OWTS is used for sewage disposal. These requirements are a condition of the State's authorization for the County to issue OWTS permits locally. These restrictions cannot be modified by the County on a case-by-

case basis and must be rigorously implemented. Section 3 of this LAMP describes in detail how the County ensures that these State-imposed requirements are met.

## B. SYSTEM DESIGN CONSIDERATIONS

The most common type of OWTS found in San Luis Obispo County consists of a septic tank connected to leach lines. Variations of this system may include a septic tank connected to either a horizontal or gravel packed vertical seepage pit. In some applications, the disposal field is at a higher elevation than the building site. In this instance, a pressure-system is used to deliver the sewage to a standard disposal field where it is distributed by gravity flow. These examples are considered conventional OWTS because no further sewage treatment is performed between the septic tank and the disposal field. In all cases, the wastewater effluent is discharged below the ground surface, and is digested by bacteria in unsaturated soil zones for treatment underground. These OWTS are designed to operate in all weather conditions with minimal maintenance, other than periodic septic tank pumping to remove sludge from the septic tank.

In addition to conventional OWTS, the County also allows the use of non-conventional OWTS (NOWTS) that utilize supplemental treatment. NOWTS are generally used at sites that cannot support conventional OWTS due to shallow groundwater or soil conditions. NOWTS use methods that provide additional treatment beyond what is provided by the septic tank and allow for a reduction in the amount of unsaturated soil below the dispersal system. NOWTS effluent treatment components must be certified by the National Sanitation Foundation, other approved third-party tester, or approved jointly by County P&B and County Environmental Health. **Due to the complexity of these systems, County P&B requires owners to provide evidence of ongoing maintenance contracts and to obtain an operating permit.**

The size and type of OWTS needed for a building project is a function of the following factors:

a. Soil Permeability: Permeability determines the degree to which soil can accept sewage discharge over time. Permeability is measured by percolation rate, in minutes per inch (mpi).

b. Unsaturated Soil Interval: The distances between the bottom of the OWTS dispersal field and the highest anticipated groundwater level or the shallowest impervious subsurface layer at a site.

c. Peak Daily Flow: The anticipated peak sewage flow in gallons per day. The number of bedrooms for a proposed home is used as an indicator of peak daily flow.

d. Net Usable Land Area: The area available that meets all setback requirements to structures, easements, watercourses, or other geologic limiting factors.

Some sites are not acceptable for conventional or non-conventional OWTS based on low soil permeability, regardless of the unsaturated soil interval available at the site.

All conventional OWTS in San Luis Obispo County require a minimum five feet of unsaturated soil between the bottom of the dispersal system and the highest anticipated groundwater level for the site. Non-conventional OWTS with supplemental treatment systems require at least two feet of unsaturated soil between the bottom of the dispersal system and the highest anticipated groundwater. Depth to groundwater varies tremendously with the amount of rainfall for many areas in San Luis Obispo County. Therefore, the highest anticipated groundwater levels must be established for any OWTS design in order to meet separation requirements. Specific groundwater separation requirements and details for determining highest anticipated groundwater levels are provided in Section 3 of this LAMP.

The net useable land area required for an OWTS will usually depend primarily on soil permeability, peak daily flow, and topography. Details on setback requirements and net useable land areas requirements are further detailed in the layout design criteria within this Section.

## C. THE PERMITTING PROCESS

The County P&B OWTS permitting process includes the following steps:

a. The applicant shall submit a percolation test design and results of testing performed by a registered civil engineer, registered geologist, or registered environmental health specialist.

   A percolation test is required when:

- A new OWTS is proposed on an undeveloped lot;
- Grading or other soil disturbance has occurred in the proposed OWTS location;
- The system is being shifted out of the previously tested area;
- Repair or replacement is made to an existing leach system; or
- An OWTS other than the system previously considered is being proposed.

   County P&B approval of percolation test results expires after one year.

   *Note: Site grading or clearing of brush for the purposes of completing a percolation test requires approval from County P&B and may require implementation of sediment and erosion control best management practices.*

b. With percolation test data and other data in hand, the qualified professional must develop and submit a layout design for the proposed building project and specific OWTS for County P&B review. The layout design must take percolation test data and this guidance into account. See Subsection E for additional information on submission requirements.

c. County P&B may approve requests for variances from the provisions of this LAMP if it is determined that complete compliance with the prescribed

standards is not possible or practical and that the variance is not counter to the purposes and intent of this LAMP.

d. After review, if the proposed OWTS can be permitted at the site, County P&B will approve the layout design. The County may require additional testing before providing this approval. In some cases, this additional testing will include depth to groundwater measurements during an average rainfall year. This may delay County P&B approval for a year or more. Pending those results, County P&B may conclude that a conventional or non-conventional OWTS cannot be safely used on the site.

e. Some OWTS construction projects will additionally require County P&B grading permits. Approved layouts and OWTS permits are not grading permits.

f. Before a permit to construct the OWTS can be finaled, an applicant must provide to County P&B proof that a potable water supply is available for the project. Potable water in this context is water that meets water quality standards as defined in the California Safe Drinking Water Act. County P&B requires water quality data less than 5 years old as proof that a potable water supply is available for the project. In some situations, additional water quality testing may be required. Potable water quality testing requirements are overseen by County Environmental Health.

g. Once the permit to construct the OWTS has been obtained, the OWTS can be installed. The system must be inspected by County P&B before it is backfilled. Appropriate stormwater best management practices must be implemented during construction of the OWTS. If the inspection is satisfactory, County P&B will finalize the OWTS permit.

h. All engineered plans shall be inspected by the Engineer of Record, as well as County P&B. If there is any deviation from the original plans, as-built plans shall be required.

i. The engineer's report of system construction shall be collected at the time of inspection. Occasionally, County P&B will withhold final approval on the OWTS permit pending specific conditions to be met.

# D. OWTS DENSITY AND PARCEL SIZE REQUIREMENTS

## 1. EXISTING PARCELS

Parcels created prior to the implementation of this LAMP (existing parcels) are not subject to the minimum subdivision parcel size requirements of this LAMP. However, new proposed OWTS on these existing parcels will be subject to the design requirements specified within this Section.

New OWTS on existing parcels less than 2.0 acres in size shall be required to demonstrate compliance with the following criteria:

a. Seasonal high groundwater depth shall be 25 feet or more below the bottom depth of the dispersal system.

b. Soil percolation rate shall be between 5 mpi and 120 mpi.

c. Average slope of disposal and replacement area shall be less than 10%.

Where compliance with criteria *a* through *c* (above) cannot be met, applicants may propose the installation of a Supplemental Treatment System (STS) in accordance with Section 8 of this LAMP. Installation of STS may allow for the construction of new OWTS on existing lots less than 2.0 acres in size.

Pursuant to California Government Code 66410 et seq., vesting subdivision maps that have been approved prior to the effective date of the OWTS Policy are not subject to the minimum parcel size requirements for new subdivisions served by OWTS, if they have submitted a planning application prior to the effective date of the OWTS Policy .

## 2. MAINTENANCE OF EXISTING OWTS

Consistent with the criteria outlined in Tier 0 of the OWTS Policy, systems that are functioning properly will not be affected by this LAMP for as long as they continue to function properly.

The current practice of voluntary inspection for standard OWTS will continue as the cornerstone of an ongoing maintenance program for the vast majority of systems. The primary function of the voluntary inspection program is to assure that the system continues to function properly. The individuals who service and inspect OWTS shall be qualified to inspect and identify systems that are failing or identify conditions that would lead to a state of failure.

Whenever an OWTS is serviced, a Qualified Inspector shall examine the tank to look for signs of deterioration, corrosion, or evidence that the dispersal field has failed or is in the process of failing. In conjunction with the service, the Qualified Inspector shall prepare a written report that includes the property owner's name and address, a description of the system and any deficiencies noted during the inspection. The report must be submitted to County P&B within 30 days of the date of the servicing/inspection.

Existing, permitted OWTS that are in a state of failure shall be designated Tier 4 systems and shall adhere to the requirements outlined in Section 9 of this LAMP.

Failing dispersal systems are any OWTS that has pooling effluent, discharges wastewater to the surface, or has wastewater backed up into plumbing fixtures, because its dispersal system is no longer adequately percolating the wastewater is deemed to be failing, no longer meeting its primary purpose to protect public health, and requires major repair, and as such the dispersal system must be replaced, repaired, or modified so as to return to proper function and comply with the LAMP.

Failing Septic Tank is any OWTS septic tank failure, such as a baffle failure or tank structural integrity failure such that either wastewater is exfiltrating or groundwater is infiltrating is deemed to be failing, no longer meeting its primary purpose to protect public health, and requires major repair, and as such shall require the septic tank to be brought into compliance with the requirements of the LAMP.

## 3. EXPANSION OF EXISTING OWTS

Existing, functioning OWTS (Tier 0) that are expected to continue to function properly may become overtaxed when homes are remodeled or expanded in a manner that increases the daily wastewater flow or changes the characteristics of the sewage generated. When building renovations generate increased wastewater flow, the OWTS shall be upgraded to meet the standards of this LAMP and accommodate the anticipated increase in flow volume.

The minimum design flow rate for a 1 bedroom residence is 250 gpd, 300 gpd for a 2 bedroom residence, and an extra 75 gpd for a 3rd bedroom and above. See Section 2.E.8 for determining number of bedrooms.

A qualified professional shall determine the need for system modifications to achieve compliance with the layout design requirements in Section 2 of this LAMP. County P&B will review the proposed changes and any records pertaining to the performance of the existing system as well as any additional information/data provided by the applicant. If it is concluded that there is no impact or that the existing system is adequate, no modification is required. Proposed improvements on a property that intrude upon the physical location of the OWTS or the expansion area for the dispersal system require additional review by County P&B.

## 4. CREATION OF NEW PARCELS

Upon adoption of this LAMP, the average density for any subdivision of property made by Tentative Approval pursuant to the Subdivision Map Act shall not exceed the allowable density values in Table 1 for a single-family dwelling unit, or its equivalent, for those units that rely on OWTS.

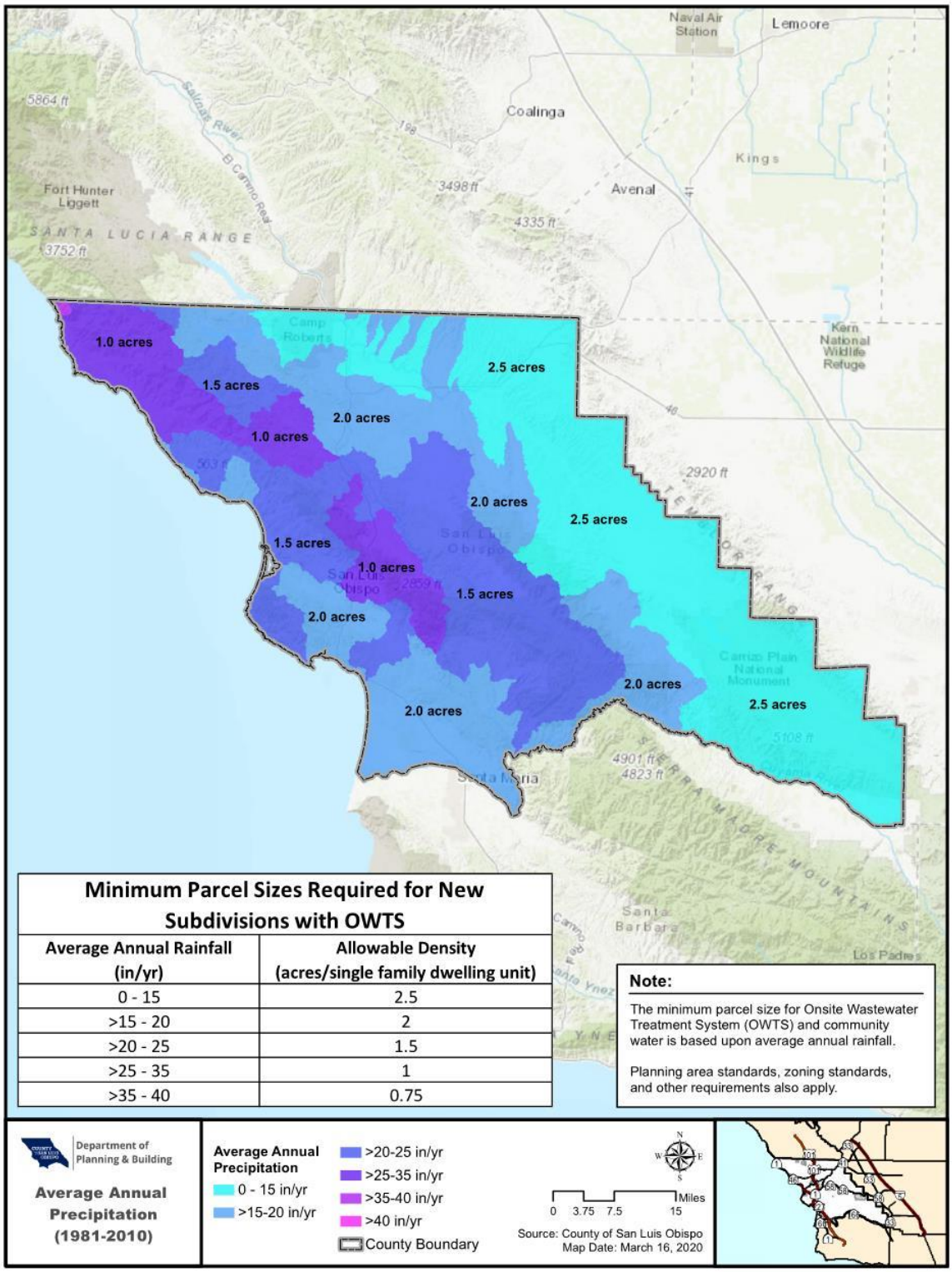
**Table 1. Allowable Average Densities per Subdivision**

| Average Annual Rainfall (in/yr)[1] | Allowable Density (acres/single family dwelling unit) |
|---|---|
| 0 - 15 | 2.5 |
| >15 - 20 | 2 |
| >20 - 25 | 1.5 |
| >25 | 1 |

*[1]Note: Average annual rainfall data shall be obtained from the USDA PRISM Climatologic Database. This data is provided in Figure 1 and is available online for review on the County of San Luis Obispo Land Use Viewer application.*

In addition to the allowable average density requirements set forth in Table 1, County P&B has established a 1.0-acre minimum gross parcel size requirement for parcels proposed for creation and development that will utilize public water service and an OWTS. The minimum parcel size for new parcels utilizing OWTS and an onsite domestic well is 2.50 acres.

**Figure 1. San Luis Obispo County Average Annual Precipitation.**



Where County of San Luis Obispo zoning regulations require larger parcel sizes than the LAMP, those parcel size regulations shall take precedence. As part of the subdivision application process, the applicant must provide County P&B with information regarding the method of wastewater discharge. In proposed subdivisions where high groundwater, steep slopes, or poor soil conditions exist, or where there are significant known impacts to groundwater quality, any or all of the following may be required: an increase in lot size, supplemental treatment systems (Per Section 8 of this LAMP), or other mitigating measures as determined by County Environmental Health and County P&B.

The following criteria shall be met for the creation of new lots proposing the use of OWTS:

a. The minimum lot size for any new subdivision of property made pursuant to the Subdivision Map Act shall not be less than 2.5 acres if proposing an OWTS and an onsite, individual domestic well.

b. Gravel packed seepage pits may not be used in order to create new parcels.

c. The minimum parcel size for any new subdivision of property made pursuant to the Subdivision Map Act proposing to use OWTS and public water service shall not be less than 1.0-acre gross size.

d. New parcels shall meet the layout design criteria and all standards of the LAMP for conventional OWTS or non-conventional OWTS where required.

## 5. ACCESSORY DWELLING UNITS

In the County of San Luis Obispo, the term "Secondary Dwelling" describes an accessory dwelling unit (ADU). These are small residential units that are accessory to an established primary single-family dwelling. Depending on parcel size, ADUs may be up to 1,200 square feet in size. ADUs may either be attached to or detached from the primary residence.

ADUs on parcels served by OWTS shall adhere to the following criteria:

a. ADUs utilizing OWTS shall not be permitted on lots less than 1.0 acre utilizing individual domestic wells.

b. OWTS for ADUs on lots less than 2.0 acres that are not served by a public water purveyor shall only be permitted under the following conditions:

   i. Groundwater depth shall be 25 feet or more below the bottom depth of the dispersal system.
   ii. Soil percolation rate shall be between 5 mpi and 120 mpi.
   iii. Average slope of disposal and replacement area shall be less than 10%.
   iv. Where conditions *i* through *iii* (above) cannot be met, installation of a NOWTS with supplemental treatment components may allow for the addition of an ADU.

c. Applicants proposing an ADU must adhere to the requirements set forth in Table 2 and demonstrate to County P&B that the parcel can support additional septic treatment capacity by the following methods:

i. A second separate, appropriately sized OWTS shall be installed for the proposed ADU.
ii. Separate, distinct reserve areas must be designated for the OWTS serving both the primary residence and ADU.
iii. In cases where applicants intend to plumb the ADU to an existing OWTS serving the primary residence, the existing OWTS shall be appropriately retrofitted and expanded to achieve the standards of this LAMP.

d. Per the County of San Luis Obispo General Plan, the allowable size for an ADU is limited to less than 1,200 square feet of conditioned space.

e. Parcels greater than 2.0 acres may construct an ADU in accordance with the standard OWTS layout design criteria in Section 2.E.

**Table 2: OWTS Requirements for Accessory Dwelling Units (ADUs)**

| Dwelling Size | OWTS Requirements |
|---|---|
| 0 - 799 $ft^2$ | May use or modify existing OWTS to meet additional demand. |
| 800 -1,200 $ft^2$ | Must utilize a new OWTS with distinct reserve area. |

## 6. AREA SPECIFIC REQUIREMENTS

Certain areas within the County of San Luis Obispo are subject to specific requirements based on Central Coast Water Board regulations and an area's susceptibility to groundwater nitrogen loading. The following areas are subject to specific requirements:

a. Bayview Heights and Martin Tracts

Per Order No. R3-2000-12, the Central Coast Water Board retains authority for permitting of new OWTS or OWTS repairs in the Bayview Heights and Martin tracts in the community of Los Osos (as indicated in Figures 2 and 3). County P&B does not have the authority to permit new OWTS or repairs of existing OWTS in these areas.

At such time that the Central Coast Water Board rescinds Order R3-2000-12, the Bayview Heights and Martin tracts will migrate under the permitting authority of the County of San Luis Obispo. At that time, OWTS in these areas will be subject to the provisions of this LAMP.

b. OWTS Construction Prohibition Areas

The Central Coast Water Board has prohibited discharges OWTS in portions of the community of Nipomo. County P&B will not issue permits for construction of new OWTS or repair of failing OWTS in the Nipomo Prohibition Area indicated in Figure 4.

**Figure 2. Bayview Heights Permitting Prohibition Exemption Area**

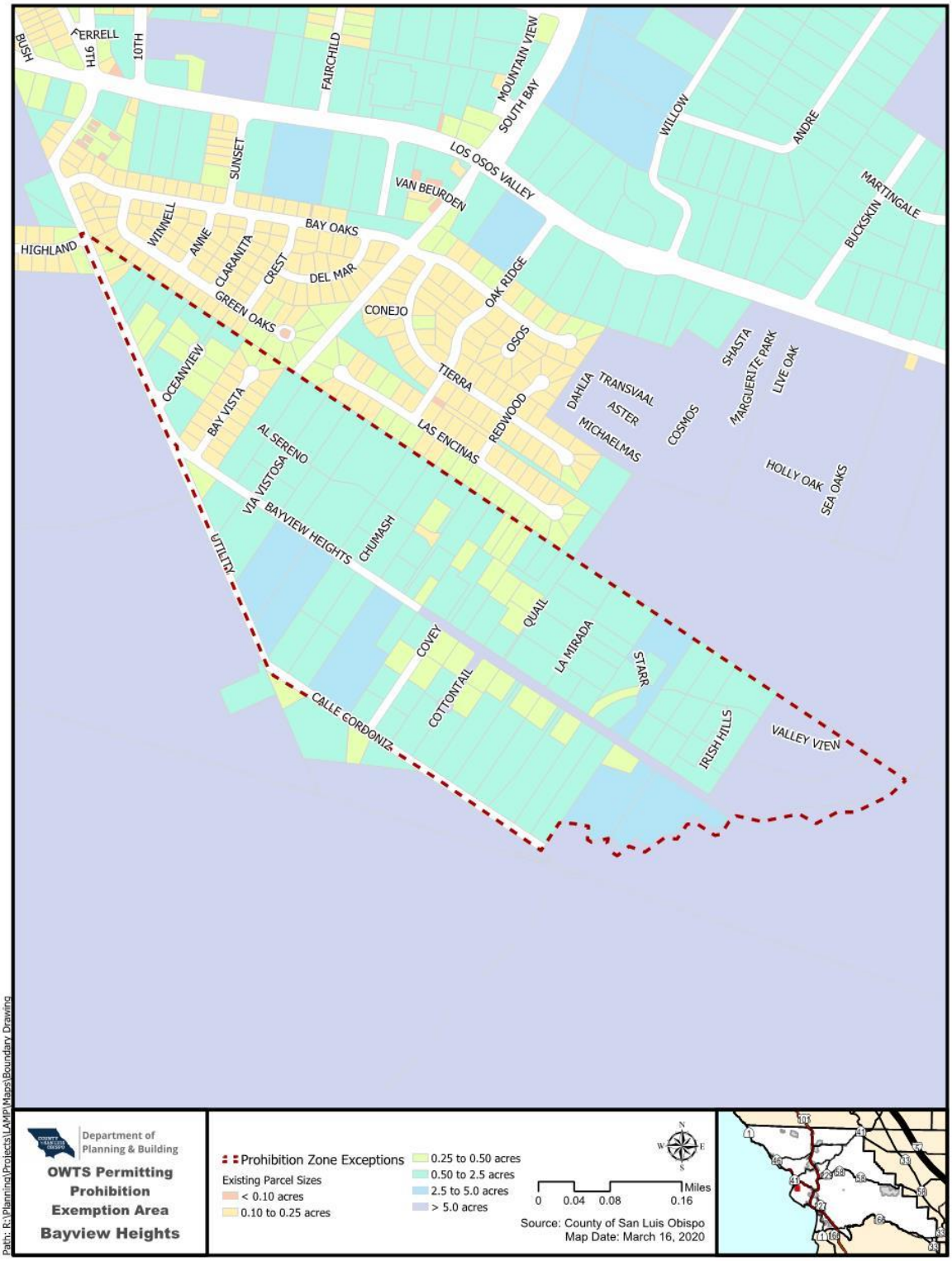


**Figure 3. Martin Tract Permitting Prohibition Exemption Area**

**Figure 4. Nipomo Sewer Prohibition Area**

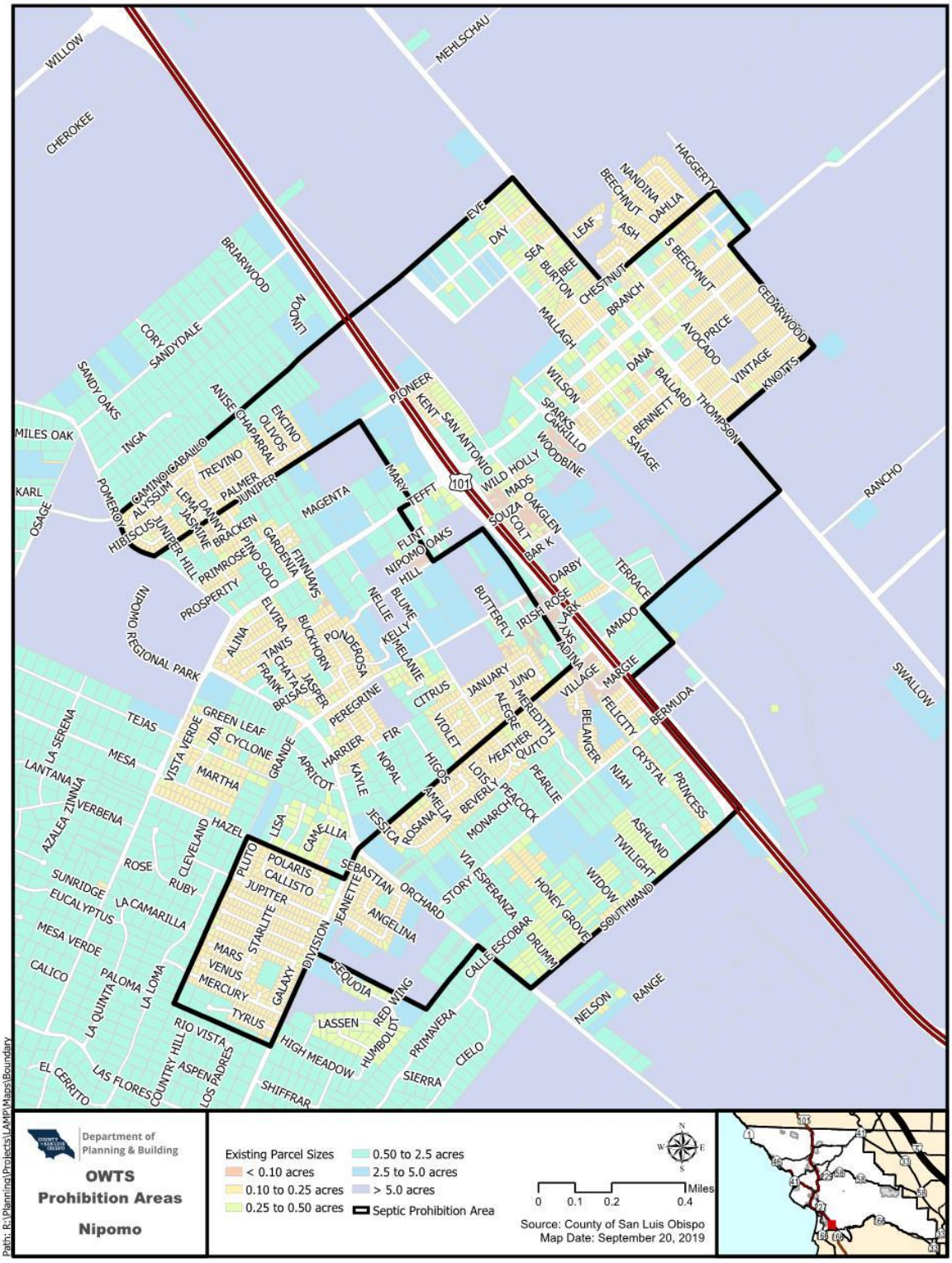
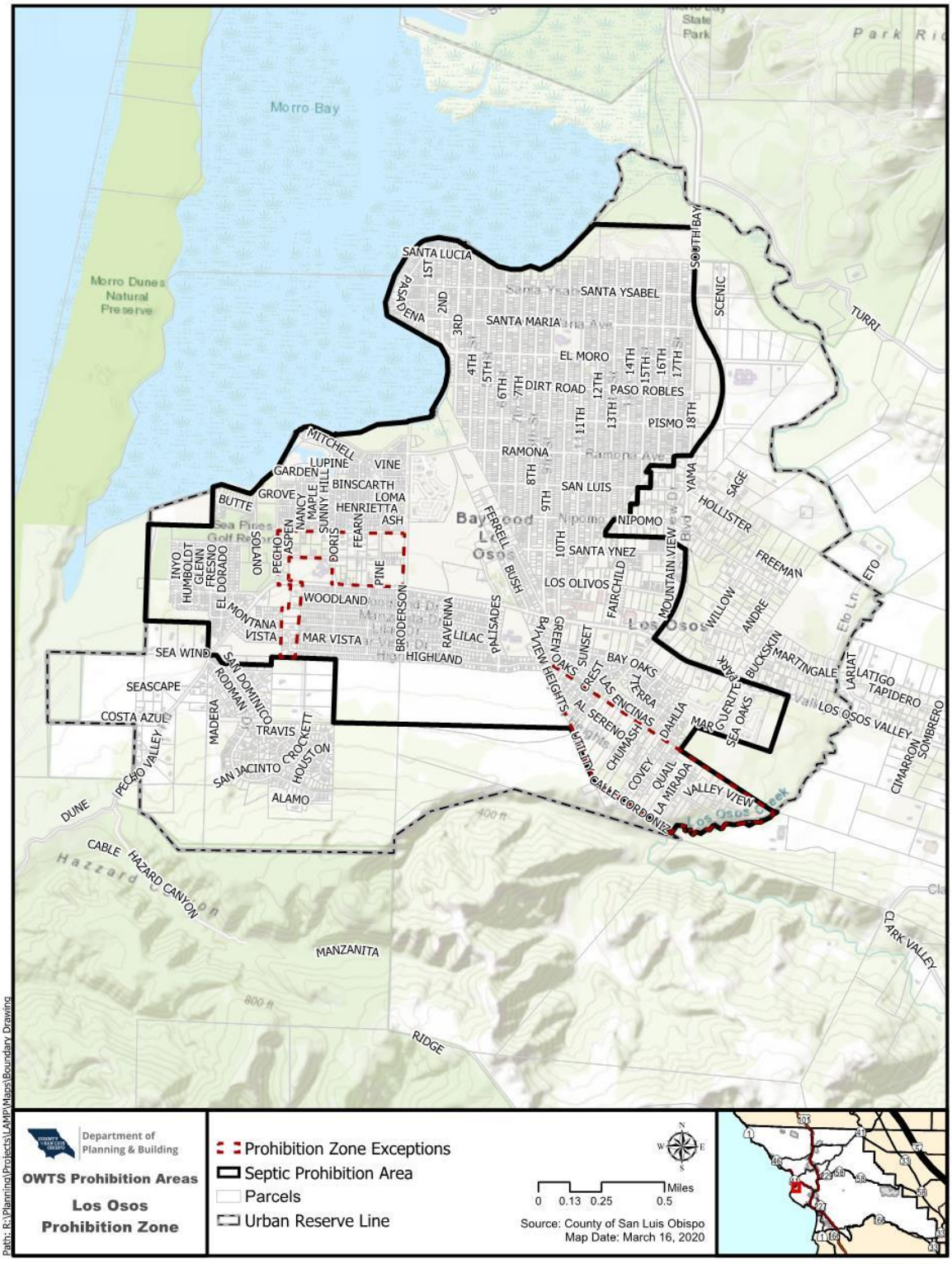


**Figure 5. Los Osos Sewer Prohibition and Exemption Areas**



c. OWTS Impact Areas Requirements

Wastewater loading from OWTS can potentially degrade groundwater quality and contribute to nutrient enrichment of surface waters. Impacts to groundwater are of most concern in San Luis Obispo County. Nitrogen occurs in high concentrations in domestic wastewater, typically in the range of 50 to 90 mg-N/L. Nitrogen occurs mostly as ammonia and organic forms, and it is only partially removed through conventional septic tank treatment. Upon entering the unsaturated soil environment, these forms of nitrogen undergo transformation to nitrate. Nitrate is highly soluble in water and moves readily through the soil and groundwater with limited removal by the soil under most circumstances. Nitrate loading is normally not an issue for individual residential OWTS, but can become a "cumulative impact" concern for large concentrations of OWTS in a given area or for larger commercial or community-type OWTS.

A 2018 County-led study conducted by Questa Engineering analyzed 20 focus areas for groundwater nitrate concentration impacts based on the potentially high density of OWTS under full build-out conditions. The analysis is included in this LAMP as Appendix III. Elevated groundwater nitrate concentrations have been documented in several areas of San Luis Obispo County over the years, notably in the Los Osos area, and other scattered areas. However, prior to the completion of the study, no comprehensive review and assessment of OWTS wastewater nitrate loading potential had been completed for the County.

Using estimates of existing OWTS densities and wastewater loading volumes, calculations were made to estimate the potential contribution to groundwater nitrate concentrations under full build out conditions due to OWTS in the 20 identified OWTS Focus Areas. The estimated nitrate concentration impacts in the analysis are related specifically to OWTS discharges and would be in addition to other sources of nitrate-nitrogen that might occur in a given area, such as leaching of agricultural fertilizers, confined animal wastes, or municipal wastewater discharges.

Of the 20 focus areas, four areas may experience potentially severe impacts, six areas may experience moderate impacts, and ten would likely experience minimal impacts. Los Osos in particular has been susceptible to elevated nitrogen loading and groundwater degradation and is identified in many locations as severely or moderately impacted which are identified in Table 4, Figure 7, 8, and 9. Certain areas have been identified as septic prohibition areas which are identified in Figure 4 and 5 and exemption areas identified in figure 2 and 3. The Los Osos septic prohibition areas are restricted from utilizing an OWTS for new development or repair. The results of the impact severity study are summarized in Table 3. Area specific requirements for areas of Severe and Moderate impact are designed to minimize the potential for groundwater nitrate loading under full build-out conditions. Focus Areas designated Low Impact will not be required to meet additional permitting and design criteria and are included in this LAMP for informational purposes only.

These area specific requirements include additional permitting and design criteria for OWTS in areas with known geologic or groundwater constraints. OWTS in these areas will

be required to meet additional system requirements to minimize the potential for groundwater contamination and to prevent premature system failure.

**Table 3: OWTS Nitrogen Loading Impact Severity**

| Impact Level | Description |
|---|---|
| Severe Impact | **≥10 mg-N/L.** Resultant nitrate concentrations exceeding the 10 mg-N/L drinking water limit are indicated for 4 of the Focus Areas at full build-out, all associated with lot size densities of less than 1 acre. These should be considered areas of significant concern and further support the requirement of a 1-acre minimum lot size for OWTS. |
| Moderate Impact | **7.5 to 10 mg-N/L.** Projected nitrate concentrations of 7.5 to 10 mg-N/L pose potential risk of violating the groundwater/drinking water standard and should be considered areas of concern. The analysis indicated that 6 of the Focus Areas projected nitrate impacts in this range, with corresponding lot sizes in the range of about 1 to 1.8 acres at full build-out. |
| Low Impact | **<5 to 7.5 mg-N/L**. Projected nitrate concentrations of less than 5 to 7.5 mg-N/L pose a low concern. The analysis found 10 of the Focus Areas with projected nitrate impacts in this category, with corresponding lot sizes in the range of about 1.4 to 4.6+ acres at full build-out. |

The 10 Focus Areas designated Low Impact will not be required to meet additional permitting and design criteria and are included in this LAMP for informational purposes only.

The locations of all focus areas are graphically depicted in Figures 5 through 7. For simplification, Focus Areas have been assigned single alphabetic characters corresponding to geographic areas as indexed in Table 4.

**Table 4: Groundwater Nitrate Loading Focus Areas**

| Impact Level | Focus Area |
|---|---|
| **Severe Impact Area >10.0 mg-N/L** | Focus Area A *(Montana de Oro)* |
| | Focus Area B *(Creston)* |
| | Focus Area C *(Baywood)* |
| | Focus Area D *(Santa Margarita)* |
| **Moderate Impact Area 7.5 -10 mg-N/L** | Focus Area E *(Jardine Road)* |
| | Focus Area F *(Branch Road)* |
| | Focus Area G *(Shandon)* |
| | Focus Area H *(Templeton North)* |
| | Focus Area I *(Oak Hill West)* |
| | Focus Area J *(Los Osos Oaks)* |
| **Low Impact Area <7.5 mg-N/L** | Focus Area K *(Dry Canyon)* |
| | Focus Area L *(Templeton South)* |
| | Focus Area M *(Oak Hill East)* |
| | Focus Area N *(Nipomo Mesa)* |
| | Focus Area O *(East Union Road*) |
| | Focus Area P *(Sandy Creek Road)* |
| | Focus Area Q *(Whitley Gardens)* |
| | Focus Area R *(Monarch Dunes)* |
| | Focus Area S *(Los Berros Road)* |
| | Focus Area T *(Garden Farms)* |

**Figure 1. Groundwater Nitrate Loading OWTS Focus Areas**

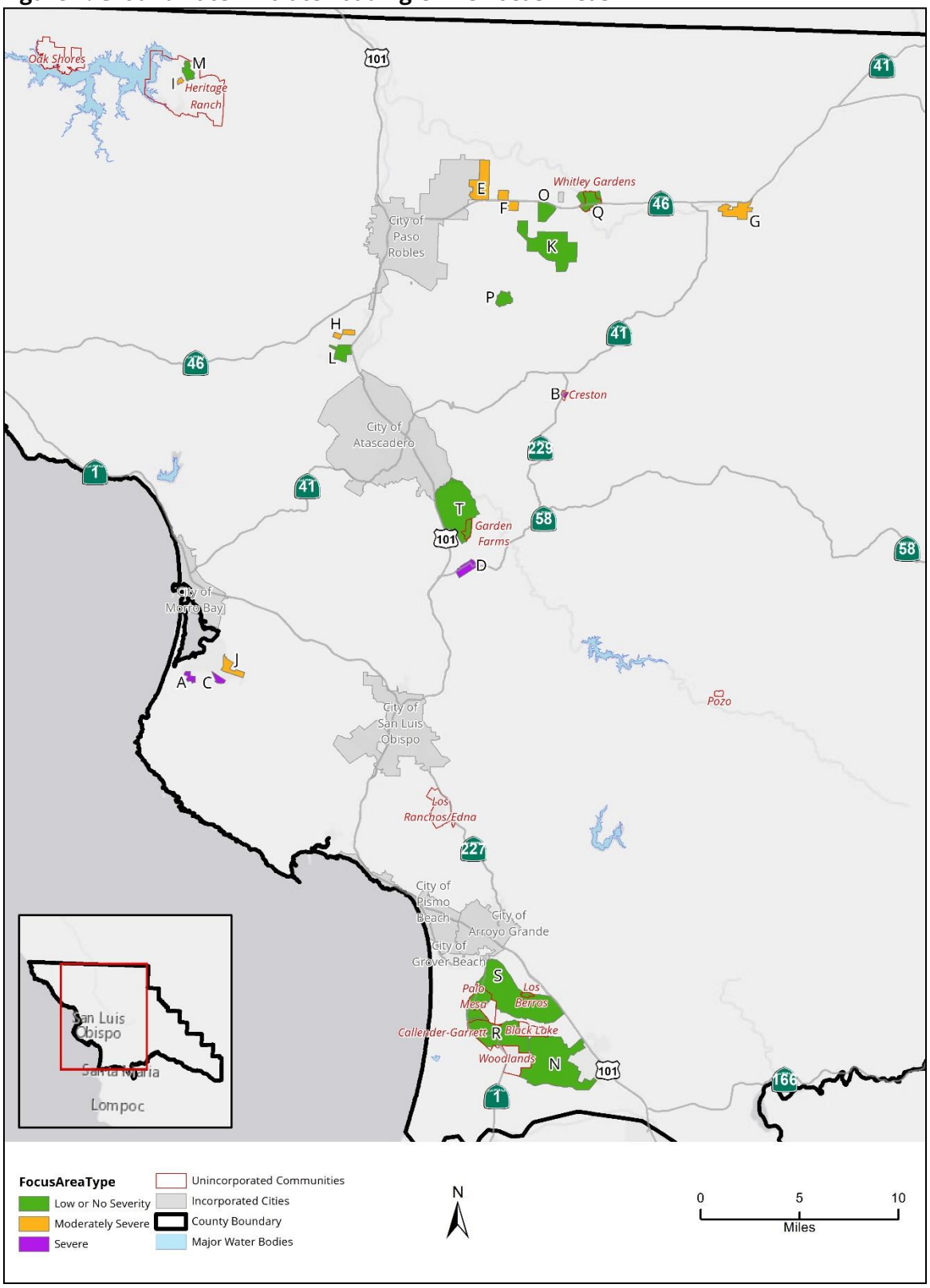


**Figure 2. Groundwater Nitrate Loading OWTS Focus Areas (North County)**

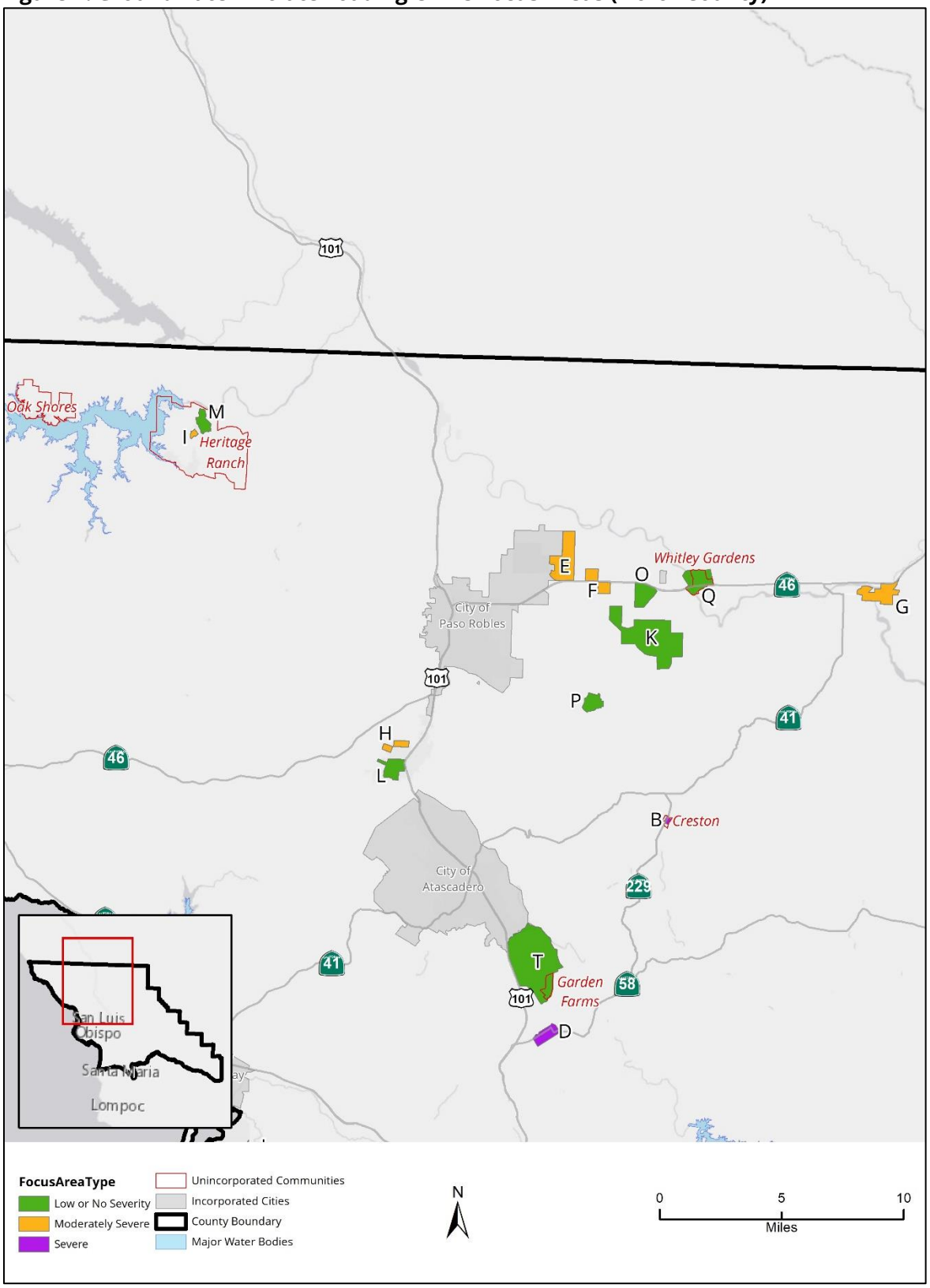


**Figure 3. Groundwater Nitrate Loading OWTS Focus Areas (Mid & South County Area)**

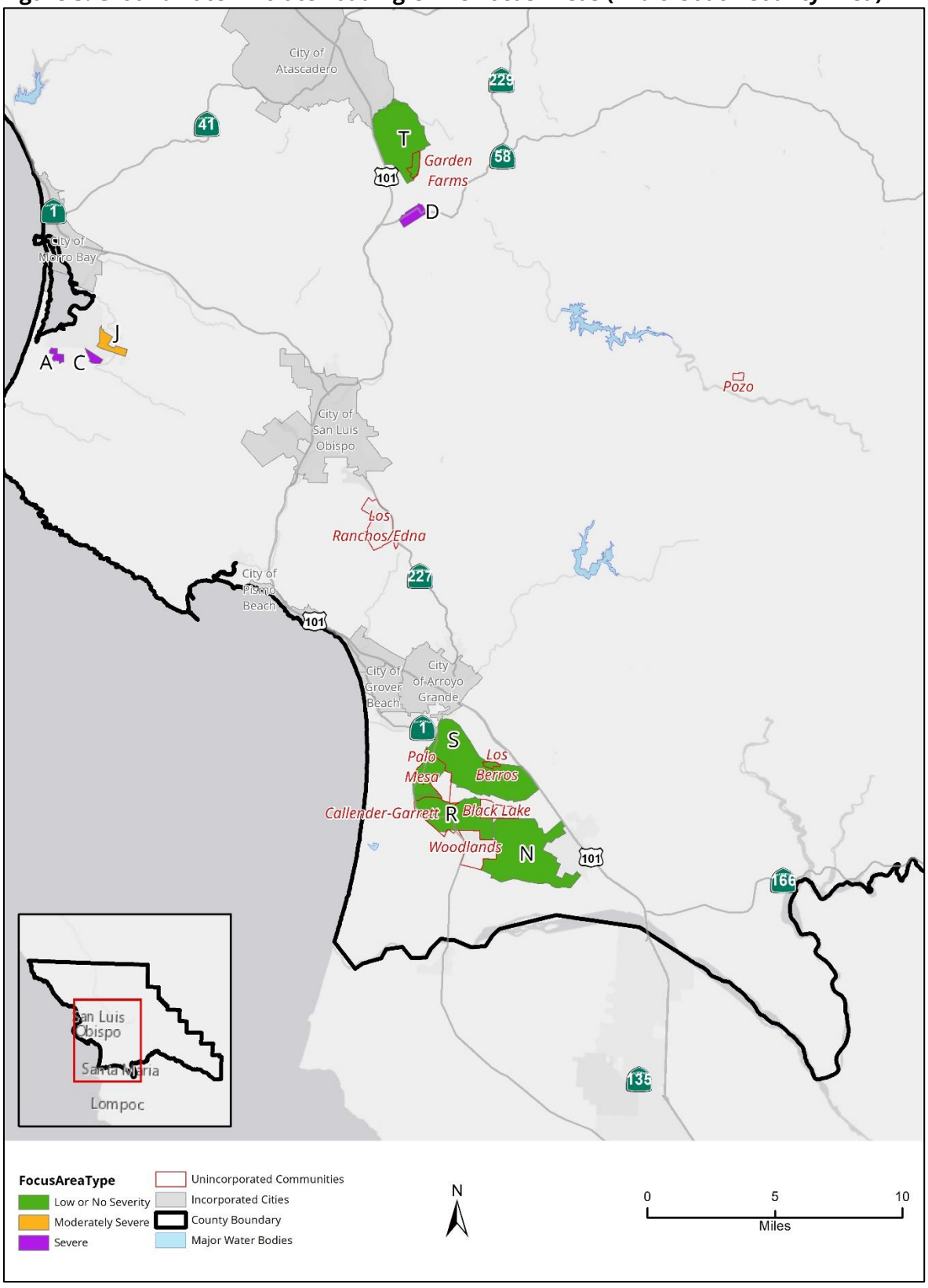
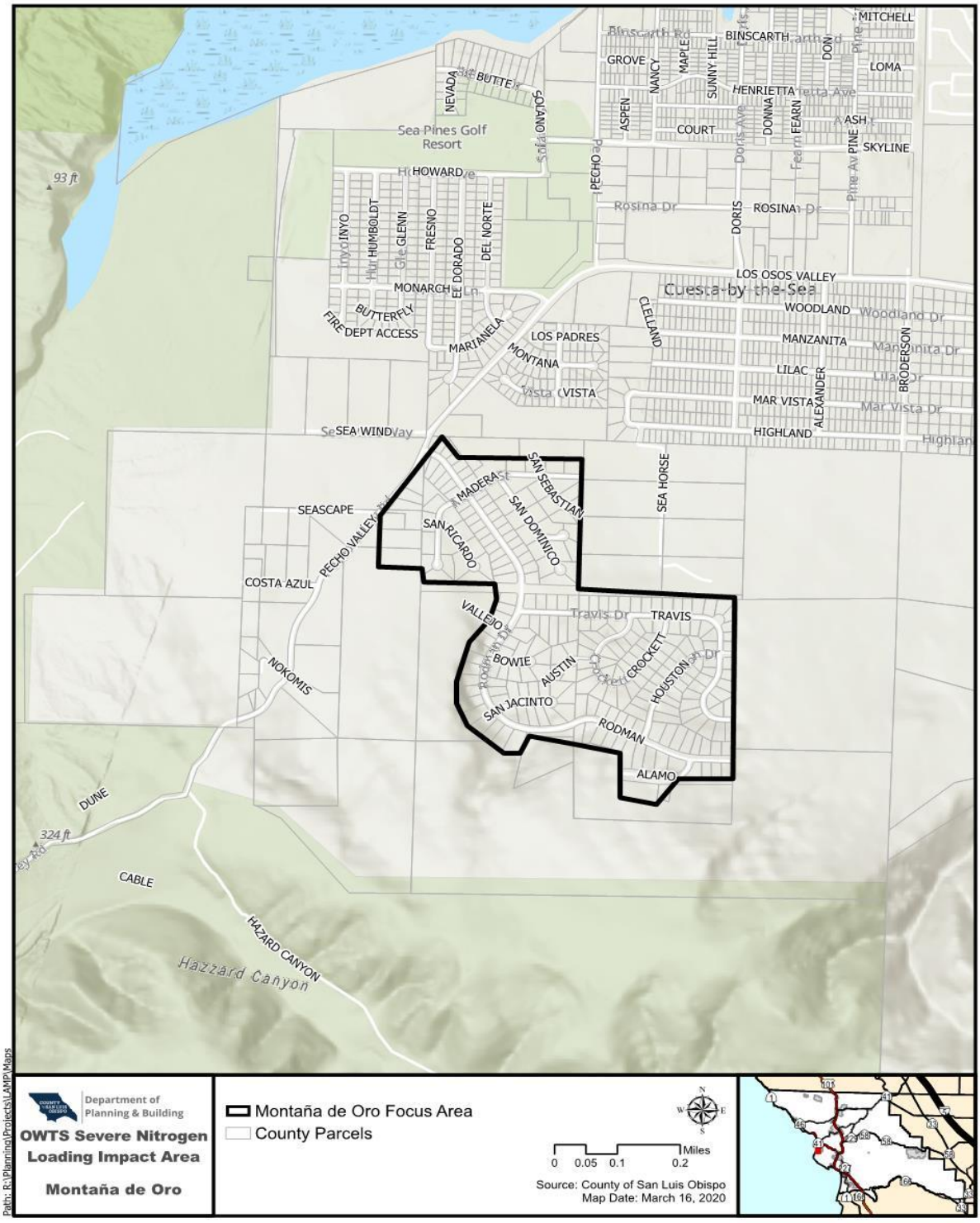


**Figure 9. Groundwater Nitrate Loading OWTS Focus Areas (Montana de Oro)**



## 7. DESIGN CRITERIA FOR NEW SYSTEMS IN MODERATE AND SEVERE IMPACT AREAS

New OWTS in Moderate or Severe Impact areas shall require the installation of a Supplemental Treatment System (STS) in accordance with Section 8 of this LAMP. The requirement for installing a Supplemental Treatment System (STS) may be waived by the County of San Luis Obispo if the results of a site-specific hydrogeologic investigation, performed by an engineer, geologist, or environmental health specialist (i.e., qualified professional), determines that the following conditions are present:

a. 3D modeling of groundwater related to nitrogen percolation which demonstrates that discharge will not impact groundwater.

b. The nitrogen concentration in the groundwater underlying the subject property is 1.0 mg-N/L or less. Investigation must be performed by an engineer, geologist, or environmental health specialist.

If either of these criteria is met, a conventional OWTS can be designed and installed in accordance with the provisions of this LAMP.

## 8. SALINAS RIVER SETBACKS

a. OWTS setbacks from the Salinas River shall be a minimum of 150 feet from the top of bank.
b. Seepage pits shall not be permitted within 200 feet of the top of bank of the Salinas River.
c. The disposal system shall maintain a minimum 25-foot separation to groundwater.

## 9. NON-RESIDENTIAL DOMESTIC WASTEWATER OWTS REQUIREMENTS

OWTS serving structures on commercial, agricultural, or industrially zoned properties generating wastewater that includes process water or non-residential domestic wastewater must adhere to the following requirements:

a. The leach system must be built out to 200% capacity at initial construction with a 100% reserve area set aside.

b. OWTS that allow industrial or agriculture wastewater disposal are not authorized under this LAMP.

c. OWTS serving industrial or agricultural facilities must segregate domestic wastewater from industrial or agricultural wastewater.

d. OWTS serving facilities which receive grease-laden waste or located in areas of establishments where grease is introduced into the drainage or sewage system i.e. restaurant, a hydromechanical or gravity grease interceptor shall be installed. Interceptors must meet all applicable requirements in the most recent California Plumbing Code (CPC) Chapter 10 and Section 9 of this LAMP.

e. OWTS that accept high-strength wastewater (900mg/L Biological Oxygen Demand [BOD]) from commercial buildings are not authorized under this LAMP. Applicants must demonstrate that wastewater does not exceed 900 mg/L BOD.

f. Gravel packed seepage pits are not authorized dispersal systems for non-residential domestic wastewater.

g. Non-Residential domestic waste sewage flowrates are calculated using the most recent California Plumbing Code (CPC) Appendix H Table 201.1(2) or Chapter 7 Table 702.1, whichever is greater.

h. Non-Residential domestic systems utilizing STS must meet all applicable requirements in Section 9 of this LAMP.

# E. THE LAYOUT DESIGN

A layout design of the proposed building construction and OWTS is required. A qualified professional shall design all new OWTS and modifications to existing OWTS where the treatment or dispersal system will be replaced or expanded. The layout design submittal to County P&B shall be prepared by a qualified professional.

## 1. LAYOUT DESIGN BY A QUALIFIED PROFESSIONAL

A qualified professional is an individual licensed or certified by a State of California agency to design OWTS and practice as a professional for other associated reports, as allowed under his/her license or registration. Depending on the work to be performed and various licensing and registration requirements, this includes an individual who possesses a registered environmental health specialist certificate or is currently licensed as a professional engineer or professional geologist. For the purposes of performing site evaluations, Soil Scientists certified by the Soil Science Society of America are considered qualified professionals.

This OWTS layout drawing should be prepared using the standard engineer's scale (1/8 in) on 11" x 17" or larger size paper. The basis for the OWTS design will be from percolation testing data and/or conditions of approval from a recorded subdivision map, parcel map, boundary adjustment, or certificate of compliance. The size of the OWTS is a function of the anticipated peak sewage flow based on the number of bedrooms, dwellings, or use, and the percolation rate of the soil on the site.

The layout design shall contain the following information:

a. Site Address;

b. Tax Assessor's Parcel Number (APN);

c. Owner's name, mailing address, and phone number;

d. Consultant's name, mailing address, and phone number;

e. Type of proposed construction (e.g. residential, commercial, etc.);

f. Number of existing and/or proposed bedrooms;

g. Purpose of project (e.g. new dwelling, new structure, guesthouse, an addition, etc.)

h. Specific scope of work;

i. Proposed landscaping plan, including irrigation details;

j. Legal basis of parcel (map and lot number);

k. Vicinity map, scale, north arrow;

l. Property lines and lot dimensions;

m. Topographical lines and elevation points (pad, floor, top leach line, etc.);

n. Percent slope and direction of fall;

o. Proposed OWTS design detail;

p. Proposed grading with 5:1 setbacks shown along with any impacts to the site and/or adjacent property (include energy dissipaters for pad drainage);

q. All known, recorded easements on or within 20 feet of lot boundaries (open-space, utility, road, etc.);

r. Identified source of potable water;

s. Location of all public waterlines on or within 20 feet of property;

t. Location of all wells within 300 feet of proposed OWTS;

u. Any soils testing information, such as type of soil, depth to saturated soils, deep borings and/or percolation tests, plotted on the design.

The approval for the layout and percolation test result is valid for one year. The soils testing data does not expire and will be valid in the use of the system design unless site conditions change. If a site review reveals any evidence of groundwater changes (including, but not limited to plant growth, ponding water, new information on adjacent lots, or OWTS failures in the area) additional groundwater test borings may be required. County P&B staff will specify the depth and the locations of the additional test borings in consultation with a qualified professional.

## 2. GROUNDWATER VERIFICATION

If groundwater in the borings or direct observation of the highest extent of soil mottling in the soil profile is observed and/or County P&B has reason to believe that groundwater could rise to an unacceptable level which would not meet the minimum separation requirements during a normal rainfall season, a permit will not be issued, and monitoring may be required. Monitoring must be conducted during an average annual rainfall year.

The qualified professional must support their express conclusion that the highest anticipated groundwater elevation will not encroach upon the minimum separation from

the bottom of the proposed OWTS. The supporting data shall include, but not be limited to, data on the site's topography, soils, geology, basin studies, hydrogeologic studies, precipitation, and groundwater monitoring data from the onsite and offsite observation wells through an average annual rainfall year.

## 3. PRIMARY AND RESERVE AREA REQUIREMENTS

In addition to primary system design criteria, all OWTS design proposals for both new construction and additions to an existing structure must show 100% reserve area for the active OWTS. Any existing parcels previously permitted with a reserve area smaller than the current standards must meet current design standards.

## 4. LOCATION ON PARCEL

OWTS shall be located on the same property as the building(s) being served. An exception may be granted by County P&B where the OWTS may be located on an adjoining property within a non-revocable easement. Nothing contained in this LAMP shall be construed to prohibit the use of all or part of an abutting lot to provide additional space for a private sewage dispersal system or part thereof where proper cause, transfer of ownership, or change of boundary not in violation of other requirements has been first established to the satisfaction of the Department. The instrument recording such action shall constitute an agreement with the County, which shall clearly state and show that the areas so joined or used shall be maintained as a unit during the time they are so used. Such agreement shall be recorded in the office of the County Recorder as part of the conditions of ownership of said properties and shall be binding on heirs, successors, and assigns to such properties. A copy of the instrument recording such proceedings shall be filed with the Department.

## 5. SEPTIC TANKS

All conventional OWTS require the use of a septic tank to allow for the removal of solids in the wastewater prior to being discharged to the dispersal field. NOWTS also require a septic tank unless a settling chamber is a component of the treatment unit. Specific information on the design criteria for septic tanks is included in Section 5.

## 6. DISPERSAL SYSTEMS

Dispersal systems for conventional OWTS can consist of leach lines or leach beds. Dispersal systems for NOWTS may also include gravel packed seepage pits, shallow pressurized distribution, and subsurface drip dispersal systems. These elements are further detailed in Sections 6 and 7.

## 7. SETBACKS

Setbacks in layout designs refer to the required spacing in distance from components of the OWTS and to structures, property lines, easements, watercourses, wells, or grading. County P&B will inspect the site during construction of the system to verify that all setbacks are achieved. Discrepancies between approved plans and field conditions will result in

construction permit suspension until all issues are resolved. Specific setback requirements will vary based on the type of system design and site conditions and are specified in Table 5, County of San Luis Obispo OWTS Setbacks.

**Table 5: County of San Luis Obispo OWTS Setbacks**

| ***System Component*** | ***Setback*** | ***Minimum Distance*** |
|---|---|---|
| **Septic Tank** | Structure | 5 feet |
| | Property Line | 5 feet |
| | Public or Private Water Well | 100 feet |
| | Leach Lines | 5 feet |
| | Reservoir, Pond or Lake | 200 feet from spillway elevation |
| | Flowing Stream/Creek or springs | 100 feet from top of bank |
| | Private Utility Trenches | 5 feet |
| | Seepage Pits | 10 feet |
| **Leach Lines** | Structure | 8 feet |
| | Property Line | 5 feet |
| | Private Water Well | 100 feet |
| | Public Water Well | 150 feet [1] |
| | Leach Lines | 3 feet between trench walls |
| | Seepage Pits | 15 feet |
| | Water Mains (Public) | 25 feet or 10 feet from edge of easement |
| | Drainage Course and subsurface drains | 50 feet from top of bank or edge of subsurface drain |
| | Flowing Stream/Creek or springs | 100 feet from top of bank |
| | Reservoir, Pond or Lake | 200 feet from spillway elevation |
| | Surface Water Supply | 200 to 400 feet from high-water line [2] |
| | Aqueduct | 5:1 setback to pipeline [3] |
| | Road Easements | 10 feet from edge of ultimate easement width [4] |
| | Descending Slopes or ocean side bluffs. | 25 feet from top of slope [5] |
| | Private Utility Trenches | 8 feet [6] |

** See Notes next page*

**Table 5: County of San Luis Obispo OWTS Setbacks *(Continued)***

| *System Component* | *Setback* | *Minimum Distance* |
|---|---|---|
| **Gravel Packed Seepage Pits** | Structure | 10 feet |
| | Property Line | 10 feet |
| | Private Water Well | 150 feet |
| | Public Water Well | 200 feet |
| | Other Seepage Pits | 20 feet from edge of excavation |
| | Water Mains (Public) | 25 feet or 10 feet from edge of easement |
| | Drainage Course and subsurface drains | 50 feet from top of bank or edge of drain |
| | Flowing Stream/Creek or springs | 100 feet from edge of flow line or top of bank |
| | Pond or Lake | 200 feet from spillway elevation |
| | Water Supply Reservoir | 200 to 400 feet from high-water line [2] |
| | Aqueduct | 5:1 setback to pipeline [3] |
| | Road Easements | 10 feet from edge of ultimate easement width [4] |
| | Cut Slopes | 50 feet from top of slope [5] |
| | Private Utility Trenches | 10 feet [6] |

*Notes:*

1. *The minimum setback required to a public water well is 150 feet and increases to 200 feet where the depth of the dispersal system exceeds 10 feet. The minimum setback may be increased if site conditions show the minimum setback is insufficient to protect groundwater supplies.*
2. *Where the dispersal system is within 1,200 feet of surface water intake point, the setback shall be 400 feet from the high water mark of the reservoir, lake, or flowing water body. Where the dispersal system is greater than 1,200 feet of the surface water intake point, the setback shall be 200 feet from the high water mark of the reservoir, lake, or flowing water body.*
3. *Maximum setback of 100 feet: A reduction in setback to 50 feet may be considered with engineering to demonstrate no risk of sewage moving laterally to pipeline trench.*
4. *The setback may increase if the 5:1 setback to a road cut is greater than the minimum setback.*
5. *This maximum 100-foot setback would also be applied to the top of an eroded bank or natural slope in excess of 60%. A reduction in setback to 50 feet may be considered with engineering to demonstrate no risk of sewage surfacing on the face of the bank or slope.*
6. *For trenches less than 2 feet in depth, a 5:1 setback based on the trench depth can be used. Setbacks may be reduced at the discretion of the utility company.*

## 8. DETERMINING NUMBER OF BEDROOMS

a. Once the living room, dining room, family room, kitchen, bathrooms, and utility rooms have been established, all other rooms shall be considered as potential sleeping rooms. Dens, libraries, studies, weight rooms, sewing rooms, workshops, etc., shall be determined as bedrooms if they do not conform to the criteria listed below.

b. All other habitable rooms totaling at least seventy (70) square feet in size are to be considered bedrooms suitable for sleeping purposes, regardless of whether or not they contain closets or have access to a bathroom.

c. Rooms that open to a living room, dining room, family room, kitchen, or entry way, and have a single, un-obstructive opening (no doors) with a minimum 50% opening of the total wall space (minimum 6 feet wide) with archways or other acceptable means shall not be considered as bedrooms, due to the lack of personal privacy presented by the opening.

d. Rooms that can only be accessed through another bedroom are to be considered part of that bedroom, such as a master suite, and not an additional bedroom.

e. In the case of an ambiguous situation, where it is not clear as to whether or not a room is a bedroom, the plans may be re-reviewed on a case-by-case basis by County P&B.

f. Any cases that will require the relocation or modification of doorways are to be reviewed and approved by County P&B to address any structural considerations such as load-bearing walls. This is to be done prior to approval or sign-off of the design plan by County P&B.

## 9. PRELIMINARY RECOMMENDATIONS FOR TRACT MAPS

Preliminary recommendations for each lot of a tract map shall include, but not be limited to, the following:

a. Design rate in minutes per inch (mpi) converted to square feet per 100 gallons of septic tank capacity for leach lines for both the primary and expansion systems.

b. Location of the systems – If possible, the septic tank should be located in the front yard. This accommodates servicing and facilitates an eventual connection to sewer if it becomes available.

c. Depth of systems – Recommendations should correspond to the depth of tests. Maximum depth of dispersal systems should be stated. Effective sidewall of seepage pit must correspond to testing depths.

d. Special designs, if necessary – Examples include additional separation of gravel packed seepage pits, pressure distribution systems or lines, amount of rock

below the line in excess of required code, chamber type, non-conventional pump systems, etc.

e. A statement detailing whether there will be sufficient usable space available on every lot (in addition to the areas set aside for the primary and expansion systems) for the installation of swimming pools or other large structures.

f. Tracts proposing the use of community wastewater systems shall be limited to a maximum of 20 dwellings per system, and each system must treat less than 10,000 gpd. County P&B are not authorized to permit systems discharging more than 10,000 gpd.

g. Tracts intending to utilize a community OWTS shall design the system for full capacity based on the total number of bedrooms, plus an additional 20% capacity to account for any future additions or modifications proposed by owners within the tract. Community OWTS must meet all LAMP requirements.

h. Community OWTS leach systems must be built out to 200% leach system capacity at initial construction, with a 100% reserve area set aside.

## 10. DECLARATIONS REQUIRED FOR OWTS REPORTS

County approval of a tract or parcel map, even after a preliminary review by County P&B, is no guarantee that an OWTS permit can be issued for an individual lot. Suitability for OWTS use on a lot can only be determined by a full OWTS Report produced by investigation of that lot.

The following declarations shall be incorporated into the conclusion section of the OWTS Report:

a. "Based on the data presented in this report and using the recommendations set forth, it is the judgment of this professional that there is sufficient area on each lot to support a primary and expansion OWTS that will meet the current standards of the County of San Luis Obispo and the California OWTS Policy."

b. "The designed system shall be located in natural undisturbed soil at the depth of the tests performed."

c. "The naturally occurring body of minerals and organic matter at the proposed wastewater disposal area contains earthen materials having more than 50% of its volume composed of particles smaller than 0.08 inches (2 mm) in size."

d. "Based on the data presented in this report and the testing information accumulated, it is the judgment of this professional that the groundwater table will not encroach within the current allowable limits set forth in Section 3 of this LAMP."

    i. When no groundwater is detected in the 20-foot boring, declaration *d* can be made with a reasonable amount of certainty. However, when groundwater is present in the borehole it is necessary to demonstrate with additional facts

and findings why this water level will not fluctuate to the point of encroachment. Failure to explore the possibility that detected groundwater could interfere with the OWTS may violate the provisions of this LAMP and would not be in keeping with good engineering practices.

# SECTION 3. GROUNDWATER SEPARATION REQUIREMENTS FOR OWTS

This Section is to be used for determining groundwater levels when siting and designing OWTS with the following purposes:

- Protect groundwater quality by ensuring proper treatment of sewage effluent prior to its percolation to groundwater
- Protect public health from failing OWTS caused by high groundwater
- Provide a methodology for the evaluation of potential building sites using OWTS, particularly maintenance of minimum groundwater separation requirements with the use of an OWTS
- Prevent failures that may result in sewage effluent backup into homes and surfacing on the ground

County P&B requires increasing separation distance for soils with fast percolation rates. Table 6 summarizes groundwater separation requirements for OWTS components based on soil percolation rates. This table represents the minimum groundwater separation requirements, and the OWTS may be required to demonstrate compliance with additional criteria (see Section 2.D).

**Table 6: County of San Luis Obispo OWTS Groundwater Separation Requirements**

| Soil Percolation Rate (mpi) | Conventional OWTS | Non-conventional OWTS with supplemental treatment |
|---|---|---|
| 1-4 mpi | 20 feet | 10 feet |
| 5-29 mpi | 8 feet | 4 feet |
| 30-120 mpi | 5 feet | 2 feet |

Groundwater typically fluctuates seasonally depending on local geology and rainfall amounts. In certain areas dependent on imported water and OWTS, County P&B has observed rising groundwater levels. Groundwater levels fall in response to drought and well extraction and may rise in response to rainfall. In some cases, increased irrigation, agricultural development, and residential development have also impacted groundwater levels. County P&B has observed fluctuations in groundwater elevations from a few inches to greater than twenty feet. Major fluctuations have been observed in areas such as Santa Margarita and Garden Farms.

County P&B requires a minimum 5-foot separation be maintained between the bottom of a conventional OWTS disposal system and the highest anticipated groundwater level. For NOWTS, the required separation can be reduced to no less than two feet. This reduction is allowed due to the level of pretreatment provided by the supplemental treatment associated with NOWTS. NOWTS with less than 5 feet of separation to groundwater shall

utilize disinfection components that are NSF/ANSI 46 certified to achieve an effluent fecal coliform bacteria concentration less than or equal to 200MPN/100ml. NSF/ANSI 46 certified bacteria removal methods include but are not limited to; Chlorine Dioxide (with an maximum contaminant level (MCL) of 1 ppm), Ozone, and UV Treatment.

If groundwater has been documented to rise to a level that would violate these requirements, a permit for an OWTS or NOWTS will not be issued.

## A. PROCEDURE FOR GROUNDWATER DETERMINATION FOR DISCRETIONARY PROJECTS

Subdivisions, parcel maps, and significant lot line adjustments may require County P&B to certify that each lot can support an OWTS that will not violate the LAMP. To meet this requirement, test borings and/or piezometers for monitoring groundwater in conformance with this policy shall be installed. Maps showing the location of the borings and their logs shall be submitted to County P&B. The project engineer, geologist, or environmental health specialist (i.e., qualified professional) must determine the actual and potential high groundwater levels in the area of the proposed OWTS at the time of submittal for review by County P&B and County Environmental Health.

The qualified professional must provide support for their expressed conclusion that it is unlikely that surfacing effluent will develop as a result of the OWTS and that high historic groundwater elevation will not encroach upon the minimum separation required between the bottom of the proposed OWTS and the highest anticipated groundwater level.

Transient high groundwater conditions (spikes) must be documented thoroughly if encountered. A written discussion by the qualified professional must be submitted to County P&B along with groundwater monitoring log(s) for review and concurrence. The discovery of groundwater spikes on a lot will be evaluated on a case-by-case basis.

County P&B and/or the Central Coast Water Board may require a comprehensive hydro-geologic study. This study shall include, but not be limited to, data such as rainfall, total imported water use, projected water use, surface drainage, geologic formations, depth of water table, and other relevant data as determined by the registered professional.

## B. EXISTING LOT OWTS GROUNDWATER BORINGS

If this site review reveals any evidence of groundwater changes (including, but not limited to, plant growth, ponding water, or OWTS failures in the area) additional groundwater test borings may be required. County P&B staff will specify the inclusion of a supplemental treatment system or the depth and the locations of the additional test borings in consultation with the qualified professional in charge of the project.

When groundwater is observed in the borings (20 feet below ground surface or shallower) and County P&B has reason to believe that groundwater could rise to an unacceptable level during the course of an average rainfall season, ongoing monitoring or installation of a supplemental treatment system may be required. Semi-annual monitoring must determine

that groundwater will not rise to an elevation that will encroach into the minimum separation required from the bottom of the proposed OWTS.

When groundwater is not observed in the boring but there is evidence of past elevated groundwater levels, such as documentation of groundwater rise on adjacent properties, additional monitoring may be required.

## 1. DEPTH OF TESTING

a. Borings shall be made to a depth of 20 feet or the depth of refusal.

b. Conditions that may require testing deeper than 20 feet:

   i. Shallow consolidated rock or impervious soil layers
   ii. Slopes exceeding 25%
   iii. Other factors as might be determined by sound geotechnical engineering practices

c. If the boring is dry, no known history of rising groundwater exists, and there is no evidence of groundwater changes (including, but not limited to, plant growth, ponding water, or OWTS failures in the area) the project may proceed through the permitting process.

d. The qualified professional conducting the groundwater study must provide support for their express conclusion that seeps or springs are unlikely to develop as a result of the OWTS and the anticipated high groundwater elevation will not encroach upon the minimum separation required to the bottom of the proposed OWTS. The supporting data shall include, but not be limited to, data on the site's topography, soils, geology, basin studies, hydrogeologic studies, and groundwater-monitoring data from the on-site observation wells through an average rainfall year.

## 2. TESTING PROCEDURES FOR GROUNDWATER

a. Test borings in the area of an OWTS shall extend to a minimum of 20 feet unless refusal is reached. If refusal is reached, refusal may constitute the effective depth to groundwater or require additional test boring locations as determined by County P&B or the project's qualified professional. Deeper depths may be required depending on site-specific conditions as determined by County P&B or the project's qualified professional. Site-specific conditions may include, but not be limited to the following: the proposed depth of the system, local geology, soil types encountered, elevation and terrain, onsite features, evidence and/or knowledge of historic ground water levels in the area, and the anticipated fluctuation of the groundwater table in times of normal to above normal annual rainfall.

b. Test borings in the area of a vertical seepage pit or leach bed system shall extend to at least 10 feet deeper than the bottom of the proposed pit(s).

c. Since groundwater does not always immediately flow into a test boring, County P&B requires a minimum of 24 hours to pass before an accurate groundwater measurement is taken. The qualified professional and/or the property owner maintains full responsibility for protecting the public from any hazards related to the test borings.

d. Test borings that encounter groundwater within 20 feet of ground surface shall be converted to observation wells so the groundwater conditions can be monitored over time.

e. If the qualified professional does not wish to convert the test borings into observation wells, they can cover the test boring, place safeguards around the borings to prevent unauthorized access, and make an appointment for County P&B staff to observe the boring at least 24 hours after the boring has been completed.

f. During periods of below normal average rainfall, the absence of groundwater in test borings in areas where groundwater is suspect may not mean that approval to issue an OWTS permit can be granted. It may be necessary for County P&B and the qualified professional to monitor the test borings for a longer period of time to determine where groundwater will rise to during normal to above normal rainfall.

# SECTION 4. PERCOLATION TEST PROCEDURE

This Section establishes clear direction and methodology for percolation testing in San Luis Obispo County. The objectives of percolation testing are to determine the area necessary to properly treat and maintain sewage underground, to size the OWTS with adequate infiltration surface area based on an expected hydraulic conductivity of the soil and the rate of loading, and to provide for a system intended to allow for a long-term expectation of satisfactory performance. The maximum loading rates shall be determined from the stabilized percolation rate as provided in Table 7, or from soil texture and structure determination as provided in Table 8 at the end of this Section.

All percolation testing for dispersal systems except vertical seepage pits in San Luis Obispo County shall be conducted using the procedures outlined in this section. The test shall be performed by or under the direct supervision of a California registered professional engineer, geologist, or environmental health specialist (i.e., a qualified professional).

Any deviation shall be authorized only after receiving written approval by County P&B. Subsequent sections of this LAMP provide additional testing requirements for horizontal and vertical seepage pits and subsurface drip systems.

# A. TEST HOLE SPECIFICATIONS

## 1. NUMBER OF TEST HOLES

a. A minimum of four test holes is required.

b. Additional test holes may be necessary on a site-specific basis for reasons that include, but are not limited to:

   i. Unacceptable or failed tests
   ii. Areas of the disposal field requiring defined limits for exclusion
   iii. Original testing was located more than 100 feet from where proposed OWTS will be located
   iv. Soil conditions are variable or inconsistent

## 2. SOIL CLASSIFICATION

a. All test holes and deep borings shall have soil types described according to the United States Department of Agriculture (USDA) Soils Classification System.

b. All borings are to be reported, including any which encountered groundwater or refusal. Comments about consolidation and friable characteristics are encouraged.

## 3. LOCATION AND IDENTIFICATION OF TEST HOLES

Test holes shall be representative of the dispersal area demonstrating site conditions throughout the entire sewage disposal system with equal consideration of primary and reserve leach fields.

a. Test holes shall be identified with:

   i. A test hole number or letter
   ii. The depth of the test boring
   iii. Lot/parcel number or letter if associated with a subdivision or lot line adjustment

## 4. DRILLING OF BORINGS FOR TEST HOLES

a. Diameter of each test hole shall be a minimum of 6 inches.

b. If backhoe excavation is used, a test hole at 12–14 inches in depth shall be excavated into the bottom of the trench.

## 5. PREPARATION OF TEST HOLES

a. The sides and bottom of the holes shall be scarified to remove the areas that became smeared by the auger or other tool used to develop the hole.

b. All loose material shall be removed from the hole.

### 6. TEST HOLE PRESOAKING PROCEDURE

a. Carefully fill the test hole with 12-14 inches of clear water.

b. Maintain 12-14 inches of clear water for a minimum of four (4) hours. After four hours, allow the water column to drop overnight (testing must be done within 15-30 hours after the initial four-hour presoak).

c. Overnight Option: If clay soils are present, it is recommended to maintain the 12-14 inches of water overnight. A siphon can be used to maintain the supply at a constant level.

d. In highly permeable sandy soils with no clay and/or silt, the presoak procedure may be modified. If, after filling the hole twice with 12-14 inches of clear water, the water seeps completely away in less than 30 minutes, proceed immediately to Case 2, Item c (see Section 4.B) and refill to 6 inches above the pea gravel. If the test is done the following day, a presoak will be necessary for at least an hour in order to reestablish a wetted boundary.

### 7. SATURATION AND SWELLING

a. Saturation means that the void spaces between soil particles are full of water. This can be accomplished in a short period of time.

b. Swelling is caused by the intrusion of water into the individual soil particles that are full of water. This is a slow process, especially in clay-type soil and is the reason for requiring a prolonged soaking.

### 8. USE OF INSERTS

a. If the sidewalls are not stable or sloughing results in changing depth, the test hole may be abandoned or retested after means are taken to shore up the sides. The holes shall be re-cleaned prior to resuming the test.

b. Options for shoring or maintaining test hole stability:

   i. Hardware cloth (1/8$^{th}$ inch grid)
   ii. Perforated pipe or containers
   iii. Gravel pack (Note: A correction factor is necessary if a gravel pack is used. Show all calculations on the test report. See Section 4.D.)

## B. DETERMINATION OF PERCOLATION RATES

Depending on the soil type and permeability, in addition to the results of the presoak, variations in the procedures used for determining percolation rates can be allowed. Testing shall proceed based on the conditions outlined in the following cases.

**Case 1** – Water remains overnight in the test hole following the four-hour presoak (unless an overnight siphon is used.)

**Case 2** – Soil with a fast percolation rate is encountered where two columns of 12-14 inches of water percolates in less than 30 minutes for each column during the presoak.

**Case 3** – No water remains in the test hole 15-30 hours after the four-hour presoak.

## 1. CASE 1 PROCEDURE

a. Adjust depth of water to 6 inches in the hole.

b. Take two (2) readings at 30-minute intervals and report percolation rate as the slower of the two readings.

## 2. CASE 2 PROCEDURE

a. Begin test 15-30 hours after presoak.

b. Fill the hole twice with 12-14 inches of water. Observe to see if each column of water seeps away in less than 30 minutes. lf so, proceed with the percolation test. If not, go to Case 3.

c. Refill hole to 6 inches above the bottom.

d. Measure from a fixed reference point at ten-minute (10) intervals over a period of one (1) hour to the nearest 1/4 inch. Add water at each 10-minute time interval.

e. Continue 10-minute readings as long as necessary to obtain a "stabilized" rate with the last 2 rate readings not varying more than 1/4 inch or for a duration of four (4) hours. The last water level drop will be considered in the percolation rate.

## 3. CASE 3 PROCEDURE

a. Begin test 15-30 hours after presoak.

b. Clean out the silt and mud and add 2 inches of 3/8$^{th}$-inch pea gravel.

c. Adjust water depth to 6-inches above the pea gravel buffer and measure from a fixed reference point at 30-minute intervals to the nearest 1/4 inch. NOTE: It is not necessary to record data points for the first hour as this is an adjustment period and a reestablishment of a wetted boundary.

d. Refill the hole as necessary between readings to maintain a 6-inch column of water over the pea gravel. If a fall of 1-inch or less is recorded, the test can continue without refilling until the next 30-minute reading interval.

e. Continue recording readings at 30-minute intervals for a minimum of four hours.

f. The last water level drop is used to calculate the percolation rate.

# C. CALCULATIONS AND MEASUREMENTS

## 1. CALCULATION EXAMPLE

The percolation rate is reported in minutes per inch (mpi). For example, a 30-minute time interval with a 3/4-inch fall would be as follows:

*30 minutes ÷ 3/4 inch = 40 mpi*

## 2. MEASUREMENT PRINCIPLES

a. The time intervals for readings are to reflect the actual times and are to be maintained as near as possible to the intervals outlined for the test (10 or 30 minutes).

b. Measurements to the nearest 1/4 inch should be adjusted to the slowest rate.

c. Measurements on an engineering scale (tenths of an inch) should follow the same principle. For example, a reading observed between 0.4 inch and 0.3 inch (75 mpi and 100 mpi) would be reported as 100 mpi.

d. The qualified professional shall use the average of percolation rates from all test holes for the leach system design.

## 3. MEASUREMENTS, SPECIAL CONDITIONS

a. Measurement from a fixed reference point shall be from a platform that is stable and represents the center of the test hole.

b. Use of a percometer is encouraged and required when the depth of a test hole is greater than 60 inches in depth. Accurate measurement is vital and in cases of testing deeper than 60 inches, the report shall include a description of the measurement method and how the borings were cleaned out and prepared for testing.

c. Correction Factors: A methodology for applying a volume adjustment factor for gravel-packed percolation test holes is presented in Section 4.D of this LAMP.

## 4. REPORTS

a. All test data and required information shall be submitted with appended data or information as needed. A minimum of two copies is required.

b. Reports shall be signed with an original signature by the consultant who either performed or supervised the testing.

c. The County of San Luis Obispo Code Title 19 requires all percolation testing to be done by a civil engineer, geologist, or environmental health specialist, registered in the State of California.

d. The percolation test is only one critical factor in siting an OWTS. Site considerations may require special evaluation by a qualified professional to

technically address issues such as high groundwater, steep slope, nitrate impacts, and/or cumulative impacts (including mounding and horizontal transmissibility).

e. Qualified professionals who employ technicians are responsible for the work performed by the technician. It is incumbent upon the qualified professional to properly train, equip, and supervise anyone performing work under his or her direction and license.

# D. ADJUSTMENT FACTOR FOR GRAVEL PACKED PERCOLATION TEST HOLES

### Calculations

- X-Section Area of Test Hole, $A_H = .25\ \pi\ D_{H2}$
- X-Section Area of Pipe, $A_P = .25\ \pi\ D_{P2}$
- X-Section Area of Gravel Pack, $A_G = A_H - A_P$
- Drainable Voids in Gravel Pack = n ($A_G$) †
- Total Voids = $A_P + n\ (A_G) = A_P + n\ (A_H - A_P)$
- Adjustment Factor, AF:

$$A_P + n\ (A_H - A_P)$$

$$AF = \frac{(.25\pi\ D_{H2})}{.25\pi D_{P2} + n\ (.25\pi\ D_{H2} - .25\pi D_{P2})}$$

$$AF = \frac{D_{H2}}{D_{P2} + n\ (D_{H2} - D_{P2})}$$

### Application

Adjusted Percolation Rate = mpi x AF

† Typical values for n=35

| Pipe Diameter | Hole Diameter | Adjustment Factor |
|---|---|---|
| 4″ | 6″ | 1.57 |
| 4″ | 8″ | 1.95 |
| 4″ | 10″ | 2.20 |
| 4″ | 12″ | 2.37 |

## Table 7: Standards and Requirements for OWTS in Soils with Poor Percolation Rates

**Design Soil Application Rates** *(Source: USEPA Onsite Wastewater Treatment Systems Manual, February 2002)*

| **Soil Texture** *(per the USDA soil classification system)* | **Soil Structure Shape** | **Grade** | **Maximum Soil Application Rate** (gallons per day per square foot) [1] |
|---|---|---|---|
| Coarse Sand, Sand, Loamy Coarse Sand, Loamy Sand | Single grain | Structureless | 0.8 |
| Fine Sand, Very Fine Sand, Loamy Fine Sand, Loamy Very Fine Sand | Single grain | Structureless | 0.4 |
| Coarse Sandy Loam, Sandy Loam | Massive | Structureless | 0.2 |
| | Platy | Weak | 0.2 |
| | | Moderate, Strong | Prohibited |
| | Prismatic, Blocky, Granular | Weak | 0.4 |
| | | Moderate, Strong | 0.6 |
| Fine Sandy Loam, Very fine Sandy Loam | Massive | Structureless | 0.2 |
| | Platy | Weak, Moderate, Strong | Prohibited |
| | Prismatic, Blocky, Granular | Weak | 0.2 |
| | | Moderate, Strong | 0.4 |
| Loam | Massive | Structureless | 0.2 |
| | Platy | Weak, Moderate, Strong | Prohibited |
| | Prismatic, Blocky, Granular | Weak | 0.4 |
| | | Moderate, Strong | 0.6 |
| Silt Loam | Massive | Structureless | Prohibited |
| | Platy | Weak, Moderate, Strong | Prohibited |
| | Prismatic, Blocky, Granular | Weak | 0.4 |
| | | Moderate, Strong | 0.6 |
| Sandy Clay Loam, Clay Loam, Silty Clay Loam | Massive | Structureless | Prohibited |
| | Platy | Weak, Moderate, Strong | Prohibited |
| | Prismatic, Blocky, Granular | Weak | 0.2 |
| | | Moderate, Strong | 0.4 |
| Sandy Clay, Clay, or Silty Clay | Massive | Structureless | Prohibited |
| | Platy | Weak, Moderate, Strong | Prohibited |
| | Prismatic, Blocky, Granular | Weak | Prohibited |
| | | Moderate, Strong | 0.2 |

*Notes:*

*1. Soils listed as prohibited may be allowed under the authority of the Central Coast Water Board, or may be*

*allowed under the approved LAMP.*

**Table 8: Application Rates as Determined from Stabilized Percolation Rates per OWTS Policy**

| **Percolation Rate** *(minutes/inch)* | **Application Rate** *(gallons/day/ft$^2$)* |
|---|---|
| 1 | 1.2 |
| 2 | 1.2 |
| 3 | 1.2 |
| 4 | 1.2 |
| 5 | 1.2 |
| 6 | 0.8 |
| 7 | 0.8 |
| 8 | 0.8 |
| 9 | 0.8 |
| 10 | 0.8 |
| 11 | 0.786 |
| 12 | 0.771 |
| 13 | 0.757 |
| 14 | 0.743 |
| 15 | 0.729 |
| 16 | 0.714 |
| 17 | 0.7 |
| 18 | 0.686 |
| 19 | 0.671 |
| 20 | 0.657 |
| 21 | 0.643 |
| 22 | 0.629 |
| 23 | 0.614 |
| 24 | 0.6 |
| 25 | 0.589 |
| 26 | 0.578 |
| 27 | 0.567 |
| 28 | 0.556 |
| 29 | 0.545 |
| 30 | 0.533 |

| **Percolation Rate** *(minutes/inch)* | **Application Rate** *(gallons/day/ft$^2$)* |
|---|---|
| 31 | 0.522 |
| 32 | 0.511 |
| 33 | 0.5 |
| 34 | 0.489 |
| 35 | 0.478 |
| 36 | 0.467 |
| 37 | 0.456 |
| 38 | 0.445 |
| 39 | 0.434 |
| 40 | 0.422 |
| 41 | 0.411 |
| 42 | 0.4 |
| 43 | 0.389 |
| 44 | 0.378 |
| 45 | 0.367 |
| 46 | 0.356 |
| 47 | 0.345 |
| 48 | 0.334 |
| 49 | 0.323 |
| 50 | 0.311 |
| 51 | 0.3 |
| 52 | 0.289 |
| 53 | 0.278 |
| 54 | 0.267 |
| 55 | 0.256 |
| 56 | 0.245 |
| 57 | 0.234 |
| 58 | 0.223 |
| 59 | 0.212 |
| 60 | 0.2 |

| **Percolation Rate** *(minutes/inch)* | **Application Rate** *(gallons/day/ft$^2$)* |
|---|---|
| 61 | 0.197 |
| 62 | 0.194 |
| 63 | 0.19 |
| 64 | 0.187 |
| 65 | 0.184 |
| 66 | 0.18 |
| 67 | 0.177 |
| 68 | 0.174 |
| 69 | 0.17 |
| 70 | 0.167 |
| 71 | 0.164 |
| 72 | 0.16 |
| 73 | 0.157 |
| 74 | 0.154 |
| 75 | 0.15 |
| 76 | 0.147 |
| 77 | 0.144 |
| 78 | 0.14 |
| 79 | 0.137 |
| 80 | 0.133 |
| 81 | 0.13 |
| 82 | 0.127 |
| 83 | 0.123 |
| 84 | 0.12 |
| 85 | 0.117 |
| 86 | 0.113 |
| 87 | 0.11 |
| 88 | 0.107 |
| 89 | 0.103 |
| 90-120 | 0.1 |

# SECTION 5. SEPTIC TANK SPECIFICATIONS

## A. MINIMUM DESIGN SPECIFICATIONS AND REQUIREMENTS FOR SEPTIC TANKS

a. All conventional OWTS require the use of a septic tank to allow for the removal of solids in the wastewater prior to discharge to the dispersal field. NOWTS also require a septic tank unless a settling chamber is a component of the treatment unit.

b. Septic tanks must be certified by the International Association of Plumbing and Mechanical Officials (IAPMO).

c. The construction standards and sizing criteria for septic and treatment tanks (tanks) must meet or exceed standards contained in the state regulations.

d. The tank shall be watertight and possess two chambers.

e. Septic tanks shall be certified by the manufacturer to allow for burial without being water-filled to allow for routine maintenance or to be used as a holding tank as needed.

f. Septic tanks shall be installed per the manufacturer's instructions.

g. The bottom of the excavation for the tank shall extend into native or compacted soils to eliminate potential settling issues.

h. The septic tank location must take into account maintenance and pumping requirements (including vehicle access) and distance and elevation lift to a pumper truck.

i. All tanks must have an open sanitary tee on the inlet to prevent mixing of tank contents. Inlet tees must extend at least 12 inches below the liquid level.

j. Outlet tees must be uncapped and must extend at least 12 inches below the liquid level.

k. The outlet elevation shall be between 2 and 6 inches lower than the inlet elevation to ensure proper fall without a significant loss of volume.

l. Fall between the outlet of the septic tank and the dispersal field shall be continuous with a minimum fall that ensures the outlet pipe is 4 inches higher than the top of the first siphon in a serial system or 4 inches above the top of the leach rock or other components used in the dispersal system on a level system.

m. Septic tanks must have risers to within 6 inches of finished grade. Risers and lids that are at or above grade must be watertight and lockable or require tools to be opened.

n. Septic tank risers must have a current IAPMO certification. Concrete risers and lids must be constructed of Type V concrete or be protected from corrosion from sewer gases. The interior diameter of the riser shall be a minimum of eighteen (18) inches.

o. Effluent filters are required and shall be ANSI or NSF approved.

p. Septic tanks installed in areas of vehicular traffic must be certified to withstand the proposed loads or have an engineered traffic slab installed to accommodate the proposed loads.

q. Minimum tank size is 750 gallons.

r. Septic tanks shall be sized according to anticipated wastewater peak daily flows from the structure(s). The following minimum standard sizes shall apply:

- 1-bedroom single family dwelling (250 gpd) 750 gallons
- 2-bedroom single family dwelling (300 gpd) 750 gallons
- 3-bedroom single family dwelling (375 gpd) 1,000 gallons
- 4-bedroom single family dwelling (450 gpd) 1,200 gallons
- 5-bedroom single family dwelling (525 gpd) 1,500 gallons
- 6-bedroom single family dwelling (600 gpd) 1,500 gallons

s. Flows greater than 900 GPD must incorporate a tank design with capacity of two times the daily design flow rate.

t. Whenever a septic tank is pumped for service, the pumper shall completely inspect the entire OWTS and complete a County of San Luis Obispo Septic Tank Inspection Report. One copy of the report shall be given to the homeowner, one copy will be kept by the pumper, and one copy shall be sent to County P&B within 30 days.

u. Applicants requesting the use of components not IAPMO-certified may request alternative materials and methods review by County P&B.

# SECTION 6. DISPERSAL SYSTEMS

Leach lines systems are the primary means of effluent dispersal for the majority of OWTS within San Luis Obispo County. This Section establishes procedures for the design and construction of leach line, leach bed, and pressure distribution dispersal systems.

## A. PERCOLATION TEST AND DESIGN PROCEDURES

Percolation testing shall be performed in accordance with the County P&B percolation test procedures found in Section 4 of this LAMP. Deep borings, backhoe excavations, and percolation tests are used to demonstrate that a dispersal site is located in an area of uniform soil, and that no conditions exist which could adversely affect the performance of a system or result in groundwater degradation.

a. Leach systems are limited to soils with percolation rates of 120 mpi or faster. Percolation rates slower than 120 mpi are unsuitable for the installation of an OWTS dispersal system.

b. At least four percolation test holes at each leach field location should be provided to represent soil types at the depth of the proposed leach lines.

c. At least one deep boring should extend to a depth of at least 20 feet or to impermeable material but in no case shall there be less than 5 foot of unsaturated, permeable soil below the bottom of the leach line trench. For areas of suspected high groundwater, deep borings are recommended to be 20-25 feet to help determine gradients during varying rainfall periods. See Section 3 for more information on groundwater separation requirements.

d. Backhoe excavations may be required to demonstrate uniformity of soil throughout the leach field area(s).

e. Leach dispersal systems are limited to slopes of less than 30% unless the requirements in Section 6.G. of this LAMP are met.

## B. DISPERSAL SYSTEM SIZING

Dispersal sizing required by the LAMP Policy uses the maximum application rate determined from stabilized percolation rates provided in table 8, or from soil textures and structures determined in the OWTS Policy. The minimum design flow rate for a single family dwelling is listed below, with 75 gpd added for each additional bedroom. See Section 2.E.8 for determining number of bedrooms. This LAMP utilizes the OWTS Formula and actual system testing to insure an appropriate disposal system sizing for the local soil conditions.

- 1-bedroom single family dwelling is 250 gpd
- 2-bedroom single family dwelling is 300 gpd
- 3-bedroom single family dwelling is 375 gpd
- 4-bedroom single family dwelling is 450 gpd
- 5-bedroom single family dwelling is 525 gpd
- 6-bedroom single family dwelling is 600 gpd

The OWTS Formula is as follows:

$$A = \frac{G}{R}$$

Where:

A = Square feet of 3-foot wide trench dispersal area

G= Gallons per day

R = Application Rate

Dispersal systems utilizing leachlines shall be designed using not more than 4 square-feet of infiltrative area per linear foot of trench as the infiltrative surface, and with trench width no wider than 3 feet.

Dispersal systems may be voluntarily oversized, which should be clearly noted on the plans and is limited to 3 feet of filter material below the perforated pipe.

## C. SOIL COVER REQUIREMENTS

a. The maximum soil cover allowed over the top of the infiltrative surface is 48 inches, measured from the top of the leach rock/chamber/etc. to the ground surface.

b. The minimum cover required over the top of the infiltrative surface is 12 inches.

c. Soil cover requirements must also conform to those allowed by the manufacturer of any gravel-less/chamber design.

## D. SOIL REPLACEMENT

Where site soils have insufficient depth to satisfy the minimum depth requirements or have a poor absorption rate, engineered soil with similar composition as loamy sand (certified by a California Registered Professional Soil/Geotechnical Engineer) may be added to the existing native soil so that the site conditions meet or exceed the specific depth and absorption rate requirements.

a. The engineered soil shall be re-composed and re-graded uniformly to provide homogenized absorption capability, equivalent to loamy sand soil category.

b. The qualified professional shall prove through sieve analysis and other quantifying tests that the desirable composition and compaction has been achieved.

c. The compaction characteristics of the engineered soil shall correspond as close as possible to the native soil of the surrounding area. Adequate number of percolation tests shall be conducted in the area where engineered soil has been provided to confirm that the percolation rates are in correlation with loamy sand soil category.

d. Engineered soil shall compensate for the lack of in-place soil at a ratio of 1.5 to 1; so that a 1-foot deficiency in the soil column depth would require 1.5 feet of engineered soil material. In no case shall engineered soil compensate for more than 2 feet of the minimum native soil depth requirements.

e. Percolation testing shall be done in those areas where engineered soil has been provided to ensure that new soil meets or exceeds the absorption rate requirements. The results of the percolation tests conducted in the area shall affirm uniformity in soil composition and compaction.

f. Soil replacement shall not compromise the protection of the groundwater; a minimum of 5 feet of separation to groundwater from the lowest point of the dispersal system and a minimum of 2 feet for NOWTS with Supplemental treatment shall be maintained for new construction and replacement systems.

g. A pressurized distribution system is required where soil replacement with engineered soil is used in order to comply with the minimum soil depth and/or the absorption rate requirements. Pressurized distribution is a type of dispersal system that employs a pump and distribution piping with small diameter perforation drip emitters that are installed at a depth of 6 inches below grade as recommended by the manufacturer to distribute effluent into soil with uniform distribution.

## E. DIMENSIONS

a. Leach lines are to be installed according to the qualified professional's specifications for location, length, width, and depth.

b. When more than one leach line is required to be installed, they shall be equal in length and size and be provided effluent from a distribution box rather than an overflow pipe connecting the leach lines in series.

c. Leach lines are to be spaced at least 3 feet apart, measured sidewall to sidewall.

d. Leach lines shall be installed with a width of 36 inches unless a variance is granted by the County of San Luis Obispo per the provisions of this LAMP.

e. A 100% reserve area shall be required for all leach line systems.

f. The maximum length of leach lines shall not exceed 100 feet.

g. The minimum dispersal field shall be 100 linear feet of 3-foot-wide leach trench.

h. Leach beds consist of multiple perforated lines installed in an excavation. Leach beds shall be a minimum of 48 inches in width, maximum of 100 linear feet in length, and contain a minimum of 12 inches of gravel beneath a system of perforated distribution pipes.

i. Leach bed perforated pipes shall neither be installed greater than 6 feet apart nor closer than 3 feet to the sidewall of the leach bed.

j. The infiltrative area designated as a leach bed shall be at least 50% greater than the infiltrative area required for leach lines.

k. A 100% reserve area shall be required for all leach bed systems.

l. Infiltrative area for chambers shall follow manufacturer specifications.

m. Alternative leach trench configurations may be approved by County P&B, based on a review of site-specific conditions and information provided by the qualified professional.

## F. DISPERSAL SYSTEM MATERIALS AND CONSTRUCTION CONSIDERATIONS

a. All piping and materials used in leach line systems, including gravel-less/chamber systems, must have IAPMO approval or meet California Plumbing Code standards, and must be approved by County P&B prior to installation.

b. Chambers shall be backfilled with gravel to a minimum of 3 inches above the chamber. Filter fabric shall be placed over the gravel prior to backfill with soil.

c. Leach lines that utilize gravel shall be filled with clean, washed leach line rock to a point at least 4 inches above the top of a 4-inch perforated pipe and shall have a minimum of 12 inches of gravel below the pipe. The rock shall be graded at 3/4 to 1 ½ inches in size and shall be covered with a geotextile fabric prior to backfill to prevent the infiltration of soil into the rock.

d. Where multiple leach lines are proposed on sloping ground, a distribution box must be used to connect the leach lines.

e. Dispersal systems may not be placed under impermeable surfaces. Dispersal systems that are later covered by impermeable surfaces may not be considered as viable for purposes of determining primary and reserve area requirements.

f. Leach line trenches shall be installed with the trench bottom and materials used being level to within 2 inches per 100 feet.

## G. PRESSURE DISTRIBUTION

For cost considerations and simplicity, the preferred method of wastewater dispersal is by gravity flow. However, when site conditions preclude the use of this method, effluent may be distributed to a dispersal field under pressure. Pressurized distribution means a type of dispersal system that employs a pump and distribution piping with small diameter perforation (1/4 inch or less) or drip emitters that are installed at a depth of 6 inches below grade and a minimum of 6 inches apart or as recommended by the manufacturer to distribute effluent into soil with uniform distribution.

a. Pressure distribution systems must be designed by a qualified professional.

b. The pump chamber or tank shall meet industry-accepted standards, have a capacity equal to six hours of peak flow or 250 gallons, whichever is greater.

c. The system shall be equipped with an audible and visible high water alarm.

d. At a minimum, all pump systems shall provide for storage in the pump chamber during a 24-hour duration power outage or pump failure without allowing an emergency overflow discharge.

## H. DRIP DISPERSAL SYSTEMS

The construction requirements for pressurized drip dispersal systems shall be as follows.

a. The system must be installed by a licensed, qualified service provider certified to install the proposed system and must be installed according to the qualified professional's specifications for location, components, size, and depth.

b. The natural soil cover over a drip dispersal system shall be at least 6 inches but no greater than 12 inches.

c. The area of the drip dispersal system shall be planted with appropriate vegetation to allow for uptake of nutrients from the wastewater.

d. The drip dispersal system shall be designed and maintained to reduce orifice clogging and root intrusion.

e. The drip dispersal system shall be designed, located, and maintained to prevent vehicular traffic over it.

f. The setbacks required between drip dispersal systems and other components of the OWTS as well as structures, property lines, easements, watercourses, wells, or grading shall be the same as required for leachlines. See the setback requirements in Table 5 of this LAMP for the complete list of setbacks.

g. The maximum slope allowed for the installation of a drip dispersal system shall be 30%, or on slopes between 30-40% with a Slope Stability Report.

h. Drip dispersal systems are pressure distribution systems, and head loss calculations shall be provided to ensure proper hydraulic pressure at the emitter.

i. Drip dispersal system emitter lines shall be designed as a continuous loop circuit with no dead-ends.

j. Vacuum release valves shall be installed at the highpoint of the emitter lines.

k. The maximum emitter longitudinal spacing on an emitter line shall be 2 feet. The maximum spacing between adjacent emitter lines in an absorption bed configuration shall be 2 feet.

l. Drip dispersal systems shall be time-dosed over a 24-hour period. Demand control dosing shall override timed dosing in periods of flow where timed dosing cannot accommodate the excessive flow.

m. Drip dispersal systems shall be designed to have a minimum operating pressure at the emitter head of 10 pounds per square inch (psi), a maximum operating pressure of 45 psi, a maximum system operation pressure of 60 psi, and a maximum discharge rate per emitter of 1.5 gallons per hour.

n. All drip dispersal systems shall incorporate an automatic mechanism for backwashing or flushing the drip lines and filters.

o. Drip dispersal systems shall be flushed once every three months for the first year or until vegetation is established, whichever occurs first. Flushing shall occur every six months thereafter.

# I. LEACH LINES ON STEEP SLOPES

The following requirements must be met for the installation of leach line trenches on slopes exceeding 30% without necessitating the grading of terraces. The design parameters are applicable only to slopes exceeding 30% and are not intended to be used in any other situation.

a. The maximum slope allowed for leach line trenches is 40%. Any leach line system designed on slopes between 30-40% shall require a Slope Stability Report.

b. All leach lines on steep slopes shall be installed deep enough to achieve a minimum of 15 feet to daylight to the slope edge. A minimum 4½-foot-deep trench is required on a 30% slope with 36 inches of leach rock below the leach pipe or with approved chambers.

c. The design of disposal systems on steep slopes requires the experience and expertise to address conditions relative to soil, slope stability, and subsurface conditions which require professional judgment and technical knowledge. Designs for steep slope systems will only be approved when submitted by a qualified professional.

d. Testing must provide data representative of the entire disposal area and demonstrate that conditions are uniform below the entire disposal area. The minimum testing required is:

   i. Six percolation tests at a depth equal to the proposed trench depth
   ii. Two percolation tests 5 feet below the proposed trench depth
   iii. Percolation testing must show rates of 120 mpi or less
   iv. At least two soil profile borings demonstrating uniform conditions throughout the disposal area to a depth of 10 feet below the proposed trench depth

e. Design reports must include the following:

   i. Cross section(s) hillside soil profile(s)
   ii. Detailed boring logs of all test holes and borings
   iii. Scaled layouts and profiled designs based on accurate topography
   iv. Any grading proposed on the site in the disposal area
   v. A slope stability report or statement from a qualified professional

f. Any grading, proposed to create a stable work area for trench installation, may be subject to review for conflict by County P&B.

# SECTION 7. GRAVEL PACKED SEEPAGE PIT SYSTEMS

Gravel packed seepage pits are a type of dispersal system allowed in limited areas of San Luis Obispo County with specific requirements on their use. Gravel packed seepage pits are seepage pits that are filled with gravel of ¾ to 2½ inches in size up to the cap level. This section provides the requirements to allow for the use of gravel packed seepage pits as well as the procedures for their design and construction.

## A. LOCATIONS ALLOWED

### 1. CREATION OF NEW LOTS

Gravel packed seepage pits will not be used to create new lots or parcels.

### 2. EXISTING LOTS

Any lot previously approved for the use of a gravel packed seepage pit(s) must meet all current requirements found in this LAMP to receive approval to construct an OWTS.

Gravel packed seepage pits on existing lots will not be approved unless:

a. Seepage pit systems are equipped with a supplemental treatment system per the requirements of Section 8 in this LAMP.

b. Gravel packed seepage pits are located in an area of sedimentary soils. Vertical seepage pits will not be approved for use in areas with interior granitic formations or in serpentine, Franciscan formations. The presence of fractured rock aquifers makes the use of vertical seepage pits in these areas potentially deleterious to water quality.

c. Groundwater is known to be more than 10 feet below the bottom of the gravel packed seepage pit.

d. Gravel packed seepage pits will not be approved when the site meets the requirements for other dispersal system types described in this manual.

e. Gravel packed seepage pits may be used only to service single-family residences and accessory structures and are not permitted for commercial, industrial, or agricultural buildings.

## B. PERCOLATION TEST PROCEDURES

All gravel packed seepage pits proposed for new construction require percolation testing by a qualified professional certified to perform percolation tests in San Luis Obispo County. A waiver of testing can be considered where adequate information exists as to soil types,

depth, and permeability. Percolation testing for gravel packed seepage pits shall be completed per the following guidelines:

a. The hole diameter shall be between 6 and 8 inches. The test depth shall be equal to the depth of the proposed dry well, plus sufficient depth to prove proper setback to groundwater and impervious material.

b. Carefully fill the hole with clear water to a maximum depth of 4 feet below the surface of the ground, or if cuts are anticipated, to the depth of the assumed inlet.

c. All holes shall be presoaked for 24 hours unless the site consists of sandy soils containing little or no clay. In sandy soils where the water on two consecutive readings seeps away faster than half the wetted depth in 25 minutes or less, refill the hole with water, and presoak for an additional two hours. After the two-hour presoak, the test may then begin. The test shall be run for the duration of one hour with measurements taken every ten minutes. Refill to original depth after each reading.

d. For all other soils, the percolation rate measurement shall be made on the day following pre-soak as described above. After 24 hours have elapsed, refill the hole to the proposed inlet depth. The fall of water should be measured every half hour over a five-hour period. Refill the hole after each half-hour reading. During the last or the sixth hour, do not refill the hole after the half-hour reading. Be sure to check the total hole depth every half hour as well to see if any caving has occurred.

e. Readings shall be in minutes per inch (mpi) as they are for leach lines.

f. Gravel packed seepage pits shall not be permitted when percolation rates are slower than 60 mpi or faster than 5 mpi.

g. Each seepage pit must meet these minimum criteria to be acceptable. The qualified professional may include safety factors as they feel the situation warrants.

h. It shall be the responsibility of the qualified professional to maintain all test holes or pits in a safe manner prior to backfill or capping to prevent a hazard or accident.

## C. DIMENSIONS AND CONSTRUCTION REQUIREMENTS

a. Supplemental treatment systems that achieve effluent nitrate concentrations consistent with Section 8 of this LAMP will be required prior to discharge to a gravel packed seepage pit.

b. Gravel packed seepage pits shall be installed according to the qualified professional's specifications for location, depth, and cap depth.

c. Seepage pit header pipe inlets, risers, and collars must be watertight.

d. The pit excavation shall be a minimum of three feet in diameter but no larger than four feet in diameter.

e. The depth of the gravel packed seepage pit must be at a minimum of fifteen (15) feet, and a maximum of thirty-five (35) feet below the ground surface.

f. A minimum distance equal to twenty (20) feet of undisturbed soil will separate two or more gravel packed seepage pits from each other.

g. The minimum depth to the top of the infiltrative surface allowed is two feet. This depth is also known as the cap depth. There is no maximum cap depth, but documentation must be provided to justify any cap depth greater than five feet.

h. The maximum slope allowed for the use of gravel packed seepage pits is 40%. Slopes that exceed 30% will require additional engineering and design detail as required to address the risk of effluent surfacing on the slope recognizable as sewage as well as slope stability issues. Slopes that exceed 30% will, in most cases, require a terrace design or grading to allow for drilling access. Grading shall be completed in accordance with permit requirements for vegetation removal, clearing, and grading from all pertinent agencies.

i. All gravel packed seepage pits must be filled with clean-washed rock to the concrete collar. The rock shall be graded at a minimum 3.0 inches in diameter in any dimension or with other drain rock as approved by County P&B. Rock shall be covered with a geotextile fabric prior to backfill to prevent the infiltration of soil into the rock.

j. A 4-inch Schedule 40 pipe shall be installed from the ground surface to the bottom of each vertical seepage pit for inspection, clean-out, pumping, and verification of the total pit depth. The pipe shall have perforations from the cap depth to the bottom of the pit and be of solid construction from the cap depth to the ground surface. A screw fit cap must be placed on top of the riser to allow access.

k. A system with multiple gravel packed seepage pits must be designed so each pit within the system receives equal quantities of sewage flow via distribution boxes.

# SECTION 8. NON-CONVENTIONAL ONSITE WASTEWATER TREATMENT SYSTEMS

OWTS with supplemental treatment, also known as non-conventional OWTS (NOWTS), are systems that include some type of advanced treatment in addition to the primary treatment that occurs in a septic tank used with a conventional OWTS. NOWTS may also incorporate alternative methods of wastewater effluent disposal such as a pressurized

dosing system, a mound system, a pressurized subsurface drip dispersal system, or other technologies meeting compliance. NOWTS are used to overcome specific site constraints, such as high groundwater or shallow soils, and to provide additional treatment. Examples of NOWTS components include aerobic treatment units, sand or textile filters, and mound systems.

Design plans for proposed NOWTS will be reviewed by both County P&B and County Environmental Health staff to verify that all components are acceptable and that the design will function as intended. Due to the complexity of these systems, County P&B requires owners to provide evidence of ongoing maintenance contracts and to obtain an operating permit. County P&B will maintain a dedicated Registered Environmental Health Specialist (REHS) or equivalent staff position with OWTS expertise to review design plans and conduct field inspections of NOWTS.

This Section provides the procedures for the design, construction, operation, and maintenance of NOWTS within San Luis Obispo County.

## A. DESIGN CRITERIA

a. Systems must be NSF/ANSI 245 certified for nitrogen reduction, or equivalency determined through demonstration testing unless they are installed solely for bacteriological reduction. Systems that are only required to treat for bacteria must be NSF/ANSI 46 certified.

b. For new residential systems, or systems generating only domestic wastewater in Moderate or Severe Impact areas, NOWTS shall achieve an effluent concentration of ≤10 mg/l Total Nitrogen and/or a 50% reduction in nitrogen mg/l, and ≤30 mg/L Total Suspended Solids (TSS) and Biological Oxygen Demand (BOD).

c. For NOWTS generating non-residential domestic wastewater, shall have their performance be evaluated by conducting influent and effluent testing quarterly for the first year of operation and annually thereafter, or as approved in the system design.

d. For all NOWTS not in Severe or Moderate Impact Areas, the STS components, other than that of disinfection, shall produce effluent concentration levels that meet or surpass the following requirements:

   - BOD – ≤30 mg/L or CBOD5 – ≤25 mg/L
   - TSS – ≤30 mg/L
   - Total Nitrogen – ≤25 mg-N/L
   - pH – 6.0 to 9.0 SU

e. Treated effluent from all NOWTS shall be discharged to a subsurface dispersal system consisting of gravity or pressure distribution leach lines, gravel packed seepage pits, leach beds, or pressurized drip dispersal systems.

f. System sizing for dispersal systems that utilize leach lines, gravel packed seepage pits, and leach beds may be the same as those used for conventional OWTS.

g. Pressurized drip dispersal systems shall be designed and installed per the manufacturer's recommendations and the guidelines in the following sections. Calculations to size the drip dispersal system shall be performed by a qualified professional and use the application rates found in Table 8.

h. A minimum 2-foot separation between the bottom of the dispersal system and the highest anticipated level to which groundwater could be expected to rise is required for NOWTS.

i. A minimum of 2 feet of permeable soil must exist below the bottom of the NOWTS dispersal system.

j. All NOWTS systems in which pumps are used to move effluent shall be equipped with a visual and audible alarm. Telemetric alarm systems that alert the owner and service provider in the event of pump failure or system fault are recommended. At a minimum, all pump systems shall provide for storage in the pump chamber during a 24-hour duration power outage or pump failure without allowing an emergency overflow discharge.

k. Septic tanks, pump chambers, or other related components of a NOWTS, including risers, shall undergo a water tightness test at the site of the installation. Anti-floatation devices shall be utilized as needed.

l. The NOWTS shall include a petcock on the dosing pump discharge line or other suitable location as agreed upon by County P&B for effluent sampling.

m. All components of the NOWTS shall be certified in writing by the qualified professional who designed the NOWTS that the installation was completed per the approved design.

## B. OPERATING PERMITS REQUIRED FOR NOWTS

a. NOWTS require an operating permit issued by County P&B. The operating permit shall be required prior to the final inspection of the system.

b. All NOWTS requiring operating permits shall be operated, maintained, and monitored pursuant to the requirements of this Section and the conditions of the operating permit.

c. A report containing all the information specified in the operating permit shall be submitted to County P&B annually.

d. County P&B may suspend or revoke an operating permit for failure to comply with any requirement of the permit. If a permit is suspended or revoked,

operation of the NOWTS shall cease until the suspension or revocation is lifted or a new permit issued.

e. Upon change of ownership, the new owner shall be notified of the conditions of the operating permit and shall update ownership records of the operating permit within 60 days.

## C. RECORDED AGREEMENT FOR NOWTS

Prior to final inspection of a NOWTS an Operations and Maintenance Agreement with County P&B shall be recorded with the County of San Luis Obispo Clerk Recorder's office. The Agreement shall be recorded to inform future owners, heirs, executors, administrators, or successors that the subject property is served by NOWTS. The Agreement shall include provisions for current and future owners to maintain a current annual operating permit, and comply with all established monitoring, reporting, inspection, and maintenance requirements of that operating permit.

## D. OPERATION AND MAINTENANCE MANUAL REQUIRED FOR NOWTS

The owner of a property on which a new NOWTS is installed shall have an Operation and Maintenance Manual for the system prepared by a qualified professional. The Operation and Maintenance Manual shall include the following minimum elements:

a. Name, address, telephone number, business name, and professional license information of the NOWTS designer;

b. Name, address, telephone number, business name, and professional license information of the NOWTS installer;

c. Instructions for the proper operation and maintenance of the system and a protocol for assessing the performance of the NOWTS;

d. A copy of the as-built plans for the NOWTS and an inspection report by the qualified professional that the system complies with all applicable regulations;

e. The design flow and performance requirements for the NOWTS;

f. A list of substances that could inhibit system performance if discharged into the OWTS, including any biocide and;

g. A list of substances that could cause a condition of pollution or nuisance if discharged to the NOWTS, including but not limited to pharmaceutical drugs and water softener regeneration brines;

h. Name, address, telephone number, and business name, of the qualified service provider; the qualified service provider shall be responsible for the following:

   i. Provide evidence of ongoing maintenance contracts
   ii. Assessing the NOWTS to determine operational status

iii. Performing routine activities required to keep the system operational
iv. Responding to emergencies in a timely manner
v. Collecting and recording information regarding operational status of treatment components and recommending timely maintenance, replacement, or pumping of various components as required
vi. Monitoring system performance through collection and analysis of effluent samples when appropriate
vii. Reporting system operational status/or system performance to the property owner and County P&B
viii. Serving as an informational resource for the property owner

i. All NOWTS require, at a minimum, biannual inspections by the qualified service provider to ensure proper operation and maintenance of the system. Copies of the inspection results shall be provided to County P&B within 30 days of the inspection being completed. The report shall include the following information: verification that all manufacturer's maintenance requirements have been completed, the results of all inspections, and results from any analysis of the wastewater from the inspection ports for TSS, BOD, and Total Nitrogen. The report shall include a concluding statement that the system is functioning properly, and if not, what elements require repair or replacement and when repairs will be completed.

# SECTION 9. OWTS REQUIRING CORRECTIVE ACTION

Consistent with the criteria outlined in Tier 0 of the OWTS Policy, systems that are functioning properly will not be affected by this LAMP for as long for as they continue to function properly. Regular inspection and maintenance are necessary to ensure that an OWTS continues to operate satisfactorily and to maximize the life of the system. Regular system maintenance including pumping of tanks or replacement/upgrade of tanks does not change the system Tier classification. However, existing permitted OWTS dispersal systems that show signs of failure or have failed shall be designated Tier 4 systems and shall meet the requirements outlined in this section.

All OWTS have the potential to fail due to age, misuse, or improper design and the failure may result in surfacing effluent, wastewater being discharged to the ground surface, or wastewater backing up into plumbing fixtures. These failures will require immediate corrective action to mitigate any risk to public health or contamination of the environment. This Section details the corrective actions required in the event an OWTS fails and enforcement actions that will commence if the corrective action is not completed within acceptable time frames.

## A. CORRECTIVE ACTION REQUIREMENTS

a. County Environmental Health, County Code Enforcement, or County P&B will complete an investigation within 24 hours of reported failure to determine the validity of the complaint or other notification of a potentially failing OWTS.

b. County P&B will maintain a dedicated Registered Environmental Health Specialist (REHS) or equivalent staff position with OWTS expertise to review design plans and conduct field inspections of OWTS.

c. Any OWTS that is found to be failing shall have a Notice of Violation (NOV) issued to the property owner requiring action to eliminate the immediate health hazard through pumping of the septic tank by a licensed septage hauler or elimination of wastewater flows to the failing OWTS. The NOV will also require a repair to be completed to the OWTS, with a permit, as needed within a reasonable time frame.

d. The proposed repair shall be evaluated by County P&B to ensure it meets the minimum design requirements of this LAMP or is in substantial conformance to the greatest extent practicable.

e. Groundwater separation requirements to the bottom of the dispersal system and the highest anticipated groundwater level for repairs shall be as required in Table 6 of this LAMP. A replacement system that meets the requirements of this LAMP shall be installed in instances when the OWTS has failed and was previously permitted or considered legal non-conforming.

f. If site conditions preclude the installation of a new dispersal field that meets the adopted standards, supplemental treatment may be required to provide treatment equivalent to the adopted standard. Less than 2-foot groundwater separation is not allowed under administration of this LAMP and must be presented to the Central Coast Water Board for approval or disapproval of wastewater discharge.

g. County P&B may allow exceptions to the supplemental treatment requirement for repair of previously approved gravel packed seepage pits, except in Severe and Moderate Impact areas, when the following circumstances apply:

   i. Vertical separation to anticipated groundwater is increased by 50% over the minimum stated in this LAMP
   ii. The non-conforming repair is additionally reviewed and approved by County Environmental Health

h. All repairs shall be completed under permit and inspection by County P&B.

i. Failure to complete the required corrective action within the time frames given will result in additional enforcement action which may include condemnation of the structure for immediate health hazards.

j. When the owner of the system being repaired declares a financial hardship and records a declaration on the property deed stating that the OWTS has been repaired in a non-conforming manner, this serves as acknowledgement that the installation of a conforming NOWTS will be required at the time of property transfer.

## B. NATURAL DISASTER RELATED REBUILDS

Existing structures and OWTS may be impacted by disasters or declared emergencies. In the event that a structure become uninhabitable due to a State or Federally declared emergency or disaster, the following provisions shall apply for re-construction or repair.

### 1. REBUILD WITH ADDITIONAL SQUARE FOOTAGE, BEDROOMS OR FIXTURE UNITS

If the existing OWTS is functioning, and the owner wants to build or repair a structure with an increased number of plumbing fixture units or bedroom equivalents, a full certification by a qualified professional will be required. A full certification consists of:

a. Soils Report (applicants may use an existing soils report for the property, if available)

b. Pumpers Report verifying:

   i. Condition of existing OWTS
   ii. Location and type of dispersal system

If the existing OWTS is undersized for the proposed structure, a new OWTS will be required. County P&B will need to review and approve the size, design, and location of the new OWTS prior to installation. The new system will need to conform to current standards.

### 2. REBUILDS WITH NO MODIFICATIONS

If there are no changes to the original dwelling ("like-for-like", meaning no additional bedrooms or plumbing fixtures), and there are records and/or permits available for the existing OWTS, applicants shall provide a Septic Pumper's Report to verify OWTS condition/functionality.

The existing OWTS will be evaluated by County P&B for conformance to code (at the time the OWTS was installed) and operation.

### 3. REBUILDS WITH NO RECORDS

If there are no records or permits of the existing OWTS, County P&B will need additional information to properly evaluate and approve repair or use of the existing system. Applicants will need to provide:

a. Soils Report (an existing soils report for the property is acceptable, if available)

b. Septic Pumper's Report verifying:

   i. Condition of existing OWTS
   ii. Location and type of dispersal system
   iii. Record of buildings being replaced and connecting to existing OWTS

## C. IF THE EXISTING OWTS DOES NOT MEET MINIMUM CODE STANDARDS, A NEW OR UPGRADED OWTS MAY BE REQUIRED. REQUESTS FOR VARIANCES WILL BE EVALUATED ON A CASE-BY-CASE BASIS BY THE REHS AT THE COUNTY P&B. THE COUNTY P&B WILL MAINTAIN THE NUMBER, LOCATION, AND DESCRIPTION OF PERMITS ISSUED FOR OWTS WHERE A VARIANCE WAS GRANTED. OWTS ABANDONMENT STANDARDS

Out-of-service OWTS must be properly abandoned to minimize health and safety hazards. County P&B requires the following actions be completed to properly abandon an OWTS.

a. The septic tank shall be pumped to remove all contents

b. The septic tank may be removed entirely, or abandoned in place

c. Tanks to be abandoned in place shall have the top removed. The tank shall subsequently be filled with inert materials such as clean soil, sand, or slurry.

d. Seepage pits shall be abandoned by excavating to depth of 2 feet below grade and cutting the center pipe. The center pipe and excavation shall be backfilled with clean soil or sand.

e. Leach lines composed of gravel and pipe may be abandoned in place or removed.

## D. OWTS IN DEGRADED BASINS

If the Central Coast Water Board identifies a groundwater basin, sub-basin, or degraded surface water in the County where the use of OWTS is causing or contributing to exceedances of nitrate or pathogen maximum contaminant levels (MCLs), the County of San Luis Obispo will develop an Advanced Groundwater Management Program (AGMP) in consultation with and approved by the Central Coast Water Board. The AGMP will require supplemental treatment for new or replacement OWTS; mandatory, routine inspections and maintenance; connection to public sewers; shallow groundwater monitoring; or other appropriate actions. Amendments to the approved LAMP, including modifications to area specific requirements in Section 2, may be necessary in order to implement the AGMP.

Supplemental treatment standards will be equivalent to Tier 3 requirements to the greatest extent practicable. The requirements for existing systems will be equivalent to Tier 4 of the Policy. The County will require conformance with current standards, including supplemental treatment standards, to the greatest extent practicable or as specified in the AGMP. Variances will not be allowed for the requirements stated in sections 9.4.1 through 9.4.9 of the State OWTS Policy.

## E. ADVANCED PROTECTION MANAGEMENT PLAN

The OWTS Policy stipulates that existing, new, and replacement OWTS that are located near a water body that has been listed as impaired due to nitrogen or pathogens pursuant to Section 303(d) of the Clean Water Act may be addressed by a Total Maximum Daily Load (TMDL) and its implementation program, by special provisions contained in a Local Agency Management Program, or by the specific requirements of Tier 3. If a water body in the County is designated by the Central Coast Water Board as impaired or significantly degraded as a result of the use of OWTS, the County will develop an Advanced Protection Management Program (APMP) in accordance with the established TMDL. In the absence of an approved TMDL, the APMP will be developed in close consultation with the Central Coast Water Board and may include but not be limited to requirements for supplemental treatment for existing systems and mandatory, routine inspections as determined by the Central Coast Water Board in order to be consistent with the OWTS Policy. In the absence of a TMDL or an APMP approved by the Central Coast Water Board, the provisions of Tier 3 of the OWTS Policy shall apply to OWTS adjacent to water body segments listed in Attachment 2 of the OWTS Policy.

# SECTION 10. OWTS USE LIMITATIONS

County P&B's oversight of OWTS is limited to those systems as defined in this LAMP. Limitations exist for the use of OWTS related to the volume and type of wastewater flows that will be generated, types of systems, availability of public sewer, and setbacks to public water supplies.

The following elements are not authorized by County P&B and any such system or deviations can only be approved by the Central Coast Water Board:

a. Cesspools of any kind or size

b. Hollow seepage pits

c. OWTS receiving a projected flow over 10,000 gallons per day

d. OWTS that utilize any form of effluent disposal that discharges on or above the post-installation ground surface such as sprinklers, exposed drip lines, free-surface wetlands, or a pond

e. Slopes greater than 30% without a slope stability report approved by a registered professional

f. Decreased leaching area for IAPMO-certified chamber dispersal systems using a multiplier less than 0.70

g. OWTS utilizing supplemental treatment without requirements for periodic monitoring or inspections

h. OWTS dedicated to receiving significant amounts of wastes from Recreational Vehicle (RV) holding tanks; discharge of RV waste is not allowed in an OWTS

i. OWTS that accept high-strength wastewater from commercial buildings are not authorized under this LAMP unless it is demonstrated that wastewater does not exceed 900 mg/L BOD and that there are properly sized and functioning traps or interceptors that comply with the most recent California Plumbing Code standards

j. Separation of the bottom of dispersal system to groundwater less than 5 feet for conventional OWTS or 2 feet for NOWTS (except for gravel packed seepage pits, which shall not be less than 10 feet)

k. Installation of new or replacement OWTS where public sewer is available; public sewer availability is defined as follows:

    i. The property on which the structure is located abuts a public sewer
    ii. The property is within the boundaries of the sewer district or annexation has been approved by the sewer district
    iii. No easements are required to access the sewer line

A waiver of the connection to sewer may be considered where such sewer is located more than 200 feet from the building or plumbing stub out, the connection fees and construction costs are greater than twice the total cost of the OWTS, and an OWTS can be installed that will meet the minimum requirements of this LAMP and not affect groundwater or surface water to a degree that makes it unfit for drinking or other uses.

l. Except as provided for below, new or replacement OWTS with minimum horizontal setbacks less than any of the following:

   i. 150 feet from a public water well where the depth of the effluent dispersal system does not exceed 10 feet in depth
   ii. 200 feet from a public water well where the depth of the effluent dispersal system exceeds 10 feet in depth
   iii. Where the effluent dispersal system is within 600 feet of a public water well and exceeds 20 feet in depth, the horizontal setback required to achieve a two-year travel time for microbiological contaminants shall be evaluated by a qualified professional. In no case shall the setback be less than 200 feet.
   iv. Where the effluent dispersal system is within 1,200 feet of a public water system's surface water intake point, within the catchment of the drainage, and located such that it may impact water quality at the intake point such as upstream of the intake point for flowing water bodies, the dispersal system shall be no less than 400 feet from the high-water mark of the reservoir, lake, or flowing water body.
   v. Where the effluent dispersal system is located more than 1,200 feet but less than 2,500 feet from a public water system's surface water intake point, within the catchment of the drainage, and located such that it may impact water quality at the intake point such as upstream of the intake point for flowing water bodies, the dispersal system shall be no less than 200 feet from the high-water mark of the reservoir, lake, or flowing water body.

m. For replacement OWTS that do not meet the horizontal separation requirements in Item L above, the replacement OWTS shall meet the horizontal separation to the greatest extent practicable. In such case, the replacement OWTS shall utilize supplement treatment and other mitigation measures, unless the permitting authority finds that there is no indication that the previous system is adversely affecting the public water source, and there is limited potential that the replacement system could impact the water source based on topography, soil depth, soil texture, and groundwater separation.

n. For new OWTS, installed on parcels of record existing before May 13, 2013 which is the effective date of the State's OWTS Policy, that cannot meet the horizontal separation requirements in Item L above, the OWTS shall meet the horizontal separation to the greatest extent practicable and shall utilize supplemental

treatment for pathogens as specified in Section 10.8 of the OWTS Policy and any other mitigation measures prescribed by County P&B.

o. Brine from Reverse Osmosis water treatment units is not a permitted discharge to an OWTS.

# SECTION 11. DATA COLLECTION, REPORTING, AND NOTIFICATIONS

As a condition of County P&B oversight of OWTS, County P&B has certain responsibilities related to data collection and reporting to the Central Coast Water Board, as well as to the owners of water systems and the State Water Resources Control Board (SWRCB) in some instances. This Section details the data that must be collected and the procedure for reporting to the Central Coast Water Board and providing notifications to owners of water systems and the SWRCB.

## A. REPORTING TO THE CENTRAL COAST WATER BOARD

County P&B will retain permanent records of permitting actions and will make the records available to the Central Coast Water Board within 10 working days upon written request for review.

On an annual basis, County P&B will collect data and provide a tabular spreadsheet report to the Central Coast Water Board. The following elements will be included in the report:

### 1. PERMITTED OWTS

a. The number and location of complaints pertaining to OWTS operation and maintenance, and identification of those which were investigated and how they were resolved.

b. The applications and registrations issued as part of the local septic tank cleaning registration program pursuant to Section 117400 et seq. of the California Health and Safety Code.

c. The number, location and description of permits issued for new and replacement OWTS and under which Tier the permit was issued. The design flow of the permitted OWTS will also be included. The Tier designations can be found in the State Water Board's OWTS Policy.

d. The number, location, description, and rational of permits issued for OWTS where a variance was granted.

### 2. WATER QUALITY ASSESSMENT PROGRAM

In addition, County P&B must maintain a water quality assessment program to determine the general operation status of OWTS, to evaluate the impact of OWTS discharges and to assess the extent to which groundwater and local surface water quality may be adversely

impacted. The assessment program will include monitoring and analysis of water quality data, review of complaints, failures, and OWTS inspections.

County P&B intends to utilize water quality data from numerous existing data sources throughout the jurisdiction of the LAMP to implement the water quality assessment program. The water quality assessment data may be obtained from the following sources:

a. Random well samples and new well samples taken to establish a well as a "potable source". Water testing guidelines and sampling data are administered by County Environmental Health.

b. Routine water quality samples taken by community water systems

c. Beach and bay water quality testing administered by County Environmental Health

d. Data from private well completion reports, as available from County Environmental Health

e. Aggregate groundwater elevation data as available from County Public Works SGMA program

f. Any other existing sampling data deemed relevant or necessary for the protection of ground or surface water supplies; this may include groundwater or receiving water data collected through County Public Works programs for reporting on TMDL Wasteload Allocations or Salt and Nutrient Management Plans (SNMP)

g. Data from groundwater sampling performed as part of Waste Discharge Requirements (WDR) as made available by the Central Coast Water Board

h. Public system sampling reports done by the local agency or another entity responsible for the public system

i. Data contained in the California Water Quality Assessment Database

j. Groundwater data collected as part of the Groundwater Ambient Monitoring and Assessment Program (GAMA) and available in the Geotracker Database

Currently, well water quality sampling is not required as part of routine real estate transfers in the County. Should a sampling program become established in the future, the resulting data would be incorporated into the County P&B Water Quality Assessment Program.

A summary of the data shall be submitted annually, on or before February 1st of each year. An evaluation of the monitoring program identifying any changes in the LAMP that will be undertaken to address impacts from OWTS and an assessment of whether water quality is being impacted by OWTS shall be submitted every 5 years. The LAMP shall be appropriately amended, and all changes documented in the Amendment Log. The first report will commence one year after approval of the County's LAMP. In addition, any new groundwater monitoring data generated by County P&B shall be submitted in Electronic

Deliverable Format (EDF) for inclusion into Geotracker. Any surface water monitoring data generated by County P&B shall be submitted to California Environmental Data Exchange Network (CEDEN) in a Surface Water Ambient Monitoring Program (SWAMP)-comparable format.

## B. NOTIFICATIONS TO OWNERS OF WATER SYSTEMS AND SWRCB

Existing or proposed OWTS near to public water wells and surface water drinking water supplies have some potential to cause an impact on the water quality from that water source. The owner of that system (or SWRCB, if the owner of the system cannot be identified), will be notified under the following conditions:

a. Prior to issuance of a permit to install a new or replaced OWTS that is within a horizontal sanitary setback to the public well, or within 1,200 feet of an intake point for a surface water treatment plant for drinking water, in the drainage catchment in which the intake point is located, or located such that it may impact water quality at the intake point to allow the water system owner to provide comments to County P&B. Notification will be done electronically or in writing by County P&B with a copy of the permit application that includes:

    i. A topographical plot plan for the parcel showing the OWTS components, property boundaries, proposed structures, physical address, and name of property owner
    ii. The estimated wastewater flows, intended use of proposed structure generating the wastewater, soil data, and estimated depth to seasonally saturated soils
    iii. An advisement that the public water system owner or SWRCB shall have 15 days from receipt of the permit application to provide recommendations and comments to County P&B

b. County P&B shall notify the owner of a public well or water intake and the California Department of Public Health as soon as practicable, but not later than 72 hours, upon discovery of a failing OWTS within the setbacks described in Section 10. Notification will be done electronically or in writing and will include proposed corrective action that will be taken to mitigate the failure.

# SECTION 12. OWTS NEAR IMPAIRED WATER BODIES

## A. IMPAIRED WATERBODIES LISTED IN ATTACHMENT 2

Existing, new, and replacement OWTS that are near impaired water bodies may be addressed by a TMDL and its implementation program, or special provisions contained in a LAMP. If there is no TMDL or special provisions, new or replacement OWTS within 600 feet of impaired water bodies listed in Attachment 2 of the State's OWTS Policy must meet the applicable specific requirements found in Tier 3 of the State's OWTS Policy.

As of April 2018, there are no impaired water bodies in San Luis Obispo County listed in Attachment 2 of the State's OWTS Policy. At such time an impaired water body is added to Attachment 2, County P&B will follow the applicable specific requirements found in Tier 3 of the State's OWTS Policy or develop and obtain approval from the Central Coast Water Board for an APMP.

## B. SALT AND NUTRIENT MANAGEMENT PLANS

County Public Works has developed a Salt and Nutrient Management Plan (SNMP) for the Los Osos Groundwater Basin. The basin area for the SNMP is based on the court-approved adjudicated basin area from the October 15, 2015 Interlocutory Stipulated Judgment. The completed community recycled water project area is located within the adjudicated basin area. The County, along with local water purveyors and basin stakeholders, has been actively managing local water resources through practices such as developing and implementing local monitoring programs, investigating local hydrogeology, determining the basin's water balance, cooperative planning, and ongoing public outreach.

County P&B will coordinate with County Public Works to utilize data collected through the SNMP to support successful implementation of the LAMP.

# SECTION 13. SEPTAGE MANAGEMENT

Septage is partially treated waste from an OWTS. Septage generally consists of the wastes that are disposed through the plumbing system that do not drain out into the soil and are not converted to gases by bacteria within the tank. Over time, septage accumulates to the point where the biologically active clarified area is minimized, and the tank must be pumped. Pumped septage must be removed and disposed of in a manner that protects public health.

Liquid Waste Vehicle Health Permitting is overseen by County Environmental Health. All septic tank waste shall be handled, hauled, and disposed of in accordance with County Code Title 8, this approved LAMP, and all applicable State Laws.

Once removed from the tank by a registered hauler, septage must be transported to a dispersal facility that operates under the permitting authority of the Central Coast Water Board. Within the County of San Luis Obispo, the Paso Robles Wastewater treatment plant accepts septage waste. The primary intake facility for septage generated within the County of San Luis Obispo is the City of Santa Maria Wastewater Treatment Plant, which accepts OWTS and chemical toilet septage. The City of Santa Maria Wastewater Treatment Plant is operated and managed by the City of Santa Maria Utilities Department. The City has verified that they have the capacity to handle anticipated septage volumes into the foreseeable future and intend to continue to provide this service to the community.

Septage haulers are permitted through County Environmental Health and must adhere to the following requirements:

a. Upon completion of an initial hauling vehicle inspection, the County Health inspector will affix a health permit sticker to the vehicle indicating approval to begin use of the vehicle. A paper Health Permit to Operate will be mailed within 2-4 weeks after payment has been made and approval to use the vehicle has been granted by the inspector.

b. All septic pumpers in San Luis Obispo County shall have a current permit with County Environmental Health. Annual Health Permit fees are required for Liquid Waste Collection Vehicles regulated by County Environmental Health. The fee provides one routine inspection and one re-inspection.

c. Whenever a septic tank is pumped, all septage shall be removed from both sides of the tank and transported to a facility approved for the disposal of septage.

d. Septage shall never be released on the surface of the ground, into any sewer manway or cleanout, or into any storm drain.

e. Waste haulers must submit a monthly report of disposal to County Environmental Health per California Health and Safety Code Section §117435.

f. Whenever a septic tank is pumped for service, the pumper shall completely inspect the entire OWTS and complete a County of San Luis Obispo Septic Tank Inspection Report. One copy of the report shall be given to the homeowner, one copy will be kept by the pumper, and one copy shall be sent to County P&B within 30 days.

# SECTION 14. ENFORCEMENT

The County of San Luis Obispo has an established ordinance and procedure related to OWTS code enforcement. Enforcement action initiation is generally used only when all other means to correct a problem or a violation have failed. When there is a threat to public health and safety, enforcement action is implemented immediately. The circumstances or conditions that would result in the building division initiating enforcement are described below.

## A. FAILURE TO OBTAIN A PERMIT

a. The County of San Luis Obispo Ordinance Title 19, Chapter 7 requires that a permit be obtained before an OWTS is constructed, repaired, modified, or abandoned. The ordinance further states that it is unlawful to cover, conceal, or put into use an OWTS or any part thereof without having first obtained an inspection and final approval from County P&B.

b. When County P&B is made aware of or discovers an OWTS being installed, modified, repaired, or abandoned without a permit, and the work is in progress, a Notice of Violation and a Stop Work Notice will be issued to the property owner directing all work cease until the appropriate permit is obtained. All information

required as part of the application as well as the established fee, shall be submitted before work may commence.

c. Section 1.05.030 of Title 1 gives County P&B authority to charge administrative fines for violations of Title 19, Chapter 7. Therefore, if a property owner fails to take remedial action after receiving a second Notice of Violation, the owner may be fined $100.00.

d. The goal of an enforcement action is to correct a violation. The assessment of a fine does not end the matter as abatement of the violation is still required. A continued failure to correct the violation may result in another enforcement action leading to a potential second fine or the initiation of civil action.

e. An OWTS that is installed, modified, repaired, or abandoned without a permit and inspection is illegal. Should the building official have knowledge of a system that was constructed or modified without proper permitting, the property owner shall be required to submit an application and supporting documents (percolation tests, soil evaluation, etc.) to obtain a permit. The owner will also be required to provide evidence that the work met current standards or re-construct the system to satisfy the building official that the system meets all applicable provisions of the ordinance.

f. OWTS installed before 1958 are considered legal non-conforming and may be used so long as they continue to function as intended. Hollow seepage pits and cesspools are excluded from this legal non-conforming designation. These excavations shall be abandoned or repaired under permit immediately upon discovery.

g. For any OWTS repaired or abandoned without a permit, the property owner shall provide evidence to the satisfaction of the building official that the work was completed properly. Such evidence may include a letter from the contractor who performed the work, photographs of the work, bills for materials and supplies, etc.

## B. OWTS FAILURE

A system has failed when wastewater is no longer safely treated or discharged and therefore represents a health risk or a threat to the environment.

a. A failing dispersal system may range from pooling effluent, discharges wastewater to the surface, or has wastewater backed up into plumbing fixtures, because its dispersal system is no longer adequately percolating the wastewater

b. A failing Septic Tank is any OWTS septic tank failure, such as a baffle failure or tank structural integrity failure such that either wastewater is exfiltrating or groundwater is infiltrating.

c. Upon receipt of a complaint of overflowing sewage County P&B will commence enforcement action. If during the subsequent investigation these allegations are confirmed, a Notice of Violation will be issued to the property owner directing him or her to take immediate action to stop the discharge and to repair the system under permit and inspection. Repairs shall be made within 30 days of issuing the Notice unless County P&B and the property owner in question have agreed on temporary septic system pumping.

# SECTION 15. EDUCATION AND OUTREACH

An onsite sewage system is a significant investment for the property owner, and the public can potentially be impacted by failing or poorly designed and installed systems. This is especially so with the increased costs of newer systems that depend on supplemental treatment. There are a lot of myths and mis-information about how to care for and maintain onsite systems. Education and outreach are vital to supporting an informed consumer who is better able to assure proper maintenance to reduce the likelihood of failure.

## A. DIRECT STAFF CONTACT

The primary method of education and outreach is by direct interaction between County P&B and the public. County P&B routinely receives and responds to phone calls and office visits by private property owners, consultants, and contractors with questions about the regulations or the permit process. County P&B regularly answers questions and provides information to consultants, to staff from other departments or agencies, and to decision makers such as members of the Planning Commission and the County Board of Supervisors.

Upon adoption of the approved LAMP, all County P&B staff will have ready access to the document as a reference material for answering questions.

## B. PLANNING & BUILDING WEBPAGE

All OWTS permit application forms and instructions are available on the County Department of Planning & Building webpage. The approved and adopted LAMP will be readily available on the County P&B webpage. Additionally, the County P&B webpage provides general information about proper OWTS maintenance for system owners.

## C. STAKEHOLDER AND COMMUNITY MEETINGS

The County of San Luis Obispo conducts stakeholder or community meetings as outreach efforts for significant or important projects such as the writing/implementation of new regulations. The number and frequency of outreach meetings varies depending on the nature of the project that is being discussed.

In drafting this LAMP, a technical advisory committee (TAC) was formed to meet and discuss specific elements of the State OWTS Policy. 21 stakeholders from across the County were invited to participate in the TAC. The TAC gathered for two meetings in 2016, and additionally, corresponded via email regarding policy changes and implementation.

The prepared Draft Final version of the LAMP was circulated for review and comment in October 2017. Following review of the Draft Final, comments were incorporated into the Proposed Final version which was distributed to stakeholders throughout the County for comment.

County P&B hosted two public meetings to present and discuss the Proposed Final LAMP. As the LAMP has County wide implications, meetings were scheduled with one held in the southern part of the county and the other in the north county.

The Proposed Final version was distributed to stakeholders through the Planning Department Referral process and was also distributed to the Integrated Regional Water Management Program and County Water Resources Advisory Committee.

## D. CONTINUING EDUCATION & PROFESSIONAL DEVELOPMENT

County P&B shall look for opportunities to collaborate with other interest groups such as the California Onsite Wastewater Association (COWA), homeowners' organizations, real estate groups, and the building industry to provide reliable and accurate information about OWTS functioning and proper maintenance.

County P&B has proposed using supplemental treatment as a mitigating measure when seepage pits are used to allow increased OWTS density and for those instances when it is not possible to install a system that meets County of San Luis Obispo standards. While the use of such systems will require operating permits with routine, ongoing inspection and maintenance, owner education on how these systems work and the importance of maintenance will be necessary. County P&B will work with representatives from the industry to develop appropriate education materials that will be provided to the property owner when the operating permit is issued.

# APPENDIX I: GLOSSARY

The following list explains terms and acronyms found throughout this document.

**5:1 Slope-** A 20% slope. It refers to rise over run, in this case one foot of decline over five foot of horizontal distance.

**Accessory Dwelling Unit-** An attached or detached residential dwelling that provides complete independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking, and sanitation. An accessory dwelling is an accessory use to the primary dwelling and shall be located on the same parcel as the primary dwelling.

**Basin Plan (Water Quality Control Plan)-** The Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State within each Region, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives and discharge prohibitions. Basin Plans are adopted and approved by the State Water Board, U.S. EPA, and the Office of Administrative Law where required. Copies are available from the Regional Water Boards, electronically at each Regional Water Boards website, or at the State Water Board's Plans and Policies web page.

**Beneficial Uses-** As defined in the California Water Code, beneficial uses of the waters of the state that may be protected against quality degradation include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

**Cap (Cap depth)-** The depth below the natural ground surface to the top of the horizontal or vertical seepage pit system where the infiltrative sidewall surface begins.

**CEDEN-** The California Environmental Data Exchange Network is a central location to find and share information about California's water bodies, including streams, lakes, rivers, and the coastal ocean.

**Cesspool-** An excavation in the ground receiving domestic wastewater, designed to retain the organic matter and solids, while allowing the liquids to seep into the soil. Cesspools differ from seepage pits because cesspool systems do not have septic tanks and are not authorized under this Policy. The term cesspool does not include pit-privies and out-houses which are not regulated under this Policy.

**Clay-** A soil particle; the term also refers to a type of soil texture. As a soil particle, clay consists of individual rock or mineral particles in soils having diameters <0.002 mm. As a soil texture, clay is the soil material that is comprised of 40% or more clay particles, not more than 45% sand and not more than 40% silt particles using the USDA soil classification system.

**Cut/Slope-** Any slope greater than 60% or man-made contour that exposes the vertical soil profile.

**Dispersal system-** A leach field, seepage pit, mound, subsurface drip field, or other type of system for final wastewater treatment and subsurface discharge.

**Domestic wastewater-** Wastewater with a measured strength less than high-strength wastewater and is the type of wastewater normally discharged from, or similar to, that discharged from plumbing fixtures, appliances and other household devices including, but not limited to toilets, bathtubs, showers, laundry facilities, dishwashing facilities, and garbage disposals. Domestic wastewater may include wastewater from commercial buildings such as office buildings, retail stores, and some restaurants, or from industrial or agricultural facilities where the domestic wastewater is segregated from the industrial or agricultural wastewater. Domestic wastewater may include incidental RV holding tank dumping but does not include wastewater consisting of a significant portion of RV holding tank wastewater such as at RV dump stations. Domestic wastewater does not include wastewater from industrial or agricultural processes.

**Dump station-** A facility intended to receive the discharge of wastewater from a holding tank installed on a recreational vehicle. A dump station does not include a full hook-up sewer connection similar to those used at a recreational vehicle park.

**Domestic well-** A groundwater well that provides water for human consumption and is not regulated by the State Water Resources Control Board Division of Drinking Water.

**Earthen material-** A substance composed of the earth's crust (i.e., soil and rock).

**Effluent-** Sewage, water, or other liquid, partially or completely treated or in its natural state, flowing out of a septic tank, aerobic treatment unit, dispersal system, or other OWTS component.

**Electronic deliverable format (EDF)-** The data standard adopted by the State Water Board for submittal of groundwater quality monitoring data to the State Water Board's internet-accessible database system Geotracker.

**Existing OWTS-** An OWTS that was constructed and operating prior to the effective date of this Policy, and OWTS for which a construction permit has been issued prior to the effective date of the Policy.

**Flowing water body-** A body of running water flowing over the earth in a natural water course, where the movement of the water is readily discernible or if water is not present it is apparent from review of the geology that when present it does flow, such as in an ephemeral drainage, creek, stream, or river.

**Groundwater-** Water below the land surface that is at or above atmospheric pressure.

**Gross Parcel Size-** The total area of a legally created parcel including any ultimate street right-of-way, existing rights-of-way deeded to the parcel, and all easements (except open space easements), across the site.

**High-strength wastewater-** Wastewater having a 30-day average concentration of biochemical oxygen demand (BOD) greater than 300 milligrams-per-liter (mg/L) or of total suspended solids (TSS) greater than 330 mg/L or a fats, oil, and grease (FOG) concentration greater than 100 mg/L prior to the septic tank or other OWTS treatment component.

**Impaired water bodies (303d List)-** A waterbody (i.e., stream reaches, lakes, waterbody segments) with chronic or recurring monitored violations of the applicable numeric and/or narrative water quality criteria. An impaired water is a water that has been listed on the California 303(d) list or has not yet been listed but otherwise meets the criteria for listing. A water is a portion of a surface water of the state, including ocean, estuary, lake, river, creek, or wetland. The water currently may not be meeting state water quality standards or may be determined to be threatened and have the potential to not meet standards in the future.

**Leach Bed-** Gravel filled dug excavation, four to six feet wide, six to seven feet deep with a cap depth of two to five feet, and length determined by the percolation rate of the soil and receives the effluent discharge from a septic tank or other OWTS treatment unit for dispersal.

**Local Agency-** Any subdivision of state government that has responsibility for permitting the installation of and regulating OWTS within its jurisdictional boundaries; typically a county, city, or special district.

**Major repair-** Either: (1) for a dispersal system, repairs required for an OWTS dispersal system due to surfacing wastewater effluent from the dispersal field and/or wastewater backed up into plumbing fixtures because the dispersal system is not able to percolate the design flow of wastewater associated with the structure served, or (2) for a septic tank, repairs required to the tank for a compartment baffle failure or tank structural integrity failure such that either wastewater is exfiltrating or groundwater is infiltrating.

**Mound system-** An aboveground dispersal system (covered sand bed with effluent leach field elevated above original ground surface inside) used to enhance soil treatment, dispersal, and absorption of effluent discharged from an OWTS treatment unit such as a septic tank. Mound systems have a subsurface discharge.

**New OWTS-** An OWTS permitted after the effective date of this Policy.

**NOWTS-** a non-conventional OWTS. It provides additional treatment of the effluent to reduce Nitrogen (N), Total Suspended Solids (TSS), and the Biological Oxygen Demand (BOD). It may also provide disinfection against pathogens, or alternate methods of effluent dispersal.

**National Sanitation Foundation (NSF)-** The National Sanitation Foundation (NSF International), a not for profit, non-governmental organization that develops health and safety standards and performs product certification.

**Oil/grease interceptor-** A passive interceptor that has a rate of flow exceeding 50 gallons-per-minute and that is located outside a building. Oil/grease interceptors are used for separating and collecting oil and grease from wastewater.

**Onsite wastewater treatment system(s) (OWTS)-** Individual disposal systems, community collection and disposal systems, and alternative collection and disposal systems that use subsurface disposal. The short form of the term may be singular or plural. OWTS do not include "gray water" systems.

**Percolation test-** A method of testing water absorption of the soil. The test is conducted with clean water and test results can be used to establish the dispersal system design.

**Permit-** A document issued by a local agency that allows the installation and use of an OWTS, or waste discharge requirements or a waiver of waste discharge requirements that authorizes discharges from an OWTS.

**Person-** Any individual, firm, association, organization, partnership, business trust, corporation, company, State agency or department, or unit of local government who is, or that is, subject to this Policy.

**Pollutant-** Any substance that alters water quality of the waters of the State to a degree that it may potentially affect the beneficial uses of water, as listed in a Basin Plan. Pollutants include dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

**Potable Water-** Water that is safe for domestic use, drinking, and cooking.

**Projected flows-** Wastewater flows into the OWTS determined in accordance with any of the applicable methods for determining average daily flow in the *USEPA Onsite Wastewater Treatment System Manual, 2002,* or for Tier 2 in accordance with an approved Local Agency Management Program.

**Public water system-** A water system regulated by the State Water Resources Control Board Division of Drinking Water or a Local Primacy Agency pursuant to Chapter 12, Part 4, California Safe Drinking Water Act, Section 116275 (h) of the California Health and Safety Code.

**Public water well-** A ground water well serving a public water system

**Qualified inspector-** An individual licensed or certified by COWA, NAWT, ICC or equivalent agency to practice and perform inspections of OWTS systems.

**Qualified professional-** An individual licensed or certified by a State of California agency to design OWTS and practice as professionals for other associated reports, as allowed under their license or registration. Depending on the work to be performed and various licensing and registration requirements, this may include an individual who possesses a registered

environmental health specialist certificate or is currently licensed as a professional engineer or professional geologist. For the purposes of performing site evaluations, Soil Scientists certified by the Soil Science Society of America are considered qualified professionals.

**Qualified service provider-** A person capable of operating, monitoring, and maintaining an OWTS in accordance with the State Water Board OWTS Policy. The individual must also be certified and/or trained extensively by the manufacturer of an OWTS with supplemental treatment to install, maintain, service, and repair the specific model/type of OWTS.

**Regional Water Quality Control Board (Central Coast Water Board)-** Any of the Regional Water Quality Control Boards designated by Water Code Section 13200. Any reference to an action of the Regional Water Board in this Policy also refers to an action of its Executive Officer, including the conducting of public hearings, pursuant to any general or specific delegation under Water Code Section 13223.

**Repair-** Any action that modifies/replaces the existing dispersal system, replaces an existing septic tank, or modifies/replaces a major component of the onsite wastewater treatment system. Repairs require the issuance of a Permit by the County of San Luis Obispo Planning and Building Department and must be inspected by Planning and Building staff.

**Replacement OWTS-** An OWTS that has its treatment capacity expanded, or its dispersal system replaced or added onto, after the effective date of this Policy.

**Sand-** A soil particle; this term also refers to a type of soil texture. As a soil particle, sand consists of individual rock or mineral particles in soils having diameters ranging from 0.05 to 2.0 millimeters. As a soil texture, sand is soil that is comprised of 85% or more sand particles, with the percentage of silt plus 1.5 times the percentage of clay particles comprising less than 15%.

**Septic tank-** A watertight, covered receptacle designed for primary treatment of wastewater and constructed to:

1. Receive wastewater discharged from a building;
2. Separate settleable and floating solids from the liquid;
3. Digest organic matter by anaerobic bacterial action;
4. Store undigested solids; and
5. Clarify wastewater for further treatment with final subsurface discharge.

**Septage-** Any fluid, solid, or undetermined mass in a septic tank. It is considered high-strength waste and shall be handled and disposed of in an approved manner. Septage includes both sides of the septic tank, including liquor and effluent.

**Silt-** A soil particle; this term also refers to a type of soil texture. As a soil particle, silt consists of individual rock or mineral particles in soils having diameters ranging from between 0.05 and 0.002 mm. As a soil texture, silt is soil that is comprised as approximately

80% or more silt particles and not more than 12% clay particles using the USDA soil classification system.

**Site-** The location of the OWTS and, where applicable, a reserve dispersal area capable of disposing of 100% of the design flow from all sources the OWTS is intended to serve.

**Site evaluation-** means an assessment of the characteristics of the site sufficient to determine its suitability for an OWTS to meet the requirements of this Policy.

**Soil-** The naturally occurring body of porous mineral and organic materials on the land surface, which is composed of unconsolidated materials, including sand-sized, silt-sized, and clay-sized particles mixed with varying amounts of larger fragments and organic material. The various combinations of particles differentiate specific soil textures identified in the soil textural triangle developed by the United States Department of Agriculture (USDA) as found in Soil Survey Staff, USDA; *Soil Survey Manual, Handbook 18,* U.S. Government Printing Office, Washington, DC, 1993, p. 138. For the purposes of this Policy, soil shall contain earthen material of particles smaller than 0.08 inches (2 mm) in size.

**Soil Replacement-** installation of manufactured or engineered soil to provide homogenized absorption capability. Requires the use of a supplemental treatment system and an alternate method of wastewater disposal.

**Soil structure-** The arrangement of primary soil particles into compound particles, peds, or clusters that are separated by natural planes of weakness from adjoining aggregates.

**Soil texture-** The soil class that describes the relative amount of sand, clay, silt and combinations thereof as defined by the classes of the soil textural triangle developed by the USDA (referenced above).

**State Water Board-** The State Water Resources Control Board

**Supplemental Treatment System (STS)-** An onsite wastewater treatment system that utilizes, in addition to the septic tank, one or more supplemental treatment components to treat the effluent prior to discharge to the dispersal field. The system performs additional wastewater treatment so that the effluent meets a predetermined performance requirement prior to discharge of effluent into the dispersal field.

**Substandard system-** Any existing OWTS that does not conform to the accepted requirements related to system sizing, setbacks, groundwater separation, or allowable cover.

**Surface Water Ambient Monitoring Program (SWAMP)-** The State Water Board's program to monitor surface water quality; coordinate consistent scientific methods; and design strategies for improving water quality monitoring, assessment, and reporting.

**Telemetric-** The ability to automatically measure and transmit OWTS data by wire, radio, or other means.

**Total Maximum Daily Loads (TMDLs)-** The maximum amount of a pollutant that can be discharged into a waterbody from all sources (point and nonpoint) and still maintain water

quality standards. Under CWA section 303(d), TMDLs must be developed for all waterbodies that do not meet water quality standards even after application of technology-based controls, more stringent effluent limitations required by a state or local authority, and other pollution control requirements such as BMPs. In California, TMDLs are usually adopted as Basin Plan amendments and contain implementation plans detailing how water quality standards will be attained.

**Total Suspended Solids (TSS)-** The measure of the suspended solids in a water sample includes inorganic substances, such as soil particles and organic substances, such as algae, aquatic plant/animal waste, particles related to industrial/sewage waste, etc. The TSS test measures the concentration of suspended solids in water by measuring the dry weight of a solid material contained in a known volume of a sub-sample of a collected water sample. Results are reported in mg/L.

**Vertical seepage pit-** A drilled excavation, three to four feet in diameter, that is gravel filled, and receives the effluent discharge from a septic tank or other OWTS treatment unit for dispersal.

**Waste-** Includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

**Waste discharge requirement (WDR)-** An operation and discharge permit issued for the discharge of waste pursuant to Section 13260 of the California Water Code.

**Water Quality Standards-** State-adopted and U.S. EPA-approved water quality standards for waterbodies. The standards prescribe the use of the waterbody and establish the water quality criteria that must be met to protect designated uses. Water quality standards also include the federal and state anti-degradation policy.

# APPENDIX II: SYNOPSIS OF GROUNDWATER TEST RESULTS IN NON-SEWERED URBAN AREAS

# APPENDIX III: OWTS USAGE AND WASTEWATER LOADING ANALYSIS FOR SAN LUIS OBISPO COUNTY