

ITEM 9 LATE ADDITION

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LAHONTAN REGION MEETING OF MAY 10-11, 2017 SOUTH LAKE TAHOE

ITEM 9

Status Report - Local Agency Management Program (LAMP) Development

CHRONOLOGY

May 13, 2013	Statewide Onsite Wastewater Treatment System (OWTS) Policy becomes effective
July 2, 2014	State Water Resources Control Board (State Water Board) approves Basin Plan amendment to align Basin Plan to the OWTS Policy
Sept 15, 2016	Lahontan Water Board (Water Board) hosts OWTS Implementation Workshop (Enclosure 5)
April 19, 2017	Water Board hosts OWTS Implementation Progress Report (Enclosure 4)

BACKGROUND

This item provides additional evaluation to the Water Board members for implementing the OWTS Policy. At the April 19, 2017 Water Board meeting, staff were asked to prepare additional information regarding comments provided to local governments on their draft LAMPs. The Water Board requested that discussion continue at the May 10-11, 2017 meeting on the status of LAMP development and priority elements.

ISSUES

1. How do elements of LAMPs prepared by Riverside, Kern and San Bernardino Counties compare? What are the benefits and potential consequences of the various approaches?
2. In review of Water Board staff comments to initial proposed LAMPs, what elements are most important?

DISCUSSION

Introduction

The State Water Board adopted the *Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems*, which became effective on May 13, 2013. The Policy is referred to as the OWTS Policy. The Policy specifies five tiers for regulating OWTS, as shown in the Fact Sheet, Enclosure 1.

Tier 1 is the statewide prescriptive OWTS siting and design requirements. Tier 2 is a locally defined program, proposed by a local agency and approved by the Water Board with a provision to monitor and evaluate surface and groundwater to protect water quality called a Water Quality Assessment Program (WQAP). Per the OWTS Policy time schedules, local agencies may implement a Tier 2 LAMP, provided it was approved by the Water Board. Otherwise, after May 13, 2018, local agencies must implement a Tier 1 program in accordance with the OWTS Policy. The Lahontan Water Board is the lead approval agency for ten Tier 2 LAMPs, as listed below.

- Adelanto, City of
- Alpine, County of
- Apple Valley, Town of
- Barstow, City of
- California City, City of
- Hesperia, City of
- Inyo, County of
- Lassen, County of
- Mono, County of
- San Bernardino, County of

In addition, other Regional Water Boards are the lead approval agencies for some local agencies that cross Lahontan Water Board boundaries.

1. Comparison of Selected LAMP Elements

The issue is the following:

How do elements of LAMPs prepared by Riverside, Kern, and San Bernardino Counties compare? What are the benefits and potential consequences of the various approaches?

Staff has selected the following key elements for comparison of LAMPs from these three counties:

- Minimum lot sizes
- Maximum number of lots in a new subdivision
- Supplemental treatment system (STS) requirements
- Annual reports
- WQAP
- 5-year WQAP assessment report
- Areas of special concern

The comparison of these key elements is presented in Enclosure 2. In this table, staff summarizes the LAMP content for each element. Enclosure 3 presents a flow chart showing the options available to approve LAMP/WQAP and potential local agencies responses. The Riverside and Kern Counties LAMP text excerpts for each element are presented in Enclosure 4. The San Bernardino County LAMP text for each element is indicated by page number from the April 4, 2017 version of the LAMP. A copy of the

complete San Bernardino County LAMP is presented in Enclosure 6. The San Bernardino County Board of Supervisors plans to consider the LAMP for approval on May 23, 2017. Water Board staff intend to bring this for Water Board consideration in July 2017.

A column explains how the Local Agency's LAMP meets the minimum Tier 2 requirements of the Policy. The information in the Enclosures shows that local agencies have widely different LAMPs, yet each LAMP element meets the minimum Tier 2 requirements. This largely reflects the Policy's objective for Tier 2, allowing local agency flexibility in selecting how they will regulate OWTS under a LAMP. Tier 2 has largely been characterized as "one size fits all." This is true, yet a corollary to this characteristic for LAMPs is that "many sizes fit one."

2. Water Board Staff Comments

The issue is the following:

In review of Water Board staff comments to initial proposed LAMPs, what elements are most important?

Water Board staff comments regarding the draft LAMPs provided by local agencies typically focused on improved element to ensure or evaluate water quality protection. The initial set of staff LAMP comment letters and memos are presented in Enclosure 7A to 7M. The content of the comments varies for each LAMP, as each LAMP is different.

Water Board staff created an OWTS web page that makes all comments publically available. The address is:

http://www.waterboards.ca.gov/lahontan/water_issues/programs/owts/index.shtml

The Water Board web site includes two tracking tables. One table is for LAMPs where the Lahontan Water Board is the designated lead agency to approve the LAMP, and this table is presented in Box 1. The other table is for LAMPs where another Regional Water Board is the designated lead agency to approve the LAMP, and this table is presented in Box 2. Copies of each document are linked to the date in the web tracking tables.

Some of the major common themes in the Water Board staff comments provided to local agencies were:

- The WQAP is fundamental to assessing OWTS impacts to receiving water, should be focused to areas of high OWTS density, and should be adapted as future information is available;
- The proposed approach to limiting future OWTS density should be explained because, in arid environments, underlying receiving groundwater nitrate concentrations will eventually increase; and

- Local agencies need a performance-based program where active supplemental treatment systems will be allowed.

Box 1. Water Board LAMP Tracking Table (as of Apr 27, 2017)

LAMP Tracking Table, Region 6 is approval lead

Local Agencies	Proposed LAMP received date	Comment letter date(s)	Comment resolution date	Final proposed LAMP received date	Lahontan Water Board LAMP approval date	Link (Water Board Approved LAMP)
Tahoe Office						
County of Alpine	11/07/16					
County of Lassen	12/12/16					
Victorville Office						
Adelanto, City of	05/26/16	10/26/16				
Apple Valley, Town of	05/13/16	10/26/16				
	02/17/17					
	03/14/17					
Barstow, City of						
California City	03/17/16	12/12/16				
	(26.4 MB)					
	02/10/17					
Hesperia, City of	05/13/16	10/26/16				
Inyo County	05/12/16	11/15/16				
	03/16/17					
	03/30/17					
Mono County	05/18/16	11/15/16				
San Bernardino County	10/30/15	06/23/16				
	09/09/16	11/21/16				
	12/20/16	01/24/17				
	02/16/17	02/01/17				
	03/28/17	03/09/17				
	04/20/17	03/10/17				
		03/17/17				
		04/04/17				

Box 2. Water Board LAMP Tracking Table (as of Apr 27, 2017)							
External Review Requests, Region 6 Not Designated Lead							
Region	County	Proposed LAMP received date	Comment memo date(s)	Comment resolution date	Final proposed LAMP received date	Designated Water Board approval date	Link (Water Board Resolution & Approved LAMP)
Region 4	Los Angeles	05/13/16	01/12/17				
Region 5	El Dorado	04/21/16	05/10/16				
Region 5	Kern	05/23/16	08/08/16				
		12/20/16	12/28/16	01/06/17			
Region 5	Modoc	06/02/16	07/08/16				
Region 5	Nevada	06/02/16	12/02/16				
Region 5	Placer	09/08/16	01/03/17				
Region 5	Sierra						

Water Board staff continue to assist local agencies in improving LAMPs. Many agencies have added reporting requirements, better described existing and potential OWTS development, and increased clarity and detail in the LAMPs. Local agencies generally want to know what specific elements the Water Board wants to see in the LAMPs. Water Board staff have focused on the WQAPs reporting objectives and avoided specifying a particular manner and method of compliance.

Water Board staff intends to continue this process of review and commenting, including meetings with local agencies prior to presenting proposed revised LAMPs to the Water Board for consideration of approval. An example of a common concern from Water Board staff is that for arid areas, groundwater pollution from OWTS is expected to occur in a shorter timeframe where the overall density is greater than one OWTS per 2½ acres and where there is clustered development, as compared to areas with lower densities of OWTS. Staff has requested local agencies provide detailed justification for how continued development on small lot sizes will be protective of water quality.

Water Board staff have been working with local agencies to develop and/or commit to developing LAMPs with adequate water quality protection measures. Water Board staff has requested local agencies consider incorporating the following into the WQAP:

- Perform analyses based on existing and proposed land-use patterns and drinking water receptors or vadose zone modeling to predict the release of OWTS discharges to groundwater.
- Consider future monitoring of groundwater (including installation of monitoring wells, if needed) in high-risk areas.

Following LAMP approval, Water Board staff will continue to work with local agencies, as necessary, for improving the WQAP to ensure it is adapted over time in addressing potential water quality impacts. The key policy management questions that the WQAP should answer are the following:

1. Where are areas of existing OWTS developments that will likely contribute/cause or have caused groundwater contamination or pollution? To what areal extent? Where are the nearest existing receptors (supply wells) or likely potential supply wells?
2. For future growth areas, where will OWTS be allowed? Which of these areas will likely to contribute/cause groundwater contamination or pollution? Where will likely receptors be located in these areas?
3. When will pollution occur (greater than 10 mg/L – NO₃-N) and to what extent?

Water Board staff held a technical meeting on April 26, 2017, with local Victor Valley area agencies and data partners such as the Mojave Water Agency (MWA) and the United States Geological Survey (USGS). The engineer representing Hesperia and Apple Valley stated that, as the first step, they will be taking an inventory of drinking water wells and associated data available from MWA, water purveyors, USGS, and private supply wells. Local land use development information will be included to provide a layered assessment of different conditions.

PUBLIC OUTREACH/INPUT

This is the third Water Board workshop on OWTS LAMP implementation. Water Board staff will bring 10 LAMPs to the Water Board for approval over the next 12 months. During the development phase of each proposed LAMP, Water Board staff has or plans to collaborate with local agencies to add requirements to each LAMP that improve Local Agency regulation of OWTS. Water Board staff has facilitated technical workshops to discuss implementing the WQAP and intends to continue our outreach to local agencies.

PRESENTER

Francis Coony, P.E., Water Resources Control Engineer

RECOMMENDATION

This is an informational item and no formal action is requested, though the Water Board members may give direction to staff.

ENCLOSURES	ITEM	BATES NUMBER
1	OWTS Policy Fact Sheet	9-11
2	Table: Comparison of Kern, Riverside and San Bernardino Counties LAMPs for OWTS Elements of Significance to the Lahontan Water Board	9-15
3	Flowchart – Options to Approve LAMP/WQAP and Potential Local Agency Responses	9-21
4	Workshop - OWTS Policy Implementation Progress Report (Item 8 - April 19-20, 2017 Board Meeting)	9-25
5	Workshop – OWTS Policy Implementation (Item 10 - September 14-15, 2016 Board Meeting)	9-109
6	San Bernardino County LAMP, draft	9-267
Initial Water Board staff LAMP comment letters		
7A	San Bernardino County	9-343
7B	Adelanto	9-361
7C	Apple Valley	9-369
7D	Hesperia	9-375
7E	Inyo County	9-383
7F	Mono County	9-391
7G	California City	9-399
7H	Kern County	9-411
7I	Los Angeles County	9-417
7J	El Dorado County	9-427
7K	Modoc County	9-431
7L	Nevada County	9-435
7M	Placer County	9-439
8	Staff Presentation	9-443

ENCLOSURE 1

Water Quality Control Policy for Siting, Design, Operation and Maintenance of Onsite Wastewater Treatment Systems (OWTS Policy)

General OWTS Policy Information

What are we regulating?

- Onsite wastewater treatment systems (OWTS) commonly known as septic systems that primarily treat domestic wastewater and employ subsurface disposal.
- There are an estimated 1.2 million OWTS in California

When does it take effect?

- The effective date of the Policy was May 13, 2013.
- Except for Tier 3, local agencies may continue to implement their existing OWTS permitting programs for 60 months after the effective date of the Policy.
- Owners of OWTS with projected flow over 10,000 gallons per day (gpd) or receives high-strength wastewater shall notify the Regional Water Boards. These OWTS may be required to submit a Report of Waste Discharge for coverage of Waste Discharge Requirements (WDR) or a Waiver of WDR.

Why was the Policy adopted?

- To allow continued use of OWTS, while protecting water quality and public health
- Assembly Bill 885 amended California Water Code section 13290, which required the State Water Board to develop statewide standards or regulations for permitting and operation of OWTS.

Who is impacted?

- OWTS owners
- Local agencies that permit OWTS (county environmental health dept., etc.)
- Regional Water Boards
- State Water Board

OWTS Policy Tiers

The OWTS Policy establishes a statewide, risk-based, tiered approach for regulation and management of OWTS installations and replacements, and recognizes the effectiveness of local permitting agencies. Tiers are briefly summarized below, refer to the OWTS Policy for a complete discussion of the requirements.

Tier 0: Existing OWTS (OWTS Policy Section 6)

- Applies to properly functioning systems that do not need corrective action and are not near an impaired water body subject to TMDL, local agency's special provisions, or located within 600 feet of a water body listed on OWTS Policy Attachment 2.
- Maximum flow rate is 10,000 gpd.

Tier 1: Low Risk New or Replacement OWTS (OWTS Policy Sections 7 & 8)

- Applies to new or replacement OWTS that comply with conservative siting and design standards described in the OWTS Policy.
- Tier 1 applies when a Local Agency Management Program (LAMP) has not been approved by the Regional Water Board.
- Maximum flow rate is 3,500 gpd.

Tier 2: Local Agency Management Program (LAMP) for New or Replacement OWTS (OWTS Policy Section 9)

- Applies to new or replacement OWTS that comply with the siting and design standards in an approved LAMP. LAMPs are developed by Local Agencies based on local conditions; siting and design standards may differ from Tier 1 standards.
- Maximum flow rate is 10,000 gpd.

Tier 3: Advanced Protection Management Program (OWTS Policy Section 10)

- Applies to OWTS located near impaired surface water bodies that are subject to a Total Maximum Daily Load (TMDL) implementation plan, a special provision contained in a LAMP, or is located within 600 feet of a water body listed on OWTS Attachment 2.
- Supplemental treatment requirements may apply to a Tier 3 system.
- Maximum flow rate is 10,000 gpd.

Tier 4: OWTS Requiring Corrective Action (OWTS Policy Section 11)

- Applies to systems that are not properly functioning (failing).
- Failure may be indicated by surfacing effluent, wastewater backing up in plumbing fixtures, OWTS component/piping structural failure, or significant groundwater or surface water degradation

The Policy and Substitute Environmental Document are available on the Internet at:

http://www.waterboards.ca.gov/water_issues/programs/owts/index.shtml

For more information please contact:

Sherly Rosilela, P.E., Water Resource Control Engineer
Sherly.Rosilela@waterboards.ca.gov or (916)341-5578

ENCLOSURE 2

Table: Comparison of Kern and Riverside and San Bernardino County LAMPs for OWTS Elements of Significance to the Lahontan Water Board

Note: Riverside County is within the Colorado River Region, Santa Ana Region and San Diego Region. Kern County is within the Central Valley Region and Lahontan Region with a small portion in the Los Angeles Region. San Bernardino County is within the Lahontan Region, Colorado River Region and Santa Ana Region. The criteria in this enclosure apply to the entire county regardless of regional board jurisdiction.

Element	Riverside County LAMP	Kern County LAMP	San Bernardino County LAMP	Notes
Minimum lot sizes	<p><u>See Enclosure 3 of Enclosure 4, Excerpt A</u> Minimum lot size is ½ acre, not less than 2½ acres if subdivision has individual water wells.</p>	<p><u>See Enclosure 3 of Enclosure 4, Excerpt E</u> The limitations on lot size are based on the need for, and the results of, a nitrogen-loading analysis.</p>	<p><u>See Enclosure 6, Pages 21 to 23</u> Minimum lot size is ½ acre. Minimum lot size is 2½ acres if drinking water is from private well. Tracts and parcels that received land use approval prior to the effective date of the LAMP are eligible for an exemption from the ½ acre minimum lot size.</p>	<p>In staff comments, Water Board staff expressed support of the local agency’s proposal to continue with the Basin Plan minimum density of ½ acre for new subdivisions with OWTS as long as the local agency has an adequate WQAP. Staff also requested additional justification for why a local agency finds ½ acre lot size is protective of water quality.</p> <p>Policy §9.1.9 (Tier 2) states that the local agency must consider different or additional requirements for onsite systems located in high OWTS density areas. The Policy does not define high OWTS density areas. It may be possible to infer that high OWTS density is any density less restrictive than Tier 1, which is 2½ acre minimum lot sizes for arid regions.</p>
Maximum number of lots in a new subdivision	<p><u>See Enclosure 3 of Enclosure 4, Excerpt A.</u> Proposed subdivision with more than 40 lots where lot sizes are less than 2½ acres must have sewer extension or development of full public sewerage systems to be permitted by the Regional Board.</p>	<p>(No requirements found.)</p>	<p><u>See Enclosure 6, Page 53</u> “In unincorporated San Bernardino County area, proposed subdivisions with more than 40 lots where the lot sizes are less than 2.5 acres per lot shall require review and approval by Division of Environmental Health Services (DEHS) and may require Water Board Permitting or a waiver of waste discharge. A site specific study will be required to consider hydrogeological conditions, the proposed project, and surrounding development’s groundwater impacts so as to best protect groundwater.”</p>	<p>In staff comments, Water Board did not require a specific limit of the maximum number of subdivision lots with OWTS. Water Board did, however, recommend installation of sewage collection and treatment works in city/town jurisdictional areas, including areas that are within the sphere of influence of cities/towns.</p>

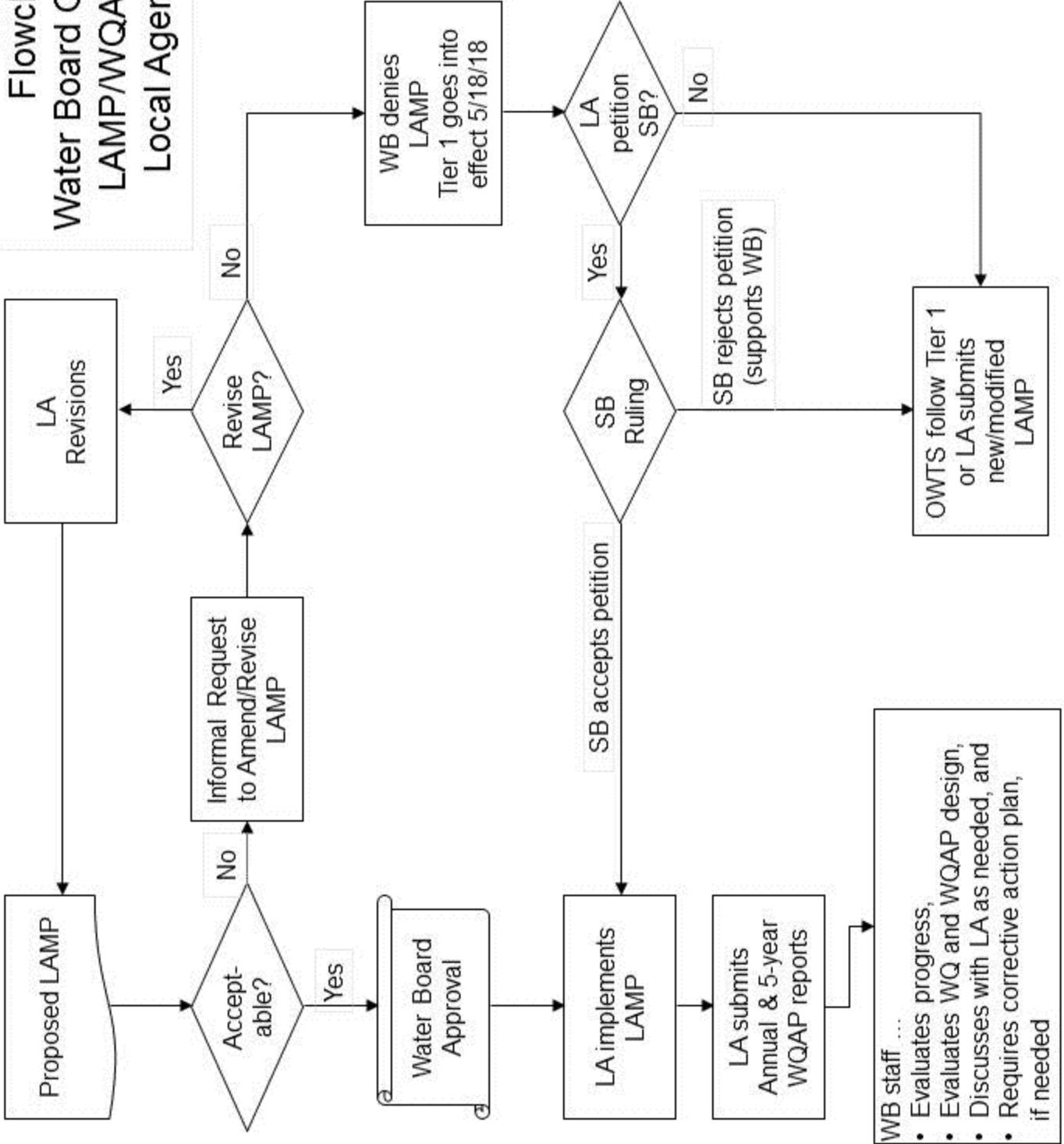
Element	Riverside County LAMP	Kern County LAMP	San Bernardino County LAMP	Notes
<p>Supplemental Treatment System (STS) requirements</p>	<p><u>See Enclosure 3 of Enclosure 4, Excerpt B</u> In the Riverside Co. LAMP, STS are part of Alternative Treatment Systems Section.</p> <ul style="list-style-type: none"> • STS must achieve 50% total nitrogen reduction. • STS requires an annual renewal operating permit. • STS owners must have a service agreement with a qualified service provider (QSP). • QSP must conduct an annual inspection of STS and provide Local Agency inspection results within 45 days of inspections. • Failure of an owner to maintain an annual operating permit may result in enforcement action. 	<p><u>See Enclosure 3 of Enclosure 4, Excerpts F, G, and H</u></p> <ul style="list-style-type: none"> • Local agency defines alternative OWTS as system with STS or different dispersal system, such a pressurized dose system. • STS may have to achieve a 50% total nitrogen reduction, depending upon nitrogen loading analysis. • County issues renewable annual permit to OWTS owner to: <ul style="list-style-type: none"> – ensure adequate system performance; – give right to enter property to conduct inspections; and – require performance monitoring and reporting. 	<p><u>See Enclosure 6, Pages 41 to 44</u> The owner must provide DEHS literature from the manufacturer showing that:</p> <ul style="list-style-type: none"> • Total nitrogen in the effluent from the alternative treatment system meets a minimum 50 percent reduction in total nitrogen when comparing the 30-day average influent to the 30-day average effluent. • Effluent from the alternative treatment system does not exceed a 30-day average Total Suspended Solids (TSS) of 30 milligrams per liter (mg/L) <p>Once property owners install an alternative (supplemental) treatment system:</p> <ul style="list-style-type: none"> • A “Notice of Condition” must be recorded. Proof of the filing must be provided to DEHS within 30 days of installation and final inspection has been made by Building Dept. DEHS staff must be provided access to inspect and sample the supplemental treatment system as necessary. <p>Supplemental treatment systems must meet the following requirements for review and approval by DEHS:</p> <ul style="list-style-type: none"> • Be certified by National Sanitation Foundation (NSF), or another approved third party tester. • Be designed by a Qualified Professional. 	<p>In staff comments, Water Board requested local agencies reconsider their past practice of referring OWTS with STS to the Lahontan Water Board for written clearance. Theoretically, Water Board would need to issue waste discharge requirements (or enroll under a general order) every OWTS with supplemental treatment. Water Board prefers that, instead of regulating OWTS under WDRs, that Water Board staff would issue recommendations to the county to assure that the owner properly operates the STS. Water Board staff requested additional information from each local agency on how the agency will ensure proper operation and maintenance, such as ordinances, fees, inspections, water quality testing, and reporting.</p>

Element	Riverside County LAMP	Kern County LAMP	San Bernardino County LAMP	Notes
Annual reports	<p><u>See Enclosure 3 of Enclosure 4, Excerpt C</u> In addition to Policy required data, Local Agency will require reporting water quality data to the Division of Drinking Water for public water systems less than 200 service connections.</p>	<p>(Same as Policy required data)</p>	<p><u>See Enclosure 6, Page 59.</u> In addition to the Policy required information, the County will report:</p> <ul style="list-style-type: none"> The permits issued for domestic and municipal supply wells, including number, location, and description of permits. A written assessment and tabulation of the data in each information type, including (1) the distribution of new OWTS by group of lot size and (2) any new OWTS with supplemental treatment, and type of dispersal, including type of alternative dispersal system. 	<p>In staff comments, Water Board asked that local agencies report number of new OWTS, replacement OWTS, and private/community well data (such as installation of new drinking water wells and sampling results), any indication of bacteria or nitrate, and any improvements to the WQAP to address water quality impacts when observed or predicted.</p>
Water Quality Assessment Program (WQAP)	<p><u>See Enclosure 3 of Enclosure 4, Excerpt C</u> Local Agency will submit an assessment report every 5 years.</p>	<p><u>See Enclosure 3 of Enclosure 4, Excerpt I</u></p> <ul style="list-style-type: none"> WQAP is organized by groundwater basins and localized areas. Scope includes combination of GIS-based mapping, OWTS inventories, and nitrate analyses. Process includes joint cooperation efforts among different agencies, such as water districts and special districts. Process allows establishment of Onsite Wastewater Disposal Zones, which would give construction authority. 	<p><u>See Enclosure 6, Pages 59 to 62</u> DEHS will pursue collaboration with other agencies to enhance the WQAP and further meet the needs of both the county and the jurisdictional agencies.</p>	<p>In staff comments, Water Board requested local agencies develop and implement a meaningful, cost-effective, and adequate WQAP. The WQAP must “determine the general operation status of OWTS, evaluate the impact of OWTS discharges, and assess the extent to which groundwater and local surface water quality may be adversely impacted.” Staff has also requested local agencies collaborate with other agencies to share data, such as supply well monitoring data by a water purveyor or data from a Salt and Nutrient Management Plan. In addition, staff has requested evaluation of potential recharge to groundwater, including consideration for vadose zone and groundwater modeling.</p>

Element	Riverside County LAMP	Kern County LAMP	San Bernardino County LAMP	Notes
5-year WQAP assessment report	<p>See Enclosure 3 of Enclosure 4, <u>Excerpt C</u></p> <ul style="list-style-type: none"> The assessment report will include monitoring data for nitrates and pathogens, and may include data for other constituents are needed to adequately characterize the impacts of OWTS on water quality. If water quality is found to be impacted by OWTS, as determined by the Regional Board and the Local Agency, changes in the LAMP will be implemented to address these impacts. 	<p>See Enclosure 3 of <u>Enclosure 4, Excerpt I.</u> Assessment report will include the following:</p> <ul style="list-style-type: none"> evidence of water quality impact from OWTS; recommended LAMP changes to address identified impacts; Groundwater data loaded into GeoTracker; and Surface water loaded into CEDEN/SWAMP. <p>In the Lahontan Region, the County will consider utilizing a computer model to evaluate nitrate loading and groundwater recharge rates for areas of high density and/or clustered development. The County added this requirement to address Lahontan Water Board concern to forecast the arrival time to groundwater.</p>	<p>See Enclosure 6, Page 62</p> <p>Every five years an assessment will be completed to evaluate the Program and determine whether OWTS within the County are affecting water quality. Since it is not possible to know where and when growth will occur that could impact groundwater, during this first review the Program will be modified, as needed, to identify and address discovered and/or potential impacts of OWTS.</p>	<p>The Policy requires that local agencies under Tier 2 must include the following information in their 5 year assessment report:</p> <ul style="list-style-type: none"> evaluate the monitoring program, assess whether water quality is impacted by onsite systems, and identify changes in the LAMP that will be undertaken to address impacts from OWTS. (OWTS Policy §9.3.3)
Areas of special concern	<p>See Enclosure 3 of Enclosure 4, <u>Excerpt D</u></p> <p>The LAMP lists 7 areas of special concern. Some of these may be existing Water Board Basin Plan prohibition areas.</p>	<p>See Enclosure 3 of <u>Enclosure 4, Excerpt J</u></p> <p>The LAMP does not specify specific areas. However, the LAMP gives the County the authority to delineate special areas based on cumulative impact assessment results.</p>	<p>See Enclosure 6, Page 60</p> <p>The County lists areas of special concern in a table under the section Constituents of Concern. The County reports the location of each constituent of concern. The total coliform and nitrate are of concern throughout the entire jurisdictional area of the County. (Jurisdictional area means those areas where the County has land use authority and building permit authority).</p>	<p>In staff comments, Water Board has requested that local agency consider providing sewers or alternate special protective measures in high OWTS density areas (less than 2½ acres). Examples are the following:</p> <ul style="list-style-type: none"> San Bernardino County: Phelan, Wrightwood, and North Barstow. Hesperia: Tapestry development. Kern County, East Portion: Indian Wells Valley, Northwest Antelope Valley, and North Edwards. Los Angeles County: Antelope Acres, Juniper Hills, Lake Los Angeles, Leona Valley, Littlerock, Pearblossom, Quartz Hill, and Sun Village.

ENCLOSURE 3

Flowchart No. 1. Water Board Options to Approve LAMP/WQAP and Potential Local Agency Responses



Abbreviations	
LA	Local Agency
LAMP	Local Agency Management Program
OWTS	Onsite Wastewater Treatment System
SB	State Board
WB	Lahontan Water Board
WQ	Water Quality
WQAP	Water Quality Assessment Program

ENCLOSURE 4

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION
MEETING OF APRIL 19-20, 2017
BARSTOW**

ITEM 8

WORKSHOP – ONSITE WASTEWATER TREATMENT SYSTEM (OWTS) POLICY, IMPLEMENTATION PROGRESS REPORT

CHRONOLOGY

May 13, 2013	Statewide OWTS Policy becomes effective
July 2, 2014	State Water Board approves Basin Plan amendment to align Basin Plan to the OWTS Policy
Sept 15, 2016	Water Board hosts OWTS Implementation Workshop

BACKGROUND

This item provides additional information to the Lahontan Water Board (Water Board) members regarding implementation of Local Agency Management Programs (LAMPs) for approval.

ISSUES

1. Occurrence of Water Quality Degradation - If the Water Board or local agency observes that a problem related to OWTS is occurring or developing, what follow up tools can be used? What tools does the Water Board have to encourage or require OWTS supplemental treatment or community sewerage?
2. LAMP Approval Flexibility - What flexibility does the Water Board have to approve or modify a LAMP under the policy?
3. Local Funding – How will Water Board determine if funding is sufficient?

DISCUSSION

1. Occurrence of Water Quality Degradation

The issue is the following:

If the Water Board or local agency observes that a problem related to OWTS is occurring or developing, what follow up tools can be used? What tools does the Water Board have to encourage or require OWTS supplemental treatment or community sewerage?

The Water Board and the local agencies have a number of tools to address occurring or developing problems relating to OWTS. To aid in explaining the disposition of these problems, please see Enclosure 1 for LAMP review and approval.

a. Problem Identification/Corrective Actions Consideration

Defining the problem is important because it concisely describes a water quality issue and the corresponding affected area. Each problem will be case specific and based upon a unique set of surface water or groundwater hydrologic conditions.

One problem identification source is the Policy's required all-Tier annual report. The OWTS Policy requires an annual report with the following contents presented in Box 1.

Box 1. Annual Report Contents (OWTS Policy §3.3.1 to 3.3.3)
The annual report shall include the following information (organized in a tabular spreadsheet format) and summarize whether any further actions are warranted to protect water quality or public health:
<ol style="list-style-type: none">1. number and location of complaints pertaining to OWTS operation and maintenance, and identification of those which were investigated and how they were resolved;2. 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;3. number, location, and description of permits issued for new and replacement OWTS and which Tier the permit is issued.

For a given area, groundwater pollution from OWTS is expected to occur in a shorter timeframe where the overall density is greater than one OWTS per 2½ acres and where there is clustered development as compared to areas with lower densities of OWTS.

A second problem identification source is information provided by the Tier 2 annual and 5-year Water Quality Assessment Program (WQAP) Reports. The 5-year report requires a more rigorous technical analysis of existing and future OWTS effects on receiving surface waters or groundwater. The content of the Tier 2 annual and 5-year reports is described in Box 2.

Box 2. Tier 2 Annual Report and 5-Year Water Quality Assessment Report Contents (OWTS Policy §9.3.2 to 9.3.3)
9.3.2 Maintain a water quality assessment program to determine the general operation status of OWTS and to evaluate the impact of OWTS discharges, and assess the extent to which groundwater and local surface water quality may be adversely impacted. The focus of the assessment should be areas with characteristics listed under section 9.1. The assessment program will include monitoring and analysis of water quality data, review of complaints, variances, failures, and any information resulting from inspections. The assessment may use existing water quality data from other monitoring programs and/or establish the terms, conditions, and timing for monitoring done by the local agency. At a minimum this assessment will include

monitoring data for nitrates and pathogens, and may include data for other constituents which are needed to adequately characterize the impacts of OWTS on water quality. Other monitoring programs for which data may be used include but are not limited to any of the following:

- 9.3.2.1 Random well samples from a domestic well sampling program.
- 9.3.2.2 Routine real estate transfer samples if those are performed and reported.
- 9.3.2.3 Review of public system sampling reports done by the local agency or another municipality responsible for the public system.
- 9.3.2.4 Water quality testing reports done at the time of new well development if those are reported.
- 9.3.2.5 Beach water quality testing data performed as part of Health and Safety Code Section 115885.
- 9.3.2.6 Receiving water sampling performed as a part of a NPDES permit.
- 9.3.2.7 Data contained in the California Water Quality Assessment Database.
- 9.3.2.8 Groundwater sampling performed as part of Waste Discharge Requirements.
- 9.3.2.9 Groundwater data collected as part of the Groundwater Ambient Monitoring and Assessment Program and available in the Geotracker Database.

9.3.3 Submit an annual report by February 1 to the applicable Regional Water Board summarizing the status of items 9.3.1 through 9.3.2 above. Every fifth year, submit an evaluation of the monitoring program and an assessment of whether water quality is being impacted by OWTS, identifying any changes in the Local Agency Management Program that will be undertaken to address impacts from OWTS. The first report will commence one year after approval of the local agency's Local Agency Management Program. In addition to summarizing monitoring data collected per 9.3.2 above, all groundwater monitoring data generated by the local agency shall be submitted in EDF format for inclusion into Geotracker, and surface water monitoring shall be submitted to CEDEN in a SWAMP comparable format.

A third problem identification source is information obtained from any other source such as complaints received by Water Board staff or data collected by Water Board staff or other parties.

b. Water Board Regulatory and Enforcement Tools

The Water Board has a variety of options when an OWTS is failing or requires corrective action or when there is a water quality concern associated with OWTS. The Water Board can work with the County to improve, modify, or reject the LAMP and associated WQAP. The Water Board can also take actions against dischargers (e.g., owners of OWTS), including enforcement action.

Available Water Board regulatory and enforcement tools include, but are not limited to the following:

- Waste Discharge Prohibitions (requires Basin Plan amendment);
- Cleanup and Abatement Order;
- Waste Discharge Requirements, which could include effluent limitations or time schedules to improve treatment/disposal or cease discharge;
- Authorization of repairs in substantial conformance with requirements;
- Send a corrective action notice to the owners of OWTS; and
- Enforcement actions for failure to meet the conditions of the waiver of waste discharge requirements contained in the Policy.

Water Code §13280 authorizes the prohibition of waste discharge from existing or new subsurface disposal providing evidence of the following: the discharge of waste will result in water quality objective violations, will impair present or future beneficial uses of water, will cause pollution, nuisance, or contamination, or will unreasonably degrade water quality. Existing OWTS prohibition areas are defined and delineated in the Basin Plan, Chapter 4.1.

In the Lahontan region, the Water Board recognized that shallow soils over bedrock or granite were insufficient to provide complete absorption of OWTS discharges, resulting in surfacing of partially treated wastewater, and the contamination of groundwater and adjoining surface water. In 1969, the legislature in the Porter-Cologne Water Quality Control Act prohibited OWTS in the Lake Tahoe Basin. In the mid-1970s, the Water Board adopted waste discharge prohibitions to OWTS discharges in many of the higher elevation portions of the region including the San Bernardino Mountains, the Sierra Nevada (Inyo and Mono Counties), and Eagle Lake (Lassen County). OWTS discharges from new development were prohibited, and OWTS discharges from existing OWTS were to be phased out and replaced with discharges to a sewage collection system. The Water Board, on a case-by-case basis, exempted some areas where installing a sewer collection system was not cost effective.

Another approach is to take an enforcement action against OWTS owners, such as through a cleanup and abatement order (CAO). CAOs can be issued to individual land owners to encourage supplemental treatment, use of holding tanks, or an acceptable means of waste disposal. The Water Board could also choose to approve individual waste discharge requirements.

c. Water Board Actions in response to a Local Agency lack of implementation

The Water Board can take actions under the OWTS Policy if a local agency does not follow the LAMP or implement the OWTS Policy. The Water Board could

choose to impose waste discharge requirements on OWTS when the OWTS falls outside the State Water Board's conditional waiver of waste discharge requirements for OWTS. In addition, a Regional Water Board may implement proceedings to modify or revoke an approved LAMP under OWTS Policy §4.4. This action is described in the next section.

d. Identify alternatives to resolve the problem

A local agency may consider a number of alternatives to resolve water quality problem areas on a case-by-case basis:

- Require connection to a nearby sewage collection system (distance considered feasible or reasonable needs to be evaluated on a case-by-case basis)
- Install sewage collection system for all or part of an area, with treatment works as required.
- Add supplemental treatment units at some or all existing new, replacement, and existing OWTS.
- Simply prohibit new OWTS and continue long-term monitoring.

Owners using supplemental treatment systems (STS) will need to perform routine operations and maintenance on their OWTS. This is an extra task and expense compared to conventional OWTS. Most STS manufacturers offer annual service contract for STS operation and maintenance. The contract usually includes inspections and monitoring. A LAMP must have requirements for periodic monitoring and inspections for OWTS that utilize STS.

2. LAMP Approval Flexibility

The issue is the following:

What flexibility does the Water Board have to approve or modify a LAMP under the policy?

LAMP approval flexibility could occur during the LAMP review phase and following the LAMP implementation phase. Both items are discussed separately.

a. LAMP review requirements

The Water Board when reviewing a draft LAMP shall consider the past performance of the local program to adequately protect water quality. Modification to the program for purposes of uniformity should be limited as long as the LAMP meets the requirements of Tier 2 (OWTS Policy §9.6). The Water Board may approve a LAMP with more restrictive requirements than the existing Basin Plan criteria.

b. LAMP modification and revocation process following LAMP implementation

A Regional Water Board may require modification or revocation of a LAMP. The steps to achieve this action are presented in Box 3. The Regional Water Board must make findings to support the action.

Box 3. Water Board Proceedings for LAMP Modification or Revocation (OWTS Policy §4.4)

Once a Local Agency Management Program has been approved, any affected Regional Water Board may require modifications or revoke authorization of a local agency to implement a Tier 2 program, in accordance with the following:

1. The Regional Water Board shall consult with any other Regional Water Board(s) having jurisdiction over the local agency before providing the notice described in section 4.4.2.
2. Written notice shall be provided to the local agency detailing the Regional Water Board's action, the cause for such action, remedies to prevent the action from continuing to completion, and appeal process and rights. The local agency shall have 90 days from the date of the written notice to respond with a corrective action plan to address the areas of non-compliance, or to request the Regional Water Board to reconsider its findings.
3. The Regional Water Board shall approve, approve conditionally, or deny a corrective action plan within 90 days of receipt. The local agency will have 90 days to begin implementation of a corrective action plan from the date of approval or 60 days to request reconsideration from the date of denial. If the local agency fails to submit an acceptable corrective action plan, fails to implement an approved corrective action plan, or request reconsideration, the Regional Water Board may require modifications to the Local Agency Management Program, or may revoke the local agency's authorization to implement a Tier 2 program.
4. Requests for reconsideration by the local agency shall be decided by the Regional Water Board within 90 days and the previously approved Local Agency Management Program shall remain in effect while the reconsideration is pending.
5. If the request for reconsideration is denied, the local agency may appeal to the State Water Board and the previously approved Local Agency Management Program shall remain in effect while the appeal is under consideration. The State Water Board shall decide the appeal within 90 days. All decisions of the State Water Board are final.

Some possibilities, or examples, by which the Water Board may take action to modify or revoke a LAMP are the following:

- Evidence that the WQAP does not collect information in areas where there is a higher threat to water quality or public health such as where minimum

development density is greater than 2½ acres (the 2½ acre criterion is the Tier 1 density requirements protective of groundwater in arid areas).

- Evidence that the local agency did not take corrective actions when the WQAP shows actual or threatened groundwater pollution for nitrate.
- Evidence that local agency authorizes STS without requirements for monitoring and inspections (OWTS Policy §9.4.6).

Because of the lengthy process to revoke a LAMP, Water Board staff has been working with local agencies to develop and/or commit to developing robust LAMPs with adequate water quality protection measures. Water Board staff has requested local agencies consider incorporating the following into the WQAP:

- Perform analyses based on existing and proposed land use patterns and drinking water receptors or vadose zone modeling to predict the release of septic tank effluent to groundwater.
- Consider future monitoring of groundwater (including installation of monitoring wells, if needed) in high risk areas.

3. Local Funding

The issue is:

How will the Water Board determine if funding is sufficient?

Local agency funding to implement a LAMP is related to local agencies added tasks under a Tier 2 LAMP compared to their existing program. LAMPs under Tier 2 of the OWTS Policy have the following additional requirements compared to the current OWTS permitting program:

- The local agency must have an effective WQAP (OWTS Policy §9.3.2); and
- The local agency must assure that OWTS with supplemental treatment have requirements for periodic monitoring and inspections (OWTS Policy §9.4.6).

Water Board staff are evaluating a local agency's ability to implement its LAMP and an effective WQAP based on information and commitment received from the local agency. No specific evaluation regarding sufficient local agency funding is being conducted nor required by the OWTS policy.

LAMPs have been approved or are in the process of being approved by other Regional Water Boards. Excerpts from at least one LAMP that is relevant to the Lahontan Water Board's questions/issues are presented in Enclosure 3 as a late revision. The purpose of this information is to indicate how other Regional Water Boards are handling LAMP issues, including WQAP and density requirements.

PUBLIC OUTREACH/INPUT

This is the second Water Board workshop on OWTS LAMP implementation. The previous workshop occurred on September 15, 2016. In the September 2016 workshop, Water Board staff reached out to affected local agencies by inviting them to attend and participate in the workshop. Most invited local agencies attended the workshop, and some agencies presented comments. Water Board staff expects the same level of outreach and input for this workshop.

PRESENTERS

Francis Coony, P.E. Engineer

RECOMMENDATION

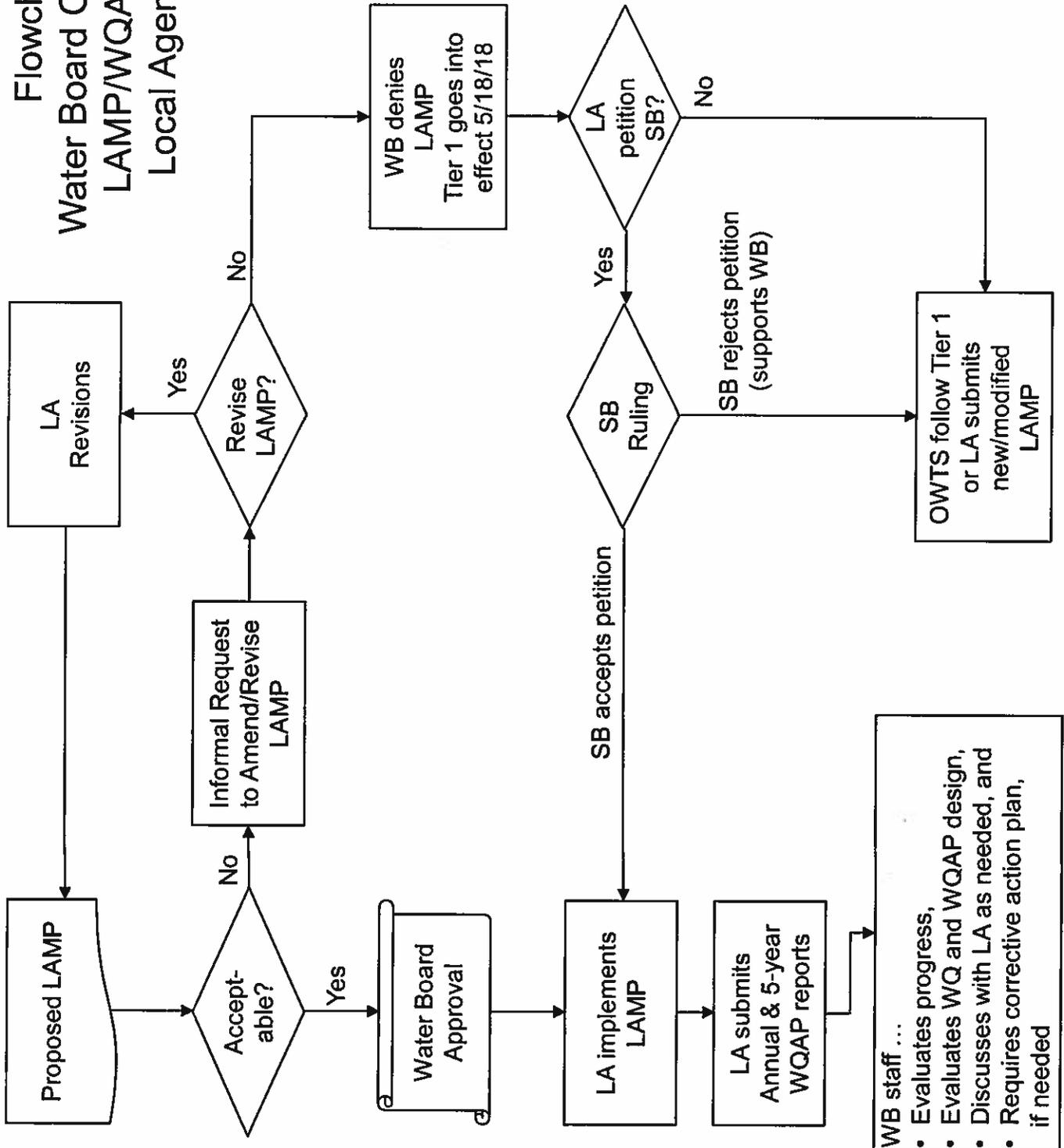
This is an informational item only. The Water Board may provide direction to staff.

ENCLOSURE	ITEM	BATES NUMBER
1	Flowchart – Options to Approve LAMP/WQAP and Potential Local Agency Responses	8 - 11
2	Presentation	8 - 15
3	Approved Excerpts from other Local Agencies	(Submitted later)

ENCLOSURE 1

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Flowchart No. 1. Water Board Options to Approve LAMP/WQAP and Potential Local Agency Responses



WB staff ...

- Evaluates progress,
- Evaluates WQ and WQAP design,
- Discusses with LA as needed, and
- Requires corrective action plan, if needed

Abbreviations	
LA	Local Agency
LAMP	Local Agency Management Program
OWTTS	Onsite Wastewater Treatment System
SB	State Board
WB	Lahontan Water Board
WQ	Water Quality
WQAP	Water Quality Assessment Program

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ENCLOSURE 2

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Item 8

OWTS Regulatory Status Update

Francis Coony, P.E., Water Resources Control Engineer
Lahontan Regional Water Quality Control Board

April 19, 2017
Barstow, CA



Discussion Outline

- September 2016 Questions
 - Occurrence of Degradation
 - Local Agency Management Program (LAMP) approval flexibility
 - Local Agency Funding
- Water Quality Assessment Program (WQAP) long-term approach
- Future Management Considerations
- Water Board Discussion
- Flowchart – Options to approve a LAMP/WQAP and potential Local Agency Responses

Occurrence of Degradation

- Sewering needs should be identified through the WQAP reports.
 - Alternatives to reduce risk should be explored such as larger lots, supplemental treatment, or prohibitions on new OWTS.
 - If sewerage is needed, residents of the affected area should consider forming a public entity with authority to perform water quality monitoring and to plan, design, construct, and operate sewage and treatment works.
- If OWTS owners are reluctant, Water Board may issue enforcement orders to OWTS owners.
- Water Board can assist public entity in obtaining financing through grants and loans.



Water Board LAMP Approval Flexibility

- The Water Board can consider accepting or rejecting LAMPs. The Water Board cannot impose conditions at time of LAMP approval.
- Instead, Water Board staff can request local agency revise LAMP to address concerns.
- LAMP must include a WQAP that can identify potential and actual water quality degradation. If adverse impacts occur, local agency shall implement corrective actions.



Local Agency Funding

- Local Agency funding capability is not a Tier 2 Policy requirement, *however*,
- Local agency funding of a WQAP is a Tier 2 Policy requirement.

Water Quality Assessment Program

Long-term approach:

- Monitor to discover degradation
 - Use existing water quality data
 - Use existing land use information
 - Use projected development information
- Monitor to evaluate degradation
 - Consider area-specific monitoring, probably groundwater monitoring wells
 - Perform modeling as needed
 - Could be performed by a public entity designated to evaluate area for sewerage

Future Management Considerations

- Occurrence of actual or future groundwater degradation
 - Existing septic system development locations
 - Expected future septic system development locations
- Timing and extent when degradation becomes pollution
- Effect on receptors (supply wells)



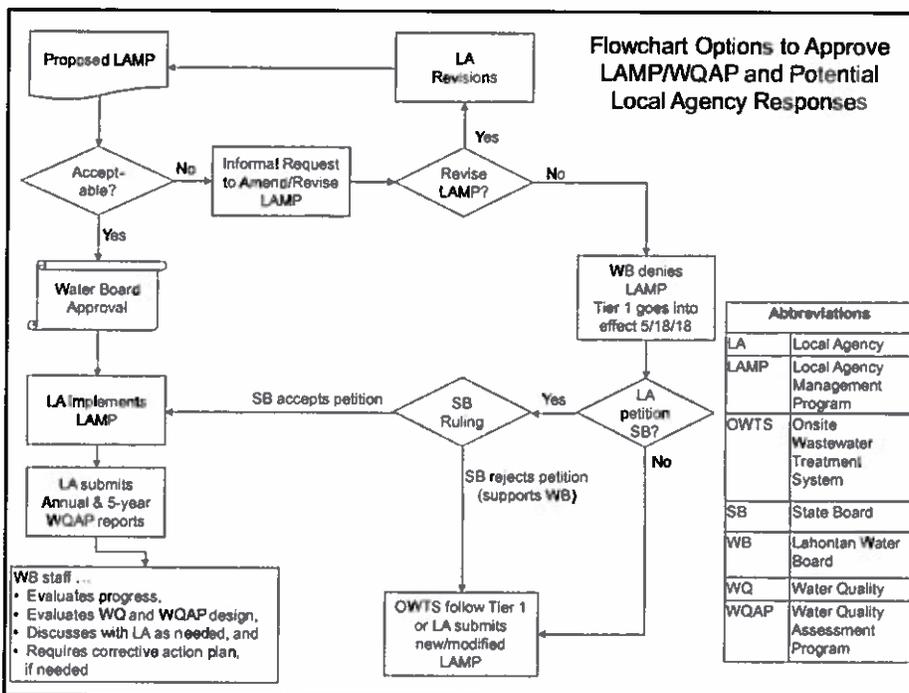
Water Board Discussion

- LAMP/WQAP Sufficiency
- LAMP/WQAP Approval
- WQAP Scope
- Next Steps:
 - April 26, 2017 – Technical Meeting w/USGS at MWA
 - July 12, 2017 – Water Board to Consider San Bernardino County LAMP



Abbreviations

Abbreviation	Meaning ...
OWTS	Onsite Wastewater Treatment System
LAMP	Local Agency Management Program
WQAP	Water Quality Assessment Program
WDR	Waste Discharge Requirements
CDO	Cease and Desist Order
CAO	Cleanup or Abatement Order



ITEM 8 - LATE ADDITION

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION**

MEETING OF APRIL 19-20, 2017

BARSTOW

ITEM 8

**WORKSHOP – ONSITE WASTEWATER TREATMENT SYSTEM (OWTS) POLICY,
IMPLEMENTATION PROGRESS REPORT**

Add the attached Enclosure 3, Approved Excerpts from other Local Agencies behind
Bates page 8-19

ENCLOSURE 3

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APPROVED EXCERPTS FROM OTHER LOCAL AGENCIES

The following excerpts provide an overview of major elements of concern to the Water Board and are from the Kern County and Riverside County LAMPS.

Most of Kern County is within the Central Valley Regional Water Board's (Region 5) jurisdiction, which is approving the LAMP, while the eastern portion is within the Lahontan Regional Board's jurisdiction (Region 6) and only small portions are in the Central Coast Regional Board (Region 3) and Los Angeles Regional Board (Region 4).

The Colorado River Regional Water Board (Region 7) approved the Riverside County LAMP, which lies within Region 7, the Santa Ana Regional Water Board (Region 8) and the San Diego Regional Water Board (Region 9).

EXCERPT	ITEM	BATES NUMBER
A	Riverside County LAMP, page 15	8 - 28
B	Riverside County LAMP, pages 37 and 38	8 - 32
C	Riverside County LAMP, page 47	8 - 36
D	Riverside County LAMP, page 48 and 49	8 - 40
E	Kern County Onsite Systems Manual - Part 1, pages 29 - 33	8 - 44
F	Kern County LAMP, pages 35 and 36	8 - 52
G	Kern County Onsite Systems Manual, Part 3, pages 1 - 3	8 - 56
H	Kern County Onsite Systems Manual, Part 4, pages 1 - 6	8 - 62
I	Kern County LAMP, pages 51 - 55, and revised page 53	8 - 70
J	Kern County LAMP, pages 29 - 30	8 - 78

The following table summarizes different approaches taken by Riverside and Kern counties to address different selected criteria for regulating OWTS.

Table: Comparison of Kern and Riverside County LAMPs for OWTS Criteria of Significance to the Lahontan Water Board

Note: Most of Kern County is in the Central Valley Region. The criteria in this enclosure apply to the entire county regardless of regional board jurisdiction.

Criterion	Riverside County LAMP	Kern County LAMP
Minimum lot sizes	<u>See Excerpt A</u> Minimum lot size is ½ acre, not less than 2½ acres if subdivision has individual water wells.	<u>See Excerpt E</u> The limitations on lot size is based on the need for, and the results of, a nitrogen-loading analysis. See special section below this table.
Maximum number of lots in a new subdivision	<u>See Excerpt A</u> Proposed subdivision with more than 40 lots where lot sizes are less than 2½ acres must have extension or development of full public sewerage systems to be permitted by the Regional Board.	(No requirements found)
Supplemental Treatment System (STS) requirements	<u>See Excerpt B</u> In the Riverside Co. LAMP, STS are part of Alternative Treatment Systems. <ul style="list-style-type: none"> • STS must achieve 50% total nitrogen reduction. • STS requires an annual renewal operating permit. • STS owners must have a service agreement with a qualified service provider (QSP). • QSP must conduct an annual inspection of STS and provide Local Agency inspection results within 45 days of inspections. • Failure of an owner to maintain an annual operating permit may result in enforcement action. 	<u>See Excerpts F, G, and H</u> <ul style="list-style-type: none"> • Local agency defines alternative OWTS as system with STS or different dispersal systems, such a pressurized dose systems. • STS may have to achieve a 50% total nitrogen reduction, depending upon nitrogen loading analysis. • County issues renewable annual permit to OWTS owner to: <ul style="list-style-type: none"> – ensure adequate system performance; – give right to enter property to conduct inspections; and – require performance monitoring and reporting.
Annual reports	<u>See Excerpt C</u> In addition to Policy required data, Local Agency will require reporting water quality data to the Division of Drinking Water for public water systems less than 200 service connections.	(Same as Policy required data)

Criterion	Riverside County LAMP	Kern County LAMP
Water Quality Assessment Program (WQAP)	<p><u>See Excerpt C</u> Local Agency will submit an assessment report every 5 years.</p>	<p><u>See Excerpt I</u></p> <ul style="list-style-type: none"> • WQAP is organized by groundwater basins and localized areas. • Scope includes combination of GIS-based mapping, OWTS inventories, and nitrate analyses. • Process includes joint cooperation efforts among different agencies, such as water districts and special districts. • Process allows establishment of Onsite Wastewater Disposal Zones, which would give construction authority.
5-year WQAP assessment report	<p><u>See Excerpt C</u></p> <ul style="list-style-type: none"> • The assessment report will include monitoring data for nitrates and pathogens, and may include data for other constituents are needed to adequately characterize the impacts of OWTS on water quality. • If water quality is found to be impacted by OWTS, as determined by the Regional Board and the Local Agency, changes in the LAMP will be implemented to address these impacts. 	<p><u>See Excerpt I</u> Assessment report will include the following:</p> <ul style="list-style-type: none"> • evidence of water quality impact from OWTS; • recommended LAMP changes to address identified impacts; • Groundwater data loaded into GeoTracker; and • Surface water loaded into CEDEN/SWAMP. <p>In the Lahontan Region, the county will consider utilizing a computer model to evaluate nitrate loading and groundwater recharge rates for areas of high density and/or clustered develop. The county added this requirement to address Lahontan Water Board concern to forecast the arrival time to groundwater.</p>
Areas of special concern	<p><u>See Excerpt D</u> The LAMP lists 7 areas of special concern. Some of these may be Water Board prohibitions.</p>	<p><u>See Excerpt J</u> The LAMP does not specify specific areas. However, the LAMP gives the county the authority to delineate special areas based on cumulative impact assessment results.</p>

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Excerpt A

Riverside County LAMP, page 15

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Excerpt A

10. Minimum Lot Size Requirements

The Department has a minimum lot size requirement for lots proposed to be created and developed based on the use of an OWTS. The minimum lot size for any subdivision of property made pursuant to the Subdivision Map Act proposing to use OWTS shall not be less than 0.5 acre, or less than 2.5 acres if also proposing individual domestic wells. In proposed subdivisions where high ground water, steep slopes, or poor soil conditions exist, or where there are significant impacts to ground water quality, any or all of the following may be required: an increase in lot size, supplemental treatment, or other mitigating measures as determined by the Department. Where zoning regulations require greater lot sizes, those regulations shall take precedent.

Lots created prior to the implementation of this LAMP are not subject to the aforementioned minimum lot size requirements, however they will be subject to the design requirements of this LAMP. Existing and approved tentative tract maps are also not subject to the aforementioned minimum lot size requirements, if they have received an approved San 53 (see Chapter 7) from DEH *AND* have submitted a planning application prior to the effective date of the LAMP.

Proposed subdivisions with more than 40 lots where the lot sizes are less than 2.5 acres per lot shall provide for the extension or development of full public sewerage services to be permitted by the Regional Water Quality Control Board.

Note: Areas of special concern will have additional requirements as specified in Chapter 13.

11. Preliminary Recommendations

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

- a) Design rate in minutes/inch converted to square feet/100 gallons of septic tank capacity for leach lines, and/or in gallons per square foot converted to vertical feet of seepage pit per 100 gallons of septic tank capacity (specify 5 or 6 foot diameter) for both the primary and expansion systems.
- b) Location of the systems.
Note: If possible, the septic tank should be located in the front yard. This helps to accommodate servicing and facilitates an eventual connection to sewer if it becomes available.
- c) Depth of systems. Recommendations should correspond to depth of tests. Maximum depth of leach line or pit should be stated. Effective sidewall of seepage pit must correspond to testing depths.
- d) Special designs, if necessary. Examples include additional separation of pits or lines, amount of rock below line in excess of required code, chamber type line, non-conventional pumped, advanced treatment, etc.
- e) A statement as to whether or not there will be sufficient usable space available on every lot - in addition to the areas set aside for the primary and expansion

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Excerpt B

Riverside County LAMP, pages 37 and 38

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Excerpt B

CHAPTER 6 – ALTERNATIVE TREATMENT, GRAYWATER, AND HOLDING TANKS

Alternative Treatment Systems

Many lots that are desirable for development are unsuited for conventional septic systems as defined in Riverside County Ordinance 650 due to soil conditions and/or groundwater issues. Alternative Treatment Systems, also referred to as ATUs, are used to overcome specific site constraints generally having to do with high ground water or shallow soils, and provide the additional treatment that will not be provided in the soil.

As required by Ord. 650, all ATUs are subject to an annual renewable operating permit (ROP) issued by the Department and subject to inspections. A right of entry agreement and the requirement for maintaining an ROP shall be recorded on the property deed.

ATU Design Criteria

1. All supplemental treatment components of an ATU must be certified by the National Sanitation Foundation (NSF) to meet the minimum requirements of NSF Standard 40 and must meet the performance conditions established by this Department and the Regional Water Board. ATUs utilizing nitrogen reduction components shall achieve a minimum 50 percent nitrogen reduction, when comparing the 30-day average influent concentration to the 30-day average effluent concentration.
2. Percolation testing, soil depth evaluations and groundwater elevation determinations shall be performed by a Professional of Record (PR). Percolation testing will be performed at the proposed installation depth of the dispersal field and shall follow the procedures stated in Chapter 3 of this LAMP.
3. Treated effluent from all ATUs shall be discharged to a subsurface dispersal system consisting of leach lines, seepage pits, or pressurized drip dispersal systems.
4. System sizing for dispersal systems that utilize leach lines or seepage pits shall be the same as those used for conventional OWTS.
5. Pressurized drip dispersal systems shall be designed and installed per the manufacturer's recommendations.
6. A minimum 2 feet of soil must separate the bottom of the ATU dispersal system from impermeable strata or the highest anticipated level to which groundwater could be expected to rise.
7. The ATU shall be equipped with a visual and audible alarm that alert the owner/occupant of system malfunctions.
8. Site plans must include detailed specifications of the components of the proposed ATU.

Construction Requirements for Drip Dispersal Systems

The construction requirements for dispersal systems consisting of leach lines and seepage pit systems can be found in the specific chapters in this LAMP for those systems. The construction requirements for pressurized drip dispersal systems shall be as follows.

1. Drip dispersal systems must be installed by a Qualified Service Provider (QSP) trained on the specific system proposed, and installed according to the PR's specifications for location, components, size, and depth.

2. The natural soil cover over a drip dispersal system shall be at least 9 inches but no greater than 12 inches.
3. The area of the drip dispersal system shall be planted with appropriate vegetation to allow for uptake of nutrients from the wastewater.
4. The drip dispersal system shall be designed and maintained to reduce orifice clogging and root intrusion.
5. The drip dispersal system shall be designed, located and maintained to prevent vehicular traffic over it.
6. 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 leach lines.
7. Drip dispersal systems are pressure distribution systems and head loss calculations shall be provided to ensure proper hydraulic pressure at the emitter.
8. Drip dispersal system emitter lines shall be designed as a continuous loop circuit with no dead-ends. Vacuum release valves shall be installed at the highpoint of the emitter lines.
9. 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.
10. 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.
11. All drip dispersal systems shall incorporate a mechanism for backwashing or flushing the drip lines and filters.
12. All components shall be certified in writing by the PR who designed the system that the installation was completed per the approved design.

Operation and Maintenance

1. All ATUs require an annual operating permit issued by this Department as required by Ordinance 650.
2. All ATU owners must maintain a service agreement with a QSP trained by the manufacturer.
3. All ATUs require, at a minimum, an annual inspection by the QSP to ensure proper operation and maintenance of the system. The QSP shall provide copies of the inspection results to this Department within 45 days of the date of inspection.
4. Failure to maintain an annual operating permit and/or provide the annual inspection report to this Department may result in enforcement action as specified in Ordinance 650.

Graywater Systems

Graywater is defined in the California Plumbing Code as untreated water that has not been contaminated with any toilet discharge. Graywater includes wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers. No plumbing connection deemed by the

Excerpt C

Riverside County LAMP, page 47

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Excerpt C

CHAPTER 12 – DATA COLLECTION AND REPORTING

Data Collection/Reporting/Notifications

As a condition of oversight of OWTS within Riverside County, the Department has certain responsibilities related to data collection and reporting to the Colorado River Basin, Santa Ana, and San Diego Regional Water Quality Control Boards (Regional Water Boards) as well as in some instances to the owners of water systems and the State Water Board's Division of Drinking Water (DDW). This Chapter will detail the data that must be collected and the procedure for reporting to Regional Water Boards and notifications to owners of water systems and the State Water Board DDW.

Reporting to Regional Water Boards

On an annual basis, the Department will collect data and report in tabular spreadsheet format the following information. A copy of the report will be provided to the Colorado River Basin, Santa Ana and San Diego Regional Water Boards no later than February 1st of each year, and will include the preceding reporting period of January 1st to December 31st. At minimum, the annual report will include data for nitrates and pathogens from the following:

1. Random well samples from domestic wells (if reported).
2. Routine real estate transfer samples (if reported).
3. Water quality data reported to the LPA for public water systems less than 200 service connections.
4. Water quality data from initial domestic well sampling.
5. The number, location, and description of permits issued for new and replacement OWTS.
6. Additional water quality data from sampling performed as part of an NPDES permit or as part of a Waste Discharge Requirement, as reported to us by the responsible agency.
7. The volume, location of disposal, and hauler for all liquid waste disposal of septage.

Note: The Department will direct all public water systems, with less than 200 service connections, to submit all required groundwater sample results through electronic data transfer (EDT) to the SWRCB's Division of Drinking Water Program.

Every fifth year, the Department will submit an assessment report to the applicable regional boards. At a minimum, this assessment report will include monitoring data for nitrates and pathogens, and may include data for other constituents which are needed to adequately characterize the impacts of OWTS on water quality. If water quality is found to be impacted by OWTS, as determined by the Regional Board and the Department, changes in the LAMP will be implemented to address these impacts.

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Excerpt D

Riverside County LAMP, page 48 and 49

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Excerpt D

CHAPTER 13 – IMPAIRED WATER BODIES AND AREAS OF SPECIAL CONCERN

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 (See Appendix VIII).

Currently, there are six (6) impaired water bodies in Riverside County listed in Attachment 2 of the State's OWTS Policy: Canyon Lake; Fulmor Lake; Golden Star Creek; Santa Ana River, Reach 2; Temescal Creek, Reach 6 (Elsinore Groundwater sub basin boundary to Lake Elsinore Outlet); and Palo Verde Outfall Drain and Lagoon. The Department will follow the applicable specific requirements found in Tier 3 of the State's OWTS Policy or develop and obtain approval from the Regional Water Board of its own Advanced Protection Management Program.

The following areas of special concern either prohibit waste discharge or have additional discharge requirements:

1. Mission Springs or Desert Hot Springs Aquifer
 - a) The discharge of waste from new or existing individual disposal systems on parcels of less than one-half acre that overlie the Mission Creek Aquifer or the Desert Hot Springs Aquifer in Riverside County is prohibited, if a sewer system is available.
 - b) For parcels of one-half acre or greater that overlie the Mission Creek Aquifer or the Desert Hot Springs Aquifer in Riverside County, the maximum number of equivalent dwelling units with individual disposal systems shall be two per acre, if a sewer system is available. The discharge of waste from additional new or existing individual disposal systems is prohibited, if a sewer system is available.
2. Cathedral City Cove Prohibition Area - the discharge of wastewater into the ground through the use of individual subsurface disposal systems in the Cove area of Cathedral City in Riverside County is prohibited.
3. Cherry Valley Community of Interest (CVCOI) – Rising nitrate levels have been observed in the CVCOI. In accordance with Riverside County Ordinance 871, the following prohibitions are in place in the CVCOI:
 - a) No application for a new septic system shall be accepted for any lot within the CVCOI unless that system is designed to remove no less than fifty percent (50%) of the nitrogen released in the effluent (advanced treatment, denitrifying systems).
 - b) No existing system in the area shall be expanded or otherwise modified to accommodate new construction and/or additional wastewater generating fixtures or appliances.
4. I-10 Corridor at North Indian Canyon Drive and Interstate 10 – New developers must submit a Report of Waste Discharge (ROWD) and application for Waste Discharge Requirements (WDRs) to the Colorado River Basin Water Board for permitting. The area overlies a high quality groundwater aquifer with a drinking water beneficial use. Due to

Increasing business development in the area, the Colorado River Basin Water Board requires the use of advanced treatment units for nitrogen removal for new installations. The boundaries of the I-10 Corridor shall be defined as one and one half miles east and west of the Interstate 10 and Indian Canyon Drive Interchange and one and one half miles north and south of the Interstate 10 and Indian Canyon Drive interchange.

5. Quail Valley – Because of small lot sizes, high population density, historical failure rates, poor soil conditions, and variable groundwater levels, the following prohibitions are in place on any new OWTS in accordance with Riverside County Ordinance 856:
 - a) No new septic systems shall be approved for any lot or parcel within the prohibited area.
 - b) No existing OWTS in the prohibited area shall be expanded or otherwise modified to accommodate new construction and/or additional wastewater generating fixtures or appliances.
6. Temecula Valley Wine Country – Potential siting and operational requirements for protection of water quality could include: establishing increased setbacks from capture zones for existing public supply wells, requiring use of advanced treatment systems and flow limits/restrictions for new or replacement OWTS located within close proximity to capture zones of public supply wells, additional monitoring requirements, etc.
7. Homeland/Romoland Prohibition – The prohibition of new OWTS in this area has been in place since 1982. New OWTS are prohibited unless exemption criteria are met.
8. Other areas which may be identified as a special concern by the Regional Board at a later date.

Excerpt E

Kern County Onsite Systems Manual – Part 1

pages 29 – 33

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Excerpt E

1.8 Cumulative Impact Assessment Guidelines

1. **General Provisions.** County OWTS Ordinance Article 3 authorizes EHD to require the completion of additional technical studies ("cumulative impact assessment") for OWTS proposals in situations where cumulative impacts on groundwater and/or watershed conditions are of potential concern. Cumulative impacts from OWTS may occur due to such factors as the constituent levels in the wastewater (e.g., nitrogen content), the volume of wastewater flow, the density of OWTS discharges in a given area, and/or the sensitivity and beneficial uses of water resources.

Cumulative impact assessments to address potential concerns shall be conducted in accordance with the requirements outlined in these guidelines. The results of the assessment shall be submitted for review by EHD and may be the basis for denial, modification or imposition of specific conditions for the OWTS proposal, in addition to other siting and design criteria.

2. **Cumulative Impact Issues.** The primary issues to be addressed in cumulative impact assessments will normally include the following:
 - a. **Groundwater Mounding.** A rise in the water table, referred to as "groundwater mounding", may occur beneath or down-gradient of OWTS as a result of the concentrated or high volume of hydraulic loading from one or more systems in a limited area.
 - b. **Groundwater Nitrate Loading.** Discharges from OWTS contain high concentrations of nitrogen that may contribute to rises in the nitrate level of local and regional aquifers.

For individual cases, EHD may identify and require analysis of cumulative impact issues other than those listed above which could pose potential water quality, public health, or safety risks.

3. **Qualifications.** Cumulative impact assessments required for alternative system proposals shall be performed by or under the supervision of one of the following licensed professionals:
 - a. Registered Civil Engineer
 - b. Registered Environmental Health Specialist
 - c. Registered Geologist

Additionally, the licensed professional assuming responsibility for the cumulative impact assessment should have training and experience in the fields of water quality and hydrology acceptable to the EHD.

4. **Cases Requiring Cumulative Impact Assessment.** Cases where cumulative impact assessments shall be required are listed in Table A. Additionally, EHD reserves the right to require the completion of a cumulative impact assessment in any case where, special circumstances related to the size, type, or location of the OWTS warrant such analysis.

**Table A.
Projects Requiring Cumulative Impact Assessment***

Type of Project	Lot Size (acres)	Design Wastewater Flow (gpd)	Groundwater Mounding Analysis	Nitrate Loading Analysis
Residence, including 2 nd dwelling unit(s)	-	< 750	No	No
Residence, including 2 nd dwelling unit(s)	< 1	750 +	No	Yes
Multiunit and Non-residential	< 1	750 +	No	Yes
	-	1,500+	Yes	No
	-	2,500+	Yes	Yes
Subdivisions	2.5+	-	No	No
	<2.5	-	No	Yes

*Note: EHD may also require cumulative impact assessment based on project or site specific conditions.

** The hydrological and water quality analysis requirements may be modified depending on site specific conditions and the extent to which the OWTS discharge contributes flow to catchment area supporting the vernal pool.

5. Methods

a. Groundwater Mounding Analysis

- i. Analysis of groundwater mounding effects shall be conducted using accepted principles of groundwater hydraulics. The specific methodology shall be described and supported with accompanying literature references, as appropriate.
- ii. Assumptions and data used for the groundwater mounding analysis shall be stated along with supporting information. A map of the project site showing the location and dimensions of the proposed system(s) and the location of other nearby OWTS, wells and

relevant hydrogeologic features (e.g., site topography, streams, drainage channels, subsurface drains, etc.) shall be provided.

- iii. The wastewater flow used for groundwater mounding analyses shall be the design sewage flow, unless supported adequately by other documentation or rationale.
- iv. Groundwater mounding analyses shall be used to predict the highest rise of the water table and shall account for background groundwater conditions during the wet weather season.
- v. All relevant calculations necessary for reviewing the groundwater mounding analysis shall accompany the submittal.
- vi. Any measures proposed to mitigate or reduce the groundwater mounding effects shall be presented and described as to their documented effectiveness elsewhere, special maintenance, monitoring requirements, or other relevant factors.

6. Nitrate Loading

- a. Analysis of nitrate loading effects shall, at a minimum, be based upon construction of an annual chemical-water mass balance. The specific methodology shall be described and supported with accompanied literature references as appropriate.
- b. Assumptions and data for the mass balance analysis shall be stated, along with supporting information. Such supporting information should include, at a minimum:
 - i. climatic data (e.g., precipitation, evapotranspiration rates);
 - ii. groundwater occurrence, depth and flow direction(s);
 - iii. background groundwater quality data, if available;
 - iv. soil conditions and runoff factors;
 - v. wastewater characteristics (i.e., flow and nitrogen content); and,
 - vi. other significant nitrogen sources in the impact area (e.g., livestock, other waste discharges, etc.).
- c. A map of the project siting showing the location and dimensions of the proposed system(s) and the location of other nearby OWTS, wells and relevant hydrogeologic features (e.g., site topography, streams, drainage channels, subsurface drains, etc.) shall be provided.

- d. The wastewater flow (average) used for nitrate loading analyses shall be as follows, unless adequately supported by other documentation or rationale:
 - i. For individual residential systems: 50 gpd/bedroom;
 - ii. For multi-family residential systems and other non-residential systems: average monthly wastewater flow for the proposed OWTS;
- e. Minimum values used for the total nitrogen concentration of septic tank effluent shall be as follows, unless supported adequately by other documentation or rationale:
 - i. Residential wastewater: 70 mg/l
 - ii. Non-residential wastewater: as determined from sampling of comparable system(s) or from literature values.

EHD may require the use of more conservative values than cited above if the values are judged (by EHD) not likely to be representative of the proposed system(s).

- f. All relevant calculations necessary for reviewing the nitrate loading analysis shall accompany the submittal.
- g. Any measures proposed to mitigate or reduce the nitrate loading effects shall be presented and described as to their documented effectiveness elsewhere, special maintenance or monitoring requirements or other relevant factors.

7. Evaluation Criteria

- a. **Groundwater Mounding.** The maximum acceptable rise of the water table for short periods of time (e.g., one to two weeks) during the wet weather season, as estimated from groundwater mounding analyses, shall be as follows:
 - i. **General Requirement for all OWTS.** Groundwater mounding shall not result in more than a 50-percent reduction in the required minimum depth to seasonally high groundwater per Part 2.2 of this Manual, as applicable, for the type of OWTS and site conditions. For example, where a 5-foot vertical separation to the native groundwater level is required, a short-term "mounding" rise of the water table to within 2.5 feet of trench bottom would be acceptable during peak wet weather conditions. Where a 3-foot vertical separation is required, a short-term rise to within 1.5 feet of trench bottom would be acceptable.

- ii. Requirement for Large Systems. Notwithstanding (a) above, for all OWTS with design flows of 2,500 gpd or more (i.e., "large systems"), the groundwater mounding analysis shall demonstrate that the minimum required groundwater separation, per Part 2.2 of this Manual, will be maintained beneath the system during peak wet weather conditions.

EHD may require, in any individual case or in specific geographical areas, a minimum of 2 feet of groundwater clearance ("mounded" conditions) where deemed necessary for protection of public health, or based upon specific requirements or recommendations of the Regional Water Board.

- b. **Nitrate Loading.** Minimum criteria for evaluating the cumulative nitrate loading from proposed OWTS shall be as follows:

- i. For Areas Served By Individual Water Wells.

- (a) Existing Lots of Record: New OWTS on existing lots of record shall not cause the groundwater nitrate-nitrogen concentration to exceed 7.5 mg-N/L at the nearest existing or potential point of groundwater withdrawal (e.g., water well location);

and

- (b) New Subdivisions: The total loading of nitrate from new subdivisions shall not result in an average groundwater nitrate-nitrogen concentration over the geographical extent of the subdivision that exceeds 7.5 mg-N/L.

- c. For Areas Not Served by Individual Water Wells.

- i. Existing Lots of Record: OWTS installed on existing lots of record shall not cause the groundwater nitrate-nitrogen concentration to exceed 10 mg-N/L at the nearest existing or potential point of groundwater withdrawal (e.g., water well location); and

- ii. New Subdivisions. The total loading of nitrate from new subdivisions shall not result in an average groundwater nitrate-nitrogen concentration over the geographical extent of the subdivision that exceeds 10 mg-N/L.

EHD may require, in any individual case or specific geographical areas, more stringent nitrate-nitrogen compliance criteria when deemed necessary for protection of public health, or based on specific requirements or recommendations of the RWQCB.

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Excerpt F

Kern County LAMP, pages 35 and 36

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Excerpt F

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Alternative OWTS

General

An alternative OWTS is a type of OWTS that utilizes either a method of wastewater treatment other than a conventional septic tank, for the purpose of producing a higher quality wastewater effluent and/or a method of wastewater dispersal, other than a gravity fed drain field trench for effluent dispersal. Kern County Ordinance and Onsite Systems Manual allow for, and in some cases require, the use of an alternative OWTS. Alternative OWTS may be permitted by EHD for the repair or upgrading of any existing OWTS and for new construction on any legally created parcel where: (a) It is determined that sewage cannot be disposed of in a sanitary manner by a conventional OWTS; (b) It is determined that an alternative OWTS would provide equal or greater protection to public health and the environment than a conventional OWTS; or (c) necessary to comply with requirements adopted for Mountain and Groundwater Impact Areas. Alternative OWTS normally include pressure distribution for effluent dispersal and often include supplemental treatment.

General requirements guiding the use of alternative OWTS include the following:

- Types of alternative OWTS permitted are limited to those identified in the Manual for which siting and design standards have been adopted and approved by the EHD and the Regional Water Board as part of the County's LAMP.
- All alternative OWTS must be designed by a Registered Professional (RCE, REHS or PG) as allowed by their registration and installed by a contractor duly licensed by the Contractors State License Board of the State of California to install OWTS (A, C-42 or C-36).
- All alternative OWTS require the issuance of a renewable annual operating permit which is in addition to the construction permit issued for system installation. Operating permits are intended to serve as the basis for ensuring on-going maintenance and require that such work be performed by a registered professional or qualified on-site wastewater maintenance provider.
- Monitoring and reporting requirements to verify adequate performance of alternative OWTS, are implemented as conditions of the operating permit and vary according to the type of system.

Types of Alternative OWTS

The types of alternative OWTS approved for use in Kern County include the following:

- 1. Supplemental Treatment Systems:**
 - a. Intermittent sand filters;
 - b. Proprietary Systems;

- c. Others as may be approved.

2. Alternative Dispersal Systems:

- a. Pressure distribution systems;
- b. Mound systems;
- c. Subsurface drip dispersal systems;
- d. Others as may be approved.

Siting, Design, and Construction Requirements

Siting, design, and construction requirements are provided in Part 3 of the Manual for each respective type of Alternative OWTS.

Operating permits

A County-issued operating permit is required for all alternative systems. Operating permits are intended to serve as the basis for verifying the adequacy of alternative system performance and ensuring on-going maintenance, including requirements for system inspection, monitoring and reporting of results to Environmental Health, along with the requirement for permit renewal; typically on an annual or biennial (every two years) basis. An OWTS operating permit gives Environmental Health right of inspection. In addition, failure to comply with requirements of an OWTS operating permit may subject the system owner or user to administrative enforcement and fines.

Performance monitoring and reporting requirements

Performance monitoring requirements and frequencies for Alternative OWTS are provided in Part 3 and Part 4 of the Manual and are dependent on the type and complexity of the system, treatment components, and dispersal system. A monitoring program will be established for each alternative OWTS as a condition of the operating permit at the time of permit issuance and may be amended at the time of permit renewal. Monitoring shall be performed to ensure that the alternative OWTS is functioning satisfactorily to protect water quality and public health and safety. The monitoring program will be in accordance with guidelines prescribed in the Onsite Systems Manual.

EHD will compile and review monitoring and inspection results for alternative OWTS and periodically provide a summary of results to the Central Valley and Lahontan Regional Water Boards. Based on this review, EHD may require corrective action for specific properties or certain types of alternative OWTS, or general changes in monitoring and inspection requirements.

Excerpt G

**Kern County Onsite Systems Manual, Part 3, pages 1 –
3**

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3.0 Introduction

GENERAL

“Alternative OWTS” is a type of OWTS that utilizes either a method of wastewater treatment other than a conventional septic tank for the purpose of producing a higher quality wastewater effluent and/or a method of wastewater dispersal other than a gravity-fed disposal trench or seepage pit for effluent dispersal.

As provided in the Kern County Code (Article 3), Alternative OWTS may be used for system repairs, existing lots of record, and for land divisions, in accordance with conditions and requirements in Part 5 of this Manual as approved by the Director.

This section of the Onsite Systems Manual provides technical guidance and requirements for the application, design, construction and management of various alternative onsite wastewater treatment and dispersal technologies suited to the conditions and constraints in Kern County.

ALTERNATIVE TREATMENT SYSTEMS

Requirements are provided for the following alternative treatment systems:

1. Intermittent Sand Filters
2. Proprietary Treatment Units

County Code allows for the future addition of other alternative treatment systems, as may be approved by the Director and the appropriate California Regional Water Quality Control Board(s). Upon approval, such other alternative treatment systems will be incorporated into this Manual, including a listing of applicable requirements, similar to the information provided for intermittent sand filters and proprietary treatment units.

Dispersal systems receiving effluent from an alternative treatment system shall be sited, designed and constructed in accordance with the respective design and construction requirements for the particular type of dispersal system (e.g., conventional trenches, pressure distribution, mound system, at-grade or drip dispersal), as specified in this Manual.

ALTERNATIVE DISPERSAL SYSTEMS

Requirements are provided for the following types of alternative dispersal systems.

1. Pressure Distribution Trenches
2. Mound Systems
3. At-grade Systems
4. Raised Sand Filter Bed (aka Open-bottom Sand Filter)
5. Subsurface Drip Dispersal

County Code allows for the future addition of other alternative dispersal systems, as may be approved by the Director and the appropriate California Regional Water Quality Control Board(s). Upon approval, such other alternative dispersal systems will be incorporated into this Manual, including a listing of applicable requirements, similar to the information provided for pressure distribution trench systems and subsurface drip dispersal.

DEPTH TO GROUNDWATER REQUIREMENTS

A primary basis for using alternative OWTS is to compensate for reduced vertical separation distance to groundwater below the dispersal system. Table 3-1 summarizes the depth to groundwater requirements that apply to conventional OWTS and various types of alternative OWTS. Seepage pits (not displayed in the table) normally require 12-ft vertical separation to groundwater, which can be reduced to 10-ft separation where supplemental treatment is used.

Table 3-1.
Depth to Groundwater Requirements for Conventional and Alternative OWTS
(feet, below trench bottom)

Type of OWTS	Percolation Rate (MPI)	Min. Depth to Groundwater (feet)		
		2	3	7
Conventional Septic Tank & Dispersal Trench	1-60			X
Conventional Trench w/Supplemental Treatment Pressure Distribution (PD) Trench At-grade (1-60 mpi only)	1-120		X	
Pressure Distribution w/Supplemental Treatment Mound At-grade w/Supplemental Treatment Raised Sand Filter Bed Drip Dispersal w/Supplemental Treatment	1-120	X		

OPERATION AND MAINTENANCE GUIDELINES

Operation and maintenance guidelines for each alternative OWTS installation shall be supplied to the system owner by the designer, with a copy also provided to EHD. Final approval of system installation shall be contingent upon confirmation by EHD that required operation and maintenance guidelines have been provided.

Minimum items expected to be contained in the operation and maintenance guidelines include the following:

1. General description of the OWTS, design capacity, and any special permit or operating conditions;
2. Brief description of the key components and their function;
3. For each component, describe recommended inspection and maintenance activities, including frequency; provide copies of manufacturer operation and maintenance instructions and "trouble-shooting" guides, as applicable;

4. General preventative measures for proper use and maintenance of the OWTS (e.g., "Dos and Don'ts");
5. Copy of system plans or "as-built" drawings, as applicable.
6. Contact information for the following:
 - a. Designer
 - b. Installer
 - c. Maintenance contractor
 - d. Environmental Health Division
7. Other information, references or documents, as appropriate.

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Excerpt H

**Kern County Onsite Systems Manual, Part 4,
pages 1 – 6**

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Excerpt H

4.1 OWTS PERFORMANCE REQUIREMENTS

GENERAL

1. All onsite wastewater treatment systems (OWTS) shall function in such a manner as to:
 - a. Be sanitary and not create a health hazard or nuisance;
 - b. Prevent backup or release of wastewater or wastewater effluent into the structure(s) being served by the OWTS; and
 - c. Not discharge wastewater or wastewater effluent onto the ground surface or into surface water, or in such a manner that groundwater may be adversely impacted.
2. All OWTS and the individual components shall meet the performance requirements for the specific site conditions and application for which they are approved.
3. All OWTS shall be operated in compliance with applicable performance requirements particular to the type of system, the facility served, and the site conditions.

CONVENTIONAL SYSTEMS

1. All septic tanks shall be structurally sound, watertight, provide clarified effluent, have adequate space available for sludge and scum storage, and operate in such a manner as to not create odors or vector attraction, be properly vented, and have a functional baffle.
2. Dispersal systems shall: (a) have adequate dispersal capacity for the structures and/or uses served; (b) not result in seepage or saturated soil conditions within 12 inches of ground surface in or adjacent to the dispersal field; and (c) be free from soil erosion or instability.
3. Effluent shall not continuously pond at a level above the invert (bottom) of the perforated distribution pipe in the dispersal trench or serial distribution overflow line, as applicable.
4. All components of the OWTS shall be functional and in proper working order.

SUPPLEMENTAL TREATMENT

In addition to meeting criteria in A and B above, supplemental treatment systems shall comply with the following performance requirements.

1. **Effluent Quality.** Effluent produced by all supplemental treatment systems shall comply with the following minimum 30-day average constituent limitations:

Constituent	(1) Where required for reduced separation to GW	(2) Where Pathogen or Nitrogen treatment Required
Biochemical Oxygen Demand (BOD), mg/L	30	30
Total Suspended Solids (TSS), mg/L	30	30
Fecal Coliform, MPN/100 ml	N/A	200*
Total Nitrogen, % reduction (effluent/influent)	N/A	50%**

*Due to proximity to public water supply well or surface water intake per SWRCB OWTS Policy; where applicable, additional requirements for pathogens include: (a) minimum 3-ft separation to groundwater below dispersal field; and (b) minimum 12 inches of soil cover over dispersal piping.

** Per results or recommendation of cumulative impact assessment, Kern County OWTS Code section ____.

2. **Sand Filters.** Sand filters shall:

- a. be operated to maintain uniform effluent distribution throughout the sand filter bed;
- b. not result in continuously ponded effluent on the distribution bed infiltrative surface;
- c. be operated and maintained to prevent channeling of flow, erosion of the sand media or other conditions that allow short-circuiting of effluent through the system;
- d. not result in leakage of effluent through the sand filter liner or supporting structure; and
- e. conform to applicable requirements for pressure distribution in D.1 below.

3. **Proprietary Treatment Units.** Proprietary treatment units shall comply with the following:

- a. The unit and its components shall be structurally sound, free from defects, be watertight, and not create odor or vector attraction nuisance.
- b. The unit shall be operated in accordance with the approved manufacturer and certification/listing organization standards.

ALTERNATIVE DISPERSAL SYSTEMS

In addition to the requirements in A and B above, alternative dispersal systems shall also comply with the following.

1. Pressure Distribution Systems.

- a. Pump tanks, risers and lids shall be structurally sound, watertight and store wastewater effluent in such a manner as to not create odors or vector attraction;
- b. Pumps, floats, alarms and associated controls shall be in good condition and operate in accordance with design specifications; and
- c. Dispersal field and components shall:
 - i be operable and in good condition;
 - ii maintain uniform distribution of effluent throughout the dispersal field;
 - iii not result in continuously ponded effluent in the dispersal trench (or bed) to a level above the invert (bottom) of the distribution pipe; and
 - iv in the case of pressure-dosed sand trenches, not result in continuously ponded effluent above the sand interface.

2. Mound, At-Grade and Raised Sand Bed Systems. Mound, at-grade and raised sand bed systems shall:

- a. not result in seepage or saturated soil conditions within 12 inches of ground surface anywhere along the perimeter toe or edge of the system;
- b. be free from erosion, slumping or damage to the soil cover;

- c. not result in continuously ponded effluent within the gravel distribution bed or in the sand fill (for mounds); and
- d. conform to applicable requirements for pressure distribution in D.1 above.

3. Subsurface Drip Dispersal Systems. Subsurface drip dispersal systems and components shall:

- a. not result in seepage or saturated soil conditions above the depth of the dripline within or anywhere along the perimeter of the drip field;
- b. be free from erosion, slumping or other soil disturbance that threatens to expose or cause damage to drip dispersal tubing or appurtenances;
- c. conform to applicable requirements for pressure distribution in D.1 above; and
- d. be operated and maintained in accordance with manufacturer recommendations.

4.2 OWTS MONITORING REQUIREMENTS

GENERAL

A monitoring program will be established for each alternative OWTS as a condition of the operating permit at the time of permit issuance, and may be amended at the time of permit renewal. Said monitoring shall be performed to ensure that the alternative OWTS is functioning satisfactorily to protect water quality and public health and safety.

MONITORING ELEMENTS

The monitoring requirements will vary depending on the specific type of alternative system, typically including the following:

1. Recoding of wastewater flow based on water meter readings, pump event counter, elapsed time meter, in-line flow meter, or other approved methods;
2. Measurement and recording of water levels in inspection/monitoring wells in the dispersal field;
3. Inspection and observation of pump operation and other mechanical equipment;
4. Water quality of selected water samples taken from points in the treatment process, from groundwater monitoring wells, or from surface streams or drainages; typical water quality parameters include total and fecal coliform, nitrate, BOD, and suspended solids;
5. General review and inspection of treatment and dispersal area for evidence of seepage, effluent surfacing, erosion or other indicators of system malfunction; and
6. Other monitoring as recommended by the system designer or equipment manufacturer.

MONITORING FREQUENCY

The required frequency of monitoring for each installation will be established in the operation permit, generally in accordance with the following minimum schedule:

- Years 1 through 4 of operation: semi-annual monitoring
- Years 5 and beyond: annual monitoring

Monitoring frequency may be increased for larger flow OWTS (e.g., >2,500 gpd) or where warranted because of the complexity of the design or sensitive nature of the site. Monitoring frequency may be increased for any system if problems are experienced.

MONITORING RESPONSIBILITY

Monitoring of alternative OWTS shall be conducted by or under the supervision of one of the following:

1. Registered Civil Engineer;
2. Professional Geologist;
3. Registered Environmental Health Specialist; or
4. Other onsite wastewater maintenance provider registered with the EHD and meeting qualifications as established in this Manual. Registration shall entail: (a) documentation of required qualifications; (b) participation in annual training/review conducted by the EHD; and (c) payment of an annual fee established by the Board of Supervisors.

Additionally, the EHD may require third-party or County Inspection and monitoring of any alternative OWTS where deemed necessary because of special circumstances, such as the complexity of the system or the sensitive nature of the site. The costs for such additional monitoring would be the responsibility of the owner.

REPORTING

Monitoring results shall be submitted to the EHD in accordance with reporting guidelines provided in this Manual and as specified in the operating permit. The monitoring report shall be signed by the party responsible for the monitoring. Notwithstanding formal monitoring reports, the Director shall be notified immediately of any system problems observed during system inspection and monitoring that threaten public health or water quality.

DATA REVIEW

The Director will, from time-to-time, compile and review monitoring and inspection results for alternative OWTS and will provide a summary of results to the applicable Regional Water Quality Control Board at least once every five (5) years. Based on this review, the Director may require corrective action for specific properties or certain types of alternative OWTS, or general changes in monitoring and inspection requirements.

Excerpt I

**Kern County LAMP, pages 51 – 55,
and revised page 53**

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Excerpt I

Section 6: Program Administration

OWTS Permitting Records

The EHD will retain permanent records of OWTS permitting actions and will make those records available within 10 working days upon written request for review by the appropriate RWQCB, as applicable. This includes:

- Installation permits issued for new, repair, and replacement OWTS, including type of OWTS system (e.g., conventional trench or seepage pit, alternative OWTS);
- OWTS variances and/or exemptions issued, including number, location, and description;
- Operating permits issued for alternative systems, OWTS with flows >2,500 gpd or other OWTS where the Director has determined the need for an operating permit;
- Septic tank pumper reporting data, including the number and location of septic tank pump-outs, organized according to geographic/hydrologic management areas of the County;
- List of applications and registrations issued for liquid waste haulers.

Water Quality Assessment Program

Objectives

The EHD will maintain an OWTS water quality assessment program having three primary objectives: (1) to determine the general operational status of OWTS in the County; (2) assess possible impacts of OWTS on groundwater and surface water quality, and their associated beneficial uses; and (3) identify areas for changes to existing OWTS management practices.

Hydrologic Area and Groundwater Basin Approach

The OWTS-water quality assessment will be organized according to the various hydrologic areas and groundwater basins delineated and presented in Section 2 of this LAMP and utilized in supporting GIS studies. This will allow the existing GIS-based mapping, OWTS inventories, and nitrate loading analyses to be utilized and updated. Additionally, localized focus areas within each hydrologic area may be delineated where warranted and may include joint cooperative efforts with other jurisdictions (e.g., water districts, community services districts) involved with water resources and wastewater management activities. For example, Golden Hills Community Services District (CSD) has historically been active and involved in review and oversight of OWTS serving properties within their jurisdiction. The CSD has been identified as a potential candidate for establishment of an Onsite Wastewater Disposal Zone (OSWDZ) per (State Health and Safety Code), to provide additional on-going monitoring and assessment of OWTS. The County will support the implementation of an OSWDZ for Golden Hills and other areas to supplement EHD oversight and

assessment of OWTS where warranted. Progress in the development of OSWDZs will be included in annual reporting to the RWQCB (per below) and addressed in greater detail in the 5-yr Water Quality Assessment report, including any additional OWTS monitoring/maintenance information from such programs, where available.

Operational Status of OWTS

The general operational status of OWTS will be assessed through compilation and review of the following types of information:

1. **Septic tank pumping logs:** The monthly septic tank reporting data submitted to the EHD will be compiled and filed electronically. This will allow the pump-out data to be organized by geographical/hydrological areas of the County and to be reviewed periodically for trends (e.g., frequency of pump-outs in general or for specific areas or properties) or other information relevant to OWTS operational conditions;
2. **Complaints and abatement of failing OWTS:** Complaints and abatement activities related to failing OWTS will be compiled and mapped (electronically) to facilitate on-going review of the type and level of operational problems and identification of any trends;
3. **Variances issued for new and/or repair OWTS:** Information regarding variances for new and repair OWTS will be entered into the EHD OWTS database files to facilitate review and reporting;
4. **Performance inspections:** Results of performance inspections of existing OWTS conducted in connection with building additions/remodel projects, or property transactions will be documented and compiled with property/OWTS data files;
5. **Alternative OWTS Inspection Reports:** Monitoring reports submitted periodically to EHD for alternative systems or other OWTS having an operating permit, will be reviewed individually at the time of report submission and will be compiled for annual review by EHD of all alternative OWTS;
6. **Special management areas:** Where special management programs for OWTS are implemented (e.g., under consideration for Golden Hills CSD), the EHD will utilize and incorporate monitoring and assessment information for OWTS in these designated areas, including any findings or recommendations that may be relevant to other areas or the County OWTS management program in general.

The data review and assessment will focus on both positive and negative findings, apparent trends, and areas for changes in practices. The assessment will maintain and update the existing inventory of OWTS in the county. To the greatest extent practical, the various types of OWTS data above will be entered into GIS-compatible files to facilitate review, mapping, and reporting.

Water Quality Assessment

The water quality assessment will include the following:

1. **Water Quality Parameters of Concern:** The initial focus of the water quality assessment program will be on two key water quality parameters – pathogens and nitrate-nitrogen. Other parameters of concern may be added if warranted.
2. **Wastewater Discharge Volumes:** Estimates of annual wastewater discharge estimates from OWTS will be updated based upon the running inventory of OWTS per above.
3. **Nitrate Loading:** Nitrate loading estimates (by groundwater basin/geographic area) will be maintained and updated based on the running inventory of OWTS in the County.
4. **Water Quality Data Sources:** Relevant water quality monitoring data for pathogens and nitrate-nitrogen will be compiled from available sources, anticipated to include:
 - Receiving water quality monitoring data reported under alternative systems operating permits;
 - Water quality data from cumulative impact studies;
 - Groundwater Reports from Kern County Water Agency and others;
 - Domestic water wells sampling from new wells or other;
 - Public water system raw water quality data monitoring reports;
 - Reservoir or stream water quality sampling data for Kern River or other studies;
 - Receiving water sampling performed as part of any NPDES permits;
 - Groundwater sampling performed as part of Waste Discharge Requirements, such as some of the small wastewater treatment systems in the mountain regions of the County;
 - Data from the California Water Quality Assessment Database; and
 - Groundwater data collected as part of the Groundwater Ambient Monitoring and Assessment Program available in the Geotracker Database.
5. **Assessment:** In addition to periodically updating the OWTS nitrate loading estimates for the county, it is anticipated that assessment of the data will include a review to: (a) determine relevance of the various data to OWTS; (b) identification of any obvious water quality degradation attributable to OWTS warranting follow-up investigation or action; (c) identification of any water quality degradation where OWTS may be implicated as a possible source; and (d) identification of water quality data/areas indicating no apparent issues of concern related to OWTS.

Reporting to Regional Water Boards

Annual Report

By February 1st of each year, an annual report pertaining to OWTS activities in Kern County will be submitted to the applicable RWQCB. The annual report will, at a minimum, include the following information, organized in a tabular spreadsheet format:

1. Number and location of complaints pertaining to OWTS operation and maintenance, including identification of those which were investigated and how they were resolved;
2. Number, location, and description of permits issued for new and replacement OWTS, including any variances and/or exemptions issued;
3. Number and location of septic tank pump-outs per septic pumper reports;
4. List of applications and registrations issued, as part of the local septic tank pumper registration program pursuant to Section 117400 et seq. of the California Health and Safety Code.

The report will include: (a) a summary of whether any further actions related to OWTS are warranted to protect water quality or public health; (b) status of water quality data collection and review; and (c) any other information deemed appropriate by the Director of Environmental Health Services.

5-Yr Water Quality Assessment Report to RWQCB

Every five (5) years the annual report to the RWQCB will be accompanied by a Water Quality Assessment Report that summarizes the information and findings from the EHD Water Quality Assessment Program described above. The report will present an overall assessment regarding any evidence of water quality impact from OWTS along with any recommended changes in the LAMP to address the identified impacts. Additionally, any groundwater water quality data generated by the EHD from monitoring activities will be submitted in electronic data format (EDF), for inclusion in Geotracker and any surface water quality data will be submitted to CEDEN in a SWAMP comparable format².

² CEDN stands for California Electronic Data Exchange Network; SWAMP stands for Surface Water Ambient Monitoring Program
Kern County LAMP (Revision - June 2016)

directly from the water systems or establishing a partnership with them for monitoring. This issue will continue to be refined over the course of time.

5. **Assessment:** In addition to periodically updating the OWTS nitrate loading estimates for the county, it is anticipated that assessment of the data will include a review to: (a) determine relevance of the various data to OWTS; (b) identification of any obvious water quality degradation attributable to OWTS warranting follow-up investigation or action; (c) identification of any water quality degradation where OWTS may be implicated as a possible source; and (d) identification of water quality data/areas indicating no apparent issues of concern related to OWTS.

The County will consider utilizing a computer model to evaluate nitrate loading and ground-water recharge rates for higher density and/or clustered development within the Lahontan Regional Water Quality Control Board as dictated by the pace of development.

Reporting to Regional Water Boards

Annual Report

By February 1st of each year, an annual report pertaining to OWTS activities in Kern County will be submitted to the applicable RWQCB. The annual report will, at a minimum, include the following information, organized in a tabular spreadsheet format:

1. Number and location of complaints pertaining to OWTS operation and maintenance, including identification of those which were investigated and how they were resolved;
2. Number, location, and description of permits issued for new and replacement OWTS, including tier, any variances and/or exemptions issued;
3. Number and location of septic tank pump-outs per septic pumper reports;
4. List of applications and registrations issued, as part of the local septic tank pumper registration program pursuant to Section 117400 et seq. of the California Health and Safety Code.

The report will include: (a) a summary of whether any further actions related to OWTS are warranted to protect water quality or public health; (b) status of water quality data collection and review; and (c) any other information deemed appropriate by the Director of Environmental Health Services.

5-Yr Water Quality Assessment Report to RWQCB

Every five (5) years the annual report to the RWQCB will be accompanied by a Water Quality Assessment Report that summarizes the information and findings from the EHD Water Quality Assessment Program described above. The report will present an overall assessment

Excerpt J

Kern County LAMP, pages 29 – 30

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Excerpt J

3. **Erosion control measures:** Depending upon site conditions and system design, construction of an OWTS may pose a threat of soil erosion and impacts on downstream receiving waters from excavations for tanks, trenching for pipelines and dispersal trenches, and associated clearing and grading activities. The County's Onsite Systems Manual requires that erosion control measures be implemented in connection with the installation of OWTS in mountain areas and that final approval of the OWTS installation is contingent upon confirmation that the specified erosion control measures have been implemented.
4. **Flood protection measures:** In addition to prohibiting the installation of OWTS in low-lying areas that experience annual flooding, the County's Onsite System Manual includes provisions for evaluation and incorporation of special design measures for systems located within areas subject to inundation by extreme flood events, such as the 100-year flood. Specifically, the measures require: (a) protection for OWTS supplemental treatment, pressure distribution and/or drip dispersal components from flood damage, such as structural tie-downs and/or elevating critical components above the 100-year flood level; (b) prevention of discharge of wastewater into flooded dispersal areas from pump systems (e.g., using flood-activated float switches to override/disable pump operation during high water conditions); and (c) additional emergency storage capacity for flood periods.
5. **Enhanced Protection for Water Supply Watersheds:** Kern County does not have a great many surface water resources that serve as water supply sources. However, those that do exist warrant special concern and enhanced water quality protection. In accordance with the requirements of State OWTS Policy, Kern County has adopted increased setback standards for any OWTS located in an area tributary to and within 1,200 feet and within 2,500 feet of a public water supply surface water intake. The provisions for identifying and notifying public water system owners of pending OWTS applications are discussed in Sections 4 and 5 of this LAMP, along with the applicable requirements for OWTS design when the dispersal system must be located within the prescribed setback buffer (e.g., for a replacement system or pre-existing lot of record).

Impaired surface waters (nitrogen or pathogens)

There are no water bodies in Kern County currently listed as impaired for nitrogen or pathogens.

High Density of OWTS, Parcel Size and Cumulative Impacts

Consideration of OWTS density, parcel size and potential cumulative OWTS impact issues (e.g., groundwater mounding, nitrate loading) are addressed in Kern County primarily through Ordinance requirements under Article 3, that call for the completion of cumulative impact assessments for certain types of projects or locations, including consideration of such factors as the constituent levels (e.g., nitrogen content) in the wastewater, the volume of wastewater flow, the density of OWTS discharges in a given area, and/or the sensitivity

and beneficial uses of water resources in the discharge area. Guidelines for such studies are contained in the Onsite Systems Manual (Part 1). The guidelines identify circumstances requiring cumulative impact studies, minimum qualifications of those conducting the work, typical data needs and assumptions, analytical methods, and evaluation criteria. The Ordinance also allows for the County to designate areas of special environmental concern for OWTS that may be identified from the results of cumulative impact studies. Any new subdivision utilizing OWTS with lot sizes smaller than 2.5 acres where domestic wells are used, normally require cumulative impact assessment to evaluate nitrogen loading.

Additionally, the new Ordinance provisions allowing the use of alternative treatment and dispersal technologies provide opportunities to mitigate nitrate loading (e.g., with supplemental treatment systems) and hydraulic mounding (e.g., with pressure distribution or drip dispersal designs).

Geographic areas with many older non-conforming OWTS installations and setbacks

Older, non-conforming OWTS are common in the rural mountain and agricultural areas of the County. OWTS issues commonly arise in areas where properties were originally developed for seasonal/recreational cabins and have converted over the years to year-round residences. Often the properties are very small, with OWTS constructed prior to the introduction of modern codes. Some systems consist of cesspools, and repairs/replacement systems tend to be very challenging. Non-conformance with adopted setback requirements (e.g., from structures, water features, etc.) are also common. Non-conforming OWTS located in areas of high groundwater conditions, such as some parts of the Lake Isabella area, are especially problematic.

Measures contained in the County's updated Ordinance that will aid significantly in addressing problems of older non-conforming OWTS, are the availability of alternative treatment and dispersal system designs to provide more effective upgrades and repairs for lots having limited area, soil limitations, or other constraints for conventional OWTS. Additionally, as discussed in Section 4, the County anticipates the eventual need to pursue community approaches to OWTS management in some of the mountain development areas that may include the implementation of Onsite Waste Disposal Zones (e.g., maintenance districts) and/or development of community facilities to replace individual OWTS.

ENCLOSURE 5

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION
MEETING OF SEPTEMBER 14-15, 2016
APPLE VALLEY**

ITEM 10

WORKSHOP - ONSITE WASTEWATER TREATMENT SYSTEM (OWTS) POLICY IMPLEMENTATION

CHRONOLOGY

January 14, 1988	Water Board adopts amendments to the Water Quality Control Plan for the Lahontan Region (Basin Plan) establishing new criteria for the use of individual onsite wastewater treatment systems (OWTS, or septic tanks). Separately, over the next few years the Executive Officers signs Memoranda of Understanding with local agencies to implement criteria.
June 19, 2012	State Water Board adopts the OWTS Policy with an effective date of May 13, 2013.
July 17, 2013	Water Board conducted informational workshop on the OWTS Policy

BACKGROUND

The OWTS policy establishes a statewide, risk-based, tiered approach to the regulation and management of OWTS systems. It recognizes local permitting agency flexibility by allowing in Tier 2, local agencies to propose a Local Agency Management Program (LAMP) for approval by regional boards. Lahontan Water Board is the lead for approving five county and four city LAMPs by May 13, 2017. Other Regional Water Boards are the lead for approving seven county LAMPs that are partially in the Lahontan Region. The staff report (Enclosure 1) describes intended staff direction to implement the OWTS policy, identifies major policy items, and seeks Board concurrence to address LAMP deficiencies with the local agencies. The OWTS Policy Fact Sheet (Enclosure 2) provides an overview of the policy and its tiers (Tier 0 through Tier 4).

Until May 13, 2018, local agencies may continue to approve OWTS under the Memoranda of Understandings (MOU). After that date, the OWTS Policy (Enclosure 3) requires all OWTS approvals to follow either the statewide criteria (Tier 1) or an approved LAMP (Tier 2).

ISSUES

Staff has provided comments to El Dorado County, Kern County, and San Bernardino County on their draft LAMPs. After reviewing the other draft LAMPs received to date, the following four main policy issues are identified.

1. Density – As the numbers of OWTS increase (and especially on smaller lot sizes), the impact of effluent discharges on receiving waters increases. Limiting overall density is one means of protecting water quality. The Water Board will need to assess how water quality will be protected by proposed density criteria in each draft LAMP. Most LAMP proposals support our Board's past criteria of ½ acre lot size as compared to the newer State Water Board Tier 1 density criteria based on rainfall (in some cases the difference between a ½ acre lot and 2½ acre lot sizes). *Should the Water Board consider a more protective density criteria as established in State Water Board's Tier 1 as compared to status quo?*
2. Water Quality Assessment Programs – Local agencies proposing a LAMP must implement a program to evaluate the impact of OWTS discharges and assess the extent to which groundwater and surface water quality may be adversely impacted. All draft LAMPs have proposed a program. No program proposes to install monitoring wells due to cost and intend to rely upon existing groundwater and surface water data collected by others. Water Board staff to date have encouraged cooperation and partnering to obtain water quality analyses focused in areas of highest risk. *Should the Water Board consider a targeted water quality monitoring program in high risk areas rather than a comprehensive geographic approach, or another monitoring approach?*
3. Approvals and Referrals of Supplemental Treatment Systems - The OWTS Policy allows local agencies to approve OWTS up to a flow of 10,000 gal/day and at their discretion refer any system to the Water Board for regulation under waste discharge requirements. It also allows local agencies to propose criteria for Supplemental Treatment Systems (STS) to provide additional wastewater treatment to meet performance criteria prior to effluent discharge into a dispersal system. Some local agencies may refer all STS to the Water Board for regulation under waste discharge requirements. Other local agencies propose regulating STS but may not have adequate resources to ensure program effectiveness. We need to ensure LAMPs define clear expectations for STS review and approval. *What local agency program elements are critical to allow local agency to review and approve STS?*
4. Local Agency Funding – Current fees and assessments may be inadequate for implementing the LAMPs as required. Local agencies may have to increase funding to pay for increased staffing and monitoring costs. *How will the Water Board determine if adequate funding is available to a local agency to implement an effective program?*

DISCUSSION

The Basin Plan includes both Prohibitions and Criteria for OWTS. The criteria are in Section 4.4 and Appendix C (Enclosure 4). After May 13, 2018, the Memoranda of

Understandings with local agencies will cease to have effect and be replaced with either Tier 1 (Statewide criteria) or Tier 2 (LAMPs).

The Lahontan Water Board Basin Plan contains previously acceptable OWTS density criteria include restricting discharges to 500 gal/acre/day or two equivalent dwelling units (EDU) per acre based on 250 gal/EDU. Installation of OWTS were allowed on lots having a net area greater than or equal to 15,000 square feet at subdivisions approved before 1988. The new State Board OWTS Policy incorporated into the Lahontan Water Board Basin Plan has more restrictive density criteria based on rainfall.

The concerns with OWTS effluent are public health effects from pathogens, increased nitrate and salt concentrations. The high risk areas potentially affected by OWTS discharges may generally be categorized as areas with the following.

- High density of OWTS
- Shallow soil over bedrock (allowing surfacing effluent or discharge to surface water)
- Shallow groundwater
- Surface Waters

Staff intends to work with local agencies and other regional boards to ensure the above four policy issues are sufficiently addressed to meet the OWTS Policy and protect water quality. To improve water quality assessment programs, staff will request targeted monitoring in identified high risk areas and request local agencies identify any existing supply wells or dedicated monitoring wells that could be used as well as any existing and ongoing water quality data from all available sources that may be used for the required periodic water quality performance assessments. Staff will meet with local agencies and other regional board staff to address concerns before the final LAMPs are submitted for Water Board consideration. In 2017, we anticipate bringing nine LAMPs to the Water Board for consideration of approval by resolution.

PUBLIC OUTREACH/INPUT

Staff have met with or discussed the OWTS Policy with representatives of all the counties and local agencies that are proposing LAMPs. In some cases, multiple meetings have occurred. Staff conducted numerous conversations with other regional board and local agency staff where Lahontan Region is not the lead.

Additionally, the Water Board conducted a Workshop at its July 17, 2013 meeting in Barstow providing an overview of the OWTS Policy and milestone dates.

RECOMMENDATION

This is an information item only. The Water Board may provide direction to staff as appropriate. Water Board may also request periodic updates on progress or schedule additional workshops focused on the policy issues.

ENCLOSURE	ITEM	BATES NUMBER
1	Staff Report, Status of Implementing the State Board's Onsite Wastewater Treatment Systems (OWTS) Policy, also called Septic Systems, September 2016	10-7
2	OWTS Policy Fact Sheet	10-33
3	OWTS Policy, Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems, June 19, 2012	10-37
4	Water Quality Control Plan for the Lahontan Region (Basin Plan), Section 4.4 Municipal and Domestic Wastewater: Treatment, Disposal and Reclamation and Appendix C Regional Board Guidelines for Implementation of Criteria for Individual Waste Disposal Systems	10-91
5	LAMP local government comment letters	10-115
6	Staff Presentation	10-143

ENCLOSURE 1

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**LAHONTAN WATER QUALITY CONTROL BOARD
STATUS OF IMPLEMENTING THE STATE BOARD'S ONSITE
WASTEWATER TREATMENT SYSTEMS (OWTS) POLICY, ALSO
CALLED SEPTIC SYSTEMS**

September 2016

**Report to the Lahontan Regional Water Quality Control Board
Patty Z. Kouyoumdjian
Executive Officer**



**STATUS OF IMPLEMENTING THE STATE BOARD'S ONSITE WASTEWATER
TREATMENT SYSTEMS POLICY**

STATE OF CALIFORNIA
Edmund G. Brown Jr., Governor
**CALIFORNIA ENVIRONMENTAL PROTECTION
AGENCY**
Matthew Rodriguez, Secretary
**STATE WATER RESOURCES CONTROL
BOARD**
Felicia Marcus, Chair



**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
LAHONTAN REGION**
Amy Horne, PhD, Chair
Peter C. Pumphrey, Vice Chair
Kimberly Cox, Member
Keith Dyas, Member
Don Jardine, Member
Eric Sandel, Member

Patty Z. Kouyoumdjian, Executive Officer
2501 Lake Tahoe Blvd., South Lake Tahoe, CA 96150
Internet: <http://www.waterboards.ca.gov/lahontan/>

Primary author: Mike Coony
Reviewers: Jehiel Cass
Technical Contributors: Staff of the Lahontan Regional Water Board

STATUS OF IMPLEMENTING THE STATE BOARD'S ONSITE WASTEWATER TREATMENT SYSTEMS POLICY

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6. OWTS Policy Milestones Dates
7. OWTS Policy Tier Description
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I. Purpose

The purpose of this Staff Report is to provide the California Regional Water Quality Control Board, Lahontan Region (Water Board) and public with the status of implementing in the Lahontan Region, the State Water Board's Onsite Wastewater Treatment Systems (OWTS) Policy. OWTS are also called septic systems. This report discusses: 1) the current regulatory approach for domestic wastewater treatment and disposal described in the Water Quality Control Plan for the Lahontan Region (Basin Plan), 2) OWTS Policy elements and milestones, and intended staff direction to implement the policy. Differences between the current and future regulatory approach under the OWTS Policy are described. The OWTS Policy establishes five tiers of governance; Tier 0 – Tier 4. Staff seeks Board member concurrence on proposed direction to address Local Agency Management Plan (LAMP) deficiencies with counties and municipalities.

Water Board staff have identified four major policy issues that require attention prior to Water Board consideration of LAMP approvals.

- *1. Septic System discharges with high density can be sources of pollutants to surface waters with nutrients and pathogens and contribute to groundwater degradation and pollution with nitrate and salt. The State Board OWTS Policy set forth density criteria in Tier 1 based on a water quality risk-based model. Tier 2 allows local agencies to develop other density criteria if it can be shown to be as protective.*
- *2. OWTS Policy requires Water Quality Assessment Programs. At a minimum, areas likely to have the greatest impact from future septic systems should be assessed by measuring water quality conditions over time. These high risk areas include the groundwater basins at the lower slopes of the San Bernardino and San Gabriel Mountains (e.g. Antelope Valley and Mojave groundwater basins); areas with shallow soil such as in the San Bernardino Mountains, and areas with shallow usable ground water such as the Woodfords area (West Fork Carson River), unincorporated areas around the City of Susanville such as Johnstonville, and high density areas with septic systems, such as Doyle.*
- *3. OWTS Policy allows local agencies to approve OWTS up to a flow of 10,000 gallons per day or OWTS with Supplemental Treatment System (STS). A local agency can also refer any system to the Water Board for regulation under waste discharge requirements. LAMPs should clearly identify local agency plans for permitting various types of systems, including the establishment of performance monitoring for STS.*
- *4. Local Agency Funding – Current fees and assessments may be inadequate for implementing the LAMPs as required. Local agencies may have to secure additional funding to pay for increased staffing and monitoring costs.*

II. Background

In the Lahontan Region, both community wastewater treatment and disposal systems and individual septic systems are used to manage domestic wastewater discharges. At only two facilities, Susanville Consolidated Sanitary District and Victor Valley Wastewater Authority, the Water Board authorizes discharges of treated wastewater to surface waters. The Water Board has adopted more than 50 individual waste discharge requirements for wastewater treatment and disposal systems for communities or single large volume facilities. The location of these discharges is presented in Figure 1. These systems rely on evaporation, reuse, and/or percolation of treated wastes to groundwater. All of these regulated facilities are required to conduct some form of monitoring and reporting to ensure protection of water quality. Where individuals or subdivisions do not have readily available community wastewater collection systems, individual onsite wastewater treatment systems are employed in the remainder of our region. And in very few locations, individuals must rely on holding tanks to store domestic wastewater with transport to a community wastewater system.

At individual locations septic tanks are installed for solids removal with disposal by sub-surface leach lines or seepage pits (dispersal system). To ensure public health and safety is protected, the Lahontan Water Quality Control Plan has minimum criteria (last updated in 1988) that is also required by local government public health officers for new and replacement systems. Water quality impacts associated with pathogens and nutrient loading to receiving surface and groundwater are addressed through compliance with the criteria. In 2012, the State Water Board adopted by resolution (Ref. 1) the OWTS Policy (Ref. 2) (included as an enclosure) setting minimum criteria under Tier 1 and also allowing local agencies to develop equally protective criteria under Tier 2 (Local Agency Management Plans or LAMPs)

II. A. Septic System Impacts to Receiving Groundwater

Septic system discharges are a recognized source of pollutants to groundwater. In California there are an estimated 1.2 million systems (Ref. 2). Staff has no estimate of the number of systems in the Lahontan Region but there are many thousands. The effluent quality varies by each system. A comparison of typical domestic sewage for selected parameters and typical septic tank effluent is shown in Table 1 and 2 respectively.

Table 1 - Typical Composition of Untreated Domestic Sewage*

Contaminant	Units	Low Strength	Medium Strength	High Strength
Biochemical Oxygen Demand (BOD)	mg/L	110	190	350
Nitrogen (total as N)	mg/L	20	40	70

*Tchobanoglous and Burton, 1991 (Ref. 3)

Table 2 – Typical Septic Tank Effluent and Soil Water Quality*

Contaminant	Units	Septic Tank Effluent	Soil Water at 2' below dispersal depth	Soil Water at 4' below dispersal depth
Biochemical Oxygen Demand (BOD)	mg/L mean	93.5	<1	<1
Total Kjeldahl Nitrogen (total as N)	mg/L mean	44.2	0.77	0.77
Nitrate (as N)	mg/L mean	0.04	21.6	13.0

*EPA, 2002, Table 3-18 (Ref. 4)

Pathogens are typically removed in shallow soil beneath the dispersal system unless there is very shallow groundwater or rock fractures allowing rapid infiltration. Table 2 shows that septic tank effluent BOD concentrations are reduced through solids removal by settling and biological activity in shallow soil. Nitrogen concentrations are similar between untreated domestic sewage and septic tank effluent. All effluent nitrogen is typically in the form of ammonia and organic nitrogen represented by Total Kjeldahl Nitrogen (TKN). In shallow soil beneath the dispersal system, most nitrogen is converted to nitrate which remains higher than the drinking water standard of 10 mg/L nitrate-nitrogen, and thus a pollution source to receiving water. Salts, or Total Dissolved Solids (TDS), concentrations typically increase in domestic sewage by about 250 mg/L over the potable water source supply and are not removed in septic systems. Thus, for both TDS and Nitrate, the cumulative effect on receiving groundwater is a function of septic system density, soil type, depth to groundwater, and underlying soil stratigraphy. Based on a recent study (Ref. 5), the higher the septic system loading rate (number of systems and density) the more likely impacts will be observed and larger in magnitude. (This study covered septic systems in Joshua Tree, Yucca Valley, and El Mirage (all located within the jurisdiction of the Colorado River Regional Water Quality Control Board). These areas have similar climate as the desert regions in the Lahontan Water Board).

II. B. Septic System Issues in Lahontan Region

Over the years, septic system issues in the Lahontan Region have been identified and addressed in various ways. Some issues remain for future resolution. Table 3 summarizes some of these issues and describes either how they were addressed or current efforts underway, planned or needed to address these problems. This list is not comprehensive. For some problem areas that remain there is insufficient data to adequately characterize the sources, water quality impacts, and risks.

Table 3 – Septic System Issues in Lahontan Region

Area	Problem Suspected or Known	How Resolved or Effort Underway
Lassen County, Spalding Tract and Stones-Bengard Subdivisions, Eagle Lake	Contributing bacteria to adjacent individual domestic wells and nutrients to surface water.	<u>Resolved</u> . 1984 prohibition against septic systems leading to two centralized sewer collection and evaporation systems.
Lake Tahoe Basin	Contributing nutrients to surface water.	<u>Resolved</u> . 1972 prohibition against all disposal of domestic sewage within the basin leading to centralized sewer collection system with export of all sewage outside the basin.
Mobile Home Park, Woodfords, Alpine County	Failing dispersal system due to shallow groundwater (surfacing effluent)r.	<u>Remains</u> . Replaced system failed. Candidate for enhanced treatment and disposal system.
Twin Lakes, Mono County	Dozens of systems suspected contributor of nutrients to surface water	<u>Remains</u> . Development is limited because Basin Plan (Ref. 6) density criteria limits new systems being installed.
Mustang Mesa, Inyo County	Failing systems due to shallow soil over volcanic tuff and fractures allowing rapid infiltration to adjacent surface water.	<u>Resolved</u> . A MOU with Inyo County allows development with alternative dispersal "mound" systems with sand infiltration.
Lenwood, San Bernardino County	Failing systems due to age with surfacing effluent.	<u>Resolved</u> . Grants obtained to install sewers.
Wrightwood, San Bernardino County	Failing systems due to small lots or surfacing groundwater in high precipitation years.	<u>Remains</u> . Water Board staff recommends the San Bernardino County WQAP include restoration of monitoring at the Wrightwood monitoring well. ¹ Water Board staff also supports a proposed feasibility study to evaluate sewerage options. ²
Victor Valley, San Bernardino County	High density of systems generally on smaller than ½ acre lots suspect are contributing to increasing nitrates and TDS in	<u>Partially Resolved</u> . Sewers installed in 1970's. Many areas along Mojave River in Hesperia, Apple Valley, and unincorporated San

Area	Problem Suspected or Known	How Resolved or Effort Underway
	groundwater. ³	Bernardino County are not connected to sewers. Targeted groundwater monitoring needed to evaluate trends.
San Bernardino Mountains, San Bernardino County	Shallow surface soil over granite bedrock allows surfacing effluent during high precipitation years. Historical stream impacts due to pathogens.	<u>Partially Resolved.</u> Basin Plan prohibition for new systems. Exemptions allowed under conditions. Sewers installed in Lake Arrowhead and Crestline. Some areas unsuitable for sewers due to terrain. Targeted surface water monitoring needed to assess areas and degree of pollution.
Littlerock, Pearblossom, Quartz Hill, Lake Los Angeles, Los Angeles County	Nitrate groundwater pollution reported in drinking water wells.	<u>Remains.</u> Increasing density of septic systems generally on ½ acre lots. Water Board staff will request Los Angeles County conduct monitoring in these areas. Evaluation of sewerage options is needed.
North Barstow	Area of increased suburban development may lead to nitrate pollution in groundwater. Some areas have private wells.	<u>Remains.</u> Private groundwater sampling has shown increases in nitrate.
Johnstonville, CA	Some wells have had detections of nitrate above the drinking water standard	<u>Remains.</u> Source is unknown, but individual houses, school and commercial development provide their own OWTS service. More information is needed.

¹ This well was monitored under WDRs of Board No. 6-76-38 from 1976 to 2013. Water Board rescinded the WDR in 2013 because there was no publicly owned treatment facility with a waste discharge.

² San Bernardino LAFCO July 11, 2016 staff report recommended that the new Wrightwood CSD be authorized to include wastewater for the planning of a regional sewer entity. In August 2016, Water Board sent letter of support.

³This is confirmed in the *Mojave Salt and Nutrient Management Plan* (Ref. 7). Nitrate levels in some wells in the vicinity of the Mojave River are as high as 4 mg/L, which is above background. TDS is increasing also.

II. C. Basin Plan Prohibitions

In addition to the areas and specific issues and concerns identified above, the Water Board established a number of basin plan prohibitions limiting or prohibiting installation of new OWTS based on threat or observed impact from existing OWTS in these watersheds. These prohibitions currently provide criteria allowing the Executive Officer to authorize exemptions and remain in effect following State Board adoption of the OWTS Policy. Table 4 summarizes the Basin Plan prohibition areas.

Table 4 – Basin Plan Septic System Prohibition Areas

Hydrologic Unit	Name	Exemption Allowed
Susanville	Cady Springs Area	Yes
Eagle Drainage	Spalding Tract & Stones-Bengard Tract	No
Lake Tahoe	Basinwide	No
Mono-Owens	Rush Creek above Grant Lake	Yes
Mono-Owens	Mammoth Creek above 7,500 ft.	Yes
Mono-Owens	City of Bishop	Yes
Mono-Owens	Rocking K Subdivision	Yes
Mono-Owens	Assessment District No. 1 (Eastern Sierra CSD)	Yes
Mono-Owens	Assessment District No. 2 (Mountain View Estates and Aspendell)	Yes
Mono-Owens	Hilton Creek	Yes
Mojave	Silverwood Lake Watershed	Yes
Mojave	Deep Creek Watershed above 3,200 ft.	Yes
Mojave	Grass Valley Creek Watershed above 3,200 ft.	Yes

These prohibitions were adopted to encourage connection to community sewer systems or restrict further development on septic systems in order to protect surface and ground waters that may provide sources of drinking water , to prevent accelerated eutrophication (or increased algae in streams) that adversely impact aesthetics (non-contact recreation), water contact recreation, and aquatic habitat.

- *In the draft LAMPS, both Inyo and Mono County recommended that some septic prohibitions be lifted. These requests must be addressed outside of the LAMP approval because they require review, and possible revision, of the Basin Plan. However, the counties may provide evidence including water quality data to support the lifting of a basin plan prohibition*

When sewer collection systems were installed in the San Bernardino Mountain communities of Crestline and Lake Arrowhead, certain areas were considered infeasible to install sewers due to shallow soil and steep terrain. The Water Board issued two

waste discharge requirements excluding certain areas from the prohibition requirements of the San Bernardino Mountains. Limited surface water monitoring is conducted by Crestline and Lake Arrowhead Community Service Districts, but not required by the orders. These orders are:

- 6-81-3 – Exemption from Prohibitions for Designated Portions of Crestline Sanitation District
- 6-84-93 – Exemption from Prohibitions for Designated Portions of Lake Arrowhead Community Services District
- *Separate from LAMP review, staff should meet with Crestline and Lake Arrowhead Community Services Districts, review surface water data, and evaluate whether the exemptions from prohibitions should be continued or revised.*

II. D. Current Septic System Regulatory Approach

Counties and local agencies primarily regulate OWTS through issuance of building permits for new and systems, after site and design criteria are approved by local health departments. After adopting Basin Plan amendments in 1987, the Water Board Executive Officer entered into Memoranda of Understanding (MOUs) with County Health Departments and City governments to ensure the Water Board’s Basin Plan criteria are implemented as part of their approval. The counties and local agencies for which the Water Board has entered into a MOU are shown in Table 5.

Table 5 – Region 6 Local Agencies with Septic Guideline MOUs

Agency	Date Water Board Signed MOU
Adelanto, City of	March 24, 1989
Alpine County	July 2, 1990
Apple Valley, Town of	February 6, 1990
Barstow, City of	October 28, 1988
California City, City of	March 24, 1989
Hesperia, City of	December 20, 1989
Inyo County	February 6, 1990
Kern County	December 20, 1989
Lassen County	November 1, 1989
Los Angeles County	September 26, 1989
Modoc County	December 26, 1989
Mono County	January 5, 1989
Nevada County	December 31, 1989
Placer County	March 31, 1989

The MOUs authorize Local Agencies to issue septic system construction permits for subsurface disposal systems for domestic wastewater provided the Basin Plan’s criteria are followed.

A 1987 Water Board staff report (Ref. 8) recommended a minimum lot size of ½ to 7.9 acres based on a literature review and current research and available data to protect receiving groundwater from nitrate pollution. To address the concerns of local governments that future growth would be restricted, the final adopted Basin Plan amendments essentially established a “½-acre” policy. Lots subdivided after August 17, 1987 must not exceed two equivalent dwelling units (EDU) per acre (500 gal/acre/day, where one EDU is 250 gal/day). The minimum size for a single family home on a lot subdivided before June 16, 1988 must not be less than 15,000 square feet (ft²). Local agencies may not approve industrial waste discharges.

Exemptions to the criteria may be sought from the Executive Officer who may: 1) deny the exemption, 2) authorize the exemption, or 3) request the discharger to submit a report of waste discharge.

Through the 1990's the number of septic system criteria exemption referrals to the Water Board from local agencies was about 1-2 per month. That number is decreasing and now is about 6 – 10 per year. A typical request is for an exemption to the density criteria and Executive Officer responses have ranged from denial to acceptance.

II. E. OWTS Policy Incorporated in the Basin Plan

In the most recent amendments, the Water Board incorporated the OWTS Policy by reference into the Basin Plan. The Basin Plan states that (1) existing septic systems are allowed to continue in operation unless they are not properly functioning or the Regional Board finds they are not able to adequately protect water quality and (2) local agencies are allowed to continue to permit existing, new, and replacement septic systems under their existing program until the earlier of (a) an approved LAMP or (b) May 13, 2018.

III. OWTS Policy

III. A. OWTS Policy Overview

State Water Board adopted the OWTS Policy on June 19, 2012 in response to legislative direction in the Water Code. The Policy grants a Conditional Waiver of the need to submit a report of waste discharge, obtain waste discharge requirements, and pay annual fees for discharges covered under the policy. Not all septic system discharges are covered, as further described below. The Waiver applies to all existing and new septic systems and will be renewed every five years by the State Water Board. The OWTS policy establishes a number of milestone dates for local agencies to submit information and for the State and Regional Water Boards to take actions. It establishes five tiers as follows.

- Tier 0 (Existing Systems),

- Tier 1 (Statewide Requirements for Low Risk New or Replacement systems, unless a Tier 2 is approved),
- Tier 2 (Local Agency Management Programs, or LAMPS, for Low Risk New or Replacement systems),
- Tier 3 (Advanced Protection Management Program for surface water bodies affected with pathogens or nutrients), and
- Tier 4 – (OWTS Requiring Corrective Action, or failing systems).

III. B. OWTS Policy Milestones

The OWTS Policy became effective on May 13, 2015 and contains a number of time schedules and elements. By May 13, 2018, all local agencies approving septic systems must implement Tier 1 statewide requirements or, with Water Board approval, implement a Tier 2 LAMP with prescriptive programs that incorporate periodic water quality assessment evaluations. The important policy milestones are described in Table 6.

Table 6 – OWTS Policy Milestone Dates

Milestone	Requirement
June 19, 2012	OWTS Policy Adopted.
May 13, 2013	OWTS Policy Effective.
May 13, 2014	Basin Plan Alignment. Region 6 incorporated the OWTS Policy by reference in the Basin Plan.
May 13, 2016	Local agencies submit programs called Local Agency Management Plans (LAMPs) further discussed below.
<u>May 13, 2017</u>	Regional Boards approve LAMPs further discussed below. This is the next major milestone relevant to the board.
May 13, 2018	Existing Basin Plan requirements remain in effect until this date upon which septic tank criteria are superseded by a LAMP or the OWTS Policy, Tier 1 further discussed below. State Board renews the Waiver of existing septic systems contained in the OWTS Policy.

- *The OWTS policy does not define the method or manner of LAMP approval, which is left to each Regional Board. Staff recommends that LAMPs be approved through board resolution for local agencies for which Region 6 is lead.*

III. C. OWTS Not Subject to the Policy

The following OWTS are subject to policy requirements and are required to submit a report of waste discharge to the Water Board. A future Water Board task is to identify these facilities and request applications be submitted.

- Any OWTS with flows greater than 10,000 gal/day. Staff does not know the number or locations of these systems that would include schools, mobile home parks, campgrounds, etc.
- Any OWTS that receives high-strength wastewater which is a 30-day average biochemical oxygen demand (BOD) greater than 300 mg/L, total suspended solids (TSS) greater than 330 mg/L, or fats, oils, and grease (FOG) greater than 100 mg/L.
- Any OWTS from a commercial food services receiving high-strength wastewater with a BOD higher than 900 mg/L or a non-functioning oil/grease interceptor.
 - *The number of OWTS in these categories requiring Water Board regulation is unknown, but includes numerous schools, camps, mobile home parks and recreational vehicle parks previously permitted by the local agency and not the Water Board.*

The OWTS Policy allows Regional Water Boards to separately regulate any system under individual waste discharge requirements.

III. D. OWTS Policy Tiers

The OWTS Policy establishes a statewide, risk-based, tiered approach for regulation and management of OWTS installations and replacements as described in Table 7. All local agencies must annually report to the Water Board regarding complaints, system cleaning and system permits issued.

Table 7. OWTS Policy Tier Description

Tier	Requirement
Tier 0 Existing Systems	Applies to properly functioning existing systems unless the system is not subject to the policy as discussed below, do not require corrective action and are not near an impaired water body. For these systems, the OWTS Policy waives the requirement to submit a report of waste discharge, obtain waste discharge requirements and pay annual fees.
Tier 1 Statewide Criteria	<p>These statewide standards apply to all new and replacement systems after May 13, 2018, <u>unless</u> a LAMP is approved. Systems must meet minimum criteria for soil types, percolation rates, setbacks, ground slope, density, construction and installation.</p> <ul style="list-style-type: none"> • <i>Tier 1 has no minimum density for existing subdivided lots. Allowable densities for lots subdivided after May 13, 2013, must meet the following average density. This table has caused many local agencies in Region 6 to propose a LAMP because Tier 1 requires larger lots than local agencies currently require.</i>

Tier	Requirement														
	<table border="1"> <thead> <tr> <th>Avg. Annual Rainfall (in/yr.)</th> <th>Allowable Density (acres/single family dwelling unit)</th> </tr> </thead> <tbody> <tr> <td>0 - 15</td> <td>2.5</td> </tr> <tr> <td>>15 - 20</td> <td>2</td> </tr> <tr> <td>>20 - 25</td> <td>1.5</td> </tr> <tr> <td>>25 - 35</td> <td>1</td> </tr> <tr> <td>>35 - 40</td> <td>0.75</td> </tr> <tr> <td>>40</td> <td>0.5</td> </tr> </tbody> </table> <p>Local agencies covered under Tier 1 may approve new or replacement systems with flows no larger than 3,200 gal/day. Proposed systems with larger flows within Tier 1 local agency jurisdictions would be referred to the Regional Board for approval.</p> <p>➤ <i>Within Region 6, the City of Barstow and City of Victorville have indicated intent to use Tier 1 criteria.</i></p>	Avg. Annual Rainfall (in/yr.)	Allowable Density (acres/single family dwelling unit)	0 - 15	2.5	>15 - 20	2	>20 - 25	1.5	>25 - 35	1	>35 - 40	0.75	>40	0.5
Avg. Annual Rainfall (in/yr.)	Allowable Density (acres/single family dwelling unit)														
0 - 15	2.5														
>15 - 20	2														
>20 - 25	1.5														
>25 - 35	1														
>35 - 40	0.75														
>40	0.5														
<p>Tier 2 Local Agency Management Plan</p>	<p>Local agencies may submit a LAMP for Regional Board approval. LAMPS may include standards different than Tier 1. An approved LAMP supersedes Tier 1 criteria for that jurisdiction only. The LAMP must define the maximum authorized project flow and criteria for system site evaluation, siting, design and construction. A LAMP must describe a number of elements including, but not limited to, the following.</p> <ul style="list-style-type: none"> • Inspection and maintenance requirements. • Criteria for systems near impaired water bodies. • Certification and training requirements for service providers. • Consideration of onsite system maintenance districts. • Consideration of Regional Salt and Nutrient Management Plans. <p>Local agencies with an approved LAMP must maintain a <u>Water Quality Assessment Program</u> to evaluate the impact of OWTS discharges and assess the extent to which groundwater and surface water may be adversely impacted. The program must include <u>monitoring and analysis of water quality data</u> and evaluation of overall performance such as failures etc. <u>Annual reports are required by February 1</u> each year and every fifth year an evaluation of the program and assessment of whether water quality is impacted. Some items are not allowed in a LAMP. These include, but</p>														

Tier	Requirement
	are not limited to, the following. <ul style="list-style-type: none"> • Cesspools. • OWTS with flows greater than 10,000 gal/day. • Above ground effluent disposal. • OWTS systems receiving RV waste.
Tier 3 Impaired Water Bodies	Advanced protection is required for systems near water bodies impaired with pathogens or nutrients. <p style="margin-left: 40px;">➤ <i>Currently, Region 6 has not currently identified any surface water bodies as impaired due to OWTS.</i></p>
Tier 4 Corrective Systems	Failed systems, such as having surfacing effluent in the disposal system, must be brought into compliance with Tier 1 or Tier 2.

III. E. Regional Board Lead for LAMP Approval

A map showing the location of counties, in whole or in part, that are in the Lahontan Region is presented in Figure 2. The map also shows cities and town locations that will have a LAMP.

The Water Board is the lead approval agency for the following LAMPS.

Local Agency	Draft LAMP Received, 2016	Staff Comments Sent	Other Regional Boards
Alpine County			
Inyo County	May 12, 2016		
Lassen County			R5
Mono County	May 18, 2016		
San Bernardino County	October 30, 2015	June 23, 2016	R7, R8
Adelanto, City	May 26, 2015		
Apple Valley, Town of	May 13, 2016		
California City	July 19, 2016		
Hesperia, City	May 13, 2016		

The following LAMPs are partially in Region 6, but other Regional Boards are the lead approval agency.

Local Agency	Draft LAMP Received	Staff Comments Sent	Other Regional Boards

Local Agency	Draft LAMP Received	Staff Comments Sent	Other Regional Boards
El Dorado	April 21, 2016	May 10, 2016	R5-lead
Kern	May 23, 2016	August 8, 2016	R3, R4, R5-lead
Los Angeles			R4-lead
Modoc	June 2, 2016	July 8, 2016	R1, R5-lead
Nevada County	June 2, 2016		R6, R5- Lead
Placer			R5-lead
Sierra			R5-lead

IV. LAMP Deficiencies

Water Board staff has reviewed the draft LAMPs and has found that each LAMP has deficiencies. The deficiencies that are common to the LAMPs are the following:

1. Insufficient Water Quality Assessment Program (WQAP).
2. Density requirements different from Basin Plan and/or new Tier 1 density requirements. No determination of how proposed density criteria will protect water quality.
3. Local agencies do not adequately describe permitting program for Supplemental Treatment Systems (STS) and are not aware that referrals for larger systems or STS require a report of waste discharge be submitted to Water Board.
4. No funding or resources to conduct WQAP or implement other elements of LAMP. No identification of person responsible for monitoring and inspections of OWTS and preparing reports for Water Board.

Each deficiency is discussed in further detail below.

1. Insufficient WQAP

The minimum level of the Water Quality Assessment Program is open-ended. Most local agencies do not have budget for water quality monitoring programs. All local agency programs were historically prescriptive-based, meaning that approvals were granted based on meeting certain criteria. A LAMP essentially requires local agencies to assess water quality and implement a performance monitoring program for each STS

The purpose of the WQAP is to “evaluate the impact of OWTS discharges, and assess the extent to which groundwater and local surface water quality may be adversely impacted.” Based on this objective, the WQAP at a minimum, may have its primary focus be in those areas that have the greatest potential impact to groundwater. In the South Lahontan region, these areas include monitoring nitrate and salt increases in groundwater basins at the lower slopes of the San Bernardino and San Gabriel Mountains; e.g. Antelope Valley and Mojave

groundwater basins. Each local agency should identify water bodies and specific areas of highest risk to drinking water supplies.

Water Board staff identifies two categories of groundwater well data. These are 1) existing supply and monitoring wells, and 2) dedicated groundwater detection monitoring wells.

For the first category, current water quality data can be uploaded to GeoTracker, a publically available web-based database. For many of the Water Board's regulated facilities or sites undergoing investigation or cleanup, monitoring well water quality information is stored in GeoTracker. For supply wells, the Division of Drinking Water collects water quality data from community water supplies. The task to load and update this data is in progress. Local agencies have the ability to access GeoTracker to obtain the latest groundwater data for a specific area. Additionally, local agencies can review GeoTracker to identify and locate existing monitoring wells and/or supply wells that may be located in areas that would adequately represent potential cumulative effects from septic systems. These wells may not now be sampled for nitrates or salts, but with some coordination and support from the local agency, and could become part of a LAMP WQAP.

The disadvantage of supply well water quality data is that these wells have long screened intervals and the water quality of the sample collected is represented by the column of water between the lower depth of the screen interval and the depth to water. When nitrate reaches groundwater from septic systems, it typically stays near the top of the water table or aquifer and is not well-mixed within the aquifer and therefore would be diluted in a supply well sample.

In the second category, the local agency would install strategically placed (to focus on groundwater areas of greatest risk to water quality) monitoring wells, where the screened interval may be the top 20 ft. of the groundwater zone. The local agency would monitor these wells on a periodic basis to assess water quality trends, primarily nitrate and salts. If and when adverse water quality impacts are being observed, the local agency will respond by evaluating alternatives to standard OWTS in the area including use of alternative individual systems with nitrate removal capability or community wastewater collection and treatment. The disadvantage with detection monitoring wells is that no funding is available.

2. Density requirements different from Basin Plan density requirements

The Basin Plan density requirements prior to the OWTS Policy are the following:

- Use of septic systems for single family homes on lots subdivided after 1988 may have a gross density of no greater than two (2) single family equivalent dwelling units per acre. Equivalent dwelling units (EDUs) are defined as 250 gallons per day per EDU.

- Use of new septic systems is permitted on lots subdivided prior to June 16, 1988 if the lot sizes has a net area greater than or equal to 15,000 ft².

The local agencies have proposed densities that differ from the Basin Plan density criteria. The proposed densities may be less restrictive or more restrictive than the Basin Plan. The density differences of reviewed LAMPs, expressed as minimum lot size, are presented for South Lahontan Region in Table 8 and North Lahontan Region in Table 9.

Each county in the South Lahontan regions proposes density criteria that differ from the Basin Plan density criteria and none proposed are as protective as Tier 1 in the new OWTS policy.

However, once the Water Board has accepted a LAMP and after May 13, 2018, the rules for density criteria will be specified by the LAMP and not the Basin Plan, nor the Tier 1 density requirements of the OWTS Policy. Water Board must evaluate proposals that are less restrictive than the Basin Plan and Tier 1 of the OWTS Policy and determine if the proposal provides sufficient water quality protection.

Table 8. LAMP Maximum Densities, South Lahontan Counties and Cities*

Agency	Minimum ½ acre for new development	Minimum lot size of 15,000 ft ² in subdivision approved before Aug 17, 1987	Other minimum parcel size	EDU, gallons per day
San Bernardino County	Yes	No	--	300 ¹
Adelanto, Apple Valley, and Hesperia	Yes	Yes ²	--	250
Inyo and Mono Counties	Yes	No	--	250
Kern County	No	No	Varies ³	270

California City	Yes	No	--	
Los Angeles	Yes	No	Tier 1 Table 1	(Not specified)

*Values are based on draft LAMPs. Final LAMPs may have different values.

¹Parts of San Bernardino County are located in Region 7 and Region 8. These two regions allow 300 gal/day/EDU.

²In these cities, the 15,000 ft² lot size applies regardless of the subdivision approval date. The difference between 15,000 ft² lot sizes and the ½ acre lots size may be minimal, because the 15,000 ft² lot size is the size of the parcel, whereas the ½ acre density applies to lots in a subdivision, which includes roads.

³In Kern County, minimum parcel size is based on factors including areas of private wells, density of septic systems in a given area, and sensitivity to beneficial uses of water resources in a given area. Minimum parcel sizes range from 7200 ft² to 2½.

Table 9. LAMP Maximum Densities, North Lahontan Counties*

County	Alpine	El Dorado	Lassen	Modoc	Nevada	Placer	Sierra
Density	½ to 2 ¹	1	1	1	(none) ²	(none) ²	(none)

*Values are based on draft LAMPs or best available information as of August 24, 2016. Final LAMP may have different values. Most counties do not propose to continue with the ½ minimum parcel size for new development, and none of the counties proposed to continue with the 15,000 ft² minimum lot size in pre-1988 subdivision.

¹Maximum density is 2 acres for a private drinking water well and ½ acre for drinking water served from a community/municipal water system.

²Set back requirements result in parcel sizes that are seldom less than ½ acre.

- Local agencies do not adequately describe permitting program for Supplemental Treatment Systems (STS) and are not aware that referrals for larger systems or STS require a report of waste discharge be submitted to Water Board.

Over the years, local agencies have referred many septic system proposals to the Water Board. Staff would review designs and recommend concurrence. In recent years, most referrals fall into one of the following categories:

- Proposal includes a Supplemental Treatment System.

- Proposal includes a non-conventional dispersal system, such as a mound system.
- Proposal does not meet density criteria.
- Proposal does not meet slope conditions.
- Proposal does not meet set back requirements to a surface water or some other feature.

The Water Board cannot approve the proposed system, because this approval would constitute specifying the manner or method of compliance. Water Board can, however, make recommendations to the local agency such that the proposed supplemental treatment system is acceptable. The recommendation could also include the desired effluent limitation, monitoring, inspections, and reporting from the owner.

If the local agency chooses not to include supplemental treatment systems within their LAMP scope, the owners of referred proposed systems must submit a report of waste discharge, obtain waste discharge requirements, and pay annual fees, unless the LAMP specifically outlines how these systems and circumstances will be addressed and what performance monitoring will be required.

4. No funding or resources to implement LAMP and conduct WQAP.

The Policy requires that someone must monitor and inspect septic systems with STS. San Bernardino County proposes to refer all septic systems with STS to the Water Board. In this case, the Water Board would require monitoring and inspection of STS septic system through waste discharge requirements.

In the Adelanto, Apple Valley, and Hesperia proposed LAMPs, the agencies proposed a program to issue annual operating permits to septic systems with STS. However, these local agencies do not provide any details on the management of the annual permit program or whether they will require monitoring and reporting. In addition, the local agency will need to enact an ordinance that gives them authority to regulate operation of STS septic systems.

Kern County requires an operating permit for all alternative septic systems, which include STS and alternative dispersal systems. The operating permit requires monitoring and reporting.

To conduct a WQAP, the local agency needs funding and resources. The employees that work for the local agencies are Registered Environmental Health Specialists (REHS). These individuals are not trained, and their job description does not include, tasks to produce a WQAP, including assessment program design, data collection, data interpretation, conclusions and recommendations. Therefore, a local agency may need to hire other staff or contract the work to a qualified professional firm. Because WQAP is a OWTS Policy requirement, local

agencies need to seek funding to manage a WQAP, such as increased septic system permit fees.

V. Summary

In summary, the local agency management plans require additional details and water quality evaluation before they are ready for Water Board consideration. Water Board staff will supply written comments and recommendations on the identified LAMP deficiencies to each of the local agencies. Water Board staff intend to meet with local agencies to share existing water quality information for their area and identify options to coordinate and collaborate with others to obtain water quality information in the future to adequately assess future water quality impacts from continued and increased use of OWTS in the Lahontan Region. Before the Water Board considers accepting any of the LAMPs, especially the density limits that are so far from meeting the new Tier 1 requirements, the local agencies with assistance from the Water Board and other entities gathering water quality information need to make findings that water quality is not currently being adversely impacted and that water pollution is not being threatened from ongoing and increased use of OWTS under any of the density proposals that at a minimum meet the Lahontan Basin Plan density criteria. Discussions also need to evaluate a local agency's willingness to require water quality assessment and reporting by individual or communities. Finally, Water Board needs to encourage and support local agencies to seek and evaluate funding options.

VI. Recommendations

Local agencies must develop and implement WQAP targeted at high risk areas where high density OWTS exist, are planned, or where other factors contribute to likely ground water or surface water degradation now or in the future. The local agencies must identify these areas in the LAMP.

Staff recommends that local agencies consider incorporating Tier 1 density criteria or providing another basis and justification for less restrictive density criteria for new OWTS that is protective of water quality.

Water Board staff encourage local agencies propose to manage monitoring and inspections for OWTS with supplemental treatment systems (STS). This could be accomplished through an operating permit program, or as a minimum, require the owner to pay for independent inspection and maintenance and submit reports to the local agency. The local agency should be discouraged from referring these systems to the Water Board for waste discharge requirements, because this would involve delays, overly burdensome permitting and annual fees to the Water Board.

VII. References

1. California State Water Resources Control Board, 2012, Resolution 2012-0032
http://www.waterboards.ca.gov/water_issues/programs/owts/docs/rs2012_0032.pdf
2. California State Water Resources Control Board, 2012, *Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems*
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3. Tchobanoglous, George, and Franklin L. Burton, 1991, *Wastewater Engineering Treatment, Disposal, and Reuse*, Third Edition, McGraw-Hill, Inc.
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5. Izbicki, Flint et al, 2015, Storage and mobilization of natural and septic nitrate in thick unsaturated zones, California, *Journal of Hydrology*, 524 (2015) 147-165
6. California Regional Water Quality Control Board Lahontan Region, 2015, *Water Quality Control Plan for the Lahontan Region*
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7. Kennedy/Jenks Consultants and Todd Groundwater, December 2015, *Mojave Salt and Nutrient Management Plan*
8. Izzo, Victor J., May 1987, *Staff Report on Septic Tanks in the Victor Valley*, California Regional Water Quality Control Board Lahontan Region

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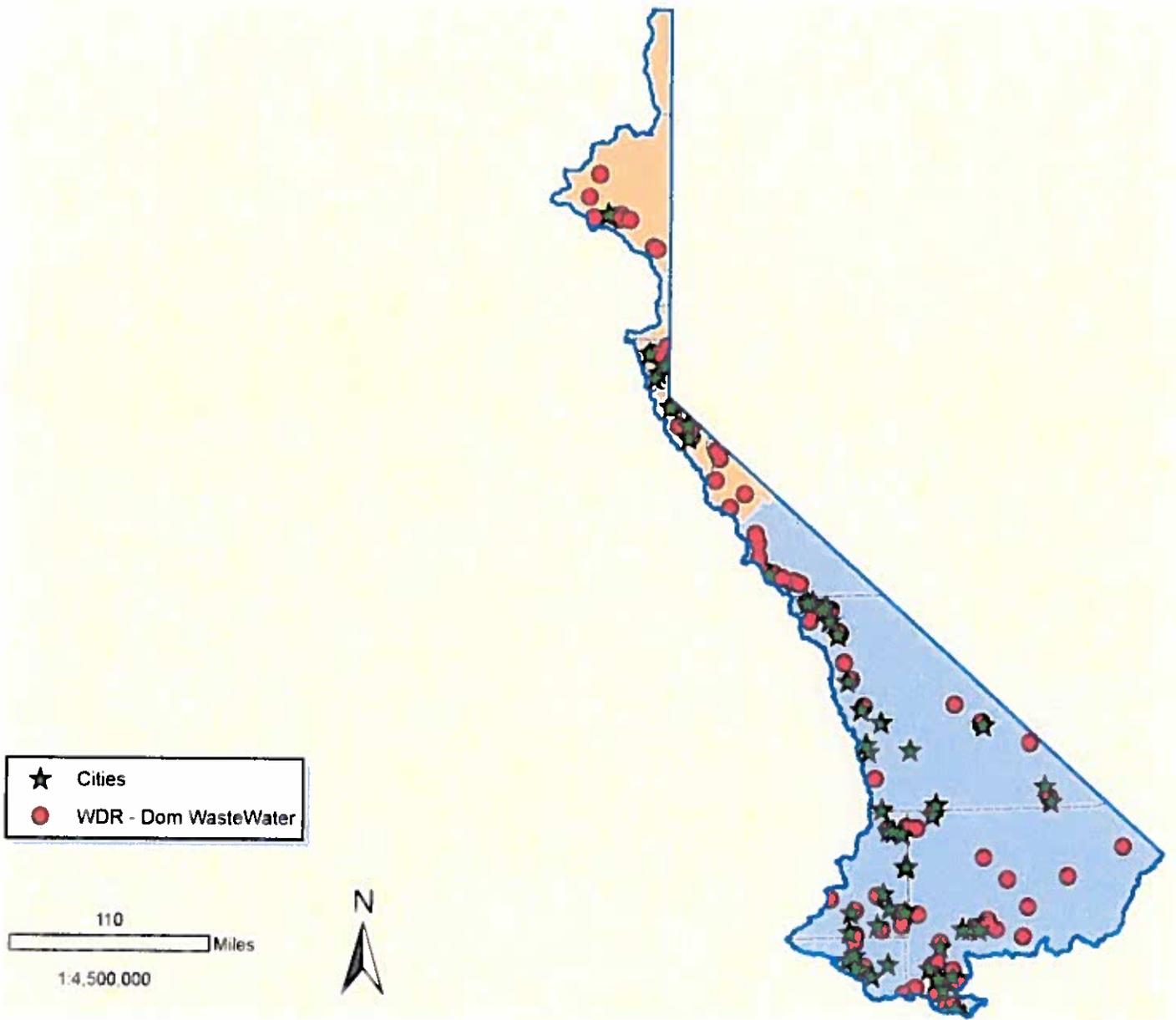


Figure 1: Waste discharge requirements for domestic wastewater treatment plants.

Region 6 Local Agency Management Plans

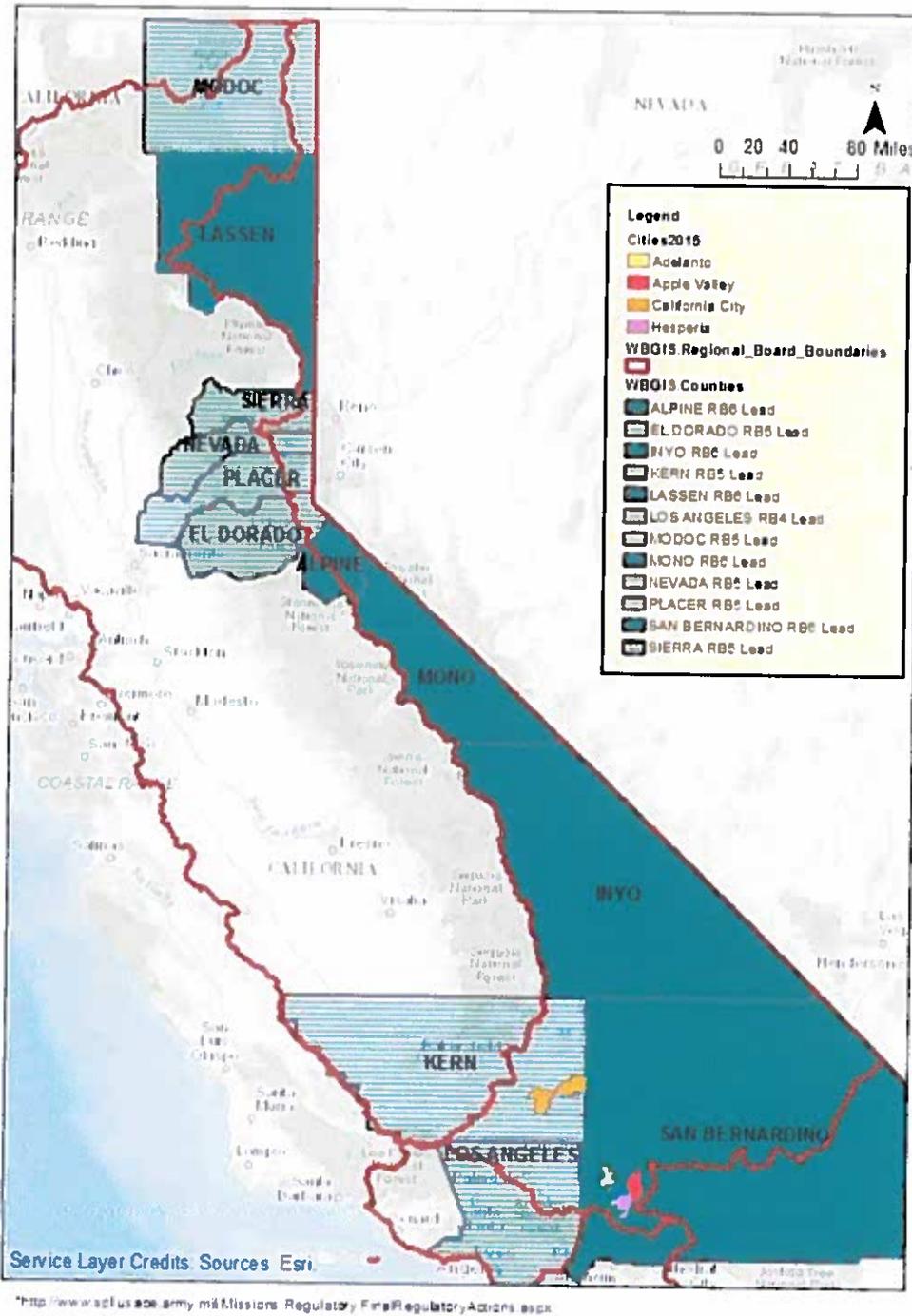


Figure 2. Regional Board's designated to approve LAMPS.

ENCLOSURE 2

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Fact Sheet

STATE WATER RESOURCES CONTROL BOARD | 1001 I Street Sacramento, CA 95814 | Mailing Address P O Box 100 Sacramento, CA 95812-0100 | www.waterboards.ca.gov

Water Quality Control Policy for Siting, Design, Operation and Maintenance of Onsite Wastewater Treatment Systems (OWTS Policy)

General OWTS Policy Information

What are we regulating?

- Onsite wastewater treatment systems (OWTS) commonly known as septic systems that primarily treat domestic wastewater and employ subsurface disposal.
- There are an estimated 1.2 million OWTS in California

When does it take effect?

- The effective date of the Policy was May 13, 2013.
- Except for Tier 3, local agencies may continue to implement their existing OWTS permitting programs for 60 months after the effective date of the Policy.
- Owners of OWTS with projected flow over 10,000 gallons per day (gpd) or receives high-strength wastewater shall notify the Regional Water Boards. These OWTS may be required to submit a Report of Waste Discharge for coverage of Waste Discharge Requirements (WDR) or a Waiver of WDR.

Why was the Policy adopted?

- To allow continued use of OWTS, while protecting water quality and public health
- Assembly Bill 885 amended California Water Code section 13290, which required the State Water Board to develop statewide standards or regulations for permitting and operation of OWTS.

Who is impacted?

- OWTS owners
- Local agencies that permit OWTS (county environmental health dept., etc.)
- Regional Water Boards
- State Water Board

OWTS Policy Tiers

The OWTS Policy establishes a statewide, risk-based, tiered approach for regulation and management of OWTS installations and replacements, and recognizes the effectiveness of local permitting agencies. Tiers are briefly summarized below, refer to the OWTS Policy for a complete discussion of the requirements.

Tier 0: Existing OWTS (OWTS Policy Section 6)

- Applies to properly functioning systems that do not need corrective action and are not near an impaired water body subject to TMDL, local agency's special provisions, or located within 600 feet of a water body listed on OWTS Policy Attachment 2.
- Maximum flow rate is 10,000 gpd.

Tier 1: Low Risk New or Replacement OWTS (OWTS Policy Sections 7 & 8)

- Applies to new or replacement OWTS that comply with conservative siting and design standards described in the OWTS Policy.
- Tier 1 applies when a Local Agency Management Program (LAMP) has not been approved by the Regional Water Board.
- Maximum flow rate is 3,500 gpd.

Tier 2: Local Agency Management Program (LAMP) for New or Replacement OWTS (OWTS Policy Section 9)

- Applies to new or replacement OWTS that comply with the siting and design standards in an approved LAMP. LAMPs are developed by Local Agencies based on local conditions; siting and design standards may differ from Tier 1 standards.
- Maximum flow rate is 10,000 gpd.

Tier 3: Advanced Protection Management Program (OWTS Policy Section 10)

- Applies to OWTS located near impaired surface water bodies that are subject to a Total Maximum Daily Load (TMDL) implementation plan, a special provision contained in a LAMP, or is located within 600 feet of a water body listed on OWTS Attachment 2.
- Supplemental treatment requirements may apply to a Tier 3 system.
- Maximum flow rate is 10,000 gpd.

Tier 4: OWTS Requiring Corrective Action (OWTS Policy Section 11)

- Applies to systems that are not properly functioning (failing).
- Failure may be indicated by surfacing effluent, wastewater backing up in plumbing fixtures, OWTS component/piping structural failure, or significant groundwater or surface water degradation

The Policy and Substitute Environmental Document are available on the Internet at:

http://www.waterboards.ca.gov/water_issues/programs/owts/index.shtml

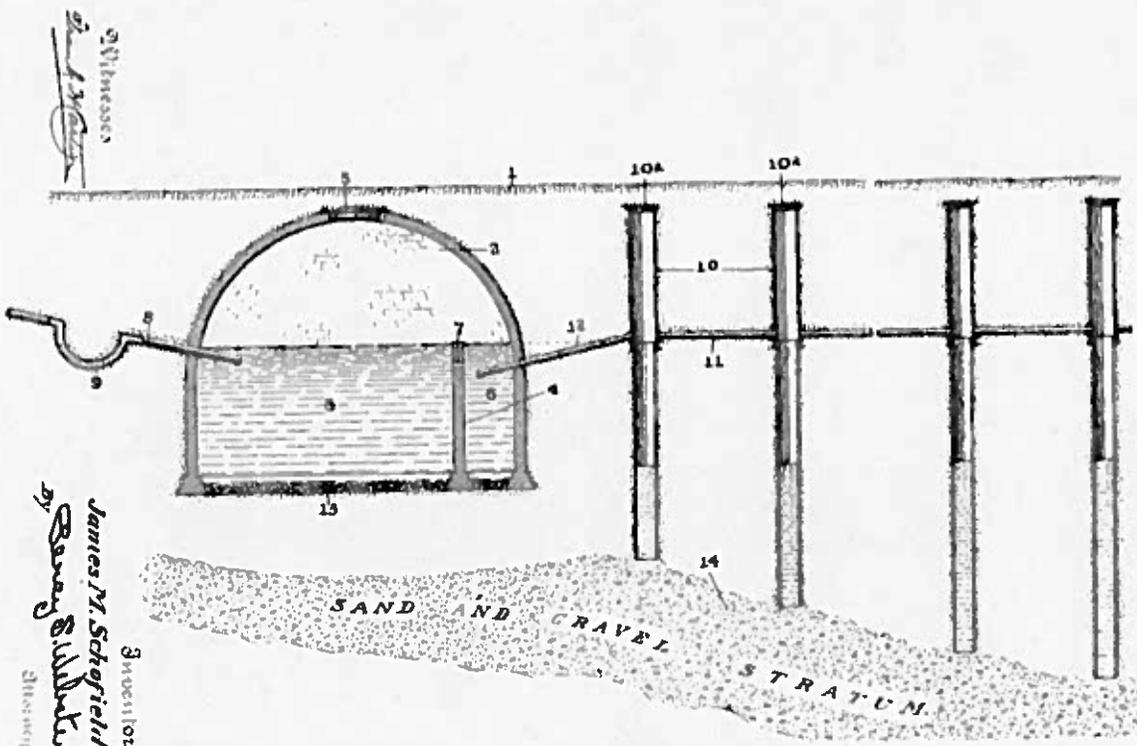
For more information please contact:

Shery Rosilela, P.E., Water Resource Control Engineer
Shery_Rosilela@waterboards.ca.gov or (916)341-5578

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ENCLOSURE 3

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933,121.

J. M. SCHORFIELD.
 ODDLETS SEWER SYSTEM.
 APPLICATION FILED SEPT. 8, 1908.

Patented Sept. 7, 1909.

James M. Schorfield
 Inventor
Samuel S. Sullivan
 Attorney

OWTS POLICY

Water Quality Control Policy for Siting,
 Design, Operation, and Maintenance of
 Onsite Wastewater Treatment Systems

June 19, 2012



STATE WATER RESOURCES CONTROL BOARD
 REGIONAL WATER QUALITY CONTROL BOARDS

10-37

9 - 145



State of California
Edmund G. Brown Jr., Governor



California Environmental Protection Agency
Matthew Rodriguez, Secretary



State Water Resources Control Board
<http://www.waterboards.ca.gov>

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Adopted by the State Water Resources Control Board on June 19, 2012
Approved by the Office of Administrative Law on November 13, 2012
Effective Date of the Policy: May 13, 2013

Preamble – Purpose and Scope – Structure of the Policy

Preamble

Onsite wastewater treatment systems (OWTS) are useful and necessary structures that allow habitation at locations that are removed from centralized wastewater treatment systems. When properly sited, designed, operated, and maintained, OWTS treat domestic wastewater to reduce its polluting impact on the environment and most importantly protect public health. Estimates for the number of installations of OWTS in California at the time of this Policy are that more than 1.2 million systems are installed and operating. The vast majority of these are functioning in a satisfactory manner and meeting their intended purpose.

However there have been occasions in California where OWTS for a varied list of reasons have not satisfactorily protected either water quality or public health. Some instances of these failures are related to the OWTS not being able to adequately treat and dispose of waste as a result of poor design or improper site conditions. Others have occurred where the systems are operating as designed but their densities are such that the combined effluent resulting from multiple systems is more than can be assimilated into the environment. From these failures we must learn how to improve our usage of OWTS and prevent such failures from happening again.

As California's population continues to grow, and we see both increased rural housing densities and the building of residences and other structures in more varied terrain than we ever have before, we increase the risks of causing environmental damage and creating public health risks from the use of OWTS. What may have been effective in the past may not continue to be as conditions and circumstances surrounding particular locations change. So necessarily more scrutiny of our installation of OWTS is demanded of all those involved, while maintaining an appropriate balance of only the necessary requirements so that the use of OWTS remains viable.

Purpose and Scope of the Policy

The purpose of this Policy is to allow the continued use of OWTS, while protecting water quality and public health. This Policy recognizes that responsible local agencies can provide the most effective means to manage OWTS on a routine basis. Therefore as an important element, it is the intent of this policy to efficiently utilize and improve upon where necessary existing local programs through coordination between the State and local agencies. To accomplish this purpose, this Policy establishes a statewide, risk-based, tiered approach for the regulation and management of OWTS installations and replacements and sets the level of performance and protection expected from OWTS. In particular, the Policy requires actions for water bodies specifically identified as part this Policy where OWTS contribute to water quality degradation that adversely affect beneficial uses.

This Policy only authorizes subsurface disposal of domestic strength, and in limited instances high strength, wastewater and establishes minimum requirements for the permitting, monitoring, and operation of OWTS for protecting beneficial uses of waters

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of the State and preventing or correcting conditions of pollution and nuisance. And finally, this Policy also conditionally waives the requirement for owners of OWTS to apply for and receive Waste Discharge Requirements in order to operate their systems when they meet the conditions set forth in the Policy. Nothing in this Policy supersedes or requires modification of Total Maximum Daily Loads or Basin Plan prohibitions of discharges from OWTS.

This Policy also applies to OWTS on federal, state, and Tribal lands to the extent authorized by law or agreement.

Structure of the Policy

This Policy is structured into ten major parts:

Definitions

Definitions for all the major terms used in this Policy are provided within this part and wherever used in the Policy the definition given here overrides any other possible definition.

[\[Section 1\]](#)

Responsibilities and Duties

Implementation of this Policy involves individual OWTS owners; local agencies, be they counties, cities, or any other subdivision of state government with permitting powers over OWTS; Regional Water Quality Control Boards; and the State Water Resources Control Board.

[\[Sections 2, 3, 4, and 5\]](#)

Tier 0 – Existing OWTS

Existing OWTS that are properly functioning, and do not meet the conditions of failing systems or otherwise require corrective action (for example, to prevent groundwater impairment) as specifically described in Tier 4, and are not determined to be contributing to an impairment of surface water as specifically described in Tier 3, are automatically included in Tier 0.

[\[Section 6\]](#)

Tier 1 – Low-Risk New or Replacement OWTS

New or replacement OWTS that meet low risk siting and design requirements as specified in Tier 1, where there is not an approved Local Agency Management Program per Tier 2.

[\[Sections 7 and 8\]](#)

Tier 2 – Local Agency Management Program for New or Replacement OWTS

California is well known for its extreme range of geological and climatic conditions. As such, the establishment of a single set of criteria for OWTS would either be too restrictive so as to protect for the most sensitive case, or would have broad allowances that would not be protective enough under some circumstances. To accommodate this

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extreme variance, local agencies may submit management programs ("Local Agency Management Programs") for approval, and upon approval then manage the installation of new and replacement OWTS under that program.

Local Agency Management Programs approved under Tier 2 provide an alternate method from Tier 1 programs to achieve the same policy purpose, which is to protect water quality and public health. In order to address local conditions, Local Agency Management Programs may include standards that differ from the Tier 1 requirements for new and replacement OWTS contained in Sections 7 and 8. As examples, a Local Agency Management Program may authorize different soil characteristics, usage of seepage pits, and different densities for new developments. Once the Local Agency Management Program is approved, new and replacement OWTS that are included within the Local Agency Management Program may be approved by the Local Agency. A Local Agency, at its discretion, may include Tier 1 standards within its Tier 2 Local Agency Management Program for some or all of its jurisdiction. However, once a Local Agency Management Program is approved, it shall supersede Tier 1 and all future OWTS decisions will be governed by the Tier 2 Local Agency Management Program until it is modified, withdrawn, or revoked.

[\[Section 9\]](#)

Tier 3 – Impaired Areas

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 Local Agency Management Program. If there is no TMDL or special provisions, new or replacement OWTS within 600 feet of impaired water bodies listed in Attachment 2 must meet the specific requirements of Tier 3.

[\[Section 10\]](#)

Tier 4 – OWTS Requiring Corrective Action

OWTS that require corrective action or are either presently failing or fail at any time while this Policy is in effect are automatically included in Tier 4 and must follow the requirements as specified.

[\[Section 11\]](#)

Conditional Waiver of Waste Discharge Requirements

The requirement to submit a report of waste discharge for discharges from OWTS that are in conformance with this policy is waived.

[\[Section 12\]](#)

Effective Date

When this Policy becomes effective.

[\[Section 13\]](#)

Financial Assistance

Procedures for local agencies to apply for funds to establish low interest loan programs for the assistance of OWTS owners in meeting the requirements of this Policy.

[\[Section 14\]](#)

Preamble – Purpose and Scope – Structure of the Policy

[Attachment 1](#)

AB 885 Regulatory Program Timelines.

[Attachment 2](#)

Tables 4 and 5 specifically identify those impaired water bodies that have Tier 3 requirements and must have a completed TMDL by the date specified.

[Attachment 3](#)

Table 6 shows where one Regional Water Board has been designated to review and, if appropriate, approve new Local Agency Management Plans for a local agency that is within multiple Regional Water Boards' jurisdiction.

What Tier Applies to my OWTS?

Existing OWTS that conform to the requirements for Tier 0 will remain in Tier 0 as long as they continue to meet those requirements. An existing OWTS will temporarily move from Tier 0 to Tier 4 if it is determined that corrective action is needed. The existing OWTS will return to Tier 0 once the corrective action is completed if the repair does not qualify as major repair under Tier 4. Any major repairs conducted as corrective action must comply with Tier 1 requirements or Tier 2 requirements, whichever are in effect for that local area. An existing OWTS will move from Tier 0 to Tier 3 if it is adjacent to an impaired water body listed on Attachment 2, or is covered by a TMDL implementation plan.

In areas with no approved Local Agency Management Plan, new and replacement OWTS that conform to the requirements of Tier 1 will remain in Tier 1 as long as they continue to meet those requirements. A new or replacement OWTS will temporarily move from Tier 1 to Tier 4 if it is determined that corrective action is needed. The new or replacement OWTS will return to Tier 1 once the corrective action is completed. A new or replacement OWTS will move from Tier 1 to Tier 3 if it is adjacent to an impaired water body, or is covered by a TMDL implementation plan.

In areas with an approved Local Agency Management Plan, new and replacement OWTS that conform to the requirements of the Tier 2 Local Agency Management Plan will remain in Tier 2 as long as they continue to meet those requirements. A new or replacement OWTS will temporarily move from Tier 2 to Tier 4 if it is determined that corrective action is needed. The new or replacement OWTS will return to Tier 2 once the corrective action is completed. A new or replacement OWTS will move from Tier 2 to Tier 3 if it is adjacent to an impaired water body, or is covered by a TMDL implementation plan, or is covered by special provisions for impaired water bodies contained in a Local Agency Management Program.

Preamble – Purpose and Scope – Structure of the Policy

Existing, new, and replacement OWTS in specified areas adjacent to water bodies that are identified by the State Water Board as impaired for pathogens or nitrogen and listed in Attachment 2 are in Tier 3. Existing, new, and replacement OWTS covered by a TMDL implementation plan, or covered by special provisions for impaired water bodies contained in a Local Agency Management Program are also in Tier 3. These OWTS will temporarily move from Tier 3 to Tier 4 if it is determined that corrective action is needed. The new or replacement OWTS will return to Tier 3 once the corrective action is completed.

Existing, new, and replacement OWTS that do not conform with the requirements to receive coverage under any of the Tiers (e.g., existing OWTS with a projected flow of more than 10,000 gpd) do not qualify for this Policy's conditional waiver of waste discharge requirements, and will be regulated separately by the applicable Regional Water Board.

Definitions

1.0 Definitions. The following definitions apply to this Policy:

"303 (d) list" means the same as **"Impaired Water Bodies."**

"At-grade system" means an OWTS dispersal system with a discharge point located at the preconstruction grade (ground surface elevation). The discharge from an at-grade system is always subsurface.

"Average annual rainfall" means the average of the annual amount of precipitation for a location over a year as measured by the nearest National Weather Service station for the preceding three decades. For example the data set used to make a determination in 2012 would be the data from 1981 to 2010.

"Basin Plan" means the same as "water quality control plan" as defined in Division 7 (commencing with Section 13000) of the Water Code. Basin Plans are adopted by each Regional Water Board, approved by the State Water Board and the Office of Administrative Law, and identify surface water and groundwater bodies within each Region's boundaries and establish, for each, its respective beneficial uses and water quality objectives. 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 (http://www.waterboards.ca.gov/plans_policies/).

"Bedrock" means the rock, usually solid, that underlies soil or other unconsolidated, surficial material.

"CEDEN" means California Environmental Data Exchange Network and information about it is available at the State Water Boards website or <http://www.ceden.org/index.shtml>.

"Cesspool" means 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" means 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 percent or more clay particles, not more than 45 percent sand and not more than 40 percent silt particles using the USDA soil classification system.

"Cobbles" means rock fragments 76 mm or larger using the USDA soil classification systems.

"Dispersal system" means a leachfield, seepage pit, mound, at-grade, subsurface drip field, evapotranspiration and infiltration bed, or other type of system for final wastewater treatment and subsurface discharge.

Definitions

- “Domestic wastewater”** means 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 facilities where the domestic wastewater is segregated from the industrial 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 processes.
- “Dump Station”** means 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”** means a groundwater well that provides water for human consumption and is not regulated by the California Department of Public Health.
- “Earthen material”** means a substance composed of the earth’s crust (i.e. soil and rock).
- “EDF”** see “electronic deliverable format.”
- “Effluent”** means 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”** or **“EDF”** means 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 (<http://geotracker.waterboards.ca.gov/>).
- “Escherichia coli”** means a group of bacteria predominantly inhabiting the intestines of humans or other warm-blooded animals, but also occasionally found elsewhere. Used as an indicator of human fecal contamination.
- “Existing OWTS”** means 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”** means 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”** means water below the land surface that is at or above atmospheric pressure.

Definitions

- “High-strength wastewater”** means 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.
- “IAPMO”** means the International Association of Plumbing and Mechanical Officials.
- “Impaired Water Bodies”** means those surface water bodies or segments thereof that are identified on a list approved first by the State Water Board and then approved by US EPA pursuant to Section 303(d) of the federal Clean Water Act.
- “Local agency”** means 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”** means 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.
- “Mottling”** means a soil condition that results from oxidizing or reducing minerals due to soil moisture changes from saturated to unsaturated over time. Mottling is characterized by spots or blotches of different colors or shades of color (grays and reds) interspersed within the dominant color as described by the USDA soil classification system. This soil condition can be indicative of historic seasonal high groundwater level, but the lack of this condition may not demonstrate the absence of groundwater.
- “Mound system”** means an aboveground dispersal system (covered sand bed with effluent leachfield 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”** means an OWTS permitted after the effective date of this Policy.
- “NSF”** means NSF International (a.k.a. National Sanitation Foundation), a not for profit, non-governmental organization that develops health and safety standards and performs product certification.
- “Oil/grease interceptor”** means 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.

Definitions

- “Onsite wastewater treatment system(s)” (OWTS)** means 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 “graywater” systems pursuant to Health and Safety Code Section 17922.12.
- “Percolation test”** means 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”** means 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”** means 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.
- “Pit-privy”** (a.k.a. outhouse, pit-toilet) means self-contained waterless toilet used for disposal of non-water carried human waste; consists of a shelter built above a pit in the ground into which human waste falls.
- “Policy”** means this Policy for Siting, Design, Operation and Management of OWTS.
- “Pollutant”** means 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.
- “Projected flows”** means 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”** is a water system regulated by the California Department of Public Health 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”** is a ground water well serving a public water system. A spring which is not subject to the California Surface Water Treatment Rule (SWTR), CCR, Title 22, sections 64650 through 64666 is a public well.
- “Qualified professional”** means 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. A local agency may modify this definition as part of its Local Agency Management Program.

Definitions

“Regional Water Board” is 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.

“Replacement OWTS” means an OWTS that has its treatment capacity expanded, or its dispersal system replaced or added onto, after the effective date of this Policy.

“Sand” means 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 percent or more sand particles, with the percentage of silt plus 1.5 times the percentage of clay particles comprising less than 15 percent.

“Seepage pit” means a drilled or dug excavation, three to six feet in diameter, either lined or gravel filled, that receives the effluent discharge from a septic tank or other OWTS treatment unit for dispersal.

“Septic tank” means 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 digested solids; and
5. Clarify wastewater for further treatment with final subsurface discharge.

“Service provider” means a person capable of operating, monitoring, and maintaining an OWTS in accordance to this Policy.

“Silt” means 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 percent or more silt particles and not more than 12 percent clay particles using the USDA soil classification system.

“Single-family dwelling unit” means a structure that is usually occupied by just one household or family and for the purposes of this Policy is expected to generate an average of 250 gallons per day of wastewater.

“Site” means the location of the OWTS and, where applicable, a reserve dispersal area capable of disposing 100 percent 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.

Definitions

- “Soil”** means 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 Structure”** means 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”** means 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”** is the State Water Resources Control Board
- “Supplemental treatment”** means any OWTS or component of an OWTS, except a septic tank or dosing tank, that performs additional wastewater treatment so that the effluent meets a predetermined performance requirement prior to discharge of effluent into the dispersal field.
- “SWAMP”** means Surface Water Ambient Monitoring Program and more information is available at: http://www.waterboards.ca.gov/water_issues/programs/swamp/
- “Telemetric”** means the ability to automatically measure and transmit OWTS data by wire, radio, or other means.
- “TMDL”** is the acronym for “total maximum daily load.” Section 303(d)(1) of the Clean Water Act requires each State to establish a TMDL for each impaired water body to address the pollutant(s) causing the impairment. In California, TMDLs are usually adopted as Basin Plan amendments and contain implementation plans detailing how water quality standards will be attained.
- “Total coliform”** means a group of bacteria consisting of several *genera* belonging to the family *Enterobacteriaceae*, which includes *Escherichia coli* bacteria.
- “USDA”** means the U.S. Department of Agriculture.
- “Waste discharge requirement”** or **“WDR”** means an operation and discharge permit issued for the discharge of waste pursuant to Section 13260 of the California Water Code.

Responsibilities and Duties

Responsibilities and Duties

2.0 OWTS Owners Responsibilities and Duties

- 2.1 All new, replacement, or existing OWTS within an area that is subject to a Basin Plan prohibition of discharges from OWTS, must comply with the prohibition. If the prohibition authorizes discharges under specified conditions, the discharge must comply with those conditions and the applicable provisions of this Policy.
- 2.2 Owners of OWTS shall adhere to the requirements prescribed in local codes and ordinances. Owners of new and replacement OWTS covered by this Policy shall also meet the minimum standards contained in Tier 1, or an alternate standard provided by a Local Agency Management Program per Tier 2, or shall comply with the requirements of Tier 3 if near an impaired water body and subject to Tier 3, or shall provide corrective action for their OWTS if their system meets conditions that place it in Tier 4.
- 2.3 Owners of OWTS shall comply with any and all permitting conditions imposed by a local agency that do not directly conflict with this Policy, including any conditions that are more stringent than required by this Policy.
- 2.4 To receive coverage under this Policy and the included waiver of waste discharges, OWTS shall only accept and treat flows of domestic wastewater. In addition, OWTS that accept high-strength wastewater from commercial food service buildings are covered under this Policy and the waiver of waste discharge requirements if the wastewater does not exceed 900 mg/L BOD and there is a properly sized and functioning oil/grease interceptor (a.k.a grease trap).
- 2.5 Owners of OWTS shall maintain their OWTS in good working condition including inspections and pumping of solids as necessary, or as required by local ordinances, to maintain proper function and assure adequate treatment.
- 2.6 The following owners of OWTS shall notify the Regional Water Board by submitting a Report of Waste Discharge for the following:
 - 2.6.1 a new or replacement OWTS that does not meet the conditions and requirements set forth in either a Local Agency Management Program if one is approved, an existing local program if it is less than 60 months from the effective date of the Policy and a Local Agency Management Program is not yet approved, or Tier 1 if no Local Agency Management Program has been approved and it is more than 60 months after the effective date of this Policy;
 - 2.6.2 any OWTS, not under individual waste discharge requirements or a waiver of individual waste discharge requirements issued by a Regional Water Board, with the projected flow of over 10,000 gallons-per-day;

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- 2.6.3 any OWTS that receives high-strength wastewater, unless the waste stream is from a commercial food service building;
- 2.6.4 any OWTS that receives high-strength wastewater from a commercial food service building: (1) with a BOD higher than 900 mg/L, or (2) that does not have a properly sized and functioning oil/grease interceptor.
- 2.7 All Reports of Waste Discharge shall be accompanied by the required application fee pursuant to California Code of Regulations, title 23, section 2200.

3.0 Local Agency Requirements and Responsibilities

- 3.1 Local agencies, in addition to implementing their own local codes and ordinances, shall determine whether the requirements within their local jurisdiction will be limited to the water quality protection afforded by the statewide minimum standards in Tier 0, Tier 1, Tier 3, and Tier 4, or whether the local agency will implement a Local Agency Management Program in accordance with Tier 2. Except for Tier 3, local agencies may continue to implement their existing OWTS permitting programs in compliance with the Basin Plan in place at the effective date of the Policy until 60 months after the effective date of this Policy, or approval of a Local Agency Management Program, whichever comes first, and may make minor adjustments as necessary that are in compliance with the applicable Basin Plan and this Policy. Tier 3 requirements take effect on the effective date of this Policy. In the absence of a Tier 2 Local Agency Management Program, to the extent that there is a direct conflict between the applicable minimum standards and the local codes or ordinances (such that it is impossible to comply with both the applicable minimum standards and the local ordinances or codes), the more restrictive standards shall govern.
- 3.2 If preferred, the local agency may at any time provide the State Water Board and all affected Regional Water Board(s) written notice of its intent to regulate OWTS using a Local Agency Management Program with alternative standards as authorized in Tier 2 of this Policy. A proposed Local Agency Management Program that conforms to the requirements of that Section shall be included with the notice. A local agency shall not implement a program different than the minimum standards contained in Tier 1 and 3 of this Policy after 60 months from the effective date of this Policy until approval of the proposed Local Agency Management Program is granted by either the Regional Water Board or State Water Board. All initial program submittals desiring approval prior to the 60 month limit shall be received no later than 36 months from the effective date of this Policy. Once approved, the local agency shall adhere to the Local Agency Management Program, including all requirements, monitoring, and reporting. If at any time a local agency wishes to modify its Local Agency Management Program, it shall provide the State Water Board and all affected Regional Water Board(s) written notice of its intended modifications and will continue to implement its existing Local Agency Management Program until the modifications are approved.

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- 3.3 All local agencies permitting OWTS shall report annually to the Regional Water Board(s). If a local agency's jurisdictional area is within the boundary of multiple Regional Water Boards, the local agency shall send a copy of the annual report to each Regional Water Board. The annual report shall include the following information (organized in a tabular spreadsheet format) and summarize whether any further actions are warranted to protect water quality or public health:
 - 3.3.1 number and location of complaints pertaining to OWTS operation and maintenance, and identification of those which were investigated and how they were resolved;
 - 3.3.2 shall provide 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;
 - 3.3.3 number, location, and description of permits issued for new and replacement OWTS and which Tier the permit is issued.
- 3.4 All local agencies permitting OWTS shall retain permanent records of their permitting actions and will make those records available within 10 working days upon written request for review by a Regional Water Board. The records for each permit shall reference the Tier under which the permit was issued.
- 3.5 A local agency 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 its discovery of a failing OWTS as described in sections 11.1 and 11.2 within the setbacks described in sections 7.5.6 through 7.5.10.
- 3.6 A local agency may implement this Policy, or a portion thereof, using its local authority to enforce the policy, as authorized by an approval from the State Water Board or by the appropriate Regional Water Board.
- 3.7 Nothing in the Policy shall preclude a local agency from adopting or retaining standards for OWTS in an approved Local Agency Management Program that are more protective of the public health or the environment than are contained in this Policy.
- 3.8 If at any time a local agency wishes to withdraw its previously submitted and approved Tier 2 Local Agency Management Program, it may do so upon 60 days written notice. The notice of withdrawal shall specify the reason for withdrawing its Tier 2 program, the effective date for cessation of the program and resumption of permitting of OWTS only under Tiers 1, 3, and 4.

4.0 Regional Water Board Functions and Duties

- 4.1 The Regional Water Boards have the principal responsibility for overseeing the implementation of this Policy.
- 4.2 Regional Water Boards shall incorporate the requirements established in this Policy by amending their Basin Plans within 12 months of the effective date of this Policy, pursuant to Water Code Section 13291(e). The Regional Water

Responsibilities and Duties

Boards may also consider whether it is necessary and appropriate to retain or adopt any more protective standards. To the extent that a Regional Water Board determines that it is necessary and appropriate to retain or adopt any more protective standards, it shall reconcile those region-specific standards with this Policy to the extent feasible, and shall provide a detailed basis for its determination that each of the more protective standards is necessary and appropriate.

- 4.2.1 Notwithstanding 4.2 above, the North Coast Regional Water Board will continue to implement its existing Basin Plan requirements pertaining to OWTS within the Russian River watershed until it adopts the Russian River TMDL, at which time it will comply with section 4.2 for the Russian River watershed.
- 4.3 The Regional Water Board designated in Attachment 3 shall review, and if appropriate, approve a Local Agency Management Program submitted by the local agency pursuant to Tier 2 in this Policy. Upon receipt of a proposed Local Agency Management Program, the Regional Water Board designated in Attachment 3 shall have 90 days to notify the local agency whether the submittal contains all the elements of a Tier 2 program, but may request additional information based on review of the proposed program. Approval must follow a noticed hearing with opportunity for public comment. If a Local Agency Management Program is disapproved, the Regional Water Board designated in Attachment 3 shall provide a written explanation of the reasons for the disapproval. A Regional Water Board may approve a Local Agency Management Program while disapproving any proposed special provisions for impaired water bodies contained in the Local Agency Management Program. If no action is taken by the respective Regional Water Board within 12 months of the submission date of a complete Local Agency Management Program, the program shall be forwarded to the State Water Board for review and approval pursuant to Section 5 of this Policy.
 - 4.3.1 Where the local agency's jurisdiction lies within more than one Regional Water Board, staff from the affected Regional Water Boards shall work cooperatively to assure that water quality protection in each region is adequately protected. If the Regional Water Board designated in Attachment 3 approves the Local Agency Management Program over the written objection of an affected Regional Water Board, that Regional Water Board may submit the dispute to the State Water Board under Section 5.3.
 - 4.3.2 Within 30 days of receipt of a proposed Local Agency Management Program, a Regional Water Board will forward a copy to and solicit comments from the California Department of Public Health regarding a Local Agency Management Program's proposed policies and procedures, including notification to local water purveyors prior to OWTS permitting.
- 4.4 Once a Local Agency Management Program has been approved, any affected Regional Water Board may require modifications or revoke authorization of a local agency to implement a Tier 2 program, in accordance with the following:

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- 4.4.1 The Regional Water Board shall consult with any other Regional Water Board(s) having jurisdiction over the local agency before providing the notice described in section 4.4.2.
- 4.4.2 Written notice shall be provided to the local agency detailing the Regional Water Board's action, the cause for such action, remedies to prevent the action from continuing to completion, and appeal process and rights. The local agency shall have 90 days from the date of the written notice to respond with a corrective action plan to address the areas of non-compliance, or to request the Regional Water Board to reconsider its findings.
- 4.4.3 The Regional Water Board shall approve, approve conditionally, or deny a corrective action plan within 90 days of receipt. The local agency will have 90 days to begin implementation of a corrective action plan from the date of approval or 60 days to request reconsideration from the date of denial. If the local agency fails to submit an acceptable corrective action plan, fails to implement an approved corrective action plan, or request reconsideration, the Regional Water Board may require modifications to the Local Agency Management Program, or may revoke the local agency's authorization to implement a Tier 2 program.
- 4.4.4 Requests for reconsideration by the local agency shall be decided by the Regional Water Board within 90 days and the previously approved Local Agency Management Program shall remain in effect while the reconsideration is pending.
- 4.4.5 If the request for reconsideration is denied, the local agency may appeal to the State Water Board and the previously approved Local Agency Management Program shall remain in effect while the appeal is under consideration. The State Water Board shall decide the appeal within 90 days. All decisions of the State Water Board are final.
- 4.5 The appropriate Regional Water Board shall accept and consider any requests for modification or revocation of a Local Agency Management Program submitted by any person. The Regional Water Board will notify the person making the request and the local agency implementing the Local Agency Management Program at issue by letter within 90 days whether it intends to proceed with the modification or revocation process per Section 4.4 above, or is dismissing the request. The Regional Water Board will post the request and its response letter on its website.
- 4.6 A Regional Water Board may issue or deny waste discharge requirements or waivers of waste discharge requirements for any new or replacement OWTS within a jurisdiction of a local agency without an approved Local Agency Management Program if that OWTS does not meet the minimum standards contained in Tier 1.
- 4.7 The Regional Water Boards will implement any notifications and enforcement requirements for OWTS determined to be in Tier 3 of this Policy.

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- 4.8 Regional Water Boards may adopt waste discharge requirements, or conditional waivers of waste discharge requirements, that exempt individual OWTS from requirements contained in this Policy.

5.0 State Water Board Functions and Duties

- 5.1 As the state agency charged with the development and adoption of this Policy, the State Water Board shall periodically review, amend and/or update this Policy as required.
- 5.2 The State Water Board may take any action assigned to the Regional Water Boards in this Policy.
- 5.3 The State Water Board shall resolve disputes between Regional Water Boards and local agencies as needed within 12 months of receiving such a request by a Regional Water Board or local agency, and may take action on its own motion in furtherance of this Policy. As part of this function, the State Water Board shall review and, if appropriate, approve Local Agency Management Programs in cases where the respective Regional Water Board has failed to consider for approval a Local Agency Management Program. The State Water Board shall approve Local Agency Management Programs at a regularly noticed board hearing and shall provide for public participation, including notice and opportunity for public comment. Once taken up by the State Water Board, Local Agency Management Programs shall be approved or denied within 180 days.
- 5.4 A member of the public may request the State Water Board to resolve any dispute regarding the Regional Water Board's approval of a Local Agency Management Program if the member of the public timely raised the disputed issue before the Regional Water Board. Such requests shall be submitted within 30 days after the Regional Water Board's approval of the Local Agency Management Program. The State Water Board shall notify the member of the public, the local agency, and the Regional Water Board within 90 days whether it intends to proceed with dispute resolution.
- 5.5 The State Water Board shall accept and consider any requests for modification or revocation of a Local Agency Management Program submitted by any person, where that person has previously submitted said request to the Regional Water Board and has received notice from the Regional Water Board of its dismissal of the request. The State Water Board will notify the person making the request and the local agency implementing the Local Agency Management Program at issue by letter within 90 days whether it intends to proceed with the modification or revocation process per Section 4.4 above, or is dismissing the request. The State Water Board will post the request and its response letter on its website.
- 5.6 The State Water Board or its Executive Director, after approving any Impaired Water Bodies [303 (d)] List, and for the purpose of implementing Tier 3 of this Policy, shall update Attachment 2 to identify those water bodies where: (1) it is likely that operating OWTS will subsequently be determined to be a contributing

Responsibilities and Duties

source of pathogens or nitrogen and therefore it is anticipated that OWTS would receive a loading reduction, and (2) it is likely that new OWTS installations discharging within 600 feet of the water body would contribute to the impairment. This identification shall be based on information available at the time of 303 (d) listing and may be further updated based on new information. Updates to Attachment 2 will be processed as amendments to this Policy.

- 5.7 The State Water Board will make available to local agencies funds from its Clean Water State Revolving Fund loan program for mini-loan programs to be operated by the local agencies for the making of low interest loans to assist private property owners with complying with this Policy.

Tier 0 – Existing OWTS

Tier 0 – Existing OWTS

Existing OWTS that are properly functioning and do not meet the conditions of failing systems or otherwise require corrective action (for example, to prevent groundwater impairment) as specifically described in Tier 4, and are not determined to be contributing to an impairment of surface water as specifically described in Tier 3, are automatically included in Tier 0.

6.0 Coverage for Properly Operating Existing OWTS

- 6.1 Existing OWTS are automatically covered by Tier 0 and the herein included waiver of waste discharge requirements if they meet the following requirements:
 - 6.1.1 have a projected flow of 10,000 gallons-per-day or less;
 - 6.1.2 receive only domestic wastewater from residential or commercial buildings, or high-strength wastewater from commercial food service buildings that does not exceed 900 mg/L BOD and has a properly sized and functioning oil/grease interceptor (a.k.a. grease trap);
 - 6.1.3 continue to comply with any previously imposed permitting conditions;
 - 6.1.4 do not require supplemental treatment under Tier 3;
 - 6.1.5 do not require corrective action under Tier 4; and
 - 6.1.6 do not consist of a cesspool as a means of wastewater disposal.
- 6.2 A Regional Water Board or local agency may deny coverage under this Policy to any OWTS that is:
 - 6.2.1 Not in compliance with Section 6.1;
 - 6.2.2 Not able to adequately protect the water quality of the waters of the State, as determined by the Regional Water Board after considering any input from the local agency. A Regional Water Board may require the submission of a report of waste discharge to receive Region specific waste discharge requirements or waiver of waste discharge requirements so as to be protective.
- 6.3 Existing OWTS currently under waste discharge requirements or individual waiver of waste discharge requirements will remain under those orders until notified in writing by the appropriate Regional Water Board that they are covered under this Policy.

Tier 1 – Low Risk New or Replacement OWTS

Tier 1 – Low Risk New or Replacement OWTS

New or replacement OWTS meet low risk siting and design requirements as specified in Tier 1, where there is not an approved Local Agency Management Program per Tier 2.

7.0 Minimum Site Evaluation and Siting Standards

- 7.1 A qualified professional shall perform all necessary soil and site evaluations for all new OWTS and for existing OWTS where the treatment or dispersal system will be replaced or expanded.
- 7.2 A site evaluation shall determine that adequate soil depth is present in the dispersal area. Soil depth is measured vertically to the point where bedrock, hardpan, impermeable soils, or saturated soils are encountered or an adequate depth has been determined. Soil depth shall be determined through the use of soil profile(s) in the dispersal area and the designated dispersal system replacement area, as viewed in excavations exposing the soil profiles in representative areas, unless the local agency has determined through historical or regional information that a specific site soil profile evaluation is unwarranted.
- 7.3 A site evaluation shall determine whether the anticipated highest level of groundwater within the dispersal field and its required minimum dispersal zone is not less than prescribed in Table 2 by estimation using one or a combination of the following methods:
 - 7.3.1 Direct observation of the highest extent of soil mottling observed in the examination of soil profiles, recognizing that soil mottling is not always an indicator of the uppermost extent of high groundwater; or
 - 7.3.2 Direct observation of groundwater levels during the anticipated period of high groundwater. Methods for groundwater monitoring and determinations shall be decided by the local agency; or
 - 7.3.3 Other methods, such as historical records, acceptable to the local agency.
 - 7.3.4 Where a conflict in the above methods of examination exists, the direct observation method indicating the highest level shall govern.
- 7.4 Percolation test results in the effluent disposal area shall not be faster than one minute per inch (1 MPI) or slower than one hundred twenty minutes per inch (120 MPI). All percolation test rates shall be performed by presoaking of percolation test holes and continuing the test until a stabilized rate is achieved.
- 7.5 Minimum horizontal setbacks from any OWTS treatment component and dispersal systems shall be as follows:
 - 7.5.1 5 feet from parcel property lines and structures;
 - 7.5.2 100 feet from water wells and monitoring wells, unless regulatory or legitimate data requirements necessitate that monitoring wells be located closer;

Tier 1 – Low Risk New or Replacement OWTS

- 7.5.3 100 feet from any unstable land mass or any areas subject to earth slides identified by a registered engineer or registered geologist; other setback distance are allowed, if recommended by a geotechnical report prepared by a qualified professional.
 - 7.5.4 100 feet from springs and flowing surface water bodies where the edge of that water body is the natural or levied bank for creeks and rivers, or may be less where site conditions prevent migration of wastewater to the water body;
 - 7.5.5 200 feet from vernal pools, wetlands, lakes, ponds, or other surface water bodies where the edge of that water body is the high water mark for lakes and reservoirs, and the mean high tide line for tidally influenced water bodies;
 - 7.5.6 150 feet from a public water well where the depth of the effluent dispersal system does not exceed 10 feet;
 - 7.5.7 Where the effluent dispersal system is within 1,200 feet from a public water systems' 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.
 - 7.5.8 Where the effluent dispersal system is located more than 1,200 feet but less than 2,500 feet from a public water systems' 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.
- 7.6 Prior to issuing a permit to install an OWTS the permitting agency shall determine if the OWTS is within 1,200 feet of an intake point for a surface water treatment plant for drinking water, is in the drainage catchment in which the intake point is located, and located such that it may impact water quality at the intake point such as being upstream of the intake point for a flowing water body. If the OWTS is within 1,200 feet of an intake point for a surface water treatment plant for drinking water, is in the drainage catchment in which the intake point is located, and is located such that it may impact water quality at the intake point:
- 7.6.1 The permitting agency shall provide a copy of the permit application to the owner of the water system of their proposal to install an OWTS within 1,200 feet of an intake point for a surface water treatment. If the owner of the water system cannot be identified, then the permitting agency will notify California Department of Public Health Drinking Water Program.
 - 7.6.2 The permit application shall include a topographical plot plan for the parcel showing the OWTS components, the property boundaries, proposed structures, physical address, and name of property owner.

Tier 1 – Low Risk New or Replacement OWTS

- 7.6.3 The permit application shall provide the estimated wastewater flows, intended use of proposed structure generating the wastewater, soil data, and estimated depth to seasonally saturated soils.
- 7.6.4 The public water system owner shall have 15 days from receipt of the permit application to provide recommendations and comments to the permitting agency.
- 7.7 Natural ground slope in all areas used for effluent disposal shall not be greater than 25 percent.
- 7.8 The average density for any subdivision of property made by Tentative Approval pursuant to the Subdivision Map Act occurring after the effective date of this Policy and implemented under Tier 1 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.

Average Annual Rainfall (in/yr)	Allowable Density (acres/single family dwelling unit)
0 - 15	2.5
>15 - 20	2
>20 - 25	1.5
>25 - 35	1
>35 - 40	0.75
>40	0.5

8.0 Minimum OWTS Design and Construction Standards

8.1 OWTS Design Requirements

- 8.1.1 A qualified professional shall design all new OWTS and modifications to existing OWTS where the treatment or dispersal system will be replaced or expanded. A qualified professional employed by a local agency, while acting in that capacity, may design, review, and approve a design for a proposed OWTS, if authorized by the local agency.
- 8.1.2 OWTS shall be located, designed, and constructed in a manner to ensure that effluent does not surface at any time, and that percolation of effluent will not adversely affect beneficial uses of waters of the State.
- 8.1.3 The design of new and replacement OWTS shall be based on the expected influent wastewater quality with a projected flow not to exceed 3,500 gallons per day, the peak wastewater flow rates for purposes of sizing hydraulic components, the projected average daily flow for purposes of sizing the dispersal system, the characteristics of the site, and the required level of treatment for protection of water quality and public health.

Tier 1 – Low Risk New or Replacement OWTS

- 8.1.4 All dispersal systems shall have at least twelve (12) inches of soil cover, except for pressure distribution systems, which must have at least six (6) inches of soil cover.
- 8.1.5 The minimum depth to the anticipated highest level of groundwater below the bottom of the leaching trench, and the native soil depth immediately below the leaching trench, shall not be less than prescribed in Table 2.

Table 2: Tier 1 Minimum Depths to Groundwater and Minimum Soil Depth from the Bottom of the Dispersal System	
Percolation Rate	Minimum Depth
Percolation Rate \leq 1 MPI	Only as authorized in a Tier 2 Local Agency Management Program
1 MPI < Percolation Rate \leq 5 MPI	Twenty (20) feet
5 MPI < Percolation Rate \leq 30 MPI	Eight (8) feet
30 MPI < Percolation Rate \leq 120 MPI	Five (5) feet
Percolation Rate > 120 MPI	Only as authorized in a Tier 2 Local Agency Management Program
MPI = minutes per inch	

- 8.1.6 Dispersal systems shall be a leachfield, 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. Seepage pits and other dispersal systems may only be authorized for repairs where siting limitations require a variance. Maximum application rates shall be determined from stabilized percolation rate as provided in Table 3, or from soil texture and structure determination as provided in Table 4.
- 8.1.7 Dispersal systems shall not exceed a maximum depth of 10 feet as measured from the ground surface to the bottom of the trench.

Tier 1 – Low Risk New or Replacement OWTS

Percolation Rate (minutes per inch)	Application Rate (gallons per day per square foot)		Percolation Rate (minutes per inch)	Application Rate (gallons per day per square foot)		Percolation Rate (minutes per inch)	Application Rate (gallons per day per square foot)
<1	Requires Local Management Program		31	0.522		61	0.197
1	1.2		32	0.511		62	0.194
2	1.2		33	0.5		63	0.19
3	1.2		34	0.489		64	0.187
4	1.2		35	0.478		65	0.184
5	1.2		36	0.467		66	0.18
6	0.8		37	0.456		67	0.177
7	0.8		38	0.445		68	0.174
8	0.8		39	0.434		69	0.17
9	0.8		40	0.422		70	0.167
10	0.8		41	0.411		71	0.164
11	0.786		42	0.4		72	0.16
12	0.771		43	0.389		73	0.157
13	0.757		44	0.378		74	0.154
14	0.743		45	0.367		75	0.15
15	0.729		46	0.356		76	0.147
16	0.714		47	0.345		77	0.144
17	0.7		48	0.334		78	0.14
18	0.686		49	0.323		79	0.137
19	0.671		50	0.311		80	0.133
20	0.657		51	0.3		81	0.13
21	0.643		52	0.289		82	0.127
22	0.629		53	0.278		83	0.123
23	0.614		54	0.267		84	0.12
24	0.6		55	0.256		85	0.117
25	0.589		56	0.245		86	0.113
26	0.578		57	0.234		87	0.11
27	0.567		58	0.223		88	0.107
28	0.556		59	0.212		89	0.103
29	0.545		60	0.2		90	0.1
30	0.533					>90 - 120	0.1

Tier 1 – Low Risk New or Replacement OWTS

Table 4: 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
		Weak	0.2
	Platy	Moderate, Strong	Prohibited
		Weak	0.4
Prismatic, Blocky, Granular	Weak	0.4	
	Moderate, Strong	0.6	
Fine Sandy Loam, very fine Sandy Loam	Massive	Structureless	0.2
		Weak, Moderate, Strong	Prohibited
	Platy	Weak	0.2
		Moderate, Strong	0.4
Loam	Massive	Structureless	0.2
		Weak, Moderate, Strong	Prohibited
	Platy	Weak	0.4
		Moderate, Strong	0.6
Silt Loam	Massive	Structureless	Prohibited
		Weak, Moderate, Strong	Prohibited
	Platy	Weak	0.4
		Moderate, Strong	0.6
Sandy Clay Loam, Clay Loam, Silty Clay Loam	Massive	Structureless	Prohibited
		Weak, Moderate, Strong	Prohibited
	Platy	Weak	0.2
		Moderate, Strong	0.4
Sandy Clay, Clay, or Silty Clay	Massive	Structureless	Prohibited
		Weak, Moderate, Strong	Prohibited
	Platy	Weak	Prohibited
		Moderate, Strong	0.2

¹ Soils listed as prohibited may be allowed under the authority of the Regional Water Board, or as allowed under an approved Local Agency Management Program per Tier 2.

Tier 1 – Low Risk New or Replacement OWTS

- 8.1.8 All new dispersal systems shall have 100 percent replacement area that is equivalent and separate, and available for future use.
- 8.1.9 No dispersal systems or replacement areas shall be covered by an impermeable surface, such as paving, building foundation slabs, plastic sheeting, or any other material that prevents oxygen transfer to the soil.
- 8.1.10 Rock fragment content of native soil surrounding the dispersal system shall not exceed 50 percent by volume for rock fragments sized as cobbles or larger and shall be estimated using either the point-count or line-intercept methods.
- 8.1.11 Increased allowance for IAPMO certified dispersal systems is not allowed under Tier 1.

8.2 OWTS Construction and Installation

- 8.2.1 All new or replacement septic tanks and new or replacement oil/grease interceptor tanks shall comply with the standards contained in Sections K5(b), K5(c), K5(d), K5(e), K5(k), K5(m)(1), and K5(m)(3)(ii) of Appendix K, of Part 5, Title 24 of the 2007 California Code of Regulations.
- 8.2.2 All new septic tanks shall comply with the following requirements:
 - 8.2.2.1 Access openings shall have watertight risers, the tops of which shall be set at most 6 inches below finished grade; and
 - 8.2.2.2 Access openings at grade or above shall be locked or secured to prevent unauthorized access.
- 8.2.3 New and replacement OWTS septic tanks shall be limited to those approved by the International Association of Plumbing and Mechanical Officials (IAPMO) or stamped and certified by a California registered civil engineer as meeting the industry standards, and their installation shall be according to the manufacturer's instructions.
- 8.2.4 New and replacement OWTS septic tanks shall be designed to prevent solids in excess of three-sixteenths (3/16) of an inch in diameter from passing to the dispersal system. Septic tanks that use a National Sanitation Foundation/American National Standard Institute (NSF/ANSI) Standard 46 certified septic tank filter at the final point of effluent discharge from the OWTS and prior to the dispersal system shall be deemed in compliance with this requirement.

Tier 1 – Low Risk New or Replacement OWTS

- 8.2.5 A Licensed General Engineering Contractor (Class A), General Building Contractor (Class B), Sanitation System Contractor (Specialty Class C-42), or Plumbing Contractor (Specialty Class C-36) shall install all new OWTS and replacement OWTS in accordance with California Business and Professions Code Sections 7056, 7057, and 7058 and Article 3, Division 8, Title 16 of the California Code of Regulations. A property owner may also install his/her own OWTS if the as-built diagram and the installation are inspected and approved by the Regional Water Board or local agency at a time when the OWTS is in an open condition (not covered by soil and exposed for inspection).

Tier 2 – Local Agency OWTS Management Program

Tier 2 – Local Agency OWTS Management Program

Local agencies may submit management programs for approval, and upon approval then manage the installation of new and replacement OWTS under that program. Local Agency Management Programs approved under Tier 2 provide an alternate method from Tier 1 programs to achieve the same policy purpose, which is to protect water quality and public health. In order to address local conditions, Local Agency Management Programs may include standards that differ from the Tier 1 requirements for new and replacement OWTS contained in Sections 7 and 8. As examples, a Local Agency Management Program may authorize different soil characteristics, usage of seepage pits, and different densities for new developments. Once the Local Agency Management Program is approved, new and replacement OWTS that are included within the Local Agency Management Program may be approved by the Local Agency. A Local Agency, at its discretion, may include Tier 1 standards within its Tier 2 Local Agency Management Program for some or all of its jurisdiction. However, once a Local Agency Management Program is approved, it shall supersede Tier 1 and all future OWTS decisions will be governed by the Tier 2 Local Agency Management Program until it is modified, withdrawn, or revoked.

9.0 Local Agency Management Program for Minimum OWTS Standards

The Local Agency Management Program for minimum OWTS Standards is a management program where local agencies can establish minimum standards that are differing requirements from those specified in Tier 1 (Section 7 and Section 8), including the areas that do not meet those minimum standards and still achieve this Policy's purpose. Local Agency Management Programs may include any one or combination of the following to achieve this purpose:

- Differing system design requirements;
- Differing siting controls such as system density and setback requirements;
- Requirements for owners to enter monitoring and maintenance agreements; and/or
- Creation of an onsite management district or zone.

9.1 Where different and/or additional requirements are needed to protect water quality the local agency shall consider the following, as well as any other conditions deemed appropriate, when developing Local Agency Management Program requirements:

- 9.1.1 Degree of vulnerability to pollution from OWTS due to hydrogeological conditions.
- 9.1.2 High Quality waters or other environmental conditions requiring enhanced protection from the effects of OWTS.
- 9.1.3 Shallow soils requiring a dispersal system installation that is closer to ground surface than is standard.
- 9.1.4 OWTS is located in area with high domestic well usage.

Tier 2 – Local Agency OWTS Management Program

- 9.1.5 Dispersal system is located in an area with fractured bedrock.
 - 9.1.6 Dispersal system is located in an area with poorly drained soils.
 - 9.1.7 Surface water is vulnerable to pollution from OWTS.
 - 9.1.8 Surface water within the watershed is listed as impaired for nitrogen or pathogens.
 - 9.1.9 OWTS is located within an area of high OWTS density.
 - 9.1.10 A parcel's size and its susceptibility to hydraulic mounding, organic or nitrogen loading, and whether there is sufficient area for OWTS expansion in case of failure.
 - 9.1.11 Geographic areas that are known to have multiple, existing OWTS predating any adopted standards of design and construction including cesspools.
 - 9.1.12 Geographic areas that are known to have multiple, existing OWTS located within either the pertinent setbacks listed in Section 7.5 of this Policy, or a setback that the local agencies finds is appropriate for that area.
- 9.2 The Local Agency Management Program shall detail the scope of its coverage, such as the maximum authorized projected flows for OWTS, as well as a clear delineation of those types of OWTS included within and to be permitted by the program, and provide the local site evaluation, siting, design, and construction requirements, and in addition each of the following:
- 9.2.1 Any local agency requirements for onsite wastewater system inspection, monitoring, maintenance, and repairs, including procedures to ensure that replacements or repairs to failing systems are done under permit from the local governing jurisdiction.
 - 9.2.2 Any special provisions applicable to OWTS within specified geographic areas near specific impaired water bodies listed for pathogens or nitrogen. The special provisions may be substantive and/or procedural, and may include, as examples: consultation with the Regional Water Board prior to issuing permits, supplemental treatment, development of a management district or zone, special siting requirements, additional inspection and monitoring.
 - 9.2.3 Local Agency Management Program variances, for new installations and repairs in substantial conformance, to the greatest extent practicable. Variances are not allowed for the requirements stated in sections 9.4.1 through 9.4.9.
 - 9.2.4 Any educational, training, certification, and/or licensing requirements that will be required of OWTS service providers, site evaluators, designers, installers, pumpers, maintenance contractors, and any other person relating to OWTS activities.
 - 9.2.5 Education and/or outreach program including informational materials to inform OWTS owners about how to locate, operate, and maintain their

Tier 2 – Local Agency OWTS Management Program

OWTS as well as any Water Board order (e.g., Basin Plan prohibitions) regarding OWTS restrictions within its jurisdiction. The education and/or outreach program shall also include procedures to ensure that alternative onsite system owners are provided an informational maintenance or replacement document by the system designer or installer. This document shall cite homeowner procedures to ensure maintenance, repair, or replacement of critical items within 48 hours following failure. If volunteer well monitoring programs are available within the local agency's jurisdiction, the outreach program shall include information on how well owners may participate.

- 9.2.6 An assessment of existing and proposed disposal locations for septage, the volume of septage anticipated, and whether adequate capacity is available.
 - 9.2.7 Any consideration given to onsite maintenance districts or zones.
 - 9.2.8 Any consideration given to the development and implementation of, or coordination with, Regional Salt and Nutrient Management Plans.
 - 9.2.9 Any consideration given to coordination with watershed management groups.
 - 9.2.10 Procedures for evaluating the proximity of sewer systems to new or replacement OWTS installations.
 - 9.2.11 Procedures for notifying the owner of a public water system prior to issuing an installation or repair permit for an OWTS, if the OWTS is within 1,200 feet of an intake point for a surface water treatment plant for drinking water, is in the drainage area catchment in which the intake point is located, and is located such that it may impact water quality at the intake point such as upstream of the intake point for a flowing water body, or if the OWTS is within a horizontal sanitary setback from a public well.
 - 9.2.12 Policies and procedures that will be followed when a proposed OWTS dispersal area is within the horizontal sanitary setback of a public well or a surface water intake point. These policies and procedures shall either indicate that supplemental treatment as specified in 10.9 and 10.10 of this policy are required for OWTS that are within a horizontal sanitary setback of a public well or surface water intake point, or will establish alternate siting and operational criteria for the proposed OWTS that would similarly mitigate the potential adverse impact to the public water source.
 - 9.2.13 Any plans for the phase-out or discontinuance of cesspool usage.
- 9.3 The minimum responsibilities of the local agency for management of the Local Agency Management Program include:
- 9.3.1 Maintain records of the number, location, and description of permits issued for OWTS where a variance is granted.

Tier 2 – Local Agency OWTS Management Program

9.3.2 Maintain a water quality assessment program to determine the general operation status of OWTS and to evaluate the impact of OWTS discharges, and assess the extent to which groundwater and local surface water quality may be adversely impacted. The focus of the assessment should be areas with characteristics listed under section 9.1. The assessment program will include monitoring and analysis of water quality data, review of complaints, variances, failures, and any information resulting from inspections. The assessment may use existing water quality data from other monitoring programs and/or establish the terms, conditions, and timing for monitoring done by the local agency. At a minimum this assessment will include monitoring data for nitrates and pathogens, and may include data for other constituents which are needed to adequately characterize the impacts of OWTS on water quality. Other monitoring programs for which data may be used include but are not limited to any of the following:

- 9.3.2.1. Random well samples from a domestic well sampling program.
- 9.3.2.2. Routine real estate transfer samples if those are performed and reported.
- 9.3.2.3. Review of public system sampling reports done by the local agency or another municipality responsible for the public system.
- 9.3.2.4. Water quality testing reports done at the time of new well development if those are reported.
- 9.3.2.5. Beach water quality testing data performed as part of Health and Safety Code Section 115885.
- 9.3.2.6. Receiving water sampling performed as a part of a NPDES permit.
- 9.3.2.7. Data contained in the California Water Quality Assessment Database.
- 9.3.2.8. Groundwater sampling performed as part of Waste Discharge Requirements.
- 9.3.2.9. Groundwater data collected as part of the Groundwater Ambient Monitoring and Assessment Program and available in the Geotracker Database.

9.3.3 Submit an annual report by February 1 to the applicable Regional Water Board summarizing the status of items 9.3.1 through 9.3.2 above. Every fifth year, submit an evaluation of the monitoring program and an assessment of whether water quality is being impacted by OWTS, identifying any changes in the Local Agency Management Program that will be undertaken to address impacts from OWTS. The first report will commence one year after approval of the local agency's Local Agency Management Program. In addition to summarizing monitoring data collected per 9.3.2 above, all groundwater monitoring data generated by the local agency shall be submitted in EDF format for inclusion into

Tier 2 – Local Agency OWTS Management Program

Geotracker, and surface water monitoring shall be submitted to CEDEN in a SWAMP comparable format.

9.4 The following are not allowed to be authorized in a Local Agency Management Program:

- 9.4.1 Cesspools of any kind or size.**
- 9.4.2 OWTS receiving a projected flow over 10,000 gallons per day.**
- 9.4.3 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.**
- 9.4.4 Slopes greater than 30 percent without a slope stability report approved by a registered professional.**
- 9.4.5 Decreased leaching area for IAPMO certified dispersal systems using a multiplier less than 0.70.**
- 9.4.6 OWTS utilizing supplemental treatment without requirements for periodic monitoring or inspections.**
- 9.4.7 OWTS dedicated to receiving significant amounts of wastes dumped from RV holding tanks.**
- 9.4.8 Separation of the bottom of dispersal system to groundwater less than two (2) feet, except for seepage pits, which shall not be less than 10 feet.**
- 9.4.9 Installation of new or replacement OWTS where public sewer is available. The public sewer may be considered as not available when such public sewer or any building or exterior drainage facility connected thereto is located more than 200 feet from any proposed building or exterior drainage facility on any lot or premises that abuts and is served by such public sewer. This provision does not apply to replacement OWTS where the connection fees and construction cost are greater than twice the total cost of the replacement OWTS and the local agency determines that the discharge from the OWTS will not affect groundwater or surface water to a degree that makes it unfit for drinking or other uses.**
- 9.4.10 Except as provided for in sections 9.4.11 and 9.4.12, new or replacement OWTS with minimum horizontal setbacks less than any of the following:**
 - 9.4.10.1 150 feet from a public water well where the depth of the effluent dispersal system does not exceed 10 feet in depth.**
 - 9.4.10.2 200 feet from a public water well where the depth of the effluent dispersal system exceeds 10 feet in depth.**
 - 9.4.10.3 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. A qualified professional shall conduct this evaluation. However in no case shall the setback be less than 200 feet.**

Tier 2 – Local Agency OWTS Management Program

- 9.4.10.4 Where the effluent dispersal system is within 1,200 feet from a public water systems' 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.
- 9.4.10.5 Where the effluent dispersal system is located more than 1,200 feet but less than 2,500 feet from a public water systems' surface water intake point, within the catchment area 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.
- 9.4.11 For replacement OWTS that do not meet the above horizontal separation requirements, the replacement OWTS shall meet the horizontal separation to the greatest extent practicable. In such case, the replacement OWTS shall utilize supplemental 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.
- 9.4.12 For new OWTS, installed on parcels of record existing at the time of the effective date of this Policy, that cannot meet the above horizontal separation requirements, 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 and any other mitigation measures prescribed by the permitting authority.
- 9.5 A Local Agency Management Program for OWTS must include adequate detail, including technical information to support how all the criteria in their program work together to protect water quality and public health.
- 9.6 A Regional Water Board reviewing a Local Agency Management Program shall consider, among other things, the past performance of the local program to adequately protect water quality, and where this has been achieved with criteria differing from Tier 1, shall not unnecessarily require modifications to the program for purposes of uniformity, as long as the Local Agency Management Program meets the requirements of Tier 2.

Tier 3 – Impaired Areas

Tier 3 – Advanced Protection Management Programs for Impaired Areas

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 Local Agency Management Program. If there is no TMDL or special provisions, new or replacement OWTS within 600 feet of impaired water bodies listed in Attachment 2 must meet the applicable specific requirements of Tier 3.

10.0 Advanced Protection Management Program

An Advanced Protection Management Program is the minimum required management program for all OWTS located near a water body that has been listed as impaired due to nitrogen or pathogen indicators pursuant to Section 303(d) of the Clean Water Act. Local agencies are authorized to implement Advanced Protection Management Programs in conjunction with an approved Local Agency Management Program or, if there is no approved Local Agency Management Program, Tier 1. Local agencies are encouraged to collaborate with the Regional Water Boards by sharing any information pertaining to the impairment, provide advice on potential remedies, and regulate OWTS to the extent that their authority allows for the improvement of the impairment.

10.1 The geographic area for each water body's Advanced Protection Management Program is defined by the applicable TMDL, if one has been approved. If there is not an approved TMDL, it is defined by an approved Local Agency Management Program, if it contains special provisions for that water body. If it is not defined in an approved TMDL or Local Agency Management Program, it shall be 600 linear feet [in the horizontal (map) direction] of a water body listed in Attachment 2 where the edge of that water body is the natural or levied bank for creeks and rivers, the high water mark for lakes and reservoirs, and the mean high tide line for tidally influenced water bodies, as appropriate. OWTS near impaired water bodies that are not listed on Attachment 2, and do not have a TMDL and are not covered by a Local Agency Management Program with special provisions, are not addressed by Tier 3.

10.2 The requirements of an Advanced Protection Management Program will be in accordance with a TMDL implementation plan, if one has been adopted to address the impairment. An adopted TMDL implementation plan supersedes all other requirements in Tier 3. All TMDL implementation plans adopted after the effective date of this Policy that contain load allocations for OWTS shall include a schedule that requires compliance with the load allocations as soon as practicable, given the watershed-specific circumstances. The schedule shall require that OWTS implementation actions for OWTS installed prior to the TMDL implementation plan's effective date shall commence within 3 years after the TMDL implementation plan's effective date, and that OWTS implementation actions for OWTS installed after the TMDL implementation plan's effective date shall commence immediately. The TMDL implementation plan may use some or all of the Tier 3 requirements and shall establish the applicable area of

Tier 3 – Impaired Areas

implementation for OWTS requirements within the watershed. For those impaired water bodies that do have an adopted TMDL addressing the impairment, but the TMDL does not assign a load allocation to OWTS, no further action is required unless the TMDL is modified at some point in the future to include actions for OWTS. Existing, new, and replacement OWTS that are near impaired water bodies and are covered by a Basin Plan prohibition must also comply with the terms of the prohibition, as provided in Section 2.1.

10.3 In the absence of an adopted TMDL implementation plan, the requirements of an Advanced Protection Management Program will consist of any special provisions for the water body if any such provisions have been approved as part of a Local Agency Management Program.

10.4 The Regional Water Boards shall adopt TMDLs for impaired water bodies identified in Attachment 2, in accordance with the specified dates.

10.4.1 If a Regional Water Board does not complete a TMDL within two years of the time period specified in Attachment 2, coverage under this Policy's waiver of waste discharge requirements shall expire for any OWTS that has any part of its dispersal system discharging within the geographic area of an Advanced Protection Management Program. The Regional Water Board shall issue waste discharge requirements, general waste discharge requirements, waivers of waste discharge requirements, or require corrective action for such OWTS. The Regional Water Board will consider the following when establishing the waste discharge requirements, general waste discharge requirements, waivers of waste discharge requirements, or requirement for corrective action:

10.4.1.1 Whether supplemental treatment should be required.

10.4.1.2 Whether routine inspection of the OWTS should be required.

10.4.1.3 Whether monitoring of surface and groundwater should be performed.

10.4.1.4 The collection of a fee for those OWTS covered by the order.

10.4.1.5 Whether owners of previously-constructed OWTS should file a report by a qualified professional in accordance with section 10.5.

10.4.1.6 Whether owners of new or replacement OWTS should file a report of waste discharge with additional supporting technical information as required by the Regional Water Board.

10.5 If the Regional Water Board requires owners of OWTS to submit a qualified professional's report pursuant to Section 10.4.1.5, the report shall include a determination of whether the OWTS is functioning properly and as designed or requires corrective actions per Tier 4, and regardless of its state of function, whether it is contributing to impairment of the water body.

10.5.1 The qualified professional's report may also include, but is not limited to:

Tier 3 – Impaired Areas

- 10.5.1.1 A general description of system components, their physical layout, and horizontal setback distances from property lines, buildings, wells, and surface waters.
 - 10.5.1.2 A description of the type of wastewater discharged to the OWTS such as domestic, commercial, or industrial and classification of it as domestic wastewater or high-strength waste.
 - 10.5.1.3 A determination of the systems design flow and the volume of wastewater discharged daily derived from water use, either estimated or actual if metered.
 - 10.5.1.4 A description of the septic tank, including age, size, material of construction, internal and external condition, water level, scum layer thickness, depth of solids, and the results of a one-hour hydrostatic test.
 - 10.5.1.5 A description of the distribution box, dosing siphon, or distribution pump, and if flow is being equally distributed throughout the dispersal system, as well as any evidence of solids carryover, clear water infiltration, or evidence of system backup.
 - 10.5.1.6 A description of the dispersal system including signs of hydraulic failure, condition of surface vegetation over the dispersal system, level of ponding above the infiltrative surface within the dispersal system, other possible sources of hydraulic loading to the dispersal area, and depth of the seasonally high groundwater level.
 - 10.5.1.7 A determination of whether the OWTS is discharging to the ground's surface.
 - 10.5.1.8 For a water body listed as an impaired water body for pathogens, a determination of the OWTS dispersal system's separation from its deepest most infiltrative surface to the highest seasonal groundwater level or fractured bedrock.
 - 10.5.1.9 For a water body listed as an impaired water body for nitrogen, a determination of whether the groundwater under the dispersal field is reaching the water body, and a description of the method used to make the determination.
- 10.6 For new, replacement, and existing OWTS in an Advanced Protection Management Program, the following are not covered by this Policy's waiver but may be authorized by a separate Regional Water Board order:
- 10.6.1 Cesspools of any kind or size.
 - 10.6.2 OWTS receiving a projected flow over 10,000 gallons per day.
 - 10.6.3 OWTS that utilize any form of effluent disposal on or above the ground surface.
 - 10.6.4 Slopes greater than 30 percent without a slope stability report approved by a registered professional.

Tier 3 – Impaired Areas

- 10.6.5 Decreased leaching area for IAPMO certified dispersal systems using a multiplier less than 0.70.
- 10.6.6 OWTS utilizing supplemental treatment without requirements for periodic monitoring or inspections.
- 10.6.7 OWTS dedicated to receiving significant amounts of wastes dumped from RV holding tanks.
- 10.6.8 Separation of the bottom of dispersal system to groundwater less than two (2) feet, except for seepage pits, which shall not be less than 10 feet.
- 10.6.9 Minimum horizontal setbacks less than any of the following:
 - 10.6.9.1 150 feet from a public water well where the depth of the effluent dispersal system does not exceed 10 feet in depth;
 - 10.6.9.2 200 feet from a public water well where the depth of the effluent dispersal system exceeds 10 feet in depth:
 - 10.6.9.3 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. A qualified professional shall conduct this evaluation. However in no case shall the setback be less than 200 feet.
 - 10.6.9.4 Where the effluent dispersal system is within 1,200 feet from a public water systems' 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.
 - 10.6.9.5 Where the effluent dispersal system is located more than 1,200 feet but less than 2,500 feet from a public water systems' 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.
 - 10.6.9.6 For replacement OWTS that do not meet the above horizontal separation requirements, the replacement OWTS shall meet the horizontal separation to the greatest extent practicable. In such case, the replacement OWTS shall utilize supplemental treatment and other mitigation measures.
 - 10.6.9.7 For new OWTS, installed on parcels of record existing at the time of the effective date of this Policy, that cannot meet the above horizontal separation requirements, the OWTS shall meet the horizontal separation to the greatest extent practicable and shall

Tier 3 – Impaired Areas

utilize supplemental treatment for pathogens as specified in section 10.10 and any other mitigation measures as prescribed by the permitting authority.

10.7 The requirements contained in Section 10 shall not apply to owners of OWTS that are constructed and operating, or permitted, on or prior to the date that the nearby water body is added to Attachment 2 who commit by way of a legally binding document to connect to a centralized wastewater collection and treatment system regulated through WDRs as specified within the following timeframes:

10.7.1 The owner must sign the document within forty-eight months of the date that the nearby water body is initially listed on Attachment 2.

10.7.2 The specified date for the connection to the centralized community wastewater collection and treatment system shall not extend beyond nine years following the date that the nearby water body is added to Attachment 2.

10.8 In the absence of an adopted TMDL implementation plan or Local Agency Management Program containing special provisions for the water body, all new or replacement OWTS permitted after the date that the water body is initially listed in Attachment 2 that have any discharge within the geographic area of an Advanced Protection Management Program shall meet the following requirements:

10.8.1 Utilize supplemental treatment and meet performance requirements in 10.9 if impaired for nitrogen and 10.10 if impaired for pathogens,

10.8.2 Comply with the setback requirements of Section 7.5.1 to 7.5.5, and

10.8.3 Comply with any applicable Local Agency Management Program requirements.

10.9 Supplemental treatment requirements for nitrogen

10.9.1 Effluent from the supplemental treatment components designed to reduce nitrogen shall be certified by NSF, or other approved third party tester, to meet a 50 percent reduction in total nitrogen when comparing the 30-day average influent to the 30-day average effluent.

10.9.2 Where a drip-line dispersal system is used to enhance vegetative nitrogen uptake, the dispersal system shall have at least six (6) inches of soil cover.

Tier 3 – Impaired Areas

- 10.10 Supplemental treatment requirements for pathogens
- 10.10.1 Supplemental treatment components designed to perform disinfection shall provide sufficient pretreatment of the wastewater so that effluent from the supplemental treatment components does not exceed a 30-day average TSS of 30 mg/L and shall further achieve an effluent fecal coliform bacteria concentration less than or equal to 200 Most Probable Number (MPN) per 100 milliliters.
- 10.10.2 The minimum soil depth and the minimum depth to the anticipated highest level of groundwater below the bottom of the dispersal system shall not be less than three (3) feet. All dispersal systems shall have at least twelve (12) inches of soil cover.
- 10.11 OWTS in an Advanced Protection Management Program with supplemental treatment shall be designed to meet the applicable performance requirements above and shall be stamped or approved by a Qualified Professional.
- 10.12 Prior to the installation of any proprietary treatment OWTS in an Advanced Protection Management Program, all such treatment components shall be tested by an independent third party testing laboratory.
- 10.13 The ongoing monitoring of OWTS in an Advanced Protection Management Program with supplemental treatment components designed to meet the performance requirements in Sections 10.9 and 10.10 shall be monitored in accordance with the operation and maintenance manual for the OWTS or more frequently as required by the local agency or Regional Water Board.
- 10.14 OWTS in an Advanced Protection Management Program with supplemental treatment components shall be equipped with a visual or audible alarm as well as a telemetric alarm that alerts the owner and service provider in the event of system malfunction. Where telemetry is not possible, the owner or owner's agent shall inspect the system at least monthly while the system is in use as directed and instructed by a service provider and notify the service provider not less than quarterly of the observed operating parameters of the OWTS.
- 10.15 OWTS in an Advanced Protection Management Program designed to meet the disinfection requirements in Section 10.10 shall be inspected for proper operation quarterly while the system is in use by a service provider unless a telemetric monitoring system is capable of continuously assessing the operation of the disinfection system. Testing of the wastewater flowing from supplemental treatment components that perform disinfection shall be sampled at a point in the system after the treatment components and prior to the dispersal system and shall be conducted quarterly based on analysis of total coliform with a minimum detection limit of 2.2 MPN. All effluent samples must include the geographic coordinates of the sample's location. Effluent samples shall be taken by a service provider and analyzed by a California Department of Public Health certified laboratory.

Tier 3 – Impaired Areas

- 10.16 The minimum responsibilities of a local agency administering an Advanced Protection Management Program include those prescribed for the Local Agency Management Programs in Section 9.3 of this policy, as well as monitoring owner compliance with Sections 10.13, 10.14, and 10.15.

Tier 4 – OWTS Requiring Corrective Action

Tier 4 – OWTS Requiring Corrective Action

OWTS that require corrective action or are either presently failing or fail at any time while this Policy is in effect are automatically included in Tier 4 and must follow the requirements as specified. OWTS included in Tier 4 must continue to meet applicable requirements of Tier 0, 1, 2 or 3 pending completion of corrective action.

11.0 Corrective Action for OWTS

- 11.1 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 Tier 1, 2, or 3 as appropriate.
- 11.2 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 Section 8 in Tier 1 or a Local Agency Management Program per Tier 2.
- 11.3 Any OWTS that has a failure of one of its components other than those covered by 11.1 and 11.2 above, such as a distribution box or broken piping connection, shall have that component repaired so as to return the OWTS to a proper functioning condition and return to Tier 0, 1, 2, or 3.
- 11.4 Any OWTS that has affected, or will affect, groundwater or surface water to a degree that makes it unfit for drinking or other uses, or is causing a human health or other public nuisance condition shall be modified or upgraded so as to abate its impact.
- 11.5 If the owner of the OWTS is not able to comply with corrective action requirements of this section, the Regional Water Board may authorize repairs that are in substantial conformance, to the greatest extent practicable, with Tiers 1 or 3, or may require the owner of the OWTS to submit a report of waste discharge for evaluation on a case-by-case basis. Regional Water Board response to such reports of waste discharge may include, but is not limited to, enrollment in general waste discharge requirements, issuance of individual waste discharge requirements, or issuance of waiver of waste discharge requirements. A local agency may authorize repairs that are in substantial conformance, to the greatest extent practicable, with Tier 2 in accordance with section 9.2.3 if there is an approved Local Agency Management Program, or with an existing program if a Local Agency Management Program has not been approved and it is less than 5 years from the effective date of the Policy.

Tier 4 – OWTS Requiring Corrective Action

- 11.6 Owners of OWTS will address any corrective action requirement of Tier 4 as soon as is reasonably possible, and must comply with the time schedule of any corrective action notice received from a local agency or Regional Water Board, to retain coverage under this Policy.
- 11.7 Failure to meet the requirements of Tier 4 constitute a failure to meet the conditions of the waiver of waste discharge requirements contained in this Policy, and is subject to further enforcement action.

Waiver – Effective Date – Financial Assistance

Conditional Waiver of Waste Discharge Requirements

- 12.0 In accordance with Water Code section 13269, the State Water Board hereby waives the requirements to submit a report of waste discharge, obtain waste discharge requirements, and pay fees for discharges from OWTS covered by this Policy. Owners of OWTS covered by this Policy shall comply with the following conditions:
- 12.0.1 The OWTS shall function as designed with no surfacing effluent.
 - 12.0.2 The OWTS shall not utilize a dispersal system that is in soil saturated with groundwater.
 - 12.0.3 The OWTS shall not be operated while inundated by a storm or flood event.
 - 12.0.4 The OWTS shall not cause or contribute to a condition of nuisance or pollution.
 - 12.0.5 The OWTS shall comply with all applicable local agency codes, ordinances, and requirements.
 - 12.0.6 The OWTS shall comply with and meet any applicable TMDL implementation requirements, special provisions for impaired water bodies, or supplemental treatment requirements imposed by Tier 3.
 - 12.0.7 The OWTS shall comply with any corrective action requirements of Tier 4.
- 12.1 This waiver may be revoked by the State Water Board or the applicable Regional Water Board for any discharge from an OWTS, or from a category of OWTS.

Effective Date

- 13.0 This Policy becomes effective six months after its approval by the Office of Administrative Law, and all deadlines and compliance dates stated herein start at such time.

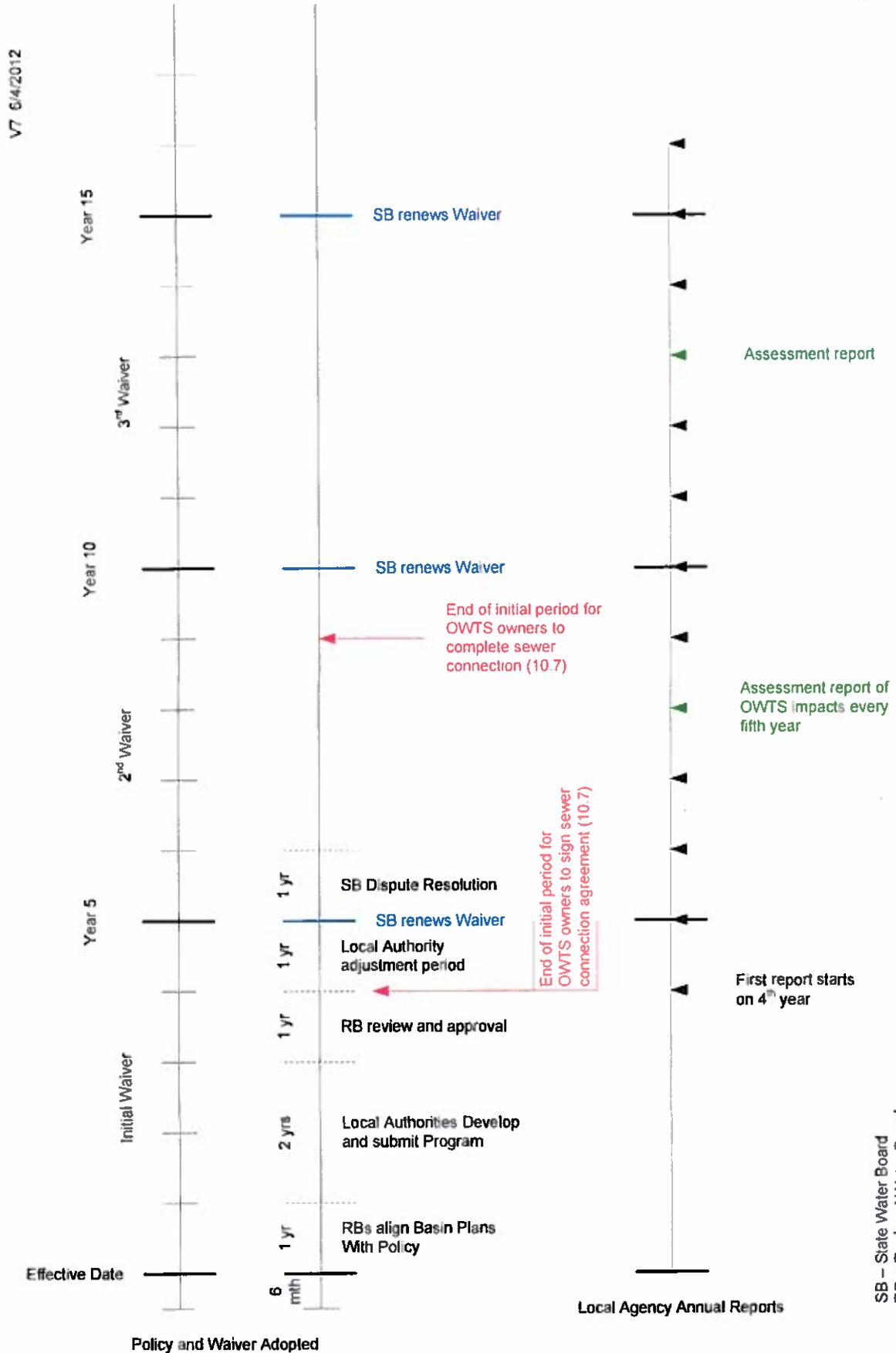
Waiver – Effective Date – Financial Assistance

Financial Assistance

- 14.0 Local Agencies may apply to the State Water Board for funds from the Clean Water State Revolving Fund for use in mini-loan programs that provide low interest loan assistance to private property owners with costs associated with complying with this Policy.
 - 14.1 Loan interest rates for loans to local agencies will be set by the State Water Board using its policies, procedures, and strategies for implementing the Clean Water State Revolving Fund program, but will typically be one-half of the States most recent General Obligation bond sale. Historically interest rates have ranged between 2.0 and 3.0 percent.
 - 14.2 Local agencies may add additional interest points to their loans made to private entities to cover their costs of administering the mini-loan program.
 - 14.3 Local agencies may submit their suggested loan eligibility criteria for the min-loan program they wish to establish to the State Water Board for approval, but should consider the legislative intent stated in Water Code Section 13291.5 is that assistance is encouraged for private property owners whose cost of complying with the requirements of this policy exceeds one-half of one percent of the current assessed value of the property on which the OWTS is located.

Attachment 1

OWTS Policy Time Lines



V7 6/4/2012

Attachment 2

The tables below specifically identify those impaired water bodies where: (1) it is likely that operating OWTS will subsequently be determined to be a contributing source of pathogens or nitrogen and therefore it is anticipated that OWTS would receive a loading reduction, and (2) it is likely that new OWTS installations discharging within 600 feet of the water body would contribute to the impairment. Per this Policy (Tier 3, Section 10) the Regional Water Boards must adopt a TMDL by the date specified in the table. The State Water Board, at the time of approving future 303 (d) Lists, will specifically identify those impaired water bodies that are to be added or removed from the tables below.

Table 5. Water Bodies impaired for pathogens that are subject to Tier 3 as of 2012.

REGION NO	REGION NAME	WATERBODY NAME	COUNTIES	TMDL Completion Date
1	North Coast	Clam Beach	Humboldt	2020
1	North Coast	Luffenholtz Beach	Humboldt	2020
1	North Coast	Moonstone County Park	Humboldt	2020
1	North Coast	Russian River HU, Lower Russian River HA, Guerneville HSA, mainstem Russian River from Fife Creek to Dutch Bill Creek	Sonoma	2016
1	North Coast	Russian River HU, Lower Russian River HA, Guerneville HSA, Green Valley Creek watershed	Sonoma	2016
1	North Coast	Russian River HU, Middle Russian River HA, Geyserville HSA, mainstem Russian River at Healdsburg Memorial Beach and unnamed tributary at Fitch Mountain	Sonoma	2016
1	North Coast	Russian River HU, Middle Russian River HA, mainstem Laguna de Santa Rosa	Sonoma	2016
1	North Coast	Russian River HU, Middle Russian River HA, mainstem Santa Rosa Creek	Sonoma	2016
1	North Coast	Trinidad State Beach	Humboldt	2020
2	San Francisco Bay	China Camp Beach	Marin	2014
2	San Francisco Bay	Lawsons Landing	Marin	2015
2	San Francisco Bay	Pacific Ocean at Bolinas Beach	Marin	2014

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REGION NO	REGION NAME	WATERBODY NAME	COUNTIES	TMDL Completion Date
2	San Francisco Bay	Pacific Ocean at Fitzgerald Marine Reserve	San Mateo	2016
2	San Francisco Bay	Pacific Ocean at Muir Beach	Marin	2015
2	San Francisco Bay	Pacific Ocean at Pillar Point Beach	San Mateo	2016
2	San Francisco Bay	Petaluma River	Marin, Sonoma	2017
2	San Francisco Bay	Petaluma River (tidal portion)	Marin, Sonoma	2017
2	San Francisco Bay	San Gregorio Creek	San Mateo	2019
3	Central Coast	Pacific Ocean at Point Rincon (mouth of Rincon Cr, Santa Barbara County)	Santa Barbara	2015
3	Central Coast	Rincon Creek	Santa Barbara, Ventura	2015
4	Los Angeles	Canada Larga (Ventura River Watershed)	Ventura	2017
4	Los Angeles	Coyote Creek	Los Angeles, Orange	2015
4	Los Angeles	Rincon Beach	Ventura	2017
4	Los Angeles	San Antonio Creek (Tributary to Ventura River Reach 4)	Ventura	2017
4	Los Angeles	San Gabriel River Reach 1 (Estuary to Firestone)	Los Angeles	2015
4	Los Angeles	San Gabriel River Reach 2 (Firestone to Whittier Narrows Dam)	Los Angeles	2015
4	Los Angeles	San Gabriel River Reach 3 (Whittier Narrows to Ramona)	Los Angeles	2015
4	Los Angeles	San Jose Creek Reach 1 (SG Confluence to Temple St.)	Los Angeles	2015
4	Los Angeles	San Jose Creek Reach 2 (Temple to I-10 at White Ave.)	Los Angeles	2015
4	Los Angeles	Sawpit Creek	Los Angeles	2015
4	Los Angeles	Ventura River Reach 3 (Weldon Canyon to Confl. w/ Coyote Cr)	Ventura	2017
4	Los Angeles	Walnut Creek Wash (Drains from Puddingstone Res)	Los Angeles	2015
5	Central Valley	Wolf Creek (Nevada County)	Nevada, Placer	2020
5	Central Valley	Woods Creek (Tuolumne County)	Tuolumne	2020
7	Colorado River	Alamo River	Imperial	2017

Attachment 2

REGION NO	REGION NAME	WATERBODY NAME	COUNTIES	TMDL Completion Date
7	Colorado River	Palo Verde Outfall Drain and Lagoon	Imperial, Riverside	2017
8	Santa Ana	Canyon Lake (Railroad Canyon Reservoir)	Riverside	2019
8	Santa Ana	Fulmor, Lake	Riverside	2019
8	Santa Ana	Goldenstar Creek	Riverside	2019
8	Santa Ana	Los Trancos Creek (Crystal Cove Creek)	Orange	2017
8	Santa Ana	Lyle Creek	San Bernardino	2019
8	Santa Ana	Mill Creek Reach 1	San Bernardino	2015
8	Santa Ana	Mill Creek Reach 2	San Bernardino	2015
8	Santa Ana	Morning Canyon Creek	Orange	2017
8	Santa Ana	Mountain Home Creek	San Bernardino	2019
8	Santa Ana	Mountain Home Creek, East Fork	San Bernardino	2019
8	Santa Ana	Silverado Creek	Orange	2017
8	Santa Ana	Peters Canyon Channel	Orange	2017
8	Santa Ana	Santa Ana River, Reach 2	Orange, Riverside	2019
8	Santa Ana	Temescal Creek, Reach 6 (Elsinore Groundwater sub basin boundary to Lake Elsinore Outlet)	Riverside	2019
8	Santa Ana	Seal Beach	Orange	2017
8	Santa Ana	Serrano Creek	Orange	2017
8	Santa Ana	Huntington Harbour	Orange	2017

Attachment 2

Table 6. Water Bodies impaired for nitrogen that are subject to Tier 3.

REGION NO.	REGION NAME	WATERBODY NAME	COUNTIES	TMDL Completion Date
1	North Coast	Russian River HU, Middle Russian River HA, mainstem Laguna de Santa Rosa	Sonoma	2015
2	San Francisco Bay	Lagunitas Creek	Marin	2016
2	San Francisco Bay	Napa River	Napa, Solano	2014
2	San Francisco Bay	Petaluma River	Marin, Sonoma	2017
2	San Francisco Bay	Petaluma River (tidal portion)	Marin, Sonoma	2017
2	San Francisco Bay	Sonoma Creek	Sonoma	2014
2	San Francisco Bay	Tomaes Bay	Marin	2019
2	San Francisco Bay	Walker Creek	Marin	2016
4	Los Angeles	Malibu Creek	Los Angeles	2016
4	Los Angeles	San Antonio Creek (Tributary to Ventura River Reach 4)	Ventura	2013
8	Santa Ana	East Garden Grove Wintersburg Channel	Orange	2017
8	Santa Ana	Grout Creek	San Bernardino	2015
8	Santa Ana	Rathbone (Rathbun) Creek	San Bernardino	2015
8	Santa Ana	Summit Creek	San Bernardino	2015
8	Santa Ana	Serrano Creek	Orange	2017

Attachment 3

Regional Water Boards, upon mutual agreement, may designate one Regional Water Board to regulate a person or entity that is under the jurisdiction of both (Water Code Section 13228). The following table identifies the designated Regional Water Board for all counties within the State for purposes of reviewing and, if appropriate, approving new Local Agency Management Plans.

Table 7. Regional Water Board designations by County.

County	Regions with Jurisdiction	Designated Region	County	Regions with Jurisdiction	Designated Region
Alameda	2,5	2	Placer	5,6	5
Alpine	5,6	6	Plumas	5	5
Amador	5	5	Riverside	7,8,9	7
Butte	5	5	Sacramento	5	5
Calaveras	5	5	San Benito	3,5	3
Colusa	5	5	San Bernardino	6,7,8	6
Contra Costa	2,5	2	San Diego	9,7	9
Del Norte	1	1	San Francisco	2	2
El Dorado	5,6	5	San Joaquin	5	5
Fresno	5	5	San Luis Obispo	3,5	3
Glenn	5,1	5	San Mateo	2,3	2
Humboldt	1	1	Santa Barbara	3	3
Imperial	7	7	Santa Clara	2,3	2
Inyo	6	6	Santa Cruz	3	3
Kern	3,4,5,6	5	Shasta	5	5
Kings	5	5	Sierra	5,6	5
Lake	5,1	5	Siskiyou	1,5	1
Lassen	5,6	6	Solano	2,5	5
Los Angeles	4,6	4	Sonoma	1,2	1
Madera	5	5	Stanislaus	5	5
Marin	2,1	2	Sutter	5	5
Mariposa	5	5	Tehama	5	5
Mendocino	1	1	Trinity	1	1
Merced	5	5	Tulare	5	5
Modoc	1,5,6	5	Tuolumne	5	5
Mono	6	6	Ventura	4,3	4
Monterey	3	3	Yolo	5	5
Napa	2,5	2	Yuba	5	5
Nevada	5,6	5			
Orange	8,9	8			

ENCLOSURE 4

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4.4 MUNICIPAL AND DOMESTIC WASTEWATER: TREATMENT, DISPOSAL, AND RECLAMATION

Municipal and domestic wastewater¹ discharges can cause chemical, bacteriological and toxic contamination to both ground and surface waters. Ground and/or surface water contamination can also occur from poor disposal practices, such as discharging wastes into unlined ponds, pits or sumps. Such waste discharges are regulated by the Regional Board or a designated agency with proper authority. Municipal wastewater, individual waste disposal systems, effluent limitations and policies under Regional Board authority are discussed below. Most of these requirements and policies are implemented through the Regional Board permitting process. However, some requirements may be implemented by local agencies. Methods used to determine compliance with limitations and requirements are further discussed in this Section.

Waste discharge prohibitions concerning sewage are listed in Section 4.1, "Waste Discharge Prohibitions." Effluent limitations and treatment policies concerning wastewater treatment and disposal are set forth below.

Effluent Limitations

Effluent limitations for disposal of treated point source wastes to surface waters are developed for individual point sources and included in waste discharge requirements or NPDES permits. They are numeric and narrative limits placed on the quality and quantity of the waste discharge or effluent. Effluent limitations are based on water quality objectives for the area of effluent disposal and applicable state and federal policies and effluent limits. Numeric and narrative water quality

¹ Note: "Municipal and domestic wastewater" is defined as sewage or a mixture of predominantly sewage and other waste from districts, municipalities, communities, hospitals, schools, and publicly or privately owned wastewater systems.

objectives and policies are based on beneficial uses established for the receiving waters.

Treatment process selection is discussed in general for wastewater discharges and more specifically for two types of disposal: surface water disposal and land disposal. Waste discharge prohibitions related to treated point source wastes also determine methods of treatment and disposal. Prohibitions concerning wastewater are contained in the Waste Discharge Prohibitions section, above. Treatment policies, including pretreatment, unlined sewage ponds, constructed wetlands, package treatment plants and wastewater reclamation, are discussed under "Treatment Policies" below.

In the past, federal water quality control programs for surface water protection emphasized a "technology-based" approach to regulation of waste disposal. The current emphasis is on "water quality based controls." States have been directed to identify "Water Quality Limited Segments," which are surface water bodies that are not attaining water quality objectives or protection of beneficial uses and are not expected to do so even with technology-based controls. For these waters, states must conduct point and nonpoint source wasteload allocations, and establish Total Maximum Daily Loads (TMDLs) of pollutants that can be permitted from each discharger to ensure attainment and maintenance of water quality objectives and protection of beneficial uses. TMDLs are used, together with a margin of safety, to set effluent limitations in discharge permits. Additions to and deletions from the Lahontan Region's list of Water Quality Limited Segments are considered every two years as part of the water quality assessment process (Chapter 7). Priorities for developing TMDLs for listed waters are also updated through this process. Section 4.13 of this Basin Plan includes approved TMDLs for specific surface waters.

Because the Lahontan Region has many high quality water bodies where state and federal antidegradation policies and regulations apply, effluent limitations are set to prevent degradation of water quality. Special considerations in effluent limitations for particular treatment plants (such as the Tahoe-Truckee Sanitation Agency) are discussed in the "Facilities Discussion" below.

General Requirements

Discharge requirements are prescribed for each discharger on a case-by-case basis; however, in every case, industrial and municipal effluent

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discharged to waters of the Region shall contain essentially none of the following substances:

- Chlorinated hydrocarbons
- Toxic substances
- Harmful substances that may bioconcentrate or bioaccumulate
- Excessive heat
- Radioactive substances
- Grease, oil, and phenolic compounds
- Excessively acidic and basic substances
- Heavy metals such as lead, copper, zinc, mercury, etc.
- Other deleterious substances

Furthermore, any person who is discharging or proposes to discharge waste, other than into a community sewer system, must file a Report of Waste Discharge (RWD) with the Regional Board unless this requirement is waived by the Regional Board. Upon receipt of the RWD, the Regional Board, with information and comments received from state agencies and the public, will prescribe discharge requirements including any appropriate limitations on biological and mineral constituents, as well as toxic or other deleterious substances. Additionally, revised waste discharge reports may be required prior to additions of waste, changes in treatment methods, changes in disposal area or increases in effluent flow.

Discharge requirements will be established that are consistent with the water quality objectives for the receiving water (see Chapter 3 of this Plan), including wasteload allocations or Total Maximum Daily Loads (TMDLs) established for the discharge, the State Board's "antidegradation" policy, the federal antidegradation and anti-backsliding regulations, and the principle of obtaining the optimum beneficial use of the Basin's water resources.

Land Disposal of Sewage Effluent

Land disposal of sewage effluent is conditionally exempt from the land disposal requirements contained in the California Code of Regulations, Title 27 (see section 20090). Land disposal of sewage effluent includes disposal to evaporation-percolation basins, irrigation of land, disposal to constructed wetlands, drying ponds or beds for municipal effluent sludge, and disposal to lined evaporation ponds.

Principal factors affecting treatment process selection for land disposal are the nature of soils and groundwaters in the disposal areas and, where irrigation is involved, the nature of crops (see

Wastewater Reclamation Policy and Recycled Water Policy). Wastewater characteristics of particular concern are total salt content, nitrate, boron, pathogenic organisms, and toxic chemicals. Where percolation alone is considered, the nature of underlying groundwaters is of particular concern. Treatment processes should be tailored to ensure that local groundwaters are not unreasonably degraded. U.S. Environmental Protection Agency (USEPA) guidelines for secondary treatment (based on the federal Clean Water Act, Section 301) do not apply to land disposal cases. However, municipal treatment facilities must provide effective solids removal and some soluble organics removal for percolation bed operations and for reduction of nuisance in wastewater effluent irrigation operations. Disinfection requirements are dictated by the disposal method. Oxidation ponds may be cost-effective in some remote locations and may be equivalent to secondary treatment. The exact constituents and limitations must be established on a case-by-case basis. Nitrate removal is required in some cases where percolating waste may impact beneficial uses of groundwater due to increased nitrate levels. Percolation basins operated in alternating wet and dry cycles may provide significant nitrogen removal through nitrification/denitrification processes in the soil column. Finer textured soils are more effective in removing nitrogen than coarse soils. Monitoring in the immediate vicinity of the disposal site may be required in either case. Where the need for nitrate removal is not clear, removal could be considered at a possible future stage depending on monitoring results.

The closed hydrologic systems of the Lahontan Region allow the accumulation of minerals in groundwater. Therefore, discharge requirements for wastewater may generally specify a maximum limit for mineral constituents in order to meet the water quality objectives established for the receiving groundwater. In areas where insufficient data preclude the establishment of objectives, and as an interim measure until such data are available, effluent limits may specify a reasonable incremental increase for constituents above the level contained in the underlying groundwater. These limits may be superseded by more stringent requirements where necessary for effective water quality management of the receiving water. In all cases, groundwaters of the Region are specified as a source of drinking water unless the Regional Board has granted an exemption in accordance with the Sources of Drinking Water Policy (see Chapter 6, Plans and Policies). Therefore, effluent discharged to land must not adversely impact an underlying aquifer that is a designated drinking water supply, except

as allowed by the Regional Board pursuant to the State Board's antidegradation policy, Resolution 68-16.

Surface Water Disposal of Sewage Effluent

The general purpose of sewage treatment is to provide a stable effluent that can be disposed of without hazard or actual damage to the environment, that will commingle with and remain a part of the usable water supply, and that will not impair the quality of the receiving water for present and probable future beneficial uses. Surface water disposal is prohibited in some watersheds; see Sections 4.1 and 5.2, Waste Discharge Prohibitions.

Primary factors governing treatment process selection for disposal to surface waters are federal and state effluent limits, state public health regulations, and water quality objectives for beneficial use protection. At a minimum, discharges of sewage to surface waters shall meet effluent limitations in accordance with the USEPA standards for secondary treatment as presently established for the particular method of treatment. The current USEPA standards for minimum level of effluent quality attainable by secondary treatment (40 CFR § 133.102) are as follows:

Constituent ¹	30-Day	7-Day
	Arithmetic Mean	Arithmetic Mean
20°C BOD ₅ (mg/L)	30	45
Suspended Solids (mg/L)	30	45

pH: The effluent values for pH shall remain within the limits of 6.0 to 9.0

Where water contact recreational use is to be protected, the California Department of Public Health (DPH) requires coagulation, filtration, and disinfection providing a median coliform Most Probable Number (MPN) of 2.2/100 ml or less in receiving waters. Detoxification is required where fishery protection is a concern. Detoxification would include effluent limits for identified toxicants, pursuant to Section 307 of the Clean Water Act. Source control of specific toxicants may be

¹ Note: The arithmetic mean of the values for effluent samples collected for 20°C BOD₅ and Suspended Solids in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period (85 percent removal).

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necessary to comply with the Act. Acute and/or chronic biological toxicity testing is required to ensure compliance with all applicable state and federal toxicity standards. Additional effluent limitations and waste discharge prohibitions may be specified in accordance with appropriate plans or policies of the State or Regional Boards (see Chapter 6, Plans and Policies).

Septage and Sludge Disposal

Septage is generated from the use of holding tanks and septic tanks (see discussion of "Onsite Wastewater Treatment Systems" later in this section). Sludge is the semi-solid material which settles out or is filtered out of sewage or water during the wastewater or drinking water treatment process. Septage and sludge may contain any substance that may be poured down a drain or flushed down a toilet. Metals, acids, alkalies, and pesticides may be present in small quantities. High levels of ammonia, coliforms, and BOD will almost certainly be found. Wastewater treatment sludge will also contain any substances used by the treatment plant to cause the solids to settle out of the liquid wastewater during the treatment process. Drinking water treatment sludge may have low levels of substances found in wastewater treatment sludge. Because of the concentrated nature of any percolate from sludge and septage, any percolate to ground or surface waters can seriously impact beneficial uses. Since municipal wastewater sludge is considered solid waste, disposal is regulated under Title 27. Sewage sludge, also known as biosolids, are also regulated under federal law (Code of Federal Regulations, Title 40, Part 503).

Septage is generated from numerous sources including residential septic tanks, holding tanks for recreational vehicle waste dumping, marina and individual vessel holding tanks and commercial and industrial septic tanks. Because of the various sources, the quality of septage is also highly variable. It is desirable to have septage pumped and transported to either lined evaporation ponds or a sewage treatment plant where treatment of septage can be accomplished rather than direct disposal to a lined impoundment. Treatment of such concentrated waste, however, poses a problem for many smaller or at-capacity wastewater treatment plants in the Region. Not all wastewater treatment plants in the Lahontan Region accept septage from waste haulers who pump out septic tanks and holding tanks. The Regional Board will encourage that local officials review all proposals for new holding tanks or septic tanks to ensure that adequate septage disposal capacity is available. If necessary, the Regional Board will consider making

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adequate septage disposal a condition of permitting new holding tanks or septic tanks. Proposals for new holding tanks or septic tanks that may be accepting industrial waste or chemical toilet wastes should be reviewed carefully by local agencies and Regional Board staff to ensure that proper treatment and final disposal of the septage generated can be accomplished without detriment to water quality. If septage is not commingled with wastewater for treatment at an approved wastewater treatment facility, septage must be placed in a Class II surface impoundment (lined containment structure, preventing the septage from contacting either surface or groundwater) (see California Code of Regulations, Title 27, Division 2, "Solid Waste").

The Regional Board specifically prohibits the unauthorized discharge of waste, including from boats and marinas, to surface waters (see "Waste Discharge Prohibitions"). Floating latrines are one possible way of reducing discharges of sewage from boats into lakes. Floating latrines will generally be of benefit, however, only for lakes that are so large that boaters in mid-lake find it inconvenient to return to shore to make use of on-shore facilities. Proposals for installation of floating latrines will be reviewed by the Regional Board on a case-by-case basis. Floating latrines should be vandalism-proof, and good maintenance agreements will be required. Boater surveys are recommended prior to installation, to verify that such facilities will actually be used by boaters.

Treatment Policies

Pretreatment Policy

It is the responsibility of the State and Regional Boards to implement and administer the federal Pretreatment Program for controlling the discharge of toxic and hazardous pollutants by industrial users into publicly-owned treatment works (POTWs) with capacity of 5 million gallons per day (mgd) or greater and for facilities under 5 mgd when industrial users could discharge toxic constituents that pass through or interfere with the facility. The Pretreatment Program is typically administered through the National Pollutant Discharge Elimination System (NPDES), although it may be administered through Waste Discharge Requirements for facilities that discharge to land. The Pretreatment Program is administered by the State through a Memorandum of Agreement (MOA) between the USEPA and the State Board. Regional Board responsibilities are summarized below.

- Enforce national pretreatment standards prohibiting discharges (40 CFR § 403.5).

- Enforce national categorical pretreatment standards (40 CFR, Subchapter N, Effluent Guidelines and Standards).
- Review, approve or deny POTW pretreatment programs (40 CFR § 403.8, 403.9 and 403.11).
- Require POTWs to develop and enforce local discharge limits [40 CFR § 403.5(c)].
- Oversee POTW pretreatment programs to ensure compliance with 40 CFR § 403.8, and with other pretreatment requirements in the POTW's waste discharge permits or NPDES permit.
- Perform POTW audits, compliance inspections, and review of quarterly and annual reports to assure POTW compliance with pretreatment requirements.
- Provide the State Board and USEPA, upon request, with copies of all notices received from POTWs that relate to new or changed introduction of pollutants to the POTW or other pertinent information.
- Review and approve POTW requests for authority to modify categorical pretreatment standards to reflect removal of pollutants by a POTW (40 CFR § 403.7, 403.9 and 403.11).
- Apply all other pretreatment requirements as required by 40 CFR Part 403.

Few municipal wastewater treatment plants in the Lahontan Region are large enough (greater than 5 mgd) to require pretreatment of commercial and industrial wastewater under the federal regulations. However, there is increasing concern for all wastewater facilities regarding the impacts of not only industrial, but also household chemicals on effluent quality.

Unlined Sewage Ponds

There are numerous unlined sewage ponds throughout the Region that are believed to be a threat to groundwater quality because they allow the percolation of inadequately treated sewage to underlying groundwater. Some of these facilities are owned by either private parties or small public entities that have very limited financial resources.

There is typically no groundwater monitoring associated with these small facilities, so their actual impact on groundwater is unknown. To require that all of these facilities be immediately upgraded to where they produce a secondary level effluent

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would create, in most cases, a significant financial burden to the owners of the ponds. Such an approach may also result in upgraded facilities that are not needed to protect groundwater quality. Although it can also be expensive, groundwater monitoring at most of these facilities is needed to determine whether they are degrading the groundwater. If it is determined that the discharge from an unlined pond is impacting groundwater, action will be taken to require either elimination or improved treatment of the wastewater discharge. The requirement for upgrading treatment (or elimination of the discharge by placing it in a lined evaporation pond) should be made with provisions allowing for the improvements to be made within two years.

Recommended Control Actions to Address Unlined Sewage Ponds

1. Inventory all unlined ponds in the Region that are receiving sewage that has not received at least secondary-level treatment.
2. Prioritize the ponds by their threat to water quality, taking into account factors such as: (a) the volume of waste discharged, (b) the quality and existing beneficial uses of the receiving waters and (c) the likelihood of the sewage containing any industrial wastes.
3. Beginning with the highest priority facilities, revise waste discharge requirements to require the installation of at least three groundwater monitoring wells within two years.
4. If degradation of the groundwater is detected at any time after the first two years of semi-annual groundwater monitoring, waste discharge requirements will be revised to require that treatment of the discharge be upgraded to a secondary level or that the ponds be lined within two years. If no degradation (either actual or predicted violations of water quality objectives) is detected, the discharge will be allowed to continue with ongoing sampling of the groundwater monitoring wells.

An exemption to the groundwater monitoring well requirement may be obtained if the discharger submits evidence that demonstrates to the satisfaction of the Regional Board's Executive Officer that the underlying groundwater will not be unreasonably affected or impermissibly degraded by any discharge from the pond.

Solar Biosolids Dewatering Beds

Some municipal treatment agencies that separate biosolids in their treatment processes have selected solar drying beds to dewater biosolids. The bed floors include synthetic liners, concrete, asphaltic-concrete, and sand. A few beds have drainage collection systems that collect infiltrating water and convey the water to the facility headworks.

Water from dewatered biosolids is typically high in dissolved solids and nutrients. Percolation of this water in solar drying beds may be contributing to the salt and nutrient loading in the receiving groundwater basin. Large facilities with solar dewatering are urged to line the drying beds or change to mechanical dewatering to avoid unnecessary loading of salts and nutrients to groundwater. Where groundwater may be threatened by discharges from solar dewatering, facilities should ensure their solar drying beds are lined to prevent percolating contaminants to groundwater.

Constructed Wetlands

The use of constructed wetlands as a method to provide final treatment and disposal for municipal wastewater continues to grow throughout the country and may be proposed for use in the Lahontan Region. Constructed wetlands are generally of two types: (1) free water surface wetland and, (2) subsurface flow wetlands. Both types of constructed wetlands consist of shallow beds or channels utilizing the roots and rhizosphere of aquatic plants as the surface media for bacteriological activity. Free water surface wetlands also use the chemical uptake by the emergent vegetation and, sometimes floating vegetation (duckweed or water hyacinth) and zooplankters (daphnia) for treatment. Treatment of wastewater through constructed wetlands often achieves effluent of better than secondary treatment quality. Concerns over the use of constructed wetlands in the Lahontan Region include harsh climatic conditions (from excessive heat to excessive cold) that may significantly alter the plants' ability to grow, disposal/harvesting of plant material, and high operation and maintenance costs. At a minimum, constructed wetlands should be designed and constructed using guidelines contained in the USEPA's 1988 manual entitled "Constructed Wetlands and Aquatic Plant Systems for Municipal Wastewater Treatment." Some constructed wetlands are currently in use in the Lake Tahoe Basin for treatment of stormwater (see sections on Stormwater and Wetlands Policy). Constructed

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wetlands are also being considered for treatment of acid mine drainage (see section on Mining). Data gathered from these constructed wetlands will provide useful information for future applications of constructed wetlands.

Package Treatment Plant Policy

Commercially available prefabricated treatment plants, known as package treatment plants, were originally designed to serve areas that could not be easily connected to an existing municipal sewage treatment plant. Such areas include the subdivisions constructed in the once remote areas surrounding the major desert communities in the southern portion of the Lahontan Basin and commercial establishments such as restaurants, motels, and RV parks. More recently, package plants have increased to a size that can serve small municipalities. Many plants employing biological treatment were installed with the idea that the plants would operate themselves and therefore, could be turned on and forgotten. However, to meet the current pollution discharge regulations, these plants require daily attention by a knowledgeable, conscientious and certified operator. Without proper maintenance and sludge disposal practices, waste discharges from these plants may cause unacceptable odor and nuisance conditions, and/or violate water quality objectives and waste discharge requirements.

The Regional Board encourages persons to connect new developments to community sewer systems in lieu of the installation and use of package treatment plants. If community sewer systems are not available, and the area and development are unsuitable for individual waste disposal systems because:

- 1) the density of the subdivision or commercial development is greater than allowable for individual waste disposal systems, or
- 2) the nitrate as nitrogen concentration of the underlying groundwater equals or exceeds 10 mg/L, then

the Regional Board will likely approve the use of package plants for treating waste discharges from the development. In areas with condition No. 2 above, the effluent from the package treatment plants will be required to meet a total nitrogen limitation of 10 milligrams per liter.

Package Treatment Plant Criteria

- a. Design should be based on peak daily flow estimates. A flow equalization chamber at the headworks may be appropriate for some

applications so as not to overload the treatment capacity of the plant.

- b. Measures to control odor and/or eliminate nearby odor receptors must be included in the design and proposal.
- c. Package plants must include adequate storage and/or treatment (digestion) area for waste sludge. Proposed sludge disposal measures must be included in the project plan.
- d. For commercial, institutional or industrial systems, pretreatment may be necessary if the chemical composition of the wastewater is significantly different from domestic wastewater.
- e. Package plants should contain duplicate equipment components for components subject to failure. If equipment is not on-site, the manufacturer should have the ability to provide replacement equipment to the operator so that a replacement component can be installed within forty-eight hours of failure.
- f. Package treatment plants that rely on soil absorption for treatment and/or disposal of any of the wastewater generated will be required to meet the criteria established for individual waste disposal systems (see "Onsite Wastewater Treatment Systems" in this Chapter) applicable to soil absorption and groundwater protection (soils, depth to groundwater, slope of disposal field).
- g. Effluent from package treatment plants must meet all current Regional Board criteria. In addition, to be used for reclamation purposes, it must meet all current regulations of the Regional Board and the Department of Public Health regarding reclamation of wastewater (see Wastewater Reclamation Policy, below).

Package Treatment Plant Responsible Entity

The package treatment plant should be owned or controlled by a public agency or a private entity with adequate financial and legal resources to assume responsibility for waste discharges. The owner is ultimately legally and administratively responsible for the performance of the treatment plant. The owner is also responsible for adding capacity and/or renovations to the treatment plant when needed, controlling sewer construction practices in the services area, keeping supplies at the plant, and supervising the operator. The operator of the plant shall be certified in the State of California with the appropriate classification for the specific treatment processes and effluent quality required of the plant.

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Additionally, the owner should provide for outside help for special problems which may arise in the operation of the package treatment plant. The outside help may be a consulting engineer, or an operator of a larger treatment plant in a nearby town. The owner shall notify the Regional Board of the certified operator at the plant.

Package Treatment Plant Permitting

The Regional Board will consider the adoption of individual waste discharge requirements (WDRs) or general WDRs for all package treatment plants. WDRs will contain specific effluent limitations (see section on effluent limitations, above). WDRs will also include monitoring and reporting requirements. Monitoring of the effluent may include analyses for the following parameters: flow, biological and/or chemical oxygen demand (BOD/COD), total dissolved solids, suspended solids, total and fecal coliform bacteria, nitrate, total nitrogen, total phosphorus, methylene blue active substances (MBAS), and purgeable halocarbons and aromatics. Monitoring requirements may also include monitoring of the receiving water, including the underlying groundwater. Normally, four groundwater monitoring wells will be required; the Regional Board's Executive Officer may waive the requirement for groundwater monitoring based on site-specific conditions.

Wastewater Recycling

Parts of the Lahontan Region, like California in general, are experiencing an increasing water shortage. In the southern portions of the Lahontan Region, for instance, the Antelope Valley and the Mojave Groundwater Basins are possibly overdrafted due to increased pumping to meet the water demands of the growing Victor Valley, Lancaster and Palmdale areas. In light of this increasing statewide water shortage, development of water supply alternatives is important. For many uses, recycled wastewater is a viable alternative water supply and sales of recycled water can sometimes be used to offset the costs of treating wastewater. (The terms "recycled water" and "water recycling" are now used in the California Water Code in place of the formerly used terms "reclaimed water" and "water reclamation".) Residential graywater use decreases residential water demand and is discussed below in "Onsite Wastewater Treatment Systems."

Recycled water has a wide variety of applications. The applications include agricultural irrigation, landscape irrigation (including highway landscape, parks and golf courses), impoundments for landscape, recreational and/or wildlife uses, wetland

and wildlife enhancement, industrial processes (e.g., cooling water, process water, wash water, dust control), construction activities and groundwater recharge.

Wastewater recycling is an important component of wastewater management in the Lahontan Region.

Recycled water in the Lahontan Region is used for golf course, alfalfa and other fodder crops, tree and other agricultural irrigation, and landscape irrigation, as well as for soil compaction and dust control. Some recycled water from the Lancaster Water Reclamation Plant is used for wildlife habitat enhancement at Piute Ponds and to supply a recreational lake at Apollo Lake County Park. Other uses of recycled water, such as for snow making in areas of Lake Arrowhead and Mammoth Lakes, have been proposed to the Regional Board. (See Waste Discharge Prohibitions Section for Mojave River HU for exemption language concerning reclaimed wastewater.)

The State Board adopted the "Policy with Respect to Water Reclamation in California" and the related "Action Plan for Water Reclamation in California" in 1977 (State Board Resolution No. 77-1). This policy specifies actions to be implemented by the State and Regional Boards, as well as other agencies, in relation to reclaimed water use. The policy directs the State and Regional Boards to encourage reclamation and reuse of water, and to promote water reclamation projects which preserve, restore, or enhance instream beneficial uses. The policy also states that the State and Regional Boards recognize the need to protect public health and the environment in the implementation of reclamation projects.

The State Board adopted the "Recycled Water Policy" in 2009 (State Board Resolution No. 2009-0011) and amended the policy in 2013 (Resolution No. 2013-0003). This policy provides direction to the Regional Boards regarding criteria to be used in issuing permits for recycled water projects. The criteria are intended to streamline the permitting of the vast majority of recycled water projects. The policy also requires the development of salt/nutrient management plans to protect groundwater basins.

The Water Code requires Regional Boards to consider the need to develop and use recycled water when establishing water quality objectives. The Water Code also requires the State Department of Health Services (now the Department of Public Health, DPH) to establish statewide recycling criteria for each type of recycled water use to protect public health. Any person proposing to

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discharge recycled water must file appropriate information related to the discharge with the Regional Board. After consulting with and receiving recommendations from DPH, and after any necessary public hearing, the Regional Board shall, if necessary to protect the public health, safety or welfare, adopt water reclamation requirements for the recycled water discharge.

The Water Code provides encouragement for the use of recycled water in relation to water rights decisions, as follows (Section 1010 [a][1]):

"The cessation of, or reduction in, the use of water under any existing right regardless of the basis of right, as the result of the use of recycled water, ... is deemed equivalent to and for purposes of maintaining any right shall be construed to constitute, a reasonable beneficial use of water to the extent and in the amount that the recycled ... water is being used not exceeding however, the amount of such reduction."

The Water Code (Section 13522[b]) provides that the use of recycled water pursuant to uniform statewide reclamation criteria "does not cause, constitute, or contribute to, any form of contamination" unless the DPH or the Regional Board determines that contamination exists.

The Water Code (Sections 13523.1 and 13263[h]) allows Regional Boards to issue master reclamation or recycling permits for suppliers and/or distributors of reclaimed or recycled water. Master reclamation permits must include waste discharge requirements and requirements for the following: compliance with statewide reclamation criteria, establishment and enforcement by the permittee of rules or regulations for reclaimed water users, quarterly reporting on reclaimed water use, and periodic compliance inspections of water users by the permittee.

The Water Code (Sections 13550 through 13556) declares that use of potable water for certain purposes (e.g., irrigation of parks, golf courses, cemeteries, and residential landscaping, and toilet and urinal flushing in nonresidential structures) is a waste and unreasonable use of water if nonpotable water is available, under specific conditions. Section 13555.2 declares the Legislature's intent to encourage the design and construction of distribution systems for nonpotable water separate from those for potable water. Section 13556 allows water suppliers to acquire, store, provide, sell and deliver recycled water for any beneficial use if the water use is in accordance with state water recycling criteria and with Chapter 7 of the Water Code.

While the Regional Board supports the concept of water recycling, it must also consider potential impacts from recycling on ground and surface water quality. When reviewing proposed water recycling projects, the Regional Board carefully considers potential public health impacts from pathogens or conservative organic compounds, as well as the potential of the proposed project to create pollution or nuisance conditions. The Board also considers potential impacts on the quality and beneficial uses of any receiving surface or groundwaters including the potential for eutrophication of surface waters due to nutrient loading from recycled water. Discharges of recycled water are prohibited in areas of the Lahontan Region where waste discharge prohibitions are in place, unless exemption criteria, where applicable, can be met. The Water Code (Sections 13529.2 and 13529.4) includes provisions for reporting cleanup, and administrative civil liabilities for unauthorized discharges of recycled water which has been treated at secondary or tertiary levels.

Accumulation of minerals is a common potential impact to receiving waters from recycled water uses. Accumulation of minerals must be minimized to provide for protection of beneficial uses. A variety of techniques can be used. Where well controlled irrigation is practiced, nitrate problems can be controlled. Vegetative uptake will utilize soluble nitrates which would otherwise move into groundwater under a percolation operation. Demineralization techniques or source control of total dissolved solids may be necessary in some areas where groundwaters have been or may be degraded. Presence of excessive salinity, boron, or sodium in the effluent could be a basis for rejection of proposals to irrigate cropland with effluent. However, the Water Code allows issuance of water recycling requirements to a project which only violates salinity objectives.

Water Recycling Control Measures for Indian Creek Watershed

Recycled water from the South Tahoe Public Utility District (STPUD) is exported from the Lake Tahoe Basin to Alpine County, where it is used for irrigation. In order to protect the beneficial uses of the Indian Creek watershed, the Regional Board regulates the use of recycled water for irrigation in coordination with regulation of other discharges such as septic systems, irrigation return flows from lands not irrigated with effluent, and stormwater from pasture lands and manure storage areas. (High nutrient and coliform bacteria levels measured in Indian Creek and the lower West Fork Carson River indicate that better management of animal wastes is desirable in these watersheds.) The

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amount of nutrients leaching into groundwaters from areas irrigated with domestic wastewater effluent should be minimized.

Facilities Discussion

Wastewater treatment facilities in the Lahontan Region include two regional facilities and more than 50 other municipality, district, community, and commercial wastewater treatment facilities. Only two wastewater treatment facilities discharge to surface waters and are regulated by the Regional Board under the federal National Pollution Discharge Elimination System (NPDES) program. All other wastewater treatment facilities in the Region discharge to land and are regulated under the Waste Discharge Requirements (WDR) program. Information on wastewater treatment facilities regulated by the Regional Board may be accessed from a database on the State Water Resource Control Board's Internet site.

Onsite Wastewater Treatment Systems (Septic Systems)

Onsite Wastewater Treatment System Policy

The State Water Board adopted a *Water Quality Control Policy for Siting, Design, Operation and Maintenance of Onsite Wastewater Treatment Systems (OWTS Policy)* on June 19, 2012 that became effective May 13, 2013. The OWTS Policy established a statewide, risk-based, tiered approach for the regulation and management of OWTS installations and replacements and sets the level of performance and protection expected from OWTS.

For purposes of the OWTS Policy, an OWTS is an individual disposal system, community collection and disposal system, or alternative collection and disposal system that uses subsurface disposal. OWTS do not include "graywater" systems pursuant to Health and Safety Code section 17922.12. The OWTS Policy does not cover (1) any OWTS with a projected flow of over 10,000 gallons-per-day, (2) any OWTS that receives high-strength wastewater, from other than a commercial food service building, and (3) any OWTS that receives high-strength wastewater from a commercial food service building (a) with a biochemical oxygen demand (BOD) higher than 900 milligrams per liter or (b) that does not have a properly sized and functioning oil/grease interceptor.

The OWTS Policy sets standards for OWTS that are constructed or replaced, that are subject to a major

repair, that pool or discharge waste to the surface of the ground, and that have affected, or will affect, groundwater or surface water to a degree that makes it unfit for drinking water or other uses, or that cause a health or other public nuisance condition. The OWTS Policy also includes minimum operating requirements for OWTS that may include siting, construction, and performance requirements; requirements for OWTS near certain waters listed as impaired under Section 303(d) of the Clean Water Act; requirements authorizing local agency implementation of the requirements; corrective action requirements; minimum monitoring requirements; exemption criteria; requirements for determining when an existing OWTS is subject to major repair; and a conditional waiver of waste discharge requirements.

The Regional Board incorporates the OWTS Policy into this Basin Plan (see Appendix B). Implementation of the OWTS Policy is overseen by the State Water Board and the Regional Board. Local agencies (e.g., county and city departments and independent districts) have the opportunity to implement local agency management programs (LAMPs) if approved by the Regional Board or the State Water Board. In addition to the OWTS Policy, this Basin Plan includes waste discharge prohibitions in certain areas that are applicable to OWTS.

The OWTS Policy includes provisions that (1) allow existing OWTS to continue in operation unless they are not properly functioning or the Regional Board finds they are not able to adequately protect water quality and (2) allows local agencies to continue to permit existing, new, and replacement OWTS under their existing program until the earlier of (a) the local agency LAMP has been approved by the Regional Board or (b) May 13, 2018, which is five years after the OWTS Policy effective date. The Regional Board may issue or deny waste discharge requirements or waivers of waste discharge requirements for any new or replacement OWTS within the jurisdiction of a local agency without an approved LAMP if that OWTS does not meet the minimum standards contained in Tier 1 of the OWTS Policy.

Onsite Wastewater Treatment Systems Regulated by Other than the OWTS Policy

For those OWTS, package treatment plants, and other sewage-based wastewater discharges not regulated under OWTS Policy, the Regional Board

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will apply the following principles and policies in review of water quality factors relating to land developments and waste disposal from individual waste disposal systems:

1. The following criteria will be applied as the minimum to ensure continued adequate protection of water quality, protection of present and future beneficial uses, and prevention of pollution, contamination and nuisance conditions. The Regional Board will prohibit the discharge from individual disposal systems that do not conform to these criteria.
2. These criteria prescribe minimum conditions for waste disposal from individual onsite systems and do not preclude the establishment of more stringent criteria by local agencies or the Regional Board. The Regional Board does not intend to preempt the authority of local agencies and will support local agencies to the fullest extent possible, particularly in the implementation of more stringent regulations.
3. Detailed procedures to implement these criteria and to process exemptions to these criteria are included in "Regional Board Guidelines for Implementation of Criteria for Individual Waste Disposal Systems" (see Appendix C).
4. The criteria contained herein are applicable to the entire Lahontan Region and pertain to any and all proposed building that involves wastewater discharges to other than a community sewer system. The criteria apply to: (1) proposed building on lots within new subdivisions or parcels, and (2) proposed building on existing subdivided lots or parcels, and (3) proposed subdivisions. The criteria do not apply to: (1) existing individual waste disposal systems, or (2) projects that have final building permits prior to June 16, 1988, unless evidence exists that necessitates retrofit of septic systems to conform with current criteria. The "Regional Board Guidelines for Implementation of Criteria for Individual Waste Disposal Systems" specifies separate exemption procedures for existing developments and for new developments. Existing development includes projects for which final development plans, such as a final tract map, were approved by local agencies prior to June 16, 1988. New development includes subdivisions or individual parcels which do not have final development plans approved by local agencies prior to June 16, 1988.

5. These criteria do not apply to projects within septic system prohibition areas where the criteria are more stringent (for prohibitions, see Section 4.1 of this Chapter); and these criteria will preempt less stringent criteria in septic system prohibition areas.
6. Where community sewer systems are available, the Board will encourage connection to the sewer system in lieu of use of individual disposal systems.

Criteria for Individual Waste Disposal Systems

1. Maximum Density

Individual waste disposal systems associated with new developments that have a gross density greater than two (2) single family equivalent dwelling units per acre will be required to have secondary-level treatment of wastewater. Equivalent dwelling units (EDUs) are defined as a unit of measure used for sizing a development based on the amount of waste generated from that development; the value used in implementation of these criteria is 250 gallons per day per EDU. For the purposes of these criteria, the discharge from a single family dwelling is equal to one EDU. Senior citizen dwelling units and second units as defined in Government Code Sections 65852.1 and 65852.2 will not be considered as additional dwelling units. In addition to residential developments, this secondary level treatment policy also applies to wastewater discharges from commercial, industrial, recreational and all other developments with wastewater discharge volumes exceeding two EDU per acre density (500/gal/day/acre based on 250 gal/day/EDU). Use of new septic systems is permitted in existing developments with lot sizes having a net area greater than or equal to 15,000 square feet. The net area is that contained within the boundaries as set forth in the legal lot description.

2. Minimum Distances

The Regional Board has established the minimum distances (see Table 4.4-1 entitled, "Minimum Distances for Siting Individual Waste Disposal Systems") necessary to provide protection to water quality and/or public health. Local hydrogeological conditions may necessitate greater separation of the sewage disposal system from a well or watercourse for protection of beneficial uses (e.g., drinking supply and water contact recreation).

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3. Additional Minimum Criteria

- a. The percolation rate in the disposal area shall not be slower than 60 minutes per inch if the discharge is to a leachfield or 30 minutes per inch if discharge is to a seepage pit. If percolation rates are faster than 5 minutes per inch, then the soil for a total thickness of five feet below the bottom of the leaching trench shall contain at least 15% of material passing the No. 200 U.S. Standard Sieve and less than one-fourth of the representative soil cross-section shall be occupied by stones larger than 6 inches in diameter. Where the percolation rates are faster than 5 minutes per inch and the above requirement is not met, the minimum distance to ground water between the bottom of the disposal facilities and the anticipated high ground water shall be 40 feet. (The percolation rates shall be determined in accordance with procedures prescribed by the appropriate local public health agency).
- b. Clay, bedrock, other material impervious to the passage of water, or fractured bedrock, shall not be less than 5 feet below the bottom of the leaching trench or less than 10 feet below the bottom of the seepage pit. Impervious is defined for design purposes as a stratum with percolation times of greater than 120 minutes per inch.
- c. Depth to anticipated high ground water below the bottom of the leaching trench shall not be less than 5 feet. Depth to anticipated high ground water below the bottom of the seepage pit shall not be less than 10 feet. Greater depths are required if native material does not provide adequate filtration.
- d. Ground slope in the disposal area shall not be greater than 30 percent.
- e. Minimum criteria specified above must be met within the area of the proposed system and within the 100% expansion area for the proposed system.

Exemptions to the Criteria for Individual Waste Disposal Systems

In certain locations and under special circumstances, the Board or its Executive Officer may waive individual criteria.

1. Waiver of one or more individual criteria may occur if:

- a. The area beneath the proposed septic system discharge has no significant amount of ground water having present or future beneficial uses; or
- b. It can be proven that no pollution, nuisance or unreasonable degradation of either surface or ground waters will occur as a result of the proposed septic system density when considered individually or cumulatively with other discharges in the area; or
- c. Construction of a community collection, treatment, and disposal system is imminent. Short-term, interim use of individual waste disposal systems may be allowed.

Implementation of Criteria for Individual Waste Disposal Systems

1. The Regional Board and the local agencies have adopted, through Memoranda of Understanding, criteria that are compatible with or more stringent than these criteria.
2. The Memoranda of Understanding include the procedures of the review and processing of applications for proposed discharge of wastewater from land developments that only discharge domestic waste, including single-family-unit residential, multi-unit residential, commercial, industrial and recreational developments. The Memoranda of Understanding include provisions for Regional Board review and processing of specific application (e.g., for industrial waste discharges).
3. For those local agencies that have adopted these or more stringent criteria, land developments that only discharge domestic waste, including single-family-unit residential, multi-unit residential, commercial, industrial and recreational developments, will be permitted entirely by the local agency. (However, the Regional Board reserves the authority to take action, if necessary, as described in item 6 below.)
4. Whenever the proposed development will not meet the minimum criteria and no Memorandum of Understanding or other equivalent document exists between the Regional Board and the local agency, applications for all projects shall be transmitted to the Regional Board along with a complete report of waste discharge and a filing fee.

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5. The Regional Board will review, on a project-by-project basis, proposals for commercial, industrial, recreational and all other types of developments that discharge industrial waste. If required, the report of waste discharge will contain information on estimated wastewater flows, types of wastes, and occupancy rates that will enable the Regional Board to evaluate the discharge in terms of EDUs.
6. In any case, the Regional Board will prohibit the discharge of wastes from land developments that will result in violation of water quality objectives, will impair present or future beneficial uses of water, or will cause pollution, nuisance, or contamination, or will unreasonably degrade quality of any waters of the State.

Implementation for Other Types of Waste Disposal from Land Developments

1. Severe impact on water quality can result from failure to implement adequate measures to control storm drainage and erosion. Land developers must provide plans for the control of such runoff from initial construction up to the complete build-out of the development. (See "Land Development" section.)
2. The disposal of solid waste can have adverse impacts on water quality and public health. Land developers must submit a plan that conforms to the regional or county master plan and contains adequate provisions for solid waste disposal for complete build-out of the development.
3. The disposal of septic tank sludge is an important part of any area-wide master plan for waste disposal. Land developers must submit a plan that conforms to the regional or county master plan and contains adequate provisions for septic tank sludge disposal for complete build-out of the development.
4. The responsibility for the timely submittal of information necessary for the Board to determine compliance with these guidelines rests with persons submitting proposals for development or discharge. The Porter-Cologne Water Quality Control Act provides that no person shall initiate discharges of waste prior to filing a report of waste discharge and prior to (1) issuance of waste discharge requirements, (2) the expiration of 120 days after submittal of an

adequate report of waste discharge, or (3) the issuance of a waiver by the Regional Board.

Alternative Individual Waste Disposal Systems

In areas where conditions do not support the use of conventional individual subsurface waste disposal systems (e.g., septic systems), the use of engineered alternative systems can be considered. Alternative waste disposal systems include, but are not limited to, mound systems, evapotranspiration beds, sand filters (intermittent and/or recirculating), and lined evaporation ponds. The Regional Board supports the use of engineered alternative systems for waste disposal as a remedy for otherwise unsuitable existing lots. However, the Regional Board discourages the use of engineered alternative systems for new construction, lots, or subdivisions.

Several factors the Local Health Officer and/or the Regional Board staff will consider when evaluating a proposal for the use of an alternative system include, but are not limited to:

1. size of parcel
2. density of surrounding development
3. depth to ground water and bedrock
4. depth of soils suitable for waste disposal as classified under the USDA classification system
5. climate
6. access
 - (a) for maintenance and pumping year-round
 - (b) control to prevent public contact
7. emergency contingency plans (including plans for expansion, replacement or repair)
8. operation and maintenance requirements
9. distance to sewer

Criteria for Alternative Systems

1. The conditions (soils, ground water, slope) that limit the use of conventional septic tank systems may also apply to alternative systems that rely on soil absorption for treatment and/or disposal of all or most of the wastewater generated (see Criteria for Individual Waste Disposal Systems).
2. **Mound Systems.** Mound systems shall be installed in accordance with criteria established in the State Board's *Guidelines for Mound Systems* (1980) or other criteria acceptable to the Executive Officer in conformance with standard engineering practices.

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3. **Evapotranspiration Systems.** Evapotranspiration systems shall be installed in accordance with criteria contained in the State Board's *Guidelines for Evapotranspiration Systems* (1980) or other criteria acceptable to the Executive Officer in conformance with standard engineering practices.
4. **Sand Filters.** Sand filters shall be installed in accordance with the specifications for sand filters in the State of Oregon, Department of Environmental Quality's *On-site Sewage Disposal Rules* (July 1, 1991) or other criteria acceptable to the Executive Officer in conformance with standard engineering practices.
5. **Graywater Systems.** Graywater is untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthy processing, manufacturing, or operating wastes. Graywater includes wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers. (H&S Code § 17922.12.) Graywater systems may be an acceptable method of disposal in conjunction with a composting toilet or holding tank to handle black water. Examples of appropriate applications include recreational areas such as campgrounds, day use facilities, trailheads, and residential and commercial facilities where graywater can be managed and disposed in a manner protective of water quality. Graywater systems shall be installed in accordance with the California Plumbing Code (24 Cal. Code of Regs., Part 5) and the local administrative authority. If properly constructed and operated, graywater systems are not expected to create a nuisance or pollution.
6. Other proposals for alternative systems shall be evaluated jointly by the local regulatory agency and Regional Board staff on a case-by-case basis. Some engineered systems may be considered experimental by the Regional Board. Experimental systems will be handled with caution. A trial period of at least one year should be established whereby proper system operation must be demonstrated. Under such an approach, experimental systems are granted a one-year conditional approval.

7. All proposals for alternative systems shall be designed by a Civil Engineer, Engineering Geologist or Sanitarian licensed to practice in California.

Maintenance Requirements

System designers should be responsible for developing specifications and procedures for proper system operation. Designers should provide to system owners an informational operation and maintenance document that includes: (1) clear and concise procedures for operation and maintenance, and (2) instructions for repair and/or replacement of critical items within forty-eight hours following failure. Engineered systems should be inspected by a licensed Civil Engineer, Engineering Geologist or Sanitarian during installation to insure conformance with approved plans.

Permitting Authority

The County Health Officer may approve alternative systems when all of the following conditions are met:

1. The Health Officer has found the system to be in compliance with criteria approved by the Regional Board Executive Officer (see Criteria for Individual Waste Disposal Systems and Criteria for Alternative Systems above); *and*
2. The Health Officer has either: (1) informed the Regional Board Executive Officer of the proposal to use the alternative system and the Executive Officer agrees that it complies with the finding in (a) above; or (2) a written agreement that the Executive Officer has delegated approval authority to the County Health Officer; *and*
3. A public or private entity has agreed in writing to assume responsibility for the inspection, monitoring, maintenance, and eventual decommissioning/reclamation of the system.

If all of the above conditions cannot be met, the Regional Board will consider issuing waste discharge requirements for alternative systems.

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**Table 4.4-1
MINIMUM DISTANCES FOR SITING WASTE DISPOSAL SYSTEMS (in feet)**

Facility	Domestic Well	Public Well	Perennial Stream ¹	Drainage Course or Ephemeral Stream ²
Septic tank or sewer line	50	50	50	25
Leaching field	100	100	100	50
Seepage pit	150	150	100	50
Facility	Fill Bank ³	Cut or Property Line ⁴	Lake or Reservoir ⁵	
Septic tank or sewer pit	10	25	50	
Leaching field	4h	50	200	
Seepage pit	4h ⁶	75	200	

- ¹ As measured from the line which defines the limit of a 100-year-frequency flood.
- ² As measured from the edge of the channel.
- ³ Distance in feet equals four times the vertical height of the cut or fill bank. Distance is measured from the top edge of the bank.
- ⁴ Distance in feet from property line of any neighboring lot on which individual well(s) are used. (Distances are to property lines of neighboring lots, i.e., not street easements)
- ⁵ As measured from the high water line. (Regional Board Resolution No. 82-6 defines the high water line for Eagle Lake, Eagle Drainage Hydrologic Area as 5117.5 feet, a definition used in prohibiting the discharge of wastes from subsurface disposal systems on a lot with an elevation of less than 5130 feet. See Section 4.1 of this Basin Plan for waste discharge prohibitions for Eagle Lake.)
- ⁶ As measured from the high seepage level.

APPENDIX C

Regional Board Guidelines for Implementation of Criteria for Individual Waste Disposal Systems

REGIONAL BOARD GUIDELINES FOR IMPLEMENTATION OF CRITERIA FOR INDIVIDUAL WASTE DISPOSAL SYSTEMS

The following guidelines will be used by the Executive Officer to: (1) Implement the 1988 Amendments to the Water Quality Control Plans for the North and South Lahontan Basins Concerning the Criteria for Individual Waste Disposal Systems and (2) consider exemptions to the maximum density criteria (2 EDU's per acre) for individual waste disposal systems.

Terms, such as "existing land development", are defined in a Definition List included in the 1988 Amendments to the Water Quality Control Plans for the North and South Lahontan Basins Concerning the Criteria for Individual Waste Disposal Systems.

I. GENERAL IMPLEMENTATION

- A. Once a local agency has agreed to implement the Regional Board Criteria for Individual Waste Disposal Systems, applications for the use of individual waste disposal systems which meet the Regional Board criteria and are for domestic waste discharges from residential, recreational, commercial and industrial developments shall be processed entirely by the local agency.**
- B. Applications for the use of individual waste disposal systems for discharges of industrial waste from recreational, commercial and industrial developments shall be reviewed by the Executive Officer, and a Report of Waste Discharge including filing fee may be required.**
- C. If requested by the local agency and/or discharger, applications for land developments which do not meet the minimum criteria will be reviewed by the Executive Officer for consideration of granting an exemption (see Sections II through V below). If an area-wide exemption is granted, individual applications in these areas will be processed by the local agency.**
- D. The Regional Board retains the authority to review proposals for all other types of waste discharges (such as stormwater runoff and solid waste) from land developments and issue waste discharge requirements, if appropriate.**

II. GENERAL PROVISIONS APPLICABLE TO ALL EXEMPTIONS

- A. The Executive Officer will consider granting exemptions to the maximum density criteria (2 EDU's per acre) contained in the Criteria for Individual Waste Disposal Systems. Exemptions may be granted if:**
 - 1. The area beneath the proposed septic system discharge has no significant amount of groundwater having present or future beneficial uses; or**
 - 2. It can be proven that no pollution, nuisance or unreasonable degradation of either surface or groundwaters will occur as a result of the proposed septic system density when considered individually or cumulatively with other discharges in the area; or**
 - 3. Construction of a community collection, treatment and disposal system is imminent. Short term, interim use of individual waste disposal systems may be allowed.**
- B. The following provisions apply to all exemptions:**
 - 1. Exemptions can be granted for individual persons, small communities, distinct portions of larger communities, or distinct groundwater basins or portions, thereof.**

2. Exemptions will normally be granted by the Executive Officer. However, exemptions can be taken to the Regional Board for its consideration. This would normally occur if the exemption applies to a large area or is considered controversial. Decisions of the Executive Officer may be appealed to the Regional Board.
3. For an exemption to the minimum lot size requirements to be granted, all other applicable siting criteria (e.g. depth to groundwater, percolation rate, soil type, minimum distances, etc.) must be met.
4. Environmental documentation pursuant to the California Environmental Quality Act (CEQA) (Public Resources Code 21000, et. seq.) may be required as part of the application for exemptions.

III. PROVISIONS FOR EXEMPTIONS FOR CONSTRUCTION OF INDIVIDUAL WASTE DISPOSAL SYSTEMS FOR SINGLE FAMILY UNITS IN EXISTING LAND DEVELOPMENTS

- A. The local agency and/or discharger will supply the Executive Officer with the available information on Items numbered 1 through 6 of Attachment 1. After review, the Executive Officer may request the discharger to supply more detailed information on any or all items in Attachment 1, if necessary.
- B. In addition to the information submitted by the local agency and/or discharger, the information listed in Attachment 2 will be considered by the Executive Officer.
- C. The Executive Officer will review the above information as it pertains to existing and potential water quality impacts.
 1. If any of the general provisions for granting exemptions as outlined in II. A. of these guidelines are met, exemptions may be granted.
 2. If none of the general provisions for granting exemptions as outlined in II. A. of these guidelines are met, exemptions will not be granted.

IV. PROVISIONS FOR EXEMPTIONS FOR CONSTRUCTION OF INDIVIDUAL WASTE DISPOSAL SYSTEMS FOR MULTI-FAMILY UNITS, COMMERCIAL, RECREATIONAL AND INDUSTRIAL DEVELOPMENTS IN EXISTING LAND DEVELOPMENTS

- A. The local agency and/or discharger shall submit to the Executive Officer information on Items 1-9 listed in Attachment 1 in as much detail as possible.
- B. In addition to the information submitted by the local agency and/or discharger, the information listed in Attachment 2 will be considered by the Executive Officer.
- C. The Executive Officer will conduct an initial review of the above information and determine if a Report of Waste Discharge (including filing fee) is required.
- D. The Executive Officer will conduct a comprehensive review of the submitted information as it pertains to existing and potential water quality impacts.
 1. If any of the general provisions for granting exemptions as outlined in II. A. of these guidelines are met, exemptions may be granted.
 2. If none of the general provisions for granting exemptions as outlined in II. A. of these guidelines are met, exemptions will not be granted.

V. PROVISIONS FOR EXEMPTIONS FOR NEW LAND DEVELOPMENT

- A. The local agency and/or discharger shall submit to the Executive Officer a complete Report of Waste Discharge, including filing fee, and detailed information on Items 1 through 9 of Attachment 1.**
- B. In addition to the information submitted by the local agency and/or discharger, the information listed in Attachment 2 will be considered by the Executive Officer.**
- C. The Executive Officer will review the submitted information as it pertains to existing and potential water quality impacts.**
 - 1. If any of the general provisions for granting exemptions as outlined in II. A. of these guidelines are met, exemptions may be granted. Waste discharge requirements may be adopted by the Regional Board.**
 - 2. If none of the general provision for granting exemptions as outlined in II. A. of these guidelines are met, exemptions will not be granted.**

VI. RESCISSION OF EXEMPTIONS

- A. Exemptions will be rescinded if:**
 - 1. It appears that water quality or the beneficial uses of waters are threatened or degraded or if a nuisance, pollution or contamination is caused or threatened; or**
 - 2. Any condition of the exemption is violated.**
- B. No discharge of waste into the waters of the state, whether or not such discharge is made pursuant to waste discharge requirements, shall create a vested right to continue such discharge. All discharges of waste into waters of the state are privileges, not rights. (Water Code Section 13263 (g))**

ATTACHMENT 1

ITEMS TO BE SUBMITTED TO THE REGIONAL BOARD FOR REVIEW

1. Number, size and location of improved lots in the surrounding area (subdivision, community or portion thereof, distinct groundwater basin or portion thereof) being considered for exemption.
2. Number, size and location of unimproved lots in the area being considered for exemption.
3. Availability of sewerage or connection to other secondary wastewater treatment facility.
4. Surface and/or groundwater quality in the vicinity of the proposed exemptions.
5. Hydrogeologic characteristics (e.g. depth to groundwater, soil type, etc).
6. Development density and trends.
7. Assessment of historic, current and future groundwater quality impacts within and surrounding the area being considered for exemption.
8. Assessment of whether or not the wastewater discharges from the proposed development will individually or collectively, or in connection with discharges from surrounding areas, degrade the quality of, or impact beneficial uses of, surface or groundwater.
9. *Other site-specific information which may aid the Regional Board in the evaluation process.*

ATTACHMENT 2

ADDITIONAL INFORMATION TO BE CONSIDERED BY THE REGIONAL BOARD

In addition to information submitted by the local agency and/or the discharger for exemptions, the Executive Officer will consider all relevant information, including, but not limited to:

1. Water quality standards (designated beneficial uses and numerical and narrative water quality objectives) for the surface waters and/or groundwaters which could be affected by the discharge.
2. The most recent federal and state water quality criteria for chemical and biological constituents of septic system effluent.
3. The most recent technical literature on septic systems and their water quality impacts.
4. The history of water quality problems in the project area, as documented in the Regional Board's files.
5. The most recent water quality monitoring data.
6. Comments of other agencies, including any necessary consultation with the Department of Fish and Game pursuant to the California Endangered Species Act.
7. Background information on the project area from County general plans, local limnological or hydrogeological studies, etc.

ITEM 10 LATE ADDITION

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION
MEETING OF SEPTEMBER 14-15, 2016
APPLE VALLEY**

ITEM 10

**WORKSHOP - ONSITE WASTEWATER TREATMENT SYSTEM (OWTS) POLICY
IMPLEMENTATION**

LATE ADDITION

Please insert new the late addition to Enclosure 5 after bates stamp 10-110

ENCLOSURE	ITEM	BATES NUMBER
5	LAMP local government comment letters	10-115

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ENCLOSURE 5

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From: Rapport, Eric@Waterboards

Sent: 8/26/2016 2:57:59 PM

To: Kolb, Howard@Waterboards, Koo, David@Waterboards, Wu, Eric@Waterboards, Cass, Jehiel@Waterboards, Coony, Mike@Waterboards, Fenton, Donna@(KERN COUNTY)
cc: Halton, Scott@Waterboards, Carpenter, Katie@Waterboards, Smith, Bryan@Waterboards, Wass, Lonnie@Waterboards, Amy Rutledge (RutledgeA@co.kern.ca.us)

Subject: Follow-up, 19 Responses in Progress to Comments, Regions 3, and 6, on Kern County's LAMP

You may recall our 19 July 2016 meeting/teleconference on Kern County's LAMP. During the meeting, Region 3 expressed potential concern about un-sewered parcels within incorporated cities. Region 4 later declined to comment due to limited area of Kern County in its jurisdiction. Region 6 has provided written comments. We requested all comments from external Regions by close of business, 12 August 2016. Below are our responses to date:

Region 3

Regarding un-sewered areas within cities, I asked Brad Banner, California Conference of Directors of Environmental Health, (530-538-6772, [HYPERLINK "mailto:bbanner@buttecounty.net"bbanner@buttecounty.net](mailto:bbanner@buttecounty.net)) to survey County Environmental Health Directors; of respondents, 84% have un-sewered parcels within cities, about 74% enforce county codes within cities, about 5% with current formal Memoranda of Understanding (MOUs); 0% report issues – see first attachment. Based on subsequent discussions with Brad, unless a County Environmental Health Director indicates otherwise, a formal MOU is likely not necessary within Region 5.

Nonetheless, Donna Fenton, Kern County Environmental Health Director (661-862-8726, [HYPERLINK "mailto:donnaf@co.kern.ca.us"donnaf@co.kern.ca.us](mailto:donnaf@co.kern.ca.us)), reports seepage pits in the City of Bakersfield within setbacks of public sanitary sewers. This morning, we discussed these with Phil Burns, City of Bakersfield (661-326-3040, [HYPERLINK "mailto:pburns@bakersfieldcity.us"pburns@bakersfieldcity.us](mailto:pburns@bakersfieldcity.us)). Phil and Donna are considering further edits to Kern County's LAMP and other options. We hope to have this issue resolved by close of business, next Thursday, 1 Sept 2016.

Region 6

Region 6 's tech memo dated 8 August 2016 requests a more conservative approach than in Region 5; see second attachment. The memo generally requests further consideration of OWTS Policy §§9.1, 9.1.9, and 9.1.10. Kern County's LAMP should 1., include a Water Quality Assessment Program with focus on identified areas of potential concern, 2., require cumulative impact analyses for all new subdivisions with lots less than 2.5 acres, regardless of available piped potable water 3., abide by its Basin Plan limits for proposed parcel sizes, 4., consider OWTS referrals less than 10,000 gallons/day projected flow to Regional Boards case-by-case (as we also suggest), and 5., consider Salt and Nutrient Management Plans (SNMPs).

I first discussed the memo with Region 6 staff, Mike Coony and Jay Cass (contact info in memo), their general rationale follows: groundwater within the Antelope Valley is better quality than in the San Joaquin, therefore Region 6's Basin Plan is more conservative than Region 5's for OWTS. Based on a recent USGS study (Izbicki et al 2015), the Antelope Valley has an extended vadose zone, with nitrified wastewater in largely vertical columns to several hundred feet below grade. The SNMP for Antelope Valley proposes increasing artificial recharge, which

can cause an abrupt rise in water table. The rising water table could encounter nitrified wastewater and increase dissolved nitrate concentrations in groundwater. Based on the SNMP, increases could become significant in the next 25 years, dependent on wastewater loading rates. See remaining attachments. (They also wish to add Sand Canyon as an area of concern.) I independently evaluated nitrate loading rates, concur with their rationale, and notified Donna of our intent to require Kern County's LAMP to abide by Region 6's requirements within its jurisdiction. I asked for her issues and concerns.

Donna reports that within Region 6, Kern County has over 10,000 undeveloped, recorded parcels less than 2.5 acres, most with low income owners. Most do not meet the Tier 1 definition of a new subdivision in OWTS Policy §7.8. On some parcels, Kern County Public Health Services Department has already approved standard OWTS based on soils engineers' reports. Donna recommended a compromise that allows standard installations on parcels with permits, and potential engineered systems on the remainder. I pointed out that Tier 1 standards in Policy §7.8 are based on average areas. While Region 6's request for consideration of all new subdivisions with lots less than 2.5 acres might be for Tier 2, I suggested her consideration of a cumulative impact assessment based on Izbicki's 2015 model; and to contact John Izbicki, USGS, San Diego, (619-225-6131/ 778-0444 cell, [HYPERLINK "mailto:jaizbicki@usgs.gov"jaizbicki@usgs.gov](mailto:jaizbicki@usgs.gov)).

Yesterday, we briefed our Executive Officer on our general approach; see concurs, while Region 5 is the designated Regional Water Board for purposes of LAMP review, Region 6's Basin Plan is more conservative and has a relatively large area of Kern County; therefore the LAMP should abide by Region 6's requirements within its jurisdiction. While in Region 5, we will await data from the first Water Quality Assessment Report to assess adequacy of the current program, in Region 6, due to differing regulatory requirements and hydrogeology, a more proactive approach is appropriate.

Actions Required:

1. Kern County to revise LAMP with respect to seepage pits within setbacks of sanitary sewers in the City of Bakersfield. Kern County to propose appropriate cumulative impact assessment for parcels less than 2.5 acres, and address other comments in Region 6' memo. If feasible, complete by close of business, 16 September 2016. We strongly suggest informal discussions with Region 6 staff beforehand.
2. Region 5 staff to revise Preliminary Completeness Checklist, and seek concurrence from Regions 3 and 6.

Thank you for your insightful comments on Kern County's LAMP.

Regards,

Eric

Eric J. Rapport, C.HG., C.E.G.
Senior Engineering Geologist (Specialist)
Onsite Wastewater Treatment System Policy
Central Valley Regional Water Quality Control Board
364 Knollcrest Drive, Suite 205
Redding, CA 96002

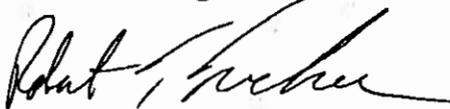
(530) 224-4998 direct
(530) 224-4845 main
(530) 224-4857 FAX

Attachments

Wastewater LAMP MOU Survey.docx.msg
Region 6 Comments - Kern County Draft Local Agency Management Plan.pdf
Antelope Valley_FINAL SNMP 08-12-2014.pdf
RE Follow-Up This Morning's Discussion on Kern County.msg

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TO: Eric Rapport
Senior Engineer Geologist
Eric.Rapport@waterboards.ca.gov
California Regional Water Quality Control Board, Central Valley Region


FROM: Robert Tucker
Water Resource Control Engineer
Robert.Tucker@waterboards.ca.gov
California Regional Water Quality Control Board, Lahontan Region

DATE: May 10, 2016

SUBJECT: Comments on the El Dorado County Local Agency Management Plan (LAMP)

We appreciate the opportunity to comment on the El Dorado County LAMP for onsite waste treatment systems (OWTS). Our comments are limited because we are not aware of any portions of El Dorado County within the Lahontan region where the discharge of treated wastewater from OWTS is legally allowed. Basically, OWTS discharges in most - if not all - of El Dorado County that is within the Lahontan Region are restricted by the California Water Code to provide for protection of Lake Tahoe water quality. Here are our comments/questions on the LAMP:

1. A map of El Dorado County would be helpful to understand if any portion of the county is within the Lahontan Region, but not within the Lake Tahoe watershed. Please consider providing a map of the County.
2. In reviewing the LAMP we did not see information on minimum parcel size regarding the siting criteria for OWTS, but in section 5.3.1.2 the LAMP appears to be very strict requiring 5 acres for an OWTS without a public water system available. The cited section appears to be a requirement for new subdivisions. Is that correct? Is there a minimum parcel size siting criterion for new OWTS on existing lots?
3. In the introduction of the LAMP on page 9, under "Reporting to RWQCB," number 3 states the following:

"The number, location and description of permits issued for OWTS where a variance from the approved LAMP was granted."

We did not find the procedures for a variance in the LAMP. It is understandable that variances may need to occur; however, there needs to be a description of the procedure in the LAMP. We suggest Lake Tahoe basin should be singled out as an area where no variance for OWTS will be allowed. A variance for a holding tank within the Lake Tahoe watershed basin could be acceptable (no discharge). A variance for an OWTS with a discharge within the Lake Tahoe watershed basin would be an illegal variance from the California Water Code Sections 13951-13952.2. The LAMP must describe the procedures for allowing a variance.

Please contact me at (530) 542-5467 (robert.tucker@waterboard.ca.gov) if you have any questions.

cc (via email): Scott Armstrong, Senior Engineering Geologist, SWQCB, Region 5
 Lixin Fu, Water Resource Control Engineer, SWQCB, Region 5

RTT/ma/T: Comments on El Dorado LAMP
File Under: ECM/General/Counties/El Dorado/Septic Systems

Lahontan Regional Water Quality Control Board

File: Kern County LAMP

TO: Katie Carpenter, Engineering Geologist
Central Valley Regional Water Quality Control Board
1685 E Street
Fresno, CA 93706
Katie.carpenter@waterboards.ca.gov

FROM: 
Lauri Kemper, Assistant Executive Officer
Lahontan Regional Water Quality Control Board
2501 Lake Tahoe Boulevard
South Lake Tahoe, CA 96150
Lauri.kemper@waterboards.ca.gov

DATE: August 8, 2016

SUBJECT: Region 6 Comments - Kern County Draft Local Agency Management Plan

The Regional Water Quality Control Board, Lahontan Region (Water Board) staff has reviewed the May 25, 2016 draft Kern County Local Agency Management Plan (LAMP) and comments provided by Region 5. We appreciate the discussion with Region 5 and Kern County staff on July 19, 2016 to discuss comments. Region 6 provides the following comments on the Kern County LAMP.

1. Onsite Wastewater Treatment System (OWTS) Policy Section 9.1, Considerations for LAMPs (Relevant LAMP Sections, 2 & 4).

The Water Quality Assessment Program should consider the following elements.

- Identify areas of, and include specific assessment elements for, particular locales or areas of concern with high-risk conditions that may lead to groundwater pollution from OWTS. These areas include poor soil conditions, shallow water table, high domestic well usage, high density of OWTS, areas experiencing large numbers of failing systems, or areas where water quality data indicate trends of

increasing nitrate concentrations in ground or surface waters. Within the Region 6 portion of Kern County these areas include the following.

- Indian Wells Valley
 - Northwest Antelope Valley
 - North Edwards
- Identification of individual residential wells in areas of high density OWTS willing to participate in regional groundwater data collection.
 - Identification of existing monitoring wells or other supply wells in areas of high density OWTS (Include names of well owners and any current monitoring being conducted).
 - Assess efforts to establish onsite maintenance districts or zones and feasibility of installing municipal sewage collection systems in areas of high density OWTS.
 - Assess locations near high density OWTS where future groundwater monitoring wells should be installed, especially in areas of shallow groundwater.
 - Assess water quality trends, especially with respect to nitrate concentrations.

2. OWTS Policy Section 9.1.9, Areas of High OWTS Density (Relevant LAMP Section, 2, Appendix B).

Kern County requires a cumulative impact assessment for new subdivisions with lots sizes smaller than 2.5 acres, but only where individual domestic wells are used. The *Water Quality Control Plan for the Lahontan Region* (Basin Plan) requires all groundwater with a municipal beneficial use designation to be free of pollution and the Water Board is required to maintain high quality water for future beneficial uses where feasible. The Water Board recommends that Kern County complete a cumulative impact assessment for all new subdivisions with lots smaller than 2.5 acres, regardless of whether the water supply is from on-site domestic wells or a community water system service.

3. OWTS Policy Section 9.1.10, Limits to parcel size (Relevant LAMP Section, 2).

Clarify what Kern County is proposing for density requirements in LAMP for new and existing subdivisions. Provide justification for the parcel sizes and how ground water quality protection will be ensured.

At a minimum, the Basin Plan's maximum density criteria for use of OWTS should be incorporated into the LAMP unless the County is proposing more restrictive density criteria (such as Tier 1 requirements in the OWTS Policy). These criteria were incorporated in 1988. The Basin Plan, Chapter 4.4, page 4.4-10 may be found at the following internet address:

http://www.waterboards.ca.gov/ahontan/water_issues/programs/basin_plan/docs/ch4_implementationplans.pdf

- a. Use of OWTS for single family homes on lots subdivided after 1988 may have a gross density of no greater than two (2) single family equivalent dwelling units per acre. Developments with higher density are required to have secondary-level treatment of wastewater. Equivalent dwelling units (EDUs) are defined as 250 gallons per day per EDU. The secondary level treatment also applies to domestic wastewater discharges from commercial, industrial, recreational and all other developments with wastewater discharge volumes exceeding two EDU per acre density (500/gal/day/acre based on 250 gal/day/EDU).
 - b. Use of new OWTS is permitted on lots subdivided prior to 1988 if the lot sizes has a net area greater than or equal to 15,000 square feet.
4. OWTS Policy Section 9.2, Scope of Coverage (Relevant LAMP Sections, 1 & 3, p. 6).

Referrals to Water Board would result in our becoming the lead regulatory agency. Discharges would be regulated by waste discharge requirements which require annual fees and monitoring costs. We concur with Region 5 that Kern County should clarify the systems that will be referred and suggest the County retain lead for all systems up to the OWTS Policy allowed up to 10,000 gal/day.

Additionally, the County should reconsider its intent to seek Water Board approval of each new type of alternative OWTS (LAMP, Page 26; and Kern County Onsite Manual, Part 3). Water Code §13360 prohibits the Water Board from specifying the manner or method of treatment and disposal. Water Board staff welcomes consultation with County staff on specific OWTS applications. Perhaps a better phrase may be the following: "County code allows for the future additions of alternative treatment and dispersal systems, as approved by the director after receiving and considering recommendations from the appropriate Water Board."

5. OWTS Policy Section 9.2.8, Regional Salt and Nutrient Management Plans (Relevant LAMP Section, 4 p. 33, Appendix B).

The LAMP should reference the appropriate Salt and Nutrient Management Plans (Plans).

The Antelope Valley Salt and Nutrient Management Plan prepared by the Antelope Valley Integrated Regional Water Management Plan group may be accessed on the internet at: <http://www.awwaterplan.org/>. The Plan looks to the LAMP to ensure OWTS do not adversely affect groundwater. It concludes that with respect to nitrate, groundwater concentrations levels in the Antelope Valley Groundwater Basin are well below the MCL. It also concludes that with respect to total dissolved solids (TDS), average TDS concentrations in the Antelope Valley Groundwater Basin are below the recommended Secondary Maximum Contaminant Level, or drinking water

standard. This means that receiving groundwater in the Antelope Valley is of high quality and does not appear to have been adversely impacted by OWTS. However, as mentioned earlier, the Water Board is required by state policy and regulations to maintain high quality where feasible or unless specific findings can be made to allow degradation.

The Indian Wells Valley Salt and Nutrient Management Plan is being prepared by the Indian Wells Valley Water District and is not yet completed. The Fremont Valley Salt and Nutrient Management Plan is being prepared by the City of California City and is not yet completed. However, you can incorporate available water quality information and evaluate current water quality conditions and predict any changes (benefit or detriment) based on proposed LAMP implementation.

We look forward to working with Region 5 and Kern County to finalize a LAMP that is protective of public health and groundwater quality from OWTS discharges. Water Board staff are available to discuss our comments and concerns in more detail. If you have any questions, please contact me at (530) 542-5436 (lauri.kemper@waterboards.ca.gov), Francis Coony at (760) 241-7353 (mike.coony@waterboards.ca.gov) or Jehiel Cass at (760) 241-2434 (jehiel.cass@waterboards.ca.gov).

cc: Donna Fenton, donna@co.kern.ca.us

MC/c/Ltr42544KernCoLampComments.docx

Lahontan Regional Water Quality Control Board

June 23, 2016

(LAMP) San Bernardino County

Raymond Britain
Environmental Health Services
County of San Bernardino
172 W. 3rd Street, 1st Floor
San Bernardino, CA 92415
Raymond.britain@dph.sbcounty.gov

Lahontan, Colorado River and Santa Ana Water Board Comments on the San Bernardino County Draft Local Area Management Program

The County of San Bernardino Department of Environmental Health Services (County) submitted the Draft Local Area Management Program (LAMP) to the California Regional Quality Water Quality Control Boards (Water Boards) within the County's jurisdiction, dated October 30, 2015. The County proposes a LAMP (Tier 2) for new and replacement onsite septic systems instead of Tier 1 compliance under the State Board's June 19, 2012 policy for Onsite Wastewater Treatment Systems (OWTS Policy). As the lead Water Board for review of the County LAMP, the Lahontan Water Board provides these comments following joint review by this agency, the Santa Ana Water Board, and the Colorado River Water Board. Our technical comments as Attachment 1, Santa Ana Water Board comments as Attachment 2, and Colorado River Water Board comments as Attachment 3.

Summary

The Lahontan Water Board staff finds the LAMP generally meets the intent of the OWTS Policy with one exception. The LAMP is not consistent with OWTS Policy §9.3, primarily with respect to an effective Water Quality Assessment Program that will evaluate the extent and impact of septic discharges on groundwater quality over time.

Issues of Common Concern

- A. **Water Quality Assessment Program** – We recognize that the single most challenging issue for the County and Water Boards is development and implementation of a meaningful, cost-effective, and adequate water quality assessment program to satisfy Policy §9.3. The proposed Water Quality Assessment Program described on draft LAMP Page 61 does not meet Policy §9.3.2 requirements, which is to "determine the general operation status of OWTS and to evaluate the impact of OWTS discharges, and assess the extent to which groundwater and local surface water quality may be adversely impacted." The County's proposed program is too basic and general to achieve the Policy goals.

AM L. HORN, PhD, MAE | PATRY Z. KOUYOUMJIAN, EXECUTIVE OFFICER

2501 Lake Tahoe Blvd., So. Lake Tahoe, CA 96150 | 14440 Civic Dr., Ste. 260, Victorville, CA 92382
e-mail: Lahontan@waterboards.ca.gov | website: www.waterboards.ca.gov/lahontan



The LAMP proposes annual reporting by February 1 with a program assessment every five years as the policy requires. The assessment program is limited to: 1) sampling new individual production wells for selected constituents, 2) establishing baseline water quality using individual and community drinking water wells, and 3) distinguishing water quality degradation from OWTS and other sources.

A Policy Tier 2 LAMP involves a fundamental shift from a purely prescriptive to partially performance-based program as described in Policy §9.5 and §9.6. The monitoring and water quality assessment program should address or include the following principles:

- Be adaptive and modified over time in collaboration with affected stakeholders.
- Include basic elements that apply county-wide;
- Include specific elements for particular locales or areas of concern such as high density OWTS, areas experiencing large numbers of failing systems, or areas where water quality data indicate trends of increasing nitrate concentrations in ground or surface waters;
- Identify individual owner residential wells in areas of high density OWTS willing to participate in regional groundwater data collection;
- Identify areas with high density OWTS, especially those located in high risk areas where hydrogeological conditions, soil conditions, shallow water table, or high domestic well usage may lead to pollution from OWTS;
- Assess efforts to establish onsite maintenance districts or zones and feasibility of installing municipal sewage collection systems in areas of high density OWTS;
- Assess particular areas with high numbers of failing systems;
- Assess locations near high density OWTS where future groundwater monitoring wells should be installed, especially in areas of shallow groundwater;
- Assess water quality trends, especially with respect to nitrate concentrations;
- Clarify procedures to exchange data with other agencies and collaboration efforts that can be improved;
- Consider electronic mapping location of existing and new OWTS, focusing on areas with characteristics listed under Section 9.1 of the OWTS Policy; and,
- Identify existing supply and monitoring wells (private and public) and prioritize wells that can be used to assess water quality associated with OWTS over time.

B. Jurisdictional Area – San Bernardino County covers a large area and encompasses numerous incorporated cities and federal lands with interspersed private lands that are not under the jurisdiction of the County's septic system approval authority. Some cities retain septic system approval and others do not. We recognize that these boundaries change over time. We request clarification in the form of a map that identifies areas within the County that are subject to the proposed LAMP requirements. Please provide these data in printed format and in ArcGIS data format (shape files).

C. Septic System Discharge Density – We recognize that each Water Board has similar, although different, approaches to the OWTS discharge minimum area, or maximum density, that were developed in the late 1980's. However, since then the County subdivision minimum lot size for a single family home with OWTS discharge has generally been one-half acre. The County proposes to continue this lot size through the LAMP.

It is also generally understood that OWTS discharges pollute groundwater over time, primarily with respect to pathogens and nitrate, under various soil type, climatic, hydrogeological, and *density* conditions¹. We believe that in arid regions with closed groundwater basins, high density OWTS discharges will have long-term adverse groundwater impacts.

While we believe the County should consider increasing the minimum lot size for future subdivisions, we accept the County's proposal to continue this density standard provided there is an adequate Water Quality Assessment Program.

We also believe that certain areas of high density OWTS should be considered for municipal sewage collection systems. The Colorado River Water Board adopted Basin Plan prohibitions for the Town of Yucca Valley area. In the Lahontan Water Board jurisdiction, the community of Wrightwood, Phelan commercial core, and north Barstow have a high density of OWTS. The County should endeavor to identify areas with high density OWTS and develop plans to connect these areas to municipal or regional sewage collection systems. Treatment alternatives should include both centralized and decentralized treatment.

- D. **Basin Plan Prohibitions** - Policy §2.1 states that OWTS must comply with the *Water Quality Control Plan for the Lahontan Region* (Basin Plan) prohibitions. The Policy also states that if the prohibition authorizes discharges under specified conditions, the owner of OWTS must comply with those Basin Plan conditions, typically called "exemptions". Only the Regional Water Board or the State Water Resources Control Board can modify the Basin Plan. The LAMP should refer to each Water Board's Basin Plan OWTS prohibition and exemption conditions.
- E. **Identifying Unauthorized Systems** - We believe that the County practices and policies, including the LAMP, should describe tasks and milestones to identify and address unauthorized OWTS, including existing: cesspools, systems with flow greater than 10,000 gal/day, high-strength wastewater discharges, or inappropriately functioning grease traps.

Closing

The OWTS Policy designates the Lahontan Regional Water Quality Control Board (Lahontan Water Board) as the lead Water Board for the purposes of reviewing and approving San Bernardino County's Draft LAMP. The three Water Board staffs are available to discuss these comments at your convenience. If you have questions, please contact either of the following individuals:

- Lahontan Water Board - Mike Plaziak (760) 241-7325
mike.plaziak@waterboards.ca.gov

¹ Izbicki, John A.; Flint, Alan L.; O'Leary, David R.; Nishikawa, Tracy; Martin, Peter; Johnson, Russell D.; and Clark, Dennis A. "Storage and mobilization of natural and septic nitrate in thick unsaturated zones, California", *Journal of Hydrology*, 10.1016/j.jhydrol.2015.02.005

- Colorado River Water Board - Mary Serra (760) 776-8972
mary.serra@waterboards.ca.gov
- Santa Ana Water Board – Milasol Gaslan (951) 782-4419
milasol.gaslan@waterboards.ca.gov

We thank you for your efforts to develop a LAMP that is protective of water quality. We would request a meeting with your staff to discuss our comments in more detail. The Policy requires the Water Boards to review and approve LAMPs by May 2017. To that end, the County's LAMP will need to be finalized by Fall/Winter 2016 in order to meet the Policy schedule.



Mike Plazlak, P.G.
Supervising Engineering Geologist
South Lahontan Basins Division

Enclosures:

1. Lahontan Water Board technical comments
2. January 15, 2016, Santa Ana Water Board comments
3. February 25, 2016, Colorado River Water Board comments

cc w/enc: Mary Serra, Colorado River Water Board, mary.serra@waterboards.ca.gov
Susan Beeson, Santa Ana Water, susan.beeson@Waterboards.ca.gov
Milasol Gaslan, milasol.gaslan@waterboards.ca.gov
Rob Tucker, Lahontan Water Board, robert.tucker@waterboards.ca.gov

MC/rc/LAMP comments 6-23-16 mp

Lahontan Water Board Technical Comments

Following are technical comments on the draft LAMP. Page numbers refer to the Draft LAMP.

1. **General.** The Draft LAMP indicates that only "Alternate Onsite Treatment Systems" are required to maintain annual operating permits from the County's Division of Environmental Health. The Building and Safety Division is responsible for issuing permits for "new construction, repair and replacement of OWTS," while Code Enforcement is responsible for inspections, operation, maintenance, and responding to failures of OWTS systems. The LAMP should include a County organizational chart, describing how the multiple County divisions will collaborate and describe inventory control and proposed data reporting methodology.
2. **Page 1 -** The draft LAMP indicates that only 15% of the county is subject to the LAMP requirements. We recommend the County's LAMP include a map, including but not limited to:
 - Jurisdictional areas e.g. where County has jurisdiction and where local governments or other entities have jurisdiction;
 - Locations where permits are issued for new or failing systems in the past twelve months;
 - Onsite maintenance districts or zones;
 - Water Board septic system prohibition areas;
 - Locations of impaired water bodies due to nitrogen or pathogens and impaired water bodies with an approved Total Maximum Daily Load; and,
 - Water quality assessment program features (e.g. wells included for sampling and analysis, surface water collection stations, etc.).
3. **Page 2 – Definitions, Domestic Well.** Please revise the last clause to read the following: "...and is not regulated by the SWRCB Division of Drinking Water (DDW)."
4. **Page 4 – Definitions, Notice of Condition –** Please clarify and explain the legal basis, scope, and purpose of the referenced Notice of Condition site specific document.
5. **Page 10 – LAMP Standards Applicability, Requirements and Exceptions, 1st** sentence. Please revise as follows: "...to protect public health, water quality, and safety."
6. **Pages 8, 23, 24, 25, 26, 32, 41, 42 —** Statements on these pages indicate that the County may refer selected new and replacement OWTS to the Water Board at its discretion. Please note that for OWTS that are not covered under the scope of San Bernardino County's LAMP (Policy §9.1, §2.6.1), Policy §2.6.1 requires the owner to submit a report of waste discharge to the Water Board. In addition, the owner must pay fees and obtain waste discharge requirements (Policy §12.0). We request that the LAMP clarify that County will make the initial referral to the Water Board and

include a County contact to which questions may be addressed. We have been contacted by many applicants, ostensibly referred by the County, that have no idea of the reason for their referral. The LAMP should indicate that Water Board requirements vary from region-to-region and case-by-case, but regulation by the Water Board may significantly delay the project and introduce additional requirements.

7. Page 10 — LAMP Standards Applicability, Requirements and Exceptions, Exceptions. Related to the above comment, the bottom of this page lists specific OWTS which are not included in the LAMP. Please clarify if supplemental treatment systems as defined in Policy §1.0 are included in the term "wastewater treatment plants of any kind or size". Supplemental treatment systems for small applications are not necessarily a wastewater treatment plant. The County is authorized to approve supplemental treatment systems provided there is a performance monitoring and inspection program as required in Policy § 9.4.6. We prefer the County approve supplemental treatment systems for small applications and require periodic performance monitoring and inspections. If not, applicants must submit a report of waste discharge to the Water Board (Policy 2.6.1).
8. Page 10 — The County has permitting authority for onsite wastewater disposal siting, design, operation, maintenance and has historically focused its efforts to protect public health. The OWTS Policy advocates for the additional protection of water quality. The Draft LAMP should include the County's wastewater disposal ordinance for reference, a discussion of modifications, if any, to that ordinance, and the schedule for its hearing and adoption of the final LAMP by the County's Board of Supervisors. In addition, clarification is necessary where the Draft LAMP cites "public health and safety" (such as at the bottom of page 51) as its mandate, leaving out water quality considerations. This is because Water Code §13291(a)(4), under Chapter 4.5, Onsite Sewage Treatment System", requires that county adopted regulations for onsite system must include systems that have a "a reasonable potential to cause a violation of water quality objectives ..."
9. Pages 13, 18, 25, 35, 36, 38 and Table of Contents— Please add a definition for "alternative treatment systems" and explain the relationship to the "supplemental treatment" term defined in the LAMP and OWTS Policy.
10. Page 18 — The Draft LAMP (Minimum Qualifications and Certification for OWTS Practitioners) should detail the function of a "service provider." The term service provider is listed in the definitions section on page 6 and minimum qualifications should be defined. The Draft LAMP should also detail the methodology that the County will use to either accept a national OWTS educational certification for service provider or create a program of its own.
11. Page 24 and 25, Densities and Minimum Lot Sizes. The draft LAMP proposes an equivalent dwelling unit (EDU) flow of 300 gallons per day. This is greater than Lahontan's Water Board's Basin Plan criteria of 250 gallons per day found on page

4.4-10. For projects in the Lahontan Water Board's jurisdiction, please use 1 EDU = 250 gallons per day.

12. Page 26 — Minimum Requirements for Natural Ground Slope and Percolation Rates, Natural Ground Slope. In the draft LAMP, the county proposes the owner obtain Water Board approval for proposed OWTS where the slope exceeds 25%. Water Code §13360 prohibits Water Board to stamp approve this type of report. The Policy §9.4.4 states that systems with a slope greater than 30% must be approved by a qualified professional as defined in OWTS Policy §1.0. Water Board staff recommend revision of this section in a manner to reflect the policy and Water Code §13360.
13. Page 27 — OWTS Design Table, first row after header row, second column, systems greater than 10,000 gallons per day. Please replace second bullet to read as follows: "Will be referred to the appropriate Water Board for review and permit issuance (Policy §2.6 and 2.6.2).
14. Pages 31 and 32 — Prohibitions and Exemptions. Requesting Exemptions in Prohibition Areas: The prohibitions in the County areas of the Lahontan region are presented in the *Water Quality Control Plan for the Lahontan Region (Basin Plan)*, Page 4.1-21. The Mojave Hydrologic Unit Prohibition No. 3, states the following:

"The discharge of waste from new leaching or percolation systems is prohibited in the following areas (Figure 4.1-17):

- (a) The Silverwood Lake watershed.*
- (b) Deep Creek and Grass Valley Creek watersheds above elevation 3,200 feet.*

For this prohibition, "new" systems are any installed after May 15, 1975.

An exemption to this prohibition may be granted whenever the Water Board's Executive Officer finds that the operation of septic tanks, cesspools, or other means of waste disposal in a particular area will not, individually or collectively, directly or indirectly, adversely affect water quality or beneficial uses, and that the sewerage of such area would have a damaging effect upon the environment."

Please clarify, under OWTS prohibitions, "Lahontan RWQCB Prohibition Areas 1-5", should be "Mojave Hydrologic Unit Prohibition Area 3." Under Lahontan Water Board Order No. 6-81-3 for Crestline and Lahontan Water Board Order No. 6-84-93 for Lake Arrowhead, the County is authorized to issue OWTS building permits in these exemption areas, usually without Lahontan Water Board's approval. Please add the OWTS approval process for Lake Arrowhead and Crestline exemption areas.

15. Page 40 — Alternative Treatment Systems, Wastewater Sample Requirements for Supplemental Treatment Systems. Please specify the required sampled constituents and sample locations for performance monitoring of supplemental treatment systems. For effluent, Lahontan Water Board staff suggests the

constituents listed in the Lahontan Water Board Basin Plan, page 4.4-7, to include as a minimum the following:

- nitrate (as nitrogen)
- total (Kjeldahl) nitrogen

Lahontan Water Board also suggests sampling the influent for total nitrogen to determine the nitrogen removal rate. Nitrogen is important because in its oxidized state, nitrate, is very stable, and its concentration in water below the drain field may pollute groundwater.

16. Page 57 - LAMP Scope of Coverage, Site Assessment. OWTS Policy Section 9.2.6, page 30, specifies that the LAMP include, "An assessment of existing and proposed disposal locations for septage, the volume of septage anticipated, and whether adequate capacity is available." Please include a site evaluation by the Building and Safety Division to:

- Ensure the proper system design, and the existing and proposed disposal locations for septage meet the minimum requirements of the LAMP.
- Determine compliance with site suitability requirements, the volume of septage anticipated and whether adequate capacity is available for the septage disposal.

17. Page 58 — Local Watershed Management. Please clarify groundwater data collection, exchange and assessment plans with local agencies and methods to manage data and assess effectiveness of the County's water quality assessment program.

- Mojave Water Agency (MWA) groundwater data. This agency consolidates data from source agencies into a single database for the Mojave groundwater basin and Lucerne Valley.
- Crestline Sanitation District performs water quality assessments in their respective area.
- Lake Arrowhead Community Services District performs water quality assessments in their respective area.
- In Wrightwood, County Special Districts formerly collected samples from a County Service Area (CSA) 56 groundwater monitoring well in compliance with waste discharge requirements Order 6-76-38. While the Lahontan Water Board rescinded this order in 2013, the County still maintains this well and well sampling could be resumed as an element of the water quality assessment program.



EDWARD G. BROWN JR.
GOVERNOR



MATTHEW FLORENZ
SECRETARY FOR
ENVIRONMENTAL AND WATER BODIES

Santa Ana Regional Water Quality Control Board

January 15, 2016

Mike Plaziak, Supervising Engineering Geologist
Lahontan Regional Water Quality Control Board, Victorville Office
14440 Civic Drive, Suite 200
Victorville, CA 92392

COMMENTS ON SAN BERNARDINO COUNTY'S PROPOSED LOCAL AGENCY MANAGEMENT PROGRAM

Dear Mr. Plaziak:

San Bernardino County falls within multiple Regional Water Board jurisdictions. The Lahontan Regional Water Quality Control Board (Region 6) is the designated¹ Regional Water Board, for purposes of reviewing and, if appropriate, approving the Local Agency Management Plan (LAMP) for San Bernardino County. It is our understanding that Region 6 will coordinate the comments from the three Regional Boards (Regions 6, 7, and 8) on this LAMP.

Consistent with this approach, we have the following general comments that apply to the LAMP area as a whole and specific comments applicable to areas within the Region 8 jurisdiction.

General Comments:

1. LAMP, Chapter 1, Introduction: The LAMP states that the unincorporated area under County's jurisdiction spans 1.9 million acres and encompasses 15% of the entire County. An additional 4% is directly under the control of 24 incorporated city governments.

The County LAMP should identify where the unincorporated 15% area is located and indicate if any areas under the control of the 24 incorporated city governments will be subject to this LAMP.

2. LAMP, Chapter 1, Introduction: The LAMP states that the requirements defined in Tier 1 of the Onsite Wastewater Treatment System (OWTS) Policy do not meet the future development needs of the County due to diversity. Therefore, under Chapter 3, Siting Standards, Density/Minimum Lot Size Requirements, the County proposes any new lot creations, subdivisions, etc. will require a minimum of one-half acre lot size. All other lots created prior to the LAMP adoption will be grandfathered from the one-half acre requirement. Further, the County proposes to defer those projects that may require a more stringent lot size requirement for the protection of water quality to the Regional Board offices.

¹ Attachment 3 of the Onsite Wastewater Treatment Policy,
http://www.waterboards.ca.gov/water_issues/programs/owts/docs/owts_policy.pdf.

We note that the County's approach to the proposed Density/Minimum Lot Size Requirements (MLSR) of one-half acre is somewhat consistent with the Santa Ana Region's MLSR as adopted September 8, 1989 (and subsequent amendments), and also the Memorandum of Understanding between the County and the Santa Ana Regional Board. However, Section 7.8, Tier 1 of the OWTS Policy sets the standard for low risk siting and design requirements that calls for a larger lot size based on average annual rainfall (2.5-acre lots sizes or more). LAMPs approved under Tier 2 provide an alternative to Tier 1 if such proposal will still achieve the Policy's purpose.

We agree that those lots created prior to September 7, 1989 should continue to be grandfathered from the Policy provided they meet County requirements and are not located within areas of water quality concern, including the septic system prohibition areas within Region 8. However, the County should consider the adoption of a 2.5-acre lot size requirement or Tier 1 requirements for those specific areas which are necessary in order to protect water quality and not simply defer those areas to the Regional Board.

To address diversity within the County, we are also agreeable to the County's approval of proposed one-half acre lot size requirements for any new lots being created with supporting documentation on a case-by-case basis or for specific geographic areas to be identified in the LAMP where the County had evaluated site conditions and determined that higher density will continue to protect water quality and public health. In identifying requirements different from Tier 1 for specific areas, the OWTS Policy specifies that the County consider the factors identified in Section 9.1, as well as any other conditions deemed appropriate.

3. OWTS Policy Section 9.2.6, page 30, specifies that the LAMP include, "An assessment of existing and proposed disposal locations for septage, the volume of septage anticipated, and whether adequate capacity is available."

In Chapter 7, LAMP Scope of Coverage, Site Assessment, page 57, please revise as follows:

"Site Assessment

Prior to approving the use of an OWTS, a site evaluation by the Building and Safety Division will be required to:

- Ensure the proper system design, and the existing and proposed disposal locations for septage meet the minimum requirements of the LAMP.
- Determine compliance with site suitability requirements, the volume of septage anticipated and whether adequate capacity is available for the septage disposal."

4. OWTS Policy Section 9.3.2, page 31 specifies the County's responsibility to "Maintain a water quality assessment program to determine the general operation status of OWTS and to evaluate the impact of OWTS discharges, and assess the extent to which groundwater and local surface water quality may be adversely impacted. The focus of the assessment should be areas with characteristics listed under section 9.1."

The LAMP specifies that the County will annually report the number, location, and description of permits issued for OWTS or where a variance is granted. In addition to maintaining records for newly permitted OWTS, the County should maintain an inventory of existing and new OWTS. As part of the water quality assessment program (WQAP), please map the location of existing and new OWTS, focusing on areas with characteristics listed

under Section 9.1 of the OWTS Policy. Mapping will assist in evaluating the County's rationale for the design and implementation of the WQAP specified under Section 9.3.2. The WQAP is intended to determine the general operational status of OWTS and to evaluate the impact of OWTS discharges on groundwater and surface water quality.

5. Consistent with the rationale in item 4 above, please add the following information as the fourth bulleted item on page 61 of the LAMP, Chapter 8, Reporting to the Regional Water Quality Control Boards as follows:
 - The quantity and location of complaints pertaining to OWTS in areas where this LAMP is applicable, and specifying which complaints were investigated, and how the complaints were resolved.
 - The permits issued for new and replacement OWTS, including the number, location and description of the permits, and which Tier the permit was issued under.
 - The quantity, location and description of permits issued for OWTS where a variance from the approved LAMP was granted.
 - Electronic workable file (such as an Excel spreadsheet) which contains information on all new, replaced, or current OWTS. At a minimum, please include the following information:
 - o Latitude & Longitude
 - o Parcel size
 - o Number of structures
 - o Bedrooms per Dwelling(s)/structure
 - o Estimated gallons per day of wastewater

Specific Comments Applicable to San Bernardino County Areas within Region 8 Jurisdiction:

6. LAMP, Chapter 4, OWTS Design and Construction: The County proposes to continue to defer all projects within the Fontana/Bloomington area to the Regional Board for consideration. Please advise why the County prefers to defer these OWTS projects within these specific areas to the Regional Board.
7. LAMP, Sections 9.2.8, on page 30, states that the LAMP's permitting program provide "Any consideration given to the development and implementation of, or coordination with, Regional Salt and Nutrient Management Plans."

The Salt and Nutrient Management Plan for Region 8 is now incorporated into the Basin Plan. The Basin Plan specifies surface and groundwater water quality objectives for TDS and N and identifies those groundwater basins that have no TDS assimilative capacity. The Basin Monitoring Program Task Force (BMPTF) periodically assesses the water quality for TDS and N within the region. The OWTS impact to TDS and N objectives should be included in the County's 5 year evaluation of OWTS impacts to groundwater and surface water.

8. LAMP, Chapter 8, Reporting to the Regional Water Quality Control Boards, page 61 identifies the information to be reported annually to the Regional Boards.

January 15, 2016

A majority of 303(d) listed water bodies in Region 8 are impaired for pathogens and nutrients. Some publicly owned treatment works in Region 8 have acceptance criteria for septage wastes. Hauler loads are rejected when those acceptance criteria are not met.

We recommend that the LAMP include a brief description of procedures used by the County to ensure that pumped septage wastes generated within the County are disposed of properly. An example would be for the DEHS licensing and reporting requirement for Liquid Waste Haulers to include information that would allow the County to report annually that all pumped septage have been accounted for and disposed of properly. Also, please modify the bulleted item on page 61, under "Reporting to the Regional Water Quality Control Boards" as follows:

- The number, location and results of septic tank pumper inspection reports which were received. Provide a summary of total volume generated and hauled and the corresponding disposal locations.

In closing, we appreciate Region 6's efforts in coordinating the review of the proposed Local Agency Management Plan and look forward to further discussions regarding the Santa Ana Regional Board comments, as needed. Should you have any questions, please contact me at (951) 782-4419 or at milasol.gaslan@waterboards.ca.gov or Susan Beeson at (951) 782-4902 or at susan.beeson@waterboards.ca.gov.

Sincerely,



for Milasol C. Gaslan, Chief
Wastewater Program

Cc: Jehiel Cass, Lahontan Regional Water Quality Control Board, R6V
Francis Coony, Lahontan Regional Water Quality Control Board, R6V
Mary Serra – Colorado River Regional Water Quality Control Board, R7



Colorado River Basin Regional Water Quality Control Board

Sent via email

February 25, 2016

Mike Plaziak, Supervising Engineering Geologist
mike.plaziak@waterboards.ca.gov
 Lahontan Regional Water Quality Control Board, Victorville Office
 14440 Civic Drive, Suite 200
 Victorville, CA 92392

**COMMENTS ON SAN BERNARDINO COUNTY'S DRAFT LOCAL AGENCY
 MANAGEMENT PROGRAM**

Dear Mr. Plaziak

Colorado River Basin Regional Water Quality Control Board (Colorado River Basin Water Board) staff received a copy of the draft "Local Agency Management Program for Onsite Wastewater Treatment Systems" (Draft LAMP) from San Bernardino County, Public Health, and Environmental Health Services on November 2, 2015. The Draft LAMP was developed in response to the State Water Resources Control Board's *Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (OWTS Policy)*.

The OWTS Policy designates the Lahontan Regional Water Quality Control Board (Lahontan Water Board) as San Bernardino County's primary contact for the purposes of reviewing and, if appropriate, approving the Draft LAMP. Because San Bernardino County includes jurisdictional areas within the Colorado River Basin Water Board, the Lahontan Water Board staff requested written comments on the Draft LAMP. Our comments are as follows:

1. The County has permitting authority for onsite wastewater disposal siting, design, operation, maintenance and has historically focused its efforts to protect public health. The OWTS Policy advocates for the additional protection of water quality. The Draft LAMP should include the County's wastewater disposal ordinance for reference, a discussion of modifications, if any, to that ordinance, and the schedule for its hearing and adoption of the final LAMP by the County's Board of Supervisors. In addition, clarification is necessary where the Draft LAMP cites "public health and safety" (such as at the bottom of page 51) as its mandate, leaving out water quality considerations.

ELLEN WAY CHAIR | JOSE ANGEL, INTERIM EXECUTIVE OFFICER

73-720 Fred Waring Drive, Suite 100, Palm Desert, CA 92260 | www.waterboards.ca.gov/coloradriver



2. As a point of clarification, the Draft LAMP should improve its description of the extent of its jurisdictional boundaries for onsite wastewater treatment system permitting authority as it relates to the incorporated areas of Needles, Twentynine Palms and Yucca Valley.
3. The Draft LAMP should use the following text in order to improve the definition of Regional Water Quality Control Board: "Regional Water Board is any of the Regional Water Quality Control Boards designated by California 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. Depending on the site specific location of the onsite wastewater treatment system, Regional Water Board reference in this document may refer to the Colorado River Basin Water Board, the Lahontan Water Board, or the Santa Ana Water Board."
4. Section 2.1 of the OWTS Policy states "All new, replacement, or existing OWTS within an area that is subject to a Basin Plan prohibition of discharges from OWTS, must comply with the prohibition." The Colorado River Basin Water Board has an onsite wastewater prohibition zone in San Bernardino County in the incorporated area of Yucca Valley.

The Draft LAMP includes an authority statement on page 12; "The Building and Safety Division requires Division of Environmental Health Safety approval on all OWTS proposals when the OWTS is located within a prohibition area." In addition, the Draft LAMP includes a discussion of Prohibitions and Exemptions beginning on page 31 that lists Yucca Valley and contains a protocol to obtain an exemption from the Basin Plan prohibition. The Colorado River Basin Water Board's Basin Plan prohibition cannot be modified by the LAMP. Only the Regional Water Board or the State Water Resources Control Board can modify the Basin Plan¹. The Colorado River Basin Water Board Basin Plan contains protocols for OWTS owners seeking an exemption.

5. The Colorado River Basin Water Board under the delegated authority of its Executive Officer requires the ability to identify new areas of special concern with regard to onsite wastewater treatment system disposal resulting from their density and threat to groundwater quality. Colorado River Basin Water Board staff recommends that the text of Chapter 4 (OWTS Design and Construction, Special Considerations) include the following text:

"Areas of Special Concern or Designated Maintenance Areas: Improper siting, design, operation and maintenance or density may subsequently be determined to be a source of pathogens or nitrogen in groundwater or surface water. The Areas of Special Concern may be identified by the

¹ A copy of the Basin Plan can be downloaded at:
http://www.waterboards.ca.gov/colorado/river/water_issues/programs/basin_planning/

San Bernardino's Public Health Officer or the appropriate Regional Water Board's Executive Officer. The following provisions apply:

- a. No existing OWTS within the Area of Special Concern or Designated Maintenance Areas, shall be expanded or otherwise modified to accommodate new construction and/or additional wastewater generating fixtures or appliances unless that system is designed to remove no less than eighty percent (80%) of the nitrogen released in the effluent (advanced treatment, denitrifying systems).
 - b. The minimum parcel size for any new subdivision or residential lot division within an Area of Special Concern or a Designated Maintenance Areas shall be one dwelling unit per two and one half (2.5) acres.
 - c. No application for a new septic system shall be accepted for any lot within the Area of Special Concern or a Designated Maintenance Areas unless that system is designed to remove no less than eighty percent (80%) of the nitrogen released in the effluent (advanced treatment, denitrifying systems)."
6. The 2.5 acre lot size is the OWTS Policy strategy to control density within San Bernardino County for areas with low rainfall. The County might also offer an alternative strategy to control density. This might include strategies to measure and report regional density in conjunction with a one-acre or smaller lot size; or shallow groundwater monitoring in areas with overall densities greater than one dwelling unit per two and one half (2.5) acres.
7. The Colorado River Basin Water Board does not have any Clean Water Act Section 303(d) listed impaired water bodies within San Bernardino County. As such, no comments are provided for the Draft LAMP provisions for Advanced Protection Management Program for Impaired Areas including those OWTS that neighbor 303(d) listed impaired water bodies for nitrogen or pathogens.
8. The Draft LAMP presents cesspools in a fashion that indicates they are not under the County's purview and states on page 57: "Cesspools are no longer allowed in the County of San Bernardino. When County staff discovers a cesspool is still in use, the property owner will be required to replace the cesspool with an OWTS, which meets current standards. The timeframe for complying with this requirement will vary based on the condition of the cesspool and the potential threat it represents to public health and safety." The OWTS Policy prohibits cesspools. The Colorado River Basin Water Board staff believe cesspools pose a significant threat to groundwater water quality. Cesspools must be timely located and properly abandonment and replacement with the appropriately sited and designed onsite wastewater treatment system in accordance with the OWTS Policy.

February 25, 2016

9. The Draft LAMP indicates that only "Alternate Onsite Treatment Systems" are required to maintain annual operating permits from the County's Division of Environmental Health. The Building and Safety Division is responsible for issuing permits for "new construction, repair and replacement of OWTS," while Code Enforcement is responsible for inspections, operation, maintenance, and responding to failures of OWTS systems. The Draft LAMP should include a County organizational chart, describe how the multiple divisions will collaborate and describe inventory control and proposed data reporting methodology.
10. Page 18 of the Draft LAMP (Minimum Qualifications and Certification for OWTS Practitioners) should detail the function of a "service provider." The term service provider is listed in the definitions section on page 6 and minimum qualifications should be defined. The Draft LAMP should also detail the methodology that the County will use to either accept a national OWTS educational certification for service provider or create a program of its own.

Colorado River Basin Water Board staff are available to meet with you and support the Lahontan Water Board's efforts to coordinate the successful review and approval of the San Bernardino County LAMP. Contact me at 760-776-8972 or at mary.serra@waterboards.ca.gov, or Mr. Doug Wylie at 760-776-8960 or at doug.wylie@waterboards.ca.gov with questions or to facilitate ongoing review and approval efforts.

Sincerely,



Mary Serra
Supervising Water Resources Control Engineer

cc: Jehiel Cass, Lahontan Water Board; jehiel.cass@waterboards.ca.gov
Francis Coony, Lahontan Water Board; francis.coony@waterboards.ca.gov
Milasol Gaslan, Santa Ana Water Board; milasol.gaslan@waterboards.ca.gov

ITEM 10 LATE REVISION

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION
MEETING OF SEPTEMBER 14-15, 2016
APPLE VALLEY**

ITEM 10
WORKSHOP - ONSITE WASTEWATER TREATMENT SYSTEM (OWTS) POLICY IMPLEMENTATION

LATE REVISION
Please replace the current presentation with the revised presentation in Enclosure 6

ENCLOSURE	ITEM	BATES NUMBER
6	LAMP Presentation	10-143

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Agenda Item No. 10 Onsite Wastewater Treatment System Policy Implementation

Mike Coony, P.E.
Water Resources Control Engineer
Lahontan Regional Water Quality Control Board
September 15, 2016



Outline

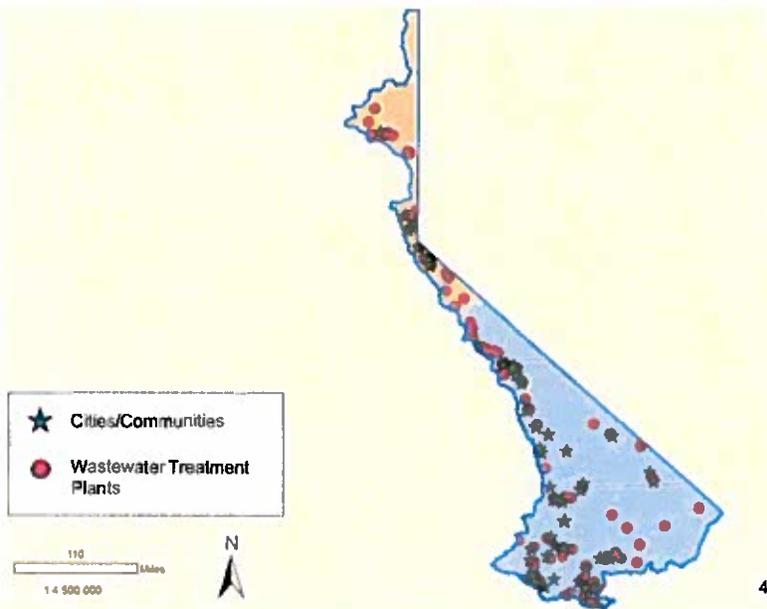
- **OWTS Policy overview**
 - Septic system description and locations; policy purpose, tiers, responsibilities, implementation
- **LAMP topics**
 - Implementation timeline, Density, Water Quality Assessment Program, and Supplemental Treatment Systems (STS)
- **LAMP Issues**
- **Discussion**
 - Opportunity for Water Board input

Summary of LAMP Issues

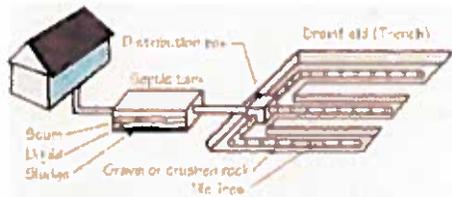
- Density
- Water Quality Assessment Programs
- Supplemental Treatment Systems (STS)
- Local agency funding



Lahontan Areas Served with a Wastewater Treatment Plant



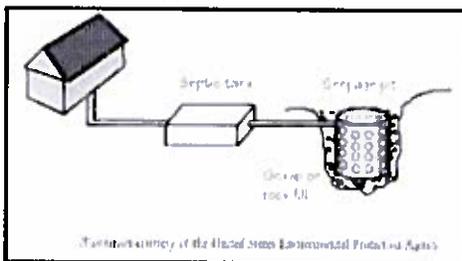
Conventional Onsite Wastewater Treatment System



Schematic of a Leach Line



Prefabricated leach chamber



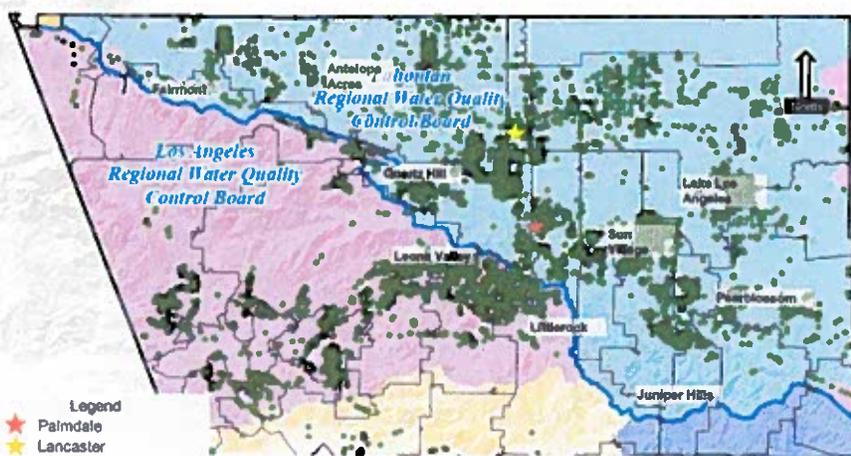
Schematic of a Seepage Pit (Dry Well)



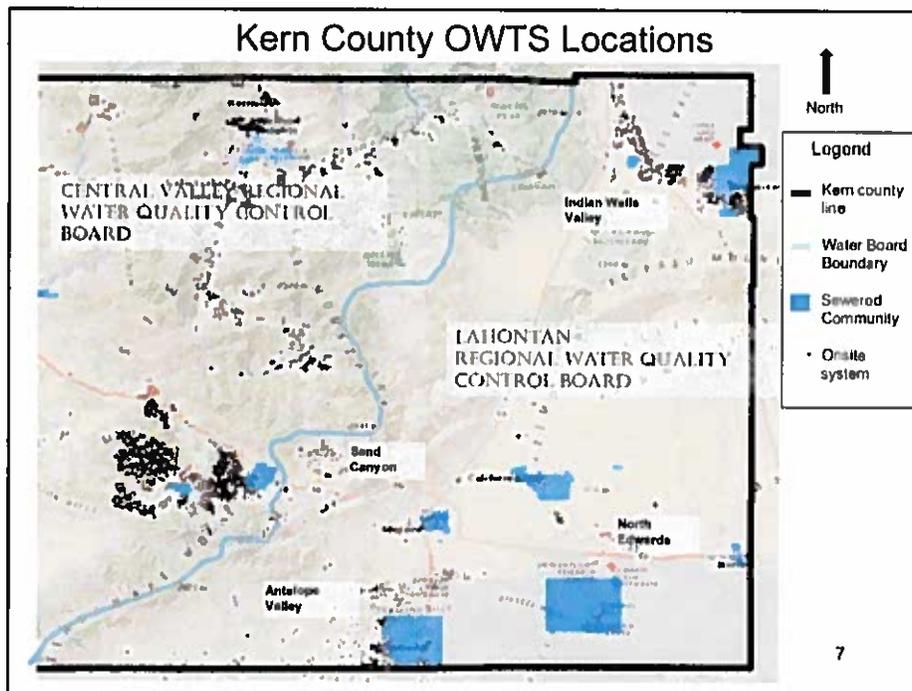
Fabricated in-place pit

5

North Los Angeles County OWTS Locations



6



OWTS Policy Purpose

- Allows continued use of OWTS
- Establishes risk-based, 5-tiered approach
- Recognizes local agencies provide the most effective means to manage OWTS
- Conditionally waives the requirement for OWTS owners to obtain Waste Discharge Requirements (WDRs)
- Replaces Basin Plan Septic System Criteria

8

Tier Overview

TIER	OWTS DESCRIPTION
0	Existing OWTS
1	New or replacement OWTS that meet Policy requirements
2	New or replacement OWTS that comply with a Local Agency Management Program
3	Existing, new, or replacement OWTS that are located near impaired water bodies (none yet in Region 6)
4	Any OWTS requiring corrective action

9

OWTS Policy Responsibilities

- **OWTS Owners**
 - Comply with OWTS Policy and local agency requirements
 - Treat only domestic wastewater
 - Submit a Report of Waste Discharge if:
 - Flow rate exceeds 10,000 gallons/day
 - Does not comply with local agency program
 - Receives high strength wastewater (> BOD 900 mg/L)
 - Receives commercial food wastewater and does not have a oil/grease interceptor

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OWTS Policy Responsibilities (continued)

- Local Agencies
 - Submit a LAMP by **May 13, 2016**, or select Tier 1
 - If under a LAMP ...
 - Submit OWTS permit data annually
 - Maintain records
 - Implement a Water Quality Assessment Program (WQAP)
- Regional Water Boards
 - Amend Basin Plan (done)
 - Review and approve LAMPs (in progress)

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Implementation Timeline

Initial five-year period



12

Tier 1 – Low Risk New or Replacement OWTS

- Minimum site evaluation and siting standards
 - Soils and percolation tests
 - Depth to groundwater
 - Setbacks
 - Density as a function of annual precipitation
- Minimum OWTS design and construction standards

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Tier 1 Density (Allowable Average Densities)

Average annual rainfall (inches/year)	Allowable density (acres/single family dwelling unit)
0 - 15	2.5
> 15 - 20	2
> 20 - 25	1.5
> 25 - 35	1
> 35 - 40	0.75
> 40	0.5

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Tier 2 – LAMPS

- Tier 2 takes effect when Water Board approves local agency's LAMP
- Maximum flow limit is 10,000 gallons/day
- LAMP allows an alternative method to achieve OWTS Policy objectives
 - May be more or less stringent than Tier 1
 - Requires Water Quality Assessment Program (WQAP)



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Proposed LAMP densities

- Lahontan's Basin Plan Criteria – ½ acre minimum lot size per EDU
- Variable densities depending on site conditions
- Tier 1 densities for new subdivisions allowing vacant lots in existing subdivisions to install OWTS



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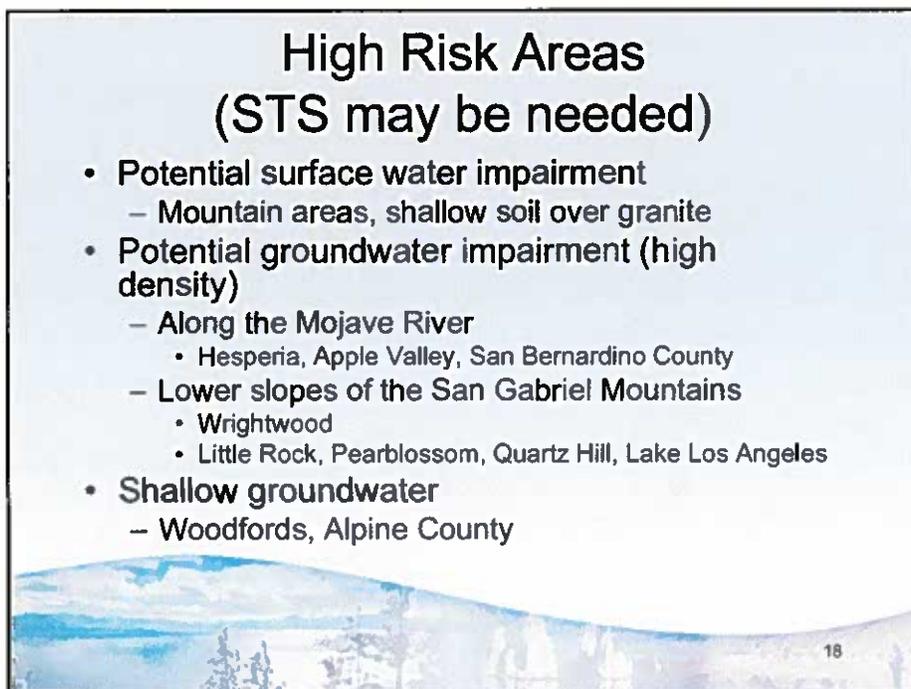
Proposed Water Quality Assessment Programs

- Details of program identified in future
- Rely on data collected by others
- Rely on inspection and performance monitoring
- Interpretative approach undefined



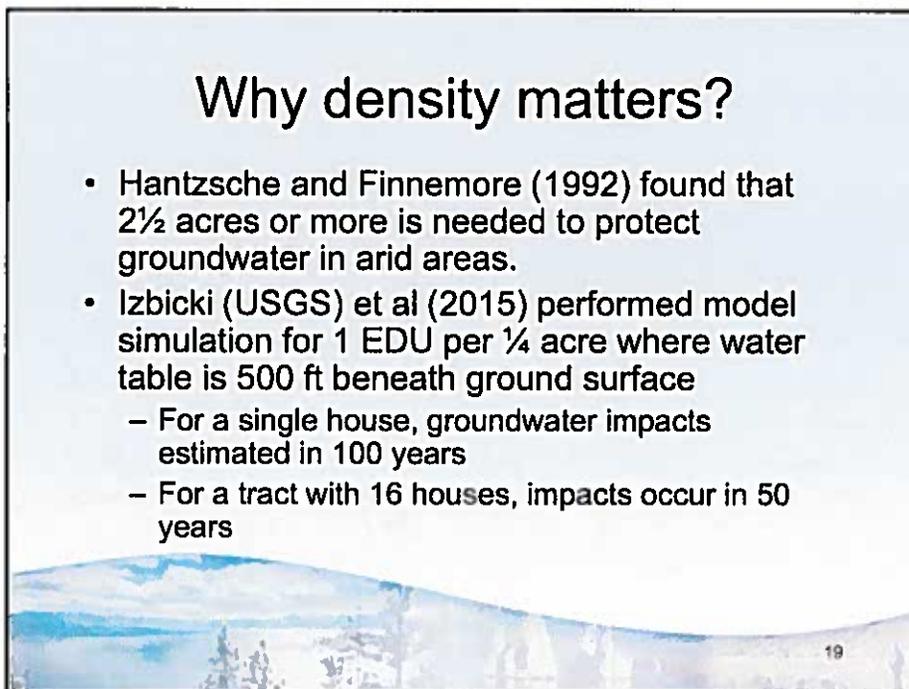
High Risk Areas (STS may be needed)

- Potential surface water impairment
 - Mountain areas, shallow soil over granite
- Potential groundwater impairment (high density)
 - Along the Mojave River
 - Hesperia, Apple Valley, San Bernardino County
 - Lower slopes of the San Gabriel Mountains
 - Wrightwood
 - Little Rock, Pearblossom, Quartz Hill, Lake Los Angeles
- Shallow groundwater
 - Woodfords, Alpine County



Why density matters?

- Hantzsche and Finnemore (1992) found that 2½ acres or more is needed to protect groundwater in arid areas.
- Izbicki (USGS) et al (2015) performed model simulation for 1 EDU per ¼ acre where water table is 500 ft beneath ground surface
 - For a single house, groundwater impacts estimated in 100 years
 - For a tract with 16 houses, impacts occur in 50 years



Summary of LAMP Issues

- Density – risk of WQ degradation; no findings to ensure WQ protection
- Water Quality Assessment Programs – limited or non-existent
- Supplemental Treatment Systems (STS) – LAMPs lack information on how operations will be tracked to ensure effectiveness
- Local agency funding – lacking; limits ability to implement LAMPs



Density Strategies in LAMPs

- Support Tier 1 densities for new subdivisions for most areas
- Require findings on how proposed density is as protective as Tier 1
- Consider increased monitoring where high risk of impairment and/or in areas where higher densities are proposed

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Water Quality Assessment Program (WQAP)

- Focus on high risk areas
- Consider all data sources
 - Monitoring wells (new and existing)
 - Existing groundwater supply well data
 - Surface water monitoring
 - Other existing data sources
- Collaborate with local agencies and stakeholders on WQAP effectiveness

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Supplemental Treatment Systems (STS)

- Local Agency needs to ensure ongoing compliance by periodic monitoring and inspections
- Encourage Local Agencies to develop operating permit program
- At least one agency proposes to refer new STS to Water Board for WDR issuance



Local Agency Funding

- Support increased funding to implement LAMP
- Additional technical expertise needed to implement WQAP and oversee STS performance



Discussion

Does Water Board support strategies presented to improve LAMPs ? Other ideas or input?

- Density – Tier 1 preference; higher density areas require increased monitoring
- WQAP – Monitoring in high risk areas rather than jurisdiction-wide
- STS – Support inspection and effluent monitoring in a local agency regulatory program
- Funding - Need to require funding plan that meets LAMP needs

25

Next Steps

- Review draft LAMPs; prepare comments
- Meet with local agencies to resolve issues and support effective LAMPs
- For LAMPs where Region 6 is lead; bring agenda items for Board consideration

26

Abbreviations

Item	Description	Item	Description
BOD	Biochemical Oxygen Demand	OWTS	Onsite Wastewater Treatment System
DDW	Division of Drinking Water	RWD	Report of Waste Discharge
EDU	Equivalent dwelling unit	SNMP	Salt and Nutrient Management Plan
ft	feet	sq ft	square feet or square foot
gal	gallons	STS	Supplemental Treatment System
GAMA	Groundwater Ambient Monitoring and Assessment	TMDL	Total Maximum Daily Load
Geo-tracker	State Water Board data system for selected groundwater monitoring data	WDR	Waste Discharge Requirement
LAMP	Local Agency Management Plan	WC	(California) Water Code
		WQAP	Water Quality Assessment Program



ENCLOSURE 6



www.SBCounty.gov

Local Agency Management Program

For Onsite Wastewater
Treatment Systems

Revised April 2017

DRAFT

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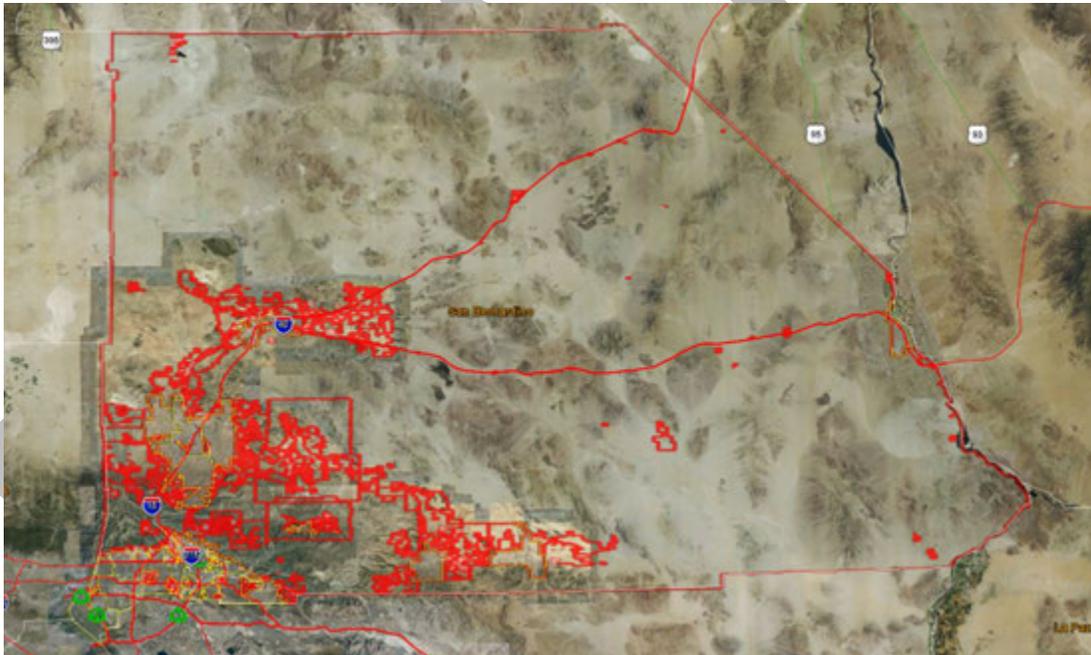
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CHAPTER 1: INTRODUCTION

San Bernardino is the largest county in the contiguous United States with 20,160 square miles. This chapter will provide an overview of the County of San Bernardino, Local Agency Management Program (LAMP, herein referred to as the Program), the Agencies responsible for Onsite Wastewater Treatment Systems (OWTS), as well as commonly used definitions. None of the incorporated cities are covered by this Program.

San Bernardino County Geographical Information

San Bernardino County was founded in 1853, and contains mountain, desert, and valley regions. Within these regions are a wide variety of geologic and climatic conditions. These regions are varied in area, population, geology, and water resources. The unincorporated area, which is completely under County jurisdiction, spans 1.65 million acres and encompasses approximately 13% of the entire county. An additional 5% is directly under the control of the 24 incorporated city governments located within the County borders. The remaining area is managed by government agencies, including tribal governments, the State of California, and the federal government. The areas in red designate County unincorporated area.



San Bernardino County includes land at varied elevations ranging from the desert valleys at 2,000 and 5,000 feet above sea level to the mountain ranges which contain areas exceeding 8,000 feet above sea level. The soils are predominantly sandy gravel with high runoff coefficients and fast percolation. The mountain ranges support exposed bedrock and mineral deposits in granite rock. The majority of the County is crossed by expansive alluvial wash deposits. Unique soil types include major dune formation, desert pavement, and dry alkaline lake beds.

Definitions

Above Ground Dispersal System

A covered sand bed elevated above original ground surface with an effluent leach field located in the sand bed.

Alternative OWTS

Any Onsite Wastewater Treatment System (OWTS) that does not meet the criteria of a conventional OWTS, but is allowed under conditions specified by DEHS. These include supplemental treatment systems (see separate definition) and alternative dispersal system, such as pressured dose distribution systems.

Basin Plan (or Water Quality Control Plan)

A plan which identifies surface and ground water bodies within each region's boundaries, and establishes for each, its respective beneficial uses, and water quality objectives. Basin plans are adopted by the Regional Water Quality Control Board (RWB) and State Water Resources Control Board (SWRCB), and are approved by the Office of Administrative Law.

Bedrock

The rock, usually solid, which underlies soil or other unconsolidated, surficial material.

California Environmental Data Exchange Network (CEDEN)

A central location to find and share information about California's water bodies, including streams, lakes, rivers, and coastal oceans.

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 cesspools do not have a septic tank to pretreat the sewage prior to discharge into the soil.

Clay

Term used to describe a soil particle, or type of soil texture. As a soil:

- Particle – clay consists of individual rock or mineral particles having diameters of <0.002 millimeters (mm).
- Texture – clay is a 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 United States Department of Agriculture (USDA) soil classification system.

Cobbles

Rock fragments measuring 76 mm or larger, using the USDA soil classification systems.

Designated Maintenance Area

Are areas of the County that do not have a public sewer system and have been determined by a Regional Water Quality Control Board that are sensitive to septic system waste discharge.

Dispersal System

A type of system for final wastewater treatment and subsurface discharge, which may include a leach field, seepage pit, mound, subsurface drip field, or evapotranspiration and infiltration bed.

Domestic Wastewater

Wastewater with a measured strength less than high strength wastewater, which is discharged from plumbing fixtures, appliances and other household devices.

Domestic Well

A groundwater well that provides water for human consumption, and is not regulated by the SWRCB Division of Drinking Water (DDW).

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 SWRCB 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, operating, and issued a permit prior to the effective date of the LAMP.

Grease Interceptor

A passive interceptor with a rate of flow exceeding 50 gallons-per-minute located outside a building, and used for separating and collecting grease from wastewater.

Groundwater

Water below the land surface that is at, or above, atmospheric pressure.

High Strength Wastewater

Wastewater, prior to septic tank or other form of OWTS treatment component, having:

- A 30-day average concentration of Biochemical Oxygen Demand (BOD) greater than 300 milligrams per liter (mg/L),
- Total Suspended Solids (TSS) greater than 330 mg/L, or
- A Fats, Oil, and Grease (FOG) concentration greater than 100mg/L.

Impaired Water Bodies/303(d) List

Surface water bodies, or segments thereof, identified on the Section 303(d) list pursuant to the Federal Clean Water Act, approved by the SWRCB, and United States Environmental Protection Agency (EPA).

International Association of Plumbing and Mechanical Officials (IAPMO)

An association that assists individual jurisdictions, both in the United States and abroad, to meet their specific needs by coordinating the development and adaptation of plumbing, mechanical, swimming pools, and solar energy codes.

Local Agency

Any subdivision of state government responsible for permitting, installation, and regulation of OWTS within its jurisdictional boundaries; typically a county, city, or special district.

Local Agency Management Program (LAMP)

A program for the siting, design, operation and maintenance of OWTS, developed by a local agency, and approved by the RWB as an alternate method to achieve the same policy purpose as that of OWTS policy. Herein referred to as the Program.

Major Repair

A repair 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 for a septic tank as a result of compartment baffle failure, or tank structural integrity; failure such that either wastewater is exfiltrating, or groundwater is infiltrating.

Mottling

A soil condition that:

- Results from oxidizing or reducing minerals due to soil moisture changes from saturated to unsaturated over time,
- Is characterized by spots or blotches of different colors or, shades of color (grays and reds), interspersed within the dominant color as described by the USDA soil classification system, and
- May indicate historic seasonal high ground water levels.

Mound System

An above ground dispersal system, having subsurface discharge, used to enhance soil treatment, dispersal, and absorption of effluent discharged from an OWTS treatment unit (e.g., septic tank).

National Sanitation Foundation (NSF) International

A not for profit, non-governmental organization which develops health and safety standards, and performs product certification.

New Development

A proposed tract, parcel, industrial, or commercial development which has not been granted one or more of the following, on or prior to approval of the LAMP:

- Approval, or conditional approval, of a tentative parcel or tract map by a local agency (i.e., County/City Planning Commission, City Council, Board of Supervisors),
- A conditional use permit, and/or
- Approval, or conditional approval, from the Division of Environmental Health Services (DEHS), and/or Building and Safety Division.

New OWTS

An OWTS permitted after the effective date of this LAMP.

Notice of Condition

A "Notice of Condition" is a site specific document that is provided to the customer by DEHS. It is the owner's responsibility to ensure the document is recorded with the County Recorder's office and a copy provided to DEHS before use of the alternative OWTS is permitted.

OWTS

Wastewater treatment systems that use subsurface disposal, including: individual; community collection and disposal; and alternative collection and disposal systems.

Note: OWTS do not include "graywater" systems pursuant to Chapter 16 of the California Plumbing Code.

Percolation Test

A method of testing water absorption of the soil by using clean water to determine the dispersal system design.

Permit

A document issued by a local agency that allows the installation, use, and/or monitoring of an OWTS.

Projected Flows

Wastewater flows into the OWTS determined in accordance with any of the applicable methods for determining average daily flow in the [California Plumbing Code](#).

Public Water System

A system for the provision of water for human consumption, through pipes or other constructed conveyances, that has 15 or more service connections (or regularly serves at least 25 individuals daily), at least 60 days out of the year. Per [California Health and Safety Code Section 116275\(h\)](#), a public water system includes any:

- Collection, treatment storage, and distribution facilities under control of the operator of the system that are used primarily in connection with the system.
- Collection or pretreatment storage facilities not under the control of the operator that are used primarily in connection with the system.
- Water system that treats water on behalf of one or more public water systems for the purpose of rendering it safe for human consumption.

Public Water Well

A ground water well serving a public water system.

Qualified Professional

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 their license or registration. Qualified Professionals include the following:

- Registered Civil Engineers
- Certified Engineering Geologists
- Registered Environmental Health Specialists (REHSs)
- Registered Geologists
- Geotechnical Engineers.

Replacement OWTS

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

Regional Water Quality Control Board (RWB)

Regional Water Board is any of the Regional Water Quality Control Boards designated by California 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. Depending on the site specific location of the onsite wastewater treatment system, Regional Water Board reference in this document may refer to the Colorado River Basin Water Board, the Lahontan Water Board, or the Santa Ana Water Board.

Sand

A soil particle or type of soil texture. As a:

- Soil particle – Sand consists of individual rock, or mineral particles, having diameters ranging from 0.05 to 2.0 mm.

- 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%.

Seepage Pit

A drilled or dug excavation three to six feet in diameter. It is also gravel filled but has a hollow core with a minimum depth below the inlet of 10 feet and receives effluent discharge for dispersal from a septic tank or other OWTS treatment unit.

Septic Tank

A watertight, covered, receptacle designed for primary treatment of wastewater and constructed to:

- Receive wastewater discharged from a building,
- Separate settleable and floating solids from liquid,
- Digest organic matter using anaerobic bacterial action,
- Store digested solids, and
- Clarify wastewater for further treatment with final subsurface discharge.

Service Provider

A person who is state licensed with knowledge and competency in OWTS design, construction operation, monitoring and maintaining an OWTS in accordance with this LAMP. For ATUs, the individual must also be certified and/or trained extensively by the manufacturer of an OWTS with supplemental treatment to install, maintain, service, monitor and repair the specific model/type of OWTS.

Silt

A soil particle or type of soil texture. As a:

- Soil particle – Silt consists of individual rock, or mineral particles, having diameters ranging from 0.05 to 0.002mm.
- Soil texture – Silt is soil that is comprised of 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/or a reserve dispersal area, capable of disposing 100% of the design flow from all the sources the OWTS is intended to serve.

Site Evaluation

An assessment of the characteristics of the site, sufficient to determine its suitability for an OWTS that meets the requirements of this LAMP.

Soil

The naturally occurring body of porous mineral and organic materials on the land surface, which is composed of:

- Unconsolidated materials, including sand, silt, and clay sized particles.
- Varying amounts of larger fragments, and organic matter.
- Earthen material with particles smaller than 0.08 inches (2mm) in size.

Soil Texture

The soil class that describes the relative amount of sand, clay, silt, and combinations thereof.

State Water Resources Control Board (SWRCB)

A five member State Water Board, which develops statewide water protection plans, and establishes water quality standards.

Supplemental Treatment

Any OWTS, or component thereof, which performs additional wastewater treatment, so the effluent meets a predetermined performance requirement, according to the RWB, prior to the discharge of effluent into the dispersal field. This excludes septic and/or dosing tanks.

Surface Water Ambient Monitoring Program (SWAMP)

A unifying program created to fulfill the Legislature's mandate for the coordination of all water quality monitoring conducted by the State and RWBs. It is managed by a roundtable of monitoring coordinators from the SWRCB and nine RWBs.

Telemetric

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

Total Coliform

A group of bacteria consisting of several genera belonging to the family *Enterobacteriaceae*, which includes *Escherichia coli* (*E. coli*) bacteria.

USDA

The federal department which provides leadership regarding food, agriculture, natural resources, and related issues.

Waste Discharge Requirement

A permit issued for operation and discharge of waste pursuant to [California Water Code Section 13260](#).

Water Quality Control Plan

Refer to the Basin Plan definition.

Program Overview

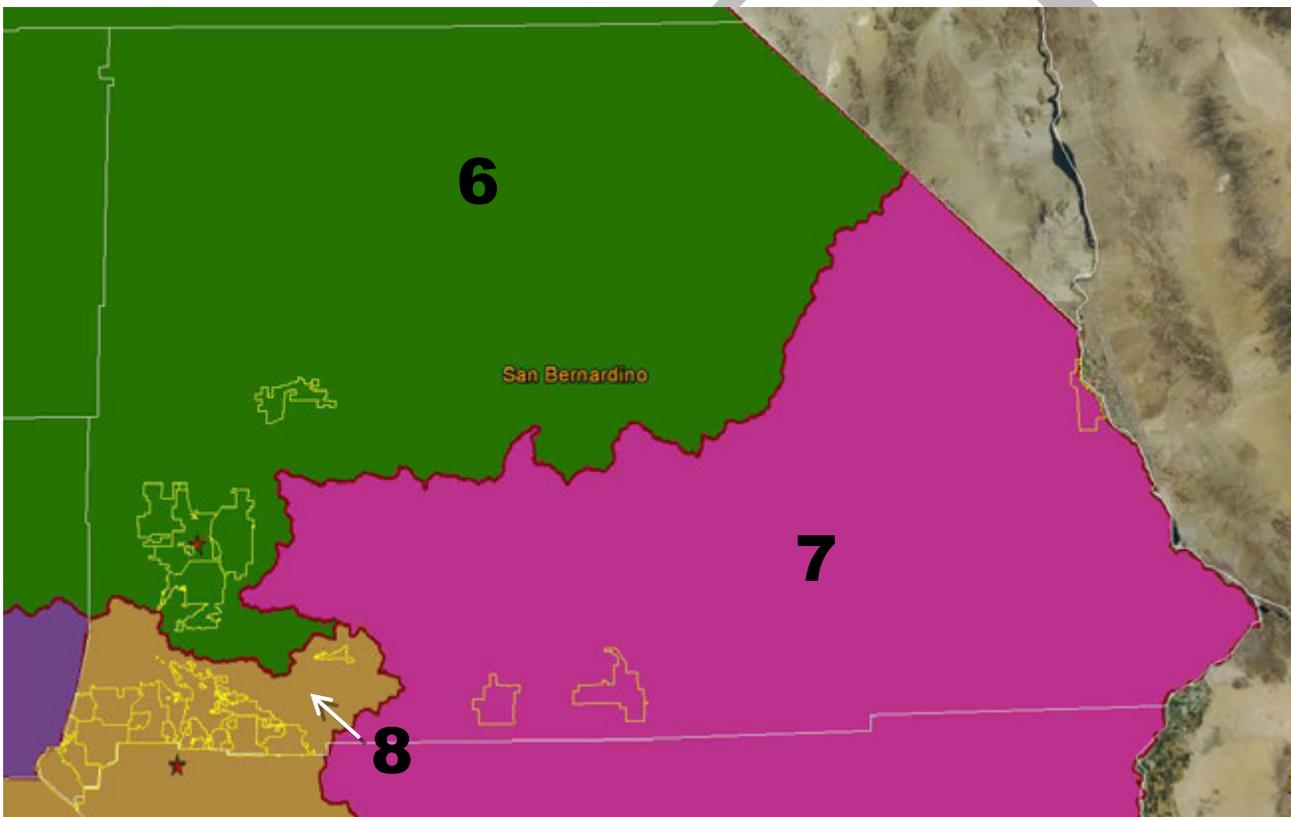
This section provides information regarding the different regions, OWTS Policy, Program needs, requirements, and exceptions, as well as the RWBs contact information.

Regional Water Quality Control Boards (RWB)s in San Bernardino County

OWTS located within San Bernardino County are governed by the following RWBs:

- Region 6 – Lahontan
- Region 7 – Colorado River
- Region 8 – Santa Ana

Each region has environmental differences that create unique construction design concerns. To address these concerns the three regional boards have developed individualized basin plans. These basin plans provide criteria for the installation of OWTS, affected waterways and prohibition areas within their region. This criterion is used to determine which sites may need RWB approval.



OWTS Policy

The OWTS Policy was created to meet the requirements of Assembly Bill (AB) 885 (2000) to promulgate consistent, statewide, standards for the regulation of OWTS. The policy was adopted by the State Water Board in June 2012, and became effective May 13, 2013. The policy categorized OWTS into the following tiers:

Tier	Description
0	Applies to all existing systems which function properly, do not meet the conditions of a failing system, and are not contributing to pollution of any waterways.
1	Applies to all new and/or replacement OWTS which meet low risk siting and design requirements in areas which do not have an approved LAMP as specified in Tier 2.
2	Applies to any new and/or replacement OWTS which do not fall into the Tier 3 <u>adjacent</u> to impaired waterways, or in prohibition areas category. This tier is referred to as the LAMP and allows the County to apply standards that differ from the State.
3	Describes all systems currently located <u>within</u> areas denoted as impaired waterways. These systems have been identified as potential sources of pollution, and need to abide by the Advanced Protection Management Program prescribed in Tier 3 of the OWTS Policy .
4	A temporary classification for all systems that have been found to be failing, and/or needing repair. Once the system has been repaired, it will be placed in either Tier 0, Tier 2, or Tier 3.

Program Need

With development in rural areas of San Bernardino County continuing to grow, and with nearly 25% of housing units using OWTS, the requirements defined by Tier 1 of the [OWTS Policy](#) do not meet the future development needs of San Bernardino County. The limitations on dispersal depth, the 2 1/2 acre minimum parcel size for new lots on which OWTS can be installed, and the prohibition of the use of seepage pits is too restrictive. The Program specifically addresses wastewater issues, County requirements, and scope of coverage for OWTS installation and maintenance. It also allows for the continued use and installation of OWTS. The requirements in the Program are derived from the California Plumbing Code requirements for private sewage disposal systems, the OWTS Policy which allows different densities for new development from a Tier 1 Program, and local ordinances. This section describes the various needs due to diversity and construction.

Diversity

Requirements for OWTS necessitate flexibility due to the diversity of soil conditions, depth to ground water, climates, and population.

Construction

The Program was created to accommodate the various construction needs throughout the unincorporated areas of the County of San Bernardino. The Program includes general technical information regarding construction needs within the County, as well as provides an effective means to manage OWTS on a routine basis. The Program is adaptive and can be modified every 5 years during the required review by the Regional Water Quality Control Board in response to growth that has occurred from the date of adoption.

Program Standards, Applicability, Requirements and Exceptions

The Program provides minimum standards and requirements for the treatment and disposal of sewage through the use of OWTS, when no connection to a sewer is available, to protect water quality, public health and safety. This section describes the minimum standards, and requirements for OWTS under the Program, as well as detailing the OWTS that are exceptions, and therefore not covered under the Program.

Support of Onsite Wastewater Disposal

When a community sewer is not available, and a property improvement will generate wastewater, the property owner must demonstrate the following to DEHS to verify the lot will support onsite wastewater disposal:

- Soils are conducive to onsite wastewater disposal.
- Sewer is not available within 200 feet (plus 100 feet per dwelling unit thereafter).
- Enough area is available to install a septic system that meets proper setbacks (for new construction, 100% expansion area must be available).
- OWTS will not impact ground or surface water.
- OWTS is sized appropriately to serve the intended land use.

Applicability of Program Standards

Program standards apply to all OWTS which:

- Are newly constructed, replaced, subject to a major repair, and discharge liquid waste below ground.
- Have affected, or have the potential to affect, ground water or other water quality or health hazards.

Requirements

The Program addresses the minimum requirements for monitoring, and/or conditional waiver of waste discharge for OWTS located within the unincorporated areas of the County of San Bernardino. The Program may include one, or more, of the following to achieve this purpose:

- Differing system requirements
- Differing siting controls (i.e., system density and setback requirements)
- Requirements for owners to enter agreements regarding monitoring and maintenance.
- Creation of an onsite management district (also known as a designated maintenance area)

In addition to all standards and requirements, all proposed, and/or currently installed OWTS must be in compliance with Section 33.0890-33.08131 of [San Bernardino County Code](#). The Perc Standards will be revised to correspond to design criteria included in this document, including the design rate mpi's, soils texture chart, gravel correction factor update, and slope analysis.

Exceptions

There are specific OWTS which are not included in the Program. These exceptions require individual discharge requirements, or a waiver of individual waste discharge requirements issued by the RWB. Exceptions include:

- OWTS having a projected wastewater flow of over 10,000 gallons per day (GPD).
- OWTS receiving high strength wastewater, unless the waste stream:
 - Is from a commercial food service facility with BOD less than 900 mg/L, and
- Has a properly functioning oil/grease interceptor.

- Wastewater treatment plants which do not meet RWB prescribed performance requirement or are not NSF/ANSI certified or listed.
- Subsurface disposal systems including leach fields and seepage pits, must comply with USEPA Underground Injection Control requirements when classified as a Class V well. Subsurface disposal systems with at least one of the following characteristics are classified as Class V wells:
 - i. The system has the capacity to serve 20 or more persons per day.
 - ii. The system receives wastewater other than domestic wastewater such as that generated by manufacturing, chemical processing, industrial fluid disposal, automotive repair, or recycling.
 - iii. The system receives sewage containing biological agents (such as wastewater from recreational vehicles or portable toilets).
- Disposal systems that are classified as Class V wells must be registered with USEPA either by completing the online form at: <https://www.epa.gov/uic/forms/underground-injection-wells-registration> , or by completing and submitting Form 7520-16: Inventory of Injection Wells. Form 7520-16 is available at: <https://www3.epa.gov/region9/water/groundwater/uic-pdfs/7520-16.pdf> .

Contact Information

This section provides contact information for the three (3) RWBs which can provide additional guidance regarding OWTS in San Bernardino County.

Lahontan Region (6)

15095 Amarosa Road, Bldg 2, Suite 210
Victorville, CA 92394
(760) 241- 6583

www.waterboards.ca.gov/lahontan

Colorado River Basin Region (7)

73-720 Fred Waring Dr. Suite 100
Palm Desert, CA 92260
(760) 346-7491

www.waterboards.ca.gov/coloradoriver

Santa Ana River Region (8)

3737 Main Street, Suite 500
Riverside, CA 92501-3339
(951) 782-4130

www.waterboards.ca.gov/santaana

Involved Agencies

Oversight of OWTS installation and maintenance is a multiple agency effort. This section provides an overview of the primary agencies involved in San Bernardino County.

Building and Safety - Land Use Services Department

Building and Safety is responsible for:

- Issuing permits for new construction, replacement and repair of OWTS.
- Reviewing plot plans for new and replacement OWTS.
- Retaining permit information regarding new construction, replacement systems, and repairs.

- Complying with Program reporting requirements regarding issued permits for new and replacement OWTS.

The following information must be provided by Building and Safety to DEHS annually for new, replacement and/or repaired OWTS, along with information provided by other divisions:

- Number of permits issued
- Location
- Description of permits (i.e., new, replacement, an/or repair)
- Tier the permit was issued under

Building and Safety requires DEHS approval on all OWTS proposals when the OWTS is located within a prohibition area, or within the Advanced Protection Management Program (APMP) area (refer to [Chapter 6](#) for more information regarding the APMP). Obtaining an OWTS permit, and obtaining local land use approval, are two separate processes. Local Land Use approval (i.e., obtaining a Land Use permit) is not a substitute for an OWTS permit issued by Building and Safety, nor does it guarantee issuance of an OWTS permit.

Code Enforcement - Land Use Services Department

This division is responsible for:

- Investigating complaints for overflowing/failed septic tanks for single family residences, and two-unit dwellings, which includes:
 - Requiring property owners to obtain applicable permits from Building and Safety for repairs, or replacement of failing systems.
 - Retaining information regarding complaints and investigations for overflowing or failed septic systems, and subsequent actions taken.
- Complying with the Program reporting requirements for complaint investigations, which includes:
 - Providing information to DEHS annually pertaining to OWTS operation and maintenance, including number, and location of the complaints.
 - Identifying investigated complaints.
 - Documenting how the complaints were resolved.

Division of Environmental Health Services (DEHS) - Department of Public Health

This division is responsible for:

- Issuing permits for alternative treatment systems.
- Reviewing:
 - Percolation reports, and
 - Supplemental treatment and/or alternative dispersal proposals for new and replacement septic systems in:
 - ✓ High risk residential areas located in Designated Maintenance Areas (DMA), and
 - ✓ Commercial projects.
- Investigating and storing records of complaints for OWTS in multi-family dwellings (3 or more units).
- Complying with Program reporting requirements, which includes:
 - Providing information to the RWB annually regarding:
 - ✓ Complaints pertaining to OWTS operation and maintenance for multi-family dwellings, including number and location of complaints.
 - ✓ Applications and registrations issued as part of the liquid waste hauler program.
 - Identifying investigated complaints for multi-family dwellings, and
 - Determining how complaints were resolved.

- Compiling data transferred from Building and Safety and Code Enforcement into one county document.

CHAPTER 2: MINIMUM SITE EVALUATION STANDARDS

This chapter provides information, to determine when a percolation test is required, the minimum site evaluation standards for parcels where an Onsite Wastewater Treatment System (OWTS) is proposed, and minimum qualifications for OWTS practitioners when a sewer connection is not available.

Percolation Testing

DEHS requires percolation testing for all new septic systems for residential and non-residential development where a percolation report has not already previously been completed. This section provides information regarding the percolation testing, including the site evaluation, percolation testing notification, and information regarding when seepage pits are allowed.

Site Evaluation

Prior to reviewing a percolation test, and approving the use of an OWTS, DEHS may require a site evaluation during percolation testing to:

- Ensure proper system design, and
- Evaluate site location to ensure the system will be in compliance.

Percolation Testing Notification

A Qualified Professional (as defined in the Definitions section of this document) must first submit a [Notification of Percolation Test](#), to DEHS, at least two business days prior to performing any percolation test in the unincorporated areas of San Bernardino County. When a percolation test notification is submitted for a lot which requires a site evaluation (or a percolation *report* is submitted for a lot which requires a site evaluation and no inspection was conducted), then DEHS will conduct an inspection of the lot to evaluate:

- Lot size,
- Slope,
- Streams,
- Rock outcroppings, and
- Any other criteria which may affect installations of a standard septic system.

Prior to the site evaluation, DEHS personnel will contact the applicant to inform him/her of the site evaluation date and [fee requirement](#).

Percolation Testing

DEHS requires percolation testing, and accompanying reports, to be prepared by a Qualified Professional. For soil to be considered uniform, test results must fall within 25% of the mean percolation rate. If not uniform, the most conservative test result will be used. Determining the number of percolation tests required will be based on soil conditions and project type. Percolation testing:

- Is used to ensure the dispersal site is located in an area where no conditions exist, which could:
 - Adversely affect the performance of the system, or
 - Result in groundwater contamination.
- Is used to determine the necessary area needed to treat, and maintain underground sewage properly.
- Must be in the general area of the disposal system, both primary and expansion, if the proposed area is known.

Seepage Pits

The use of seepage pits, as a dispersal field, will only be allowed in instances where leach lines are not feasible, and minimum separation requirements to groundwater are met. DEHS requires there be a 10-foot minimum separation from the bottom of the seepage pit to groundwater. When the pit minutes per inch (MPI) is less than 10, the following must occur:

- The separation to groundwater must be at least 40 feet from the bottom of the seepage pit, or
- A sieve analysis of the soil, for a thickness of 10 feet below the bottom of the seepage pit, must contain at least 15% fines passing the #200 United States standard sieve.

Section 33.0895 of the [San Bernardino County Code](#) prohibits the use of seepage pits in the mountain areas.

Evaluation Methods

Site evaluations contain site specific information, which includes a review of the physical features of the site. Exploratory borings or trenches are the main evaluation methods to determine if there is adequate separation from the bottom of the dispersal system to the groundwater. To determine the highest level of groundwater with the dispersal, data from permitted wells, local water purveyors, and the United States Geological Survey (USGS) are used in addition to exploratory borings or trenches. This section details the evaluation methods, as well as the information that will be reported.

Parcel Features

The following parcel features will be evaluated within the percolation report:

- Location of the parcel(s) where the OWTS is being proposed.
- Description of the site and surroundings, including:
 - Water courses,
 - Vegetation type,
 - Existing structures
 - Location of any rock outcroppings, and
 - Historic groundwater.
- Any other feature that may affect sewage disposal.

Soil Profile

Soil characteristics determine the minimum number of exploratory borings (or trenches), as well as the number of percolation tests required for the parcel(s). A soil profile must be created to:

- Determine the suitability of the soils for absorption of wastewater, and
- Verify adequate vertical separation between the bottom of the dispersal field, and historic groundwater levels.

More extensive testing is required, as determined by a Qualified Professional, for moderate and severe soil conditions.

Exploratory Borings

The table below shows the minimum number of exploratory borings needed per development.

Gross Lot size		Soil Conditions	
		Favorable to moderate	Severe
Subdivisions and individual lot sales	<1 acre	3 borings first 10 lots 1 boring every 10 thereafter	8 borings first 10 lots 5 borings every 10 thereafter
	1-5 acres	5 borings first 10 lots 3 borings every 10 lots thereafter	2 borings per lot*
	>5 acres	1 boring per lot*	
Residential lot	Any size	1 boring*	
Commercial lot, or confluent system under one ownership	Any size	1 boring per 4,000 gallons septic tank capacity*	1 boring per 2,000 gallons septic tank capacity*
Parcel Map	5 acres or less	1 boring in the center of the undivided parcel	2 borings evenly spaced in the undivided parcel

* This indicates borings in the area of the disposal system.

Boring and Trenching Results

When reporting the results for boring and trenching, each hole or excavation must be numbered, and graphically describe the soil strata at each excavation. In areas where there is a discrepancy between soil profile indicators (mottling) and direct observations, the direct observation method indicating the highest ground water level will govern. To ensure the reporting results provide all the required information, the following table will be used as a guide:

Observation	Information Described
Soil Profile	<ul style="list-style-type: none"> • Color • Field texture analyses • Soil Mottles • Bedrock • Structure • Roots • Pores
Soil Lithology	Direct visual observation when the soil lithology is stratified and contains low-permeability layers; which may affect the onsite disposal system performance (i.e., sandy silts and clay caliche).
Textures	Approximate percentage of cobbles, gravel, sand, silt, and clay.
Colors	Background soil color using the Munsell Soil Color Chart.
Roots	Presence and extent of small and/or large roots.
Excavating/Drilling	Ease of excavating or drilling based on: <ul style="list-style-type: none"> • Depth to bedrock, and • Rock competency (i.e., soft, firm, hard, refusal).
Moisture at or near the point of saturation after 24 hours	<ul style="list-style-type: none"> • Presence of free water. • Observed groundwater, at the: <ul style="list-style-type: none"> – Level the groundwater reaches in the excavation, or – Highest level of sidewall seepage into the excavation.
Structural Characteristics	Structural characteristics, stratigraphy and geologic origin when it is determined necessary and/or for severe sites.

Minimum Qualifications and Certification for OWTS Practitioners

The following table outlines the minimum qualifications for OWTS practitioners. Any licenses or certifications possessed by these practitioners must have been issued from the State of California.

OWTS Service	Minimum Qualifications
Supplemental Treatment and/or Alternative System Inspection and Monitoring	Manufacturer Certified Wastewater Maintenance Provider
OWTS Design	<ul style="list-style-type: none"> • Qualified Professional, or • Licensed Contractor (Class A, C-36, or C-42)
OWTS Certification	
Percolation Test	Qualified Professional
Septic Tank Pumping & Reporting	DEHS permitted Liquid Waste Hauler
System Installation (new and replacement)	Licensed Contractor (Class A, C-36, or C-42)

Exception: Per the California Health and Safety Code Section [19825](#), homeowners may build within their property as an Owner-Builder without the need of a professional.

Plot and Grading Requirements

This section provides the requirements needed by the Building and Safety Division and/or DEHS when preparing plot plans and grading plans.

Plot Plans

A plot plan is a plan that is required to be submitted with the percolation report to show where the system will be sited. The plot plan must:

- Include the tested property, drawn to the following scale:
 - Single Family Home, Small Commercial Minimum 1" = 30'
 - Parcel Map, Subdivision, Large Commercial Minimum 1" = 40'
- Show the proposed system, and 100% expansion area, including existing and potential structures, wells, streams, contours, significant vegetation (including trees), rock outcroppings, the location of all borings/tests, and the proposed house pad.
- Include a hypothetical system using the following table:

If lot sales are zoned for...	Then provide a hypothetical system...
Single family homes (lot sale subdivisions),	For a five (5) bedroom home on each lot.
Multi-unit development,	Sufficient for the effluent discharged by an average of three bedrooms per unit.

The proposed dwelling/development must be located so the initial subsurface sewage disposal system (and the required 100% expansion area) functions by gravity flow, unless otherwise approved. When leach lines or pits serve a common system for two or more units, add 30% more square footage to the total absorption area.

Grading Plans

Depending on the degree of grading for a project, San Bernardino County Land Use Department may require a grading plan. If a grading plan is required it should be included with the percolation report submittal. A grading plan helps DEHS ensure testing was done at the correct depths. Where grading is expected, include the original and finished elevations in the grading plan. For details on how to complete a grading plan contact [San Bernardino County Land Development](#).

If...	Then ...
The grading plan was prepared by others,	Comment in regards to the recommendations set forth in the report.
It is unknown if a grading plan is needed,	<ul style="list-style-type: none"> • Include qualifying statements in the area(s) for the primary and expansion systems, or • Title the report "Preliminary" (preliminary reports are adequate for purposes of recordation, with recommendations to be followed for building permit purposes).

CHAPTER 3: SITING STANDARDS

To ensure that Onsite Wastewater Treatment Systems (OWTS) do not adversely affect water quality, the government agencies tasked with protecting the public's health, ground water and safety have developed siting standards for OWTS. This chapter provides information regarding siting standards such as, minimum lot size, setback requirements (including increased setback and notification requirements for OWTS located near public water systems), natural ground slope and density.

Setback Requirements

The minimum separations listed herein are largely derived from the [California Plumbing Code](#), Appendix H and are measured in feet. In some cases, additions or changes have been made in order to adequately protect public health. Where differences exist, the greater separation prevails, unless waived for cause by the County [as described in [Chapter 7](#) of the Local Agency Management Program (LAMP)]. The following table provides the minimum requirements for installation of OWTS for either new or existing structures.

Table 3.1

Minimum Setback Required From	Septic Tank	Disposal Field	Seepage Pit
Non-Public Water Supply Well ^{1,8}	100	100 ²	150 ²
Public Water Supply Well ¹	100	150 ²	200
Buildings or Structures ³	5	8	8
Property line adjoining private property	5	5	8
Streams and other flowing bodies of water ^{9,11}	100	100	150
Drainage Course	50	50	50
Lakes, ponds, and other surface water bodies ^{10,11}	200	200	200
Colorado River/ Mojave River	50	200	200
Large Trees ⁴	10	-	10
Seepage pits	5	5	12
Disposal field	5	4 ⁶	5
Private domestic water lines (building service line)	5	5	5
Public Domestic Water Lines	25	25	25
Distribution Box	n/a	5	5
Ground surface on sloping ground	n/a	15	15
Groundwater ⁵	5	5 ⁷	10

¹ Drainage piping will clear domestic water supply wells by not less than 50 feet. This distance will be permitted to be reduced to not less than 25 feet where the drainage piping is constructed of materials approved for use within a building.

² For any system discharging 5,000 gallons per day (GPD), or more, the required setback will be increased to 200 feet.

³ Includes porches and steps whether covered or uncovered, breezeways, roofed porte cocheres, roofed patios, carports, covered walls, covered driveway, and similar structures or appurtenances.

⁴ Any tree with a trunk diameter of one foot or more within 5 feet of the system that will not be removed during construction.

⁵ The highest known level to which groundwater is known to have occurred rather than the level at the time when testing occurred.

⁶ Plus 2 feet for each additional foot or depth in excess of 1 foot below the bottom of the drain line.

⁷ For any system utilizing advanced treatment, this minimum separation may be reduced to 2 feet with approval under the Advanced Protection Management Program (APMP) (refer to Chapter 6 for more information regarding the APMP) and the Regional Water Quality Control Board (RWB).

⁸ Unless regulatory or legitimate data requirements necessitate that monitoring wells be located closer.

⁹ Where the edge of the water body is the natural or levied bank for creeks and rivers, or may be less where site conditions prevent mitigation of wastewater to the water body.

¹⁰ Where the edge of the water body is the high water mark for lakes and reservoirs and the mean high tide line for tidally influenced water bodies.

¹¹ Where the effluent dispersal system is within 1,200 feet from a public water systems' 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 will be no less than 400 feet from the high water mark of the reservoir, lake or flowing water body. Where the effluent dispersal system is located more than 1,200 feet but less than 2,500 feet from a public water systems' surface water intake point, the dispersal system will be no less than 200 feet from the high water mark of the reservoir, lake or flowing water body.

Minimum Set Back Requirements

When reviewing setback requirements, the minimum:

- Depth of earth cover required over the dispersal field is twelve inches. When the dispersal field cannot be installed twelve inches below the ground surface, and meet the above separation requirements, then a supplemental treatment system will be required.
- Criteria specified in [Table 3.1](#) must be met within the area of the proposed system and within the 100% expansion area for the proposed system.

OWTS Located Near Municipal and/or Domestic Water Systems

Existing or proposed OWTS in close proximity to municipal water supply wells, domestic supply wells, private supply wells, and surface water treatment plant intakes, have the potential to adversely impact source water quality. Due to this possibility:

- Increased setback requirements (i.e., OWTS location within 1200 feet of a surface water intake) are necessary.
- DEHS and Building and Safety will follow the table below to provide adequate notification (regarding OWTS installations, replacements or repairs to existing OWTS near groundwater or surface water intake) to:
 - Owner(s) of public water systems, and
 - State Water Resources Control Board (SWRCB), Division of Drinking Water (DDW), if the water system is regulated by the DDW.

Step	Action						
1	Determine which division is responsible for the OWTS review. <table border="1"> <thead> <tr> <th>If the OWTS review is done for a...</th> <th>Then the review will be completed by...</th> </tr> </thead> <tbody> <tr> <td>Percolation report,</td> <td>DEHS.</td> </tr> <tr> <td>Plot plan,</td> <td>Building and Safety Division.</td> </tr> </tbody> </table>	If the OWTS review is done for a...	Then the review will be completed by...	Percolation report,	DEHS.	Plot plan,	Building and Safety Division.
If the OWTS review is done for a...	Then the review will be completed by...						
Percolation report,	DEHS.						
Plot plan,	Building and Safety Division.						
2	Review the location of the proposed new/replacement OWTS (at the time of permit application) in relation to: <ul style="list-style-type: none"> • Impaired water bodies within the County of San Bernardino, and • Public water system service area boundary maps (boundary maps and boundaries are updated annually and/or as needed). 						

Table continued from previous page.

Step	Action								
3	<p>Determine if a proposed or existing OWTS location is within the required setbacks:</p> <table border="1"> <thead> <tr> <th>If the proposed OWTS location...</th> <th>Then...</th> </tr> </thead> <tbody> <tr> <td> <p>Cannot be relocated and is within:</p> <ul style="list-style-type: none"> • The required horizontal setback of <u>any private, domestic or municipal supply well (see next section for minimum horizontal setbacks)</u>, or • 1,200 feet of an intake point, </td> <td> <ul style="list-style-type: none"> • Building and Safety will refer the customer to DEHS. • DEHS will: <ul style="list-style-type: none"> – Notify the water system owner(s)/DDW of the following: <ul style="list-style-type: none"> ✓ The required setbacks have not been met. ✓ They have five (5) business days from the receipt of the application to provide recommendations and comments to DEHS. – Refer to the section Notifying Water System Owners and the Division of Drinking Water (DDW) for notification requirements. – Proceed to step 5. </td> </tr> <tr> <td> <p>Is not within:</p> <ul style="list-style-type: none"> • The required horizontal setbacks of a public well, or • 1,200 feet of an intake point, </td> <td> <p>The OWTS will continue to be reviewed based on the requirements in the LAMP, and will not need to meet the additional setbacks.</p> </td> </tr> <tr> <td> <p>Is suspected to be within the required setbacks, and the location of the public water source cannot be verified,</p> </td> <td> <p>The agency completing the review will require the customer to:</p> <ul style="list-style-type: none"> • Contact the water purveyor, and • Obtain a letter verifying the proposed OWTS is not within the setback requirements. </td> </tr> </tbody> </table>	If the proposed OWTS location...	Then...	<p>Cannot be relocated and is within:</p> <ul style="list-style-type: none"> • The required horizontal setback of <u>any private, domestic or municipal supply well (see next section for minimum horizontal setbacks)</u>, or • 1,200 feet of an intake point, 	<ul style="list-style-type: none"> • Building and Safety will refer the customer to DEHS. • DEHS will: <ul style="list-style-type: none"> – Notify the water system owner(s)/DDW of the following: <ul style="list-style-type: none"> ✓ The required setbacks have not been met. ✓ They have five (5) business days from the receipt of the application to provide recommendations and comments to DEHS. – Refer to the section Notifying Water System Owners and the Division of Drinking Water (DDW) for notification requirements. – Proceed to step 5. 	<p>Is not within:</p> <ul style="list-style-type: none"> • The required horizontal setbacks of a public well, or • 1,200 feet of an intake point, 	<p>The OWTS will continue to be reviewed based on the requirements in the LAMP, and will not need to meet the additional setbacks.</p>	<p>Is suspected to be within the required setbacks, and the location of the public water source cannot be verified,</p>	<p>The agency completing the review will require the customer to:</p> <ul style="list-style-type: none"> • Contact the water purveyor, and • Obtain a letter verifying the proposed OWTS is not within the setback requirements.
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<p>Is suspected to be within the required setbacks, and the location of the public water source cannot be verified,</p>	<p>The agency completing the review will require the customer to:</p> <ul style="list-style-type: none"> • Contact the water purveyor, and • Obtain a letter verifying the proposed OWTS is not within the setback requirements. 								
4	<p>Review any comments/recommendations submitted by the affected water system owner(s) and the DDW prior to issuing an OWTS installation or repair permit for any system.</p>								
5	<p>Notify the affected water system owner(s) and the DDW regarding the action taken upon issuance and/or denial of an OWTS installation or repair permit. Approval/denial will be determined based on the risk of the OWTS to water quality.</p>								

6	Determine if the proposed OWTS location is approved:	
	If the location is...	Then DEHS will...
	Approved,	<ul style="list-style-type: none"> • Refer the customer to Building and Safety Division to complete the plot plan review, or • Complete the percolation report review.
Not Approved,	Inform the customer he/she will need to install an alternative treatment system (refer to Chapter 5 for information regarding alternative treatment systems).	

Horizontal Sanitary Setbacks for Municipal Wells

The table below provides information to determine the horizontal sanitary setbacks for municipal wells.

If the dispersal system...	Then the horizontal sanitary setback will be...
Does not exceed 10 feet in depth,	150 feet.
Exceeds 10 feet in depth,	200 feet.
Exceeds 20 feet in depth,	600 feet.

Dispersal systems which exceed 20 feet in depth, and are located within 600 feet of any municipal well, will be required to have a Qualified Professional evaluate the two-year time travel for microbial contaminants to determine the required setback. In no case will the minimum setback be less than 200 feet.

Notifying Water System Owners and the Division of Drinking Water (DDW)

Based on who is responsible for the water system, DEHS must send notification to the water system owner(s) and/or the DDW regarding any proposed OWTS. The notification will be done either electronically or in writing, and must contain a copy of the permit application, which includes:

- Estimated wastewater flows,
- Intended use of the proposed structure generating the wastewater,
- Soil data,
- Estimated depth to seasonally saturated soils, and
- A topographical plot plan for the parcel showing the OWTS, including:
 - Layout of the system,
 - Property boundaries,
 - Proposed structures,
 - Physical address, and
 - Name of the property owner.

The DDW will only be contacted for systems which are under their purview; this includes any system with more than 200 connections. Systems with fewer than 200 connections will be under the jurisdiction of the local agencies.

Density/Minimum Lot Size Requirements

The County of San Bernardino has minimum lot size requirements for subdivisions of property, which rely on OWTS. In the unincorporated areas, a minimum lot size of one half acre (average gross) per dwelling unit is required for all new developments. This section provides definitions for a new

development, as well as an explanation of the requirements for various development types located within the unincorporated areas of the County.

New Developments

When additional structures are added to existing developments, and these additions will result in increased wastewater flows to the existing septic system, these developments will be considered new developments. This applies to single family residential, commercial, and/or industrial developments.

No exemptions will be granted for new developments on tracts/parcels which are 200 feet or less from a sewer, which could serve that tract/parcel, barring legal impediments to such use. Based on this information, each additional development (i.e., any development which is more than a single family dwelling) will require this distance to be increased by 100 feet per dwelling unit. As an example, a 10-lot subdivision will be required to connect to a sewer if the sewer is within 1,100 feet [$200 + (9 \times 100 \text{ feet})$] = 1,100 feet) of the proposed development. Major new developments which would not comply with the density requirements that are in an area close to or contiguous to an incorporated city are routinely required to provide a will serve document for water and sewer service as a condition of approval by DEHS.

Commercial/Industrial Development Requirements

For new commercial/industrial developments which will be utilizing a septic tank/subsurface disposal system, the wastewater flow for each one-half acre of land may not exceed that from a single dwelling unit. When determining compliance with this criterion, the following will be considered equivalent to a single family dwelling unit:

- A flow rate of 300 gallons per day (this flow rate will be prorated for commercial/industrial developments with lots smaller than one half acre), or
- The equivalent of 20 fixture units.
- In the Lahontan Region, a flow rate of 250 gallons per day is required for design purposes in reviewing commercial/industrial developments.

County Discretion

The minimum lot size requirement of one-half acre does not preclude the prescription of more stringent lot size requirements in specific areas, if it is determined necessary to protect water quality. When a tract is proposed that relies on wells and OWTS, a hydrogeological study is required to demonstrate that there is adequate quality and quantity of groundwater and that each and every lot will be buildable meeting horizontal setback requirements. 2 1/2 acre lots are the minimum size that can accommodate wells and OWTS. When there is a potential for water quality impacts in proposed subdivisions where high ground water, steep slopes, or poor soil conditions exist, or where there are significant existing, likely, or potential impacts to ground water quality, any or all of the following may be required: an increase in lot size, supplemental treatment, or other mitigating measures as determined by the Division. In addition, the County, at its discretion, may defer consideration of projects to the RWB when the criterion below has not been met. The minimum criteria specified must be met within the area of the proposed OWTS, and within the 100% expansion area of the proposed system. Any new development of one-half acre lots within the Lahontan Regional Water Quality Control Board's jurisdiction may be subject to conducting a cumulative impact assessment, including a hydrogeological study, to predict future groundwater quality impacts from proposed developments.

Minimum Lot Size Exemptions

The minimum lot size requirements do not apply to existing developments with OWTS which were installed prior to the effective date of the Program. Nor does it affect the lot size criterion for continuing

exemptions in prohibition areas where a 1 acre minimum lot size is required. This section details when exemptions apply to the minimum lot size requirement for new and/or existing developments.

Single Family Residential Developments

For single family residential developments, when the existing septic system will accommodate additional wastewater flows, additional installations (i.e., rooms, bathrooms) will be exempt from the minimum lot size requirements. A septic certification may be required to verify the septic tank's capacity to accept additional wastewater flows.

Replacements

There will be times when the replacement of a septic tank/subsurface disposal system will be required for systems in existing residential, commercial, and industrial developments to bring the system up to code, based on requirements by Building and Safety Division, and/or DEHS.

For single family residential developments only, replacement of the existing septic tank/ subsurface disposal system may be allowed when the system is proposed to allow additional flows, which result from additions to the existing dwelling unit. This does not include any free standing additional structures, which would be considered new developments (refer to the [New Developments](#) section for more information).

Tracts, Parcels, and Commercial/Industrial Developments

Tracts, parcels, and/or commercial/industrial developments which received land use approval from the local agencies prior to the effective date of the Program, are exempt from the minimum lot size requirements for the use of septic tank/subsurface disposal systems. The local agencies which grant approval include the County of San Bernardino Planning Division, and/or Board of Supervisors.

Combined Lots Smaller than One Half Acre

New lots, which are smaller than one-half acre, may be formed by combining two or more existing lots which have received land use approval prior to the effective date of the Program. Individually, these lots would be eligible for an exemption from the minimum lot size requirement. Developments on combined lots may also qualify for an exemption:

- Provided the total number of units proposed for the new parcel is equal to, or less than the total number of units proposed for the existing parcel, and/or
- When a supplemental treatment or alternative dispersal system is utilized.

When requesting to use a supplemental treatment or alternative dispersal system, each system will be reviewed on a case-by-case basis, and will require the approval of DEHS, and may require RWB approval. The fundamental point that persons seeking OWTS permits must remember is that the County DEHS OWTS approval process and County land use approval and permitting processes are separate processes. While they are coordinated to some extent, a County DEHS OWTS approval is never a substitute for a required local grading, land use or building permit. Similarly, no local land use approval or permit (e.g., approval of a subdivision map or lot split or boundary adjustment, even after preliminary septic system review by DEHS), is a substitute for a County DEHS OWTS approval, or a guarantee that such an approval can be issued.

CHAPTER 4: OWTS DESIGN AND CONSTRUCTION

In an effort to control contamination, pollution and nuisance resulting from the discharge of domestic wastes, the DEHS has developed minimum criteria to ensure geological factors are identified, and the potential for contamination is minimized during a basic site evaluation. This chapter provides an overview of the minimum requirements for Onsite Wastewater Treatment Systems (OWTS) design and construction.

Minimum Requirements for Natural Ground Slope and Percolation Rates

This section details the minimum criteria for natural ground slopes, as well as percolation rates for OWTS located within the County.

Natural Ground Slope

DEHS requires geological factors be identified by a Qualified Professional during a percolation test, or by DEHS during a basic site evaluation for all systems. For systems located on slopes over 30% or greater, or on unstable landmasses, the Qualified Professional is required to submit a slope study for review and approval to all applicable regulatory agencies. The maximum undisturbed slope for a leachline dispersal system is 45%. Any portion of the disposal field located to the top of a cut or on sloping ground shall maintain a 15 foot horizontal distance from daylight to any portion of the leachline or leach bed. The following table gives the minimum cover required versus the percent of slope in the area of the disposal field to meet the 15 foot requirement. A factor "f" is included by which to increase the length of the trench due to the assumed loss in evapotranspiration caused by the added cover.

Slope of the Ground in the Area of the Disposal System	Minimum Cover Over the Drain Lines in feet	f
5%	1.00	1.0
10%	1.50	1.0
15%	2.25	1.0
20%	3.00	1.0
25%	3.75	1.1
30%	4.50	1.2
35%	5.25	1.3
40%	6.00	1.4
45%	7.00	1.5

SPECIAL CONSIDERATIONS FOR ABSORPTION FIELD PLACEMENT ON SLOPING GROUND

1. If ground slope is >30%, any portion of an absorption field (except solid pipe) shall be a minimum of 10 feet (horizontally) from the downslope property line (s). It is the report preparer's responsibility to certify that this minimum is applied or expanded if the slope is less than or equal to 30%, but the soil conditions are such that a basement or curtain drain already built 5 feet downslope from the lower property line (s) may be affected by sewage effluent. Building and Safety shall check for the setback on the plot submitted for permit.

2. The minimum horizontal distance between any portion of an absorption field (except solid pipe) and an exposed downward sloping impermeable stratum or bedrock in "cut" slope shall be 50 feet. It is the report preparer's responsibility to make recommendations so that systems do not daylight. It is the

owner/contractor (s) responsibility to install systems per the recommendations. The consultant may wish to inspect installations to be assured that recommendations are followed. If so desired by the consultant, make it a requirement of approval. Upon presentation of pertinent engineering data, the County Specialist may stipulate this requirement.

Disposal Area Percolation Rates

Due to varying soil conditions, the following table will be used as a guide to determine if effluent is being processed effectively.

If the discharge is to a...	Then the percolation rate in the disposal area must not be...
Leach field,	Greater than 120 minutes per inch (MPI).
Seepage pit,	Less than 1.1 gallons of effluent per square foot, per day.

Groundwater Protection

The minimum required soil thickness/separation below the bottom of the disposal field to groundwater is determined by the minimum setback requirements in [Chapter 3](#); however, there is an increased separation requirement for faster percolation rates. The following table will be used to determine the required separation.

If the percolation rate is...	Then...
Faster than 5 MPI,	The five feet of soil between the bottom of the leachline and the groundwater must contain: <ul style="list-style-type: none"> • At least 15% of material passing the #200 United States standard sieve, (basis 100% 3/8") and • Less than one-fourth of the representative soil occupied by stones larger than 6 inches.
<ul style="list-style-type: none"> • Faster than 5 MPI, and • The above requirements cannot be met, 	A 40 foot separation (based on recorded data and/or observed mottling) must be maintained between the: <ul style="list-style-type: none"> • Bottom of the leachline, and highest historic groundwater level.

Requirement Exception

DEHS prohibits discharge from any OWTS which do not conform to the above stated criteria. An exception occurs when the developer demonstrates, by substantial evidence (or as determined by the County), that pollution, nuisance, and/or contamination will not occur as a result of the discharge of domestic waste.

OWTS Design

DEHS has minimum and maximum criteria for design of OWTS located within its borders. This section details these criteria, and explains when OWTS no longer fall within the scope of County oversight, and therefore will be referred to the RWB.

Maximum Allowable Flow

Each one-half acre development must have a flow rate of no more than 300 gallons per day (GPD) (or 20 fixture units); which is considered the equivalent flow for a single family dwelling unit. Lahontan's limit is 250 gallons per day. For industrial/commercial developments with lots smaller than one-half acre, this flow rate requirement may be prorated. The following table will be used when determining if OWTS no longer fall under the scope of DEHS oversight based on daily flow.

If the projected flow rate is...	Then the OWTS...
More than 10,000 GPD,	<ul style="list-style-type: none"> • Will be reviewed by DEHS and comment on design rate. • Will be referred to the RWB for review and permit issuance.
Less than 10,000 GPD,	<ul style="list-style-type: none"> • Will be reviewed by County agencies, and • May be referred to the RWB on a case-by-case basis, based on individual circumstances.

Soil Depth

The depth of soil between the bottom of the dispersal field and the anticipated level of groundwater (or impermeable material such as clay or bedrock) in the disposal area must not be less than:

- 5 feet for leach lines, and/or
- 10 feet for seepage pits.

On a case by case basis, the required separation may be reduced to 2 feet for leach lines where supplemental treatment is provided in accordance with the Advanced Protection Management Program (APMP) (refer to [Chapter 6](#) for more information regarding the APMP). Approval from DEHS is required for all supplemental treatment systems.

Leachline Percolation Rates

Leachline percolation rates are measured in MPI and will be determined by a percolation test. Once determined, the MPI will be converted to ft²/gal/day using the table derived from the OWTS Policy dated June 2012.

The following table will be used when determining percolation rates based on the uniformity of the soil.

If the perc rates are...	Then use...
Uniform,	A percolation rate between the mean and most conservative MPI.
Not uniform,	The most conservative percolation rate.

Seepage Pit Rates

Seepage pit percolation rates are measured in gallons/square feet/day (referred to as the design Q), and will be determined by a percolation test. The design Q for seepage pits must be between 1.1 and 4 gal/ft²/day. Q's greater than 4 gal/ft²/day will not be credited. Caving seepage pit test holes in coarse textured soils with rates greater than 3 gal/ft²/day will not be credited. If gravel correction factor is used, incorporate it into the formula as another multiplier.

Minimum Allowable Replacement Area

The minimum allowable replacement area is an area which will remain undeveloped and available to be used once the primary dispersal area is replaced. This area must be 100% of the original OWTS proposal. The 100% replacement area must meet all minimum criteria outlined within the Program, and be gravity fed. All dispersal systems requiring replacement shall have installed a diversion valve so that the primary system has a chance to drain and recover functionality. If development of the lot prevents future access for heavy equipment to install the replacement dispersal system, then the 100% replacement shall be installed. A credit of 10% in sizing criteria is allowed.

Pump Systems

A pump system will be considered as a hardship and may only be used under the following conditions:

- To salvage an existing structure when an adequate disposal area cannot be reached by gravity flow, and/or
- To allow new house construction on an existing lot when there is no other alternative to pumping. This hardship consideration will be based on reasonable site development.

All construction details for designed systems utilizing a pump system are subject to review and approval by Building and Safety. Minimum conventional construction details can be found in the currently adopted [California Plumbing Code](#).

Leach Line Dispersal Systems

According to the [California Plumbing Code](#) and the [OWTS Policy](#), when computing the absorption area of the leach line dispersal system, the maximum allowable infiltrative area (as an infiltrative surface) per square foot of trench is 7 square feet. The maximum allowable trench width is 3 feet. Where leaching chambers are used, the maximum allowable decreased leaching area per International Association of Plumbing and Mechanical Officials (IAPMO) certified dispersal systems will be computed by using a multiplier of .70.

Oxygen Transfer in Dispersal Systems and/or Replacement Areas

To ensure proper oxygen transfer to the soil, dispersal systems or replacement areas (with the exception of seepage pits) must not be covered by any impermeable material (i.e., paving, building foundation slabs, and/or plastic sheeting).

Figure 4.1: Application Rates as Determined from Stabilized Percolation Rate

Percolation Rate (minutes per inch)	Application Rate (gallons per day per square foot)	ft ² /g/d	Percolation Rate (minutes per inch)	Application Rate (gallons per day per square foot)	ft ² /g/d	Percolation Rate (minutes per inch)	Application Rate (gallons per day per square foot)	ft ² /g/d
<1	Requires Local Management Program	.83	31	0.522	1.92	61	0.197	5.08
1	1.2	.83	32	0.511	1.96	62	0.194	5.15
2	1.2	.83	33	0.5	2.0	63	0.19	5.26
3	1.2	.83	34	0.489	2.04	64	0.187	5.35
4	1.2	.83	35	0.478	2.09	65	0.184	5.43
5	1.2	.83	36	0.467	2.14	66	0.18	5.56
6	0.8	1.25	37	0.456	2.19	67	0.177	5.65
7	0.8	1.25	38	0.445	2.25	68	0.174	5.75
8	0.8	1.25	39	0.434	2.3	69	0.17	5.88
9	0.8	1.25	40	0.422	2.37	70	0.167	5.99
10	0.8	1.25	41	0.411	2.43	71	0.164	6.10
11	0.786	1.27	42	0.4	2.5	72	0.16	6.25
12	0.771	1.3	43	0.389	2.57	73	0.157	6.40
13	0.757	1.32	44	0.378	2.65	74	0.154	6.49
14	0.743	1.35	45	0.367	2.72	75	0.15	6.67
15	0.729	1.37	46	0.356	2.80	76	0.147	6.80
16	0.714	1.4	47	0.345	2.90	77	0.144	6.94
17	0.7	1.43	48	0.334	2.99	78	0.14	7.14
18	0.686	1.46	49	0.323	3.10	79	0.137	7.30
19	0.671	1.49	50	0.311	3.22	80	0.133	7.52
20	0.657	1.52	51	0.3	3.33	81	0.13	7.69
21	0.643	1.56	52	0.289	3.46	82	0.127	7.87
22	0.629	1.59	53	0.278	3.60	83	0.123	8.13
23	0.614	1.63	54	0.267	3.75	84	0.12	8.33
24	0.6	1.67	55	0.256	3.91	85	0.117	8.55
25	0.589	1.7	56	0.245	4.08	86	0.113	8.85
26	0.578	1.73	57	0.234	4.27	87	0.11	9.09
27	0.567	1.76	58	0.223	4.48	88	0.107	9.35
28	0.556	1.8	59	0.212	4.72	89	0.103	9.71
29	0.545	1.83	60	0.2	5.0	90	0.1	10
30	0.533	1.88				>90-120	0.1	10

Table 4.1: 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
		Weak	0.2
	Prismatic, Blocky, Granular	Moderate, Strong	0.4
Massive		Structureless	0.2
Loam	Platy	Weak, Moderate, Strong	Prohibited
		Weak	0.4
	Prismatic, Blocky, Granular	Moderate, Strong	0.6
Silt Loam		Massive	Structureless
	Platy	Weak, Moderate, Strong	Prohibited
		Weak	0.4
	Prismatic, Blocky, Granular	Moderate, Strong	0.6
Sandy Clay Loam, Clay Loam, Silty Clay Loam		Massive	Structureless
	Platy	Weak, Moderate, Strong	Prohibited
		Weak	0.2
	Prismatic, Blocky, Granular	Moderate, Strong	0.4
Sandy Clay, Clay, or Silty Clay		Massive	Structureless
	Platy	Weak, Moderate, Strong	Prohibited
		Weak	Prohibited
	Prismatic, Block, Granular	Moderate, Strong	0.2

Septic Tank Requirements

Construction and installation requirements for septic tanks are reviewed and approved by Building and Safety. Once construction and installation plans are approved, Building and Safety will issue construction permits. This section provides septic tank capacities and requirements for various development types.

Septic Tank Capacity – Single Family Residences

The septic tank capacity for a single family residence is based on the number of bedrooms contained in the unit. The table below provides a summary of the septic tank capacity requirements for a single family residence.

Number of Bedrooms	Gallons of Effluent Per Day	Gallons of Septic Tank Capacity
1-2	500	750
3	670	1,000
4	800	1,200
5-6	1,000	1,500

The design flows used for a primary and secondary dwelling unit must be determined independently, regardless of whether the flows are treated separately or combined in a single OWTS.

Septic Tank Capacity – Multi-Unit Residences and Non-Residential Facilities

The septic tank capacity for multi-unit residences and non-residential facilities is based on the estimated daily flow, or the number of fixture units as determined by the [California Plumbing Code](#), whichever is greater. When creating design proposals for OWTS, developers must:

- Give full consideration to the estimated flows for all projected activities, and
- Include sufficient technical information to support the proposed design flow estimates.
- Distribution/Diversion boxes shall not be installed on the building side of the septic tank (s).
- The following table provides information regarding septic tank requirements:

Component	Requirement
Capacity	Minimum of 750 gallons.
Two Compartments	The first compartment must be equal to two-thirds the total tank volume.
Materials	Must be: <ul style="list-style-type: none"> • Water-tight, • Properly vented, and • Made out of durable and non-corrosive material.
Construction	All tanks must be listed and approved by: <ul style="list-style-type: none"> • IAPMO, or • An American National Standards Institute (ANSI) accredited testing organization.
Access Opening	Access to each tank compartment must have a manhole at least 20 inches in diameter.
Access Risers	A riser must: <ul style="list-style-type: none"> • Extend from each manhole opening to, or above, the surface of the ground, and • Be a size larger than the manhole opening.

Effluent Filter	The outlet of the tank must be fitted with an effluent filter capable of: <ul style="list-style-type: none"> • Screening solids with a diameter in excess of three-sixteenths of an inch, and conform to National Sanitation Foundation (NSF)/ANSI standard 46.
Tank Connections	Tank connections must comply with standards required by the Building and Safety Division.

Prohibitions and Exemptions

Due to the geology and hydrology of certain areas within the County, prohibitions have been set to protect water quality, public health and safety. This section provides information regarding the areas within the County which have prohibitions, as well as information regarding when an exemption may be granted within these prohibition areas.

OWTS Prohibitions

There are areas within the County of San Bernardino in which the discharge of waste from OWTS is prohibited. These areas include:

- Grand Terrace (County Service Area (CSA) 70, Improvement Zone H)
- Yucaipa – Calimesa (Yucaipa Valley Water District)
- Lytle Creek (above 2,600 feet in elevation)
- Mill Creek (above 2,600 feet in elevation)
- Bear Valley (including Baldwin Lake drainage area)
- Town of Yucca Valley-Contact the Colorado River Basin Water Board for proper protocol.
- The City of Twentynine Palms will be evaluated by Colorado WB for possible prohibition of septic systems and is an area of concern
- The prohibitions in the County areas of the Lahontan region are presented in the Water Quality Control Plan for the Lahontan Region (Basin Plan), Page 4.1-21. The Mojave Hydrologic Unit Prohibition No. 3, states the following: "The discharge of waste from new leaching or percolation systems is prohibited in the following areas (Figure 4.1-17):
 - (a) The Silverwood Lake watershed.
 - (b) Deep Creek and Grass Valley Creek watersheds above elevation 3,200 feet. For this prohibition, "new" systems are any installed after May 15, 1975. An exemption to this prohibition may be granted whenever the Water Board's Executive Officer finds that the operation of septic tanks, cesspools, or other means of waste disposal in a particular area will not, individually or collectively, directly or indirectly, adversely affect water quality or beneficial uses, and that the sewerage of such area would have a damaging effect upon the environment."
- "Mojave Hydrologic Unit Prohibition Area 3." Under Lahontan Water Board Order No. 6-81-3 for Crestline and Lahontan Water Board Order No. 6-84-93 for Lake Arrowhead, the County is authorized to issue OWTS building permits in these exemption areas, usually without Lahontan Water Board's approval.
- Exemptions to prohibitions may be granted by the RWB when it determines that an OWTS (on a particular parcel) will not individually or collectively, directly or indirectly, affect water quality from continued system operation, and/or maintenance. A Qualified Professional must present geological and hydrologic evidence that the OWTS will not result in a pollution, contamination, or nuisance.

Requesting Exemptions in Prohibition Areas

All persons requesting an exemption to the prohibition must complete the process for submitting a percolation report to DEHS. The following table describes the exemption process:

Stage	Description
1	The customer will request an exemption by: <ul style="list-style-type: none">• Completing a percolation test, and• Submitting a percolation report to DEHS.
2	DEHS will: <ul style="list-style-type: none">• Review the percolation report,• Approve/deny the request, and• Return the percolation report to the customer, and• Instruct the customer to obtain RWB approval prior to submitting the plot plan to Building and Safety.
3	The customer will: <ul style="list-style-type: none">• Contact his/her RWB to submit the following for approval:<ul style="list-style-type: none">– Percolation report– Proposed plot plan• Submit the following to Building and Safety for review:<ul style="list-style-type: none">– Proposed plot plan– Percolation report– Verification of RWB approval
4	Building and Safety will: <ul style="list-style-type: none">• Review,• Approve, and• Issue Permit.

Preliminary exemption approval from the RWB may be requested by DEHS. Other necessary information may also be requested by DEHS or the RWB for review of the exemption request.

Special Considerations

The majority of the County of San Bernardino is rural desert area, where geologic conditions have a less significant impact on OWTS. The mountain areas throughout the County, however, have significantly more geological factors which must be addressed prior to installing an OWTS. This section discusses the various geological factors within the County which will be given special consideration when reviewing requests for OWTS installation.

Geological Factors

The performance of OWTS is affected greatly by the geology of the land in which it is located. Geological factors which must be accounted for prior to installing an OWTS include:

- Soil characteristics,
- Slope stability,
- Topography,
- Landforms, and
- Presence and movement of subsurface water.

Groundwater Conditions

The County relies on local aquifers for both public and private water supplies. Site evaluation includes identifying and documenting any signs of groundwater. The documentation and soil permeability identified by a percolation test provides the basis for selecting OWTS design and separation distance of the dispersal system. This documentation is obtained to minimize contamination of the groundwater in the local aquifers. The identification and location of nearest supply wells and current groundwater quality should be included in any proposal when information is available.

Designated Maintenance Areas (DMAs) are Tier 3 areas of special concern

There are areas within the County which have a high density of OWTS. Due to the unique topographical and hydrogeological conditions in these areas, additional monitoring and maintenance is required. To respond to the needs in these areas, DMAs have been created to establish criteria and minimum requirements for the discharge of sewage effluent from OWTS, without endangering water quality, public health and safety.

DEHS has approximately 1,200 OWTS permitted in the DMAs. All systems located in these areas are required to maintain an operating permit with DEHS and are inspected biennially. The following are all the DMAs located within the United States Forest Service, as defined by the maps filed with the Clerk of the Board:

- Polique Canyon Tract
- Lakeview Tract
- Pine Knot Tract
- Metcalf Creek Tract
- Big Bear Tract
- Willow Glen Tract

These three communities have their own DMA ordinance:

- Mountain Home Village
- Forest Falls
- Angelus Oaks

Salt and Nutrient Management Plan (SNMP)

A SNMP is required as a part of the RWB [Recycled Water Policy](#). The plan was developed to:

- Ensure the region's long term water quality objectives are understood,
- Streamline the permitting process for various water quality related projects, and
- Ensure compliance with water quality objectives.

DEHS will work with the RWBs, Mojave Water Agency (MWA), Chino Basin Watermaster, San Bernardino Valley Municipal Water District, and San Bernardino County Flood Control to provide requested information regarding OWTS usage within the unincorporated areas of the County. This information may be used by the RWB and/or any area watermaster when developing the SNMP. DEHS will utilize the SNMPS from these agencies as a tool to:

- Assess whether OWTS within the unincorporated areas are contributing to nitrate loading, and
- Address any necessary changes during the Program evaluation, which is every five years.

Domestic Well Usage

The majority of domestic wells in San Bernardino County are located throughout the desert and rural unincorporated areas. In these areas domestic wells are often used in conjunction with OWTS. In an effort to ensure the protection of new and existing wells from the effects of OWTS, the following requirements exist:

- Minimum horizontal setback distances between OWTS and any well.
- Well water testing for all newly constructed wells.
- Allowing supplemental treatment as an option for OWTS in areas where there are potential impacts to groundwater due to:
 - High domestic well usage, and/or
 - Existence of other limiting factors (i.e., shallow groundwater or fast percolation rates).
 - Small lot size or high density

Prohibited Discharge Conditions for Septic Tank Systems

In an effort to ensure the proper functioning of septic tank systems, as well as prevent adverse effects to the environment, the following discharges are prohibited for septic tank systems:

- Surface water, rain, and/or other clear water.
- Toxic or hazardous chemicals to a domestic system.
- Water softener and iron filter discharge to a sewage disposal system or on the ground surface, unless specifically approved by RWB. Water softener and iron filter discharge must be disposed of at an approved disposal site.

Note: Commercial developments will have individual monitoring ports for each unit connected to a confluent sewage disposal system if there is a single owner of the development. Multi-owner units (condo type) will have a separate system for each unit.

Surface Water Quality Protection

Setback requirements are the primary source of protection for surface water. These setbacks act as a buffer zone between the potential contaminants of the OWTS and the water body. The requirements listed in the Program are consistent with the basin plans for all three RWBs located in San Bernardino County, as well as meeting or exceeding requirements outlined in the [California Plumbing Code](#). This section describes the requirements for surface water quality protection.

Watersheds

Watersheds are reservoirs which serve as a local source of drinking water supply, and therefore require special protections. These areas are outlined in the basin plans for the three local RWBs. Increased setback standards are required for any OWTS proposal within 2,500 feet of surface water intake for public water supplies (refer to the [Local Watershed Management](#) section for more information regarding the watersheds located within San Bernardino County).

Impaired Water Bodies

There are several water bodies located within the County which are listed as impaired, pursuant to the [Clean Water Act, Section 303\(d\)](#). All of these water bodies are located under the purview of the Santa Ana RWB. Any OWTS installed within 600 feet of the impaired water bodies contained in the 303(d) list are subject to the APMP (Advanced Protection Management Program, refer to [Chapter 6](#) for more information regarding impaired water bodies and the APMP)

Special Circumstances

In the mountains and rural areas in the deserts, there are multiple known OWTS located in areas which require setbacks. When these systems are replaced, they will be required to meet the current standards. The following factors will also be given special consideration and will be reviewed on a case-by-case basis:

- Density
- Parcel size
- Potential cumulative OWTS impact issues

Note: To provide greater flexibility to County residents, alternative systems may be approved on a case-by-case basis with revised standards for setback requirements.

Wrightwood

Wrightwood is located at the east end of the San Gabriel Mountains in the Angeles National Forest. This community is located at an elevation of approximately 6,000 feet above sea level and has no municipal sewer services. As a result, all development in this area requires OWTS. This section details information regarding OWTS requirements that are unique to this area due to its geology and hydrogeology.

Hydrogeology

There are numerous creeks and drainage courses that traverse the Wrightwood community. These include, but are not limited to:

- Heath Canyon Creek,
Sheep Creek and Swarthout Creek.

Blue Zone

Due to the hydrogeology of this area, there is a designated “Blue Zone” where historically the groundwater has been at or near ground level. As a result of these historic ground water levels, requires percolation tests be completed for all new and replacement systems for any parcel in The percolation report must show that Program requirements can be met with the historic levels indicated in

[Table 4.2](#) (refer to [Figure 4.2](#) for a map of the Blue Zone). When the Program requirements cannot be met, an alternative treatment system will be required.

Blue Zone Groundwater Levels

The following table provides information regarding the lots located within the Blue Zone and includes the depth to groundwater in each lot.

DRAFT

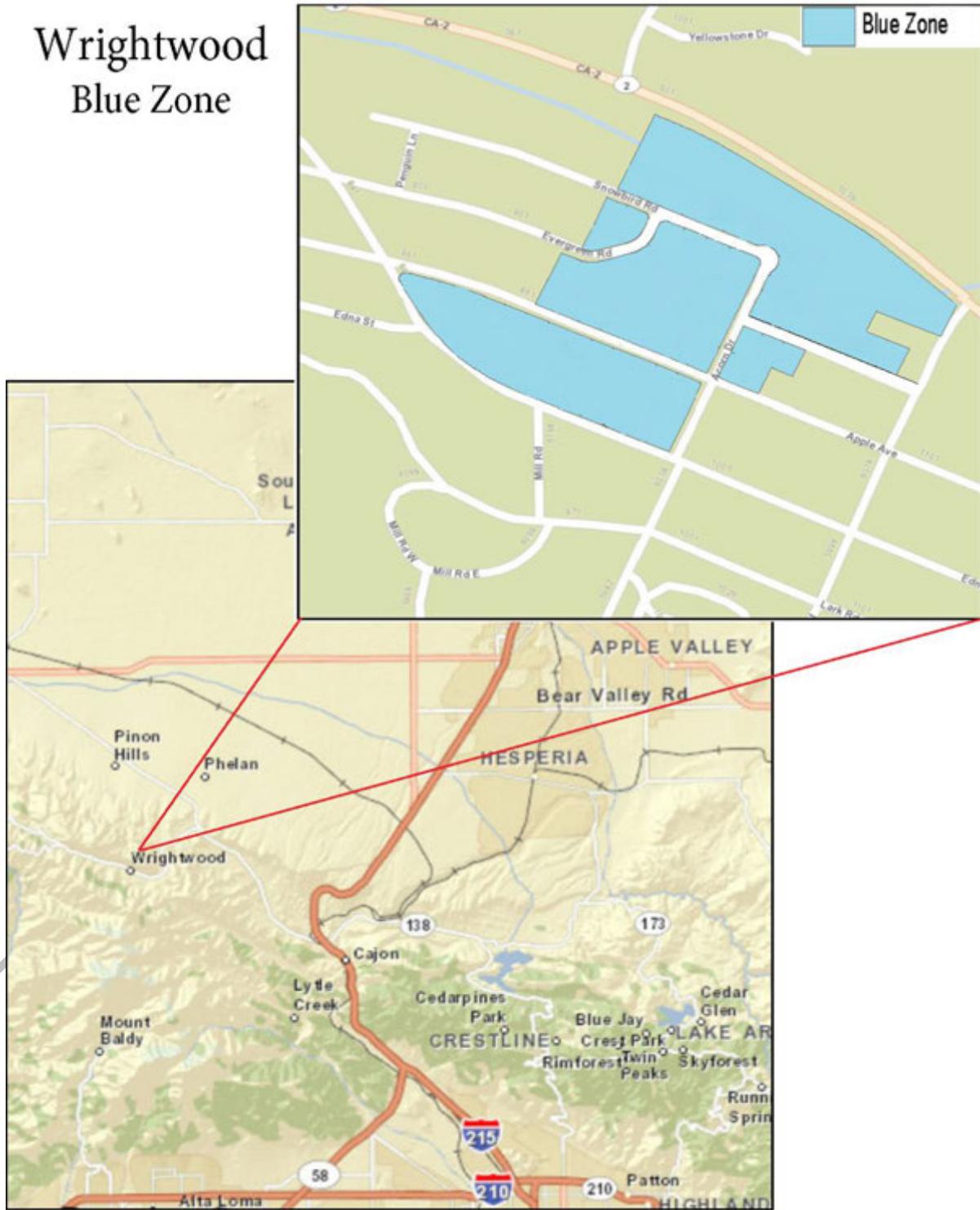
Table 4.2

Tract/Tentative Parcel Map (TPM) Number	Lot Number	Depth to Groundwater (ft.)	
TPM 4044	1 and 2	3	
Tract 2999	141 through 147	3	
	148	0	
	149	1	
	150	2	
	151	3	
	152	4	
	153	5	
	154	6	
	161 through 165	3	
	180 through 187	3	
	188 through 203	5	
	Tract 6039	17 through 18	3
		33 through 34	3
Tract 6217	1 through 4	3	
	5	5	
	6 through 11	0	
	12 through 19	3	

All areas within Wrightwood will require a percolation report for all new construction. DEHS may also, on a case-by-case basis, request an exploratory boring or trench for OWTS replacement proposals to confirm the OWTS can be installed according to the required setbacks.

Figure 4.2

Wrightwood Blue Zone



Sources: Esri, DeLorme, HERE, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom

Lake Williams

Lake Williams is a community located in the San Bernardino Mountains approximately 3.5 miles southeast of the Baldwin Lake. There is no public sewer system service available to this community and all homes utilize OWTS, with many homeowners utilizing private wells. The City of Big Bear Lake Department of Water and Power (BBLDWP) provides water to residents from two municipal supply wells located in the Lake Williams area. BBLDWP noted an increase in nitrate levels in one of the municipal supply wells beginning in 1990. This section provides information regarding how these levels are being mitigated and/or managed.

Contaminant Study

After noting the increased nitrate levels in the municipal well water, BBLDWP funded a study in 2006 which was conducted by Geoscience Support Services, Inc. This study was done in an effort to mitigate and/or manage the nitrate levels before they exceeded the 10 milligrams per liter (mg/L) maximum contaminant level (MCL) for Nitrate as Nitrogen. The study determined there had been a steady increase in nitrate levels which was attributed to OWTS.

Note: A copy of the contaminant study may be obtained by contacting the RWB.

Requirements

Based on the study, the wells which show an increase in nitrate levels were found down gradient of the Lake Williams community. In an effort to protect water quality, public health and safety and mitigate an increase in nitrate concentrations, the following requirements have been established:

- Alternative treatment systems will be required for all new developments in the Lake Williams area.
- Replacement OWTS will be reviewed on a case-by-case basis to determine whether a conventional or alternative OWTS will be required, taking into account:
 - Groundwater nitrate levels,
 - Septic system density, and
 - Type of failure.

Tier 4 Classified OWTS

As noted in the [OWTS Policy](#) section, Tier 4 is a temporary classification for all systems that have been found to be failing, and/or in need of repair. OWTS which are included in Tier 4 must continue to meet applicable requirements of the Program, pending completion of corrective action. This section provides detailed information regarding OWTS, which are classified as requiring corrective action.

OWTS Requiring Corrective Action

OWTS have the primary purpose of protecting public health. When systems are no longer meeting this purpose, they are deemed to be failing and require corrective action. When this occurs, systems must be replaced, repaired, or modified so as to return to proper functioning and comply with Tier 2 or 3 classifications as appropriate. Failing OWTS include any OWTS which has:

- A Dispersal system failure which is no longer percolating wastewater adequately, causing:
 - Pooling effluent,
 - Wastewater discharge to the surface, and/or
 - Backed up wastewater into plumbing fixtures.

- A Septic tank failure (i.e., baffle failure, tank structural integrity failure), causing:
 - Wastewater to exfiltrate, or
 - Groundwater to infiltrate the system.
- A Component failure (i.e., broken piping connection, distribution box).
- Affected, or has the potential to affect groundwater, or surface water to a degree which:
 - Makes it unsafe for drinking or other uses, or
 - Is causing a condition, which affects human health, or is a public nuisance.

Addressing Corrective Action Requirements

In order to retain coverage under the Program, owners of OWTS must:

- Address any corrective action requirement of Tier 4 as soon as reasonably possible (as determined by DEHS), and
- Comply with the time schedule of any corrective action notice received from DEHS, or the RWB.

When the owner of an OWTS is not able to comply with corrective action requirements, DEHS may approve repairs which are in substantial conformance with the Program to the greatest extent practicable given the limitations of the project site. However, the repair may still have a reasonable potential to cause a violation of water quality objectives.

Failure to Address Corrective Action Requirements

OWTS which fail to meet the corrective action requirements of Tier 4 constitute a failure to meet the conditions of the waiver of waste water discharge requirements contained in the Program. These are subject to further enforcement actions, which includes, but is not limited to:

- Citations and/or fines from Code Enforcement
- Legal action against the property

CHAPTER 5: SUPPLEMENTAL TREATMENT AND ALTERNATIVE DISPERSAL SYSTEMS, AND SEWAGE HOLDING TANKS

This chapter provides information which will be used to determine when an Alternative Treatment System, or other wastewater disposal methods (i.e., a sewage holding tank), is needed.

Alternative Onsite Supplemental Treatment and Alternative Dispersal Systems

Supplemental treatment systems and/or Alternative Dispersal Systems are required:

- If it is determined that:
 - A conventional septic system is not feasible for new construction,
 - The repair or upgrade of any existing Onsite Wastewater Treatment System (OWTS) cannot meet the requirements of the Program
- To maintain an annual operating permit with DEHS.
- To meet Advanced Protection Management Program (APMP) requirements when installed near impaired bodies of water on the 303(d) list (refer to [Chapter 6](#) for more information regarding impaired water bodies and the APMP).

Types of Supplemental Treatment Systems and Alternative Dispersal Systems

The types of supplemental treatment systems and alternative dispersal systems include, but are not limited to:

- Supplemental treatment to a predetermined performance requirement according to the RWB. These include aerobic treatment units (ATU) and sand filters.
- Mound systems
- Evapotranspiration systems
- Pressure distribution
- Subsurface drip dispersal
- Hybrid leachlines that are deeper, wider or shorter than otherwise permitted
- Other non-conventional OWTS approved by DEHS and the appropriate Regional Water Board (RWB)

Wastewater Sample Requirements for Supplemental Treatment Systems

All supplemental treatment systems are required to have wastewater samples taken per the operation and maintenance manual of the OWTS manufacturer, or annually the first year, and annually thereafter by Program staff when disinfection is not required. Important information regarding these samples include:

- The wastewater samples must include the geographic coordinates (latitude and longitude) of the sample's location.
- Effluent samples will be taken by a service provider and analyzed by a California Department of Public Health (CDPH) certified laboratory. A copy of a service provider contract must be submitted to DEHS by January 30th of each calendar year.
- The sample frequency shall be annual. Quarterly wastewater samples are required for disinfection treatment if there is no telemetric notification of a disinfection failure and with approval from DEHS (refer to the [Additional Requirements for Supplemental Treatment Systems](#) section for more information).
- For effluent, nitrate (as nitrogen) and total (Kjeldahl) nitrogen testing is required.

Supplemental Treatment System and Alternative Dispersal System Requirements

Supplemental treatment systems must meet the following requirements for review and approval by DEHS:

- Be certified by National Sanitation Foundation (NSF), or another approved third party tester.
- Be designed by a Qualified Professional.
- Contain a description, in the percolation report and/or the plot plan, of the type of wastewater which will be discharged to the OWTS (i.e., domestic, commercial or industrial), and classification of it as domestic wastewater or high-strength waste.
- Contain a schedule of all materials and products that will be used to construct the system. This includes:
 - All technical details and informational maintenance or replacement documentation on the alternative treatment system that will be provided to the homeowner.
 - Procedures to ensure maintenance, repair, or replacement of critical items within 48 hours following failure.
- Ensure all of the following individuals are present onsite during the installation:
 - Qualified Professional,
 - Representative from the alternative treatment system manufacturer,
 - Licensed contractor, and
 - Individuals from any required regulatory agencies.

Supplemental Treatment System Proposals

Property owners proposing an Alternative Treatment System must submit the following to DEHS:

- [Application for Percolation Review](#),
- Preliminary approval from the respective RWB for the alternative treatment system (if applicable),
- Supplemental Treatment System supporting literature (if applicable).
- Plot Plan,
- Percolation Report (if not previously submitted and approved), and
- The Percolation Report and Alternative Treatment system review fees.

Plot Plan Requirements

Plot plan requirements are the same for alternative system as for conventional systems; however, the plot plan must also be signed and stamped by a Qualified Professional. Final approval for plot plans is a Building and Safety function, not DEHS.

When a Supplemental Treatment System or Alternative Dispersal System is Installed

Once property owners install an alternative treatment system:

- A “Notice of Condition” must be recorded. Proof of the filing must be provided to DEHS within 30 days of installation and final inspection has been made by B&S. DEHS staff are required access to inspect and sample the ATS as necessary.
- Parcels must connect to a sewer as soon as it becomes available, and the alternative treatment system must:
 - Cease to be used, and
 - Be properly abandoned. The owner must obtain a permit from the Building and Safety Division for the abandonment of the system.

Owner Resources

Owners of Alternative OWTS may obtain information regarding maintenance, repair, and/or replacements from the system designer/installer or manufacturer.

Additional Requirements for Supplemental Treatment Systems

Supplemental treatment systems must also:

- Install a visible or audible alarm, as well as a telemetric alarm that alerts the owner or owner’s agent when there is a system failure or malfunction.
- Provide DEHS literature from the manufacturer showing the:
 - Total nitrogen in the effluent from the alternative treatment system meets a minimum 50 percent reduction in total nitrogen when comparing the 30-day average influent to the 30-day average effluent,
 - Effluent from the alternative treatment system does not exceed a 30-day average Total Suspended Solids (TSS) of 30 milligrams per liter (mg/L), and
 - Effluent has a fecal coliform bacteria concentration less than or equal to 200 Most Probable Number (MPN) per 100 milliliters (for systems near a body of water impaired for pathogens or where required by DEHS or the RWB).
- Define which treatment mode will be used, if the system has multiple treatment modes.
- Define the effluent water sample frequency, as determined by DEHS.
- Provide the name and contact information for the approved service provider that will maintain the system.
- Provide the name of the CDPH certified laboratory where the effluent water samples will be analyzed.
- Use the OWTS Certification form when serviced by a service provider.

Supplemental Treatment System Submittal

Supplemental treatment systems are required when it is necessary to reduce the biological or nitrogen load of the wastewater effluent. This includes when the OWTS is located:

- Near an impaired water body, or
- Where the underlying groundwater exceeds 10 mg/L nitrate-nitrogen and is an aquifer that supplies drinking water.
- Where minimum lot size requirements cannot be met.

When reviewing a supplemental treatment system proposal for an existing septic system, it must be determined what alterations or additions will be made.

If a supplemental treatment system is proposed for an existing septic system and...	Then a ...
No alterations or additions to the septic system will be completed,	Septic certification will be required, in addition to the Alternative Treatment System Requirements .
Alterations or additions to the septic system will be made,	Percolation report and/or septic certification may be required, in addition to the Alternative Treatment System Requirements .

Sewage Holding Tanks

Under normal circumstances, no person or entity will install, utilize, or control the use of any sewage holding tank within the unincorporated area of the County for the confinement of sewage discharged from a dwelling, business establishment, or other facility. However, this section describes exceptions when a sewage holding tank is allowed.

When to Allow for Sewage Holding Tanks

DEHS may allow sewage holding tanks when the property for which the permit is requested is:

- Within the boundaries (or sphere of influence) of a district or sewerage entity, and

- Unsuitable for a conventional or alternative treatment system. Documentation must be provided to DEHS to show that a conventional or alternative wastewater treatment system is not feasible (i.e. percolation report, plot plan, or other documentation as requested by DEHS).

When an existing dwelling, business establishment or other facility is not within the boundaries (or sphere of influence) of a sewerage entity, an exemption from the requirement may be granted by DEHS. This is to eliminate a public health hazard or code violation where no other acceptable means of sewage disposal is feasible.

Sewage Holding Tank Requirements

DEHS must approve all plans for the design, location and installation of sewage holding tanks. The following must be provided for review and approval:

- A completed [Sewage Holding Tank Application](#), including documentation that all required DEHS conditions stipulated in the application have been completed.
- A copy of the current maintenance contract with a septic tank pumper. The contract will be placed on file with DEHS and must include the following terms:
 - A minimum of one inspection of the sewage holding tank per month, with servicing (pumping) as necessary.
 - The pumper will provide all emergency servicing required.
 - In the event the contract is cancelled or property ownership changes, the septic tank pumper will immediately notify DEHS of the cancellation or change in ownership.
- A “Notice of Condition” must be recorded on the property once the sewage holding tank has been installed. Proof of the filing must be provided within 30 days of the installation and final inspection and permit issued by Building and Safety.
- A written agreement with DEHS (refer to the [Sewage Holding Tank Agreements](#) section for information).

Requirements When Properties With Sewage Holding Tanks Are Sold

When a property containing a sewage holding tank is sold:

- The present property owner will notify the new property owner of the DEHS requirement to obtain a new permit.
- DEHS will give the new property owner written notice of the permit conditions to be completed prior to occupancy of the property.

Note: Properties served by a sewage holding tank will be subject to an annual operating permit fee, as set forth in the [County Fee Schedule](#), to pay the cost of routine inspections and program administration.

Sewage Holding Tank Agreements

When submitting sewage holding tank agreements, the document must be:

- Satisfactorily completed,
- Signed by all property owners who will be using the proposed sewage holding tank, and
- Filed with DEHS prior to the issuance of any DEHS permit.

When sewage collection lines become available within 200 feet for service to properties using a sewage holding tank, the property owner will connect to the sewage collection line and properly abandon the sewage holding tank (within 90 days).

Recreational Residences (Forest Service Cabins)

San Bernardino County currently has over 700 Recreational Residences (more commonly referred to as Forest Service Cabins) in the San Bernardino National Forest. Facts regarding Recreational Residences include:

- The majority of these were constructed in the early 1900s with the intent of being summer homes that are occupied at least 15 days annually, but are not to be used as a permanent residence.
- They are privately owned, but the land they are built on is owned by the Forest Service.
- Owners are issued a “Recreational Residence Special Use Permit” by the local district ranger for up to twenty years’ time, with the option to renew at the end of that period.

Due to topographical and hydrogeological conditions, and lot size of most of the Recreational Residences, septic system minimum requirements are not always met; therefore:

- Sewage holding tanks may be permitted upon approval.
- For DEHS to approve a septic system, or sewage holding tank, all the requirements outlined in the Program must be met.
- Written approval from the Forest Service must be provided prior to DEHS approval.

DRAFT

CHAPTER 6: TIER 3 – ADVANCED PROTECTION MANAGEMENT PROGRAM FOR IMPAIRED AREAS

An Advanced Protection Management Program (APMP) is the minimum required management program for all Onsite Wastewater Treatment Systems (OWTS) located near a water body that has been listed as impaired due to nitrogen or pathogen indicators, pursuant to the [Clean Water Act, Section 303\(d\)](#). Local agencies are authorized to implement APMPs in conjunction with an approved Program or when there is no approved Program, Tier 1. Per the State Water Resources Control Board's (SWRCB's) [OWTS Policy](#), OWTS which are located near impaired water bodies may be addressed by a Total Maximum Daily Load (TMDL) and its implementation program, or special provisions contained in a Program. The County of San Bernardino has chosen to develop an APMP closely derived from Tier 3 requirements provided in the OWTS Policy. This chapter provides information regarding the County's APMP.

Basin Plans

The Regional Water Quality Control Boards (RWBs) have developed basin plans to dictate the water quality protection regulations which govern wastewater discharges. This section provides information regarding basin plans for impaired water bodies located within San Bernardino County.

Issues Addressed in Basin Plans

When developing basin plans the RWBs address information which includes, but is not limited to:

- Excessive nitrate levels from agricultural practices,
- Perchlorate clean up from industrial activities, and/or
- Bacterial contamination of surface water.

Impaired Water Bodies

Within San Bernardino County, the State Water Resources Control Board has identified various surface waterways as impaired, per Attachment 2 of the [OWTS Policy](#). The water bodies listed have been specifically identified per the [303\(d\) list](#), where it is likely:

- OWTS will subsequently be determined to be a contribution source of pathogens or nitrogen, and therefore anticipated that OWTS would receive a loading reduction, and
- New OWTS installations discharging within 600 feet of the water body would contribute to the impairment.

The following table is an excerpt from Attachment 2 of the OWTS Policy indicating the areas within San Bernardino County which are subject to the APMP; the RWBs must adopt a TMDL by the date specified.

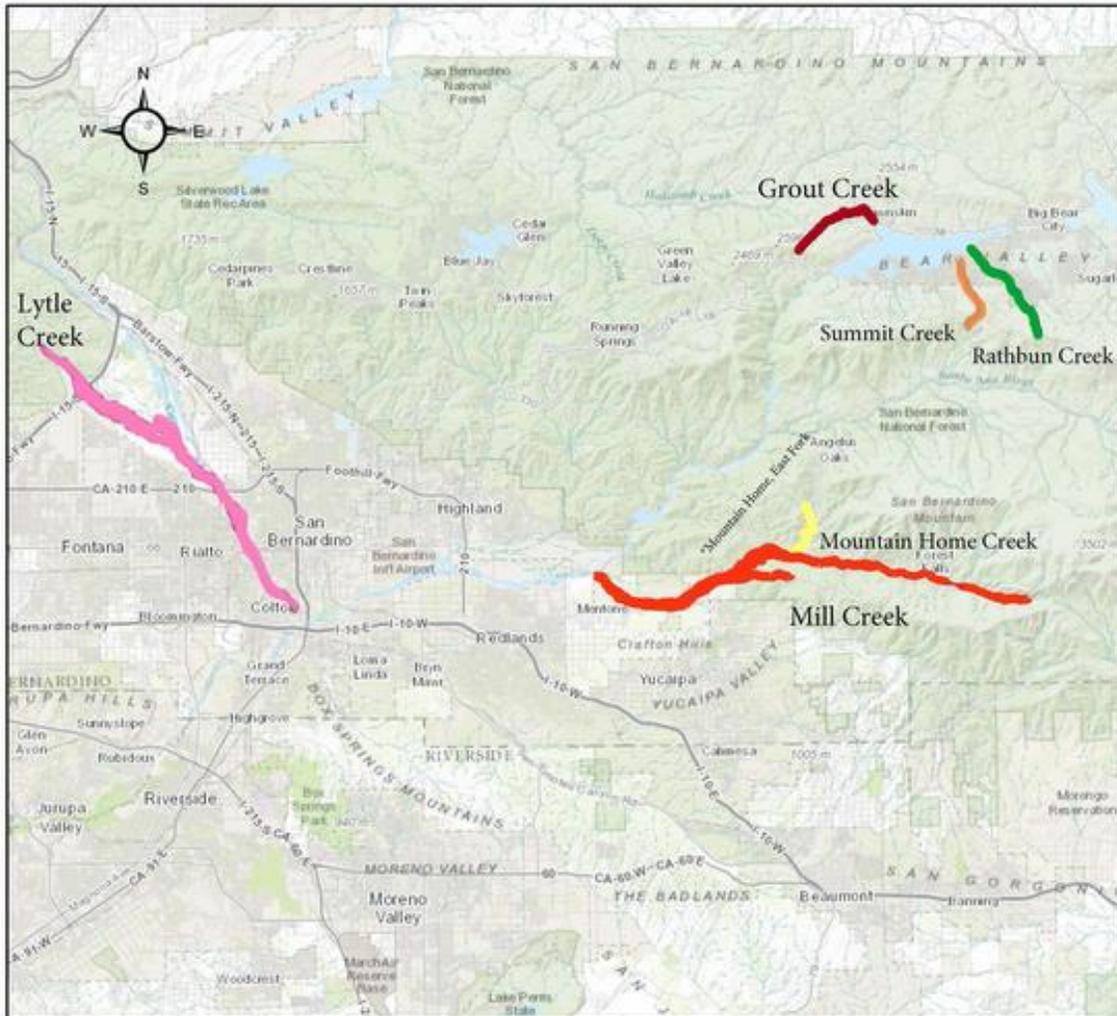
Table 6. 1

Name	Region	Impairment	TMDL Completion Date
Lytle Creek	Santa Ana	Pathogens	2019
Mill Creek Reach 1	Santa Ana	Pathogens	2015
Mill Creek Reach 2	Santa Ana	Pathogens	2015
Mountain Home Creek	Santa Ana	Pathogens	2019
Mountain Home Creek, East Fork	Santa Ana	Pathogens	2019
Grout Creek	Santa Ana	Nitrogen	2015
Rathbone (Rathbun) Creek	Santa Ana	Nitrogen	2015
Summit Creek	Santa Ana	Nitrogen	2015

The following map illustrates the impaired water bodies located within San Bernardino County.

Figure 6.1

Impaired Water Bodies in San Bernardino County



Impaired Water Body

- Mill Creek
- Lytle Creek
- Rathbun Creek
- Mountain Home
- Grout Creek
- Mountain Home, East Fork *
- Summit Creek

*Mountain Home, East Fork is approximately 0.5 miles and not visible on this map

0 3.25 6.5 13 Miles

Service Layer Credits: Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Total Maximum Daily Load

[Section 303\(d\)](#) of the Clean Water act requires each state to establish a TMDL for each impaired water body to address the pollutant(s) causing the impairment. In California, TMDLs are generally adopted as Basin Plan amendments and contain implementation plans detailing how water quality standards will be attained. This section provides information regarding the TMDL requirements for impaired water bodies located within the County of San Bernardino.

TMDL Calculation

According to the United States [Environmental Protection Agency \(EPA\)](#) website, a TMDL calculates the maximum amount of a pollutant allowed to enter a water body so the water body will meet, and continue to meet, water quality standards for that particular pollutant. The TMDL calculation includes both anthropogenic and natural background sources of pollutants, which includes allocations to:

- Point sources [Wasteload Allocation (WA)], and
- Nonpoint sources [Load Allocation (LA)].

TMDLs must also include a margin of safety (MOS) to account for the uncertainty in predicting how well pollutant reduction will result in meeting water quality standards, and account for seasonal variations. The TMDL calculation is:

$$\text{TMDL} = \text{Sum of WA (point sources)} + \text{Sum of LA (nonpoint sources and background)} + \text{MOS}$$

Geographic Area for APMPs

Where there is an approved TMDL, the geographic area for each water body's APMP is defined by the applicable TMDL. When there is not an approved TMDL which defines the geographic area, it will be 600 linear feet (in the horizontal map direction) of a water body listed on the [303\(d\) list](#), where the edge of the water body is the:

- Natural or levied bank for creeks and rivers.
- High water mark for lakes and reservoirs.
- High tide line for tidally influenced water bodies, as appropriate.

There may be OWTS located near impaired water bodies which would not be included in the APMP; however, they must meet all the requirements of the Program:

- Not listed in Attachment 2 of the [OWTS Policy](#),
- Without an approved TMDL, and
- Not covered in this Program with special provisions.

TMDLs for Impaired Waterbodies

Currently, there are no TMDLs for the impaired water bodies on the 303(d) list. Once a TMDL is adopted, the TMDL implementation plan will supersede the APMP. Unless a TMDL is modified to include actions for OWTS, the OWTS located near an impaired water body is not required to take any further actions when there is an approved TMDL, which:

- Addresses the impairment, and
- Does not assign a load allocation to the OWTS.

Note: Existing, new and replacement OWTS located near impaired water bodies are covered by a Basin Plan prohibition and must comply with the terms of the prohibition (refer to [Prohibitions and Exemptions](#) for more information).

TMDL Completion Dates

The RWB must adopt TMDLs for the impaired water bodies identified on the [303\(d\) list](#) in accordance with the dates specified (refer to [Figure 6.1](#) for more information regarding TMDL completion dates). Should the RWB not adopt a TMDL within two years of the specified date, coverage provided by the [OWTS Policy](#)'s waiver of waste discharge requirements will expire. This applies to any OWTS which has any part of its dispersal system discharging within the geographic area of an APMP. The RWB will then be responsible for the following, with regard to these OWTS:

- Corrective action, and
- Issuing:
 - Waste discharge requirements (site specific),
 - General waste discharge requirements (non-site specific), and
 - Waivers of waste discharge requirements.

OWTS Without an Adopted TMDL Implementation Plan

This section provides information regarding requirements for OWTS and supplemental treatment systems that have been permitted after the water body was initially listed in Attachment 2 of the OWTS policy, and have any discharge within the geographic area of the APMP.

Requirements for OWTS

In the absence of an adopted TMDL implementation plan, all new and/or replacement OWTS must:

- Utilize supplemental treatment.
- Meet performance requirements for nitrogen/pathogen impairment (see [OWTS Located Near Water Bodies Impaired for Nitrogen](#) and [Pathogens for](#) information regarding requirements).
- Comply with:
 - Setback requirements detailed in [Chapter 3](#), and
 - Any applicable requirements outlined within the Program.

OWTS Located Near Water Bodies Impaired for Nitrogen

When OWTS are located near water bodies which are impaired for nitrogen, the effluent from the supplement treatment component must meet a 50% reduction in total nitrogen when comparing the 30 day average influent to the 30 day average effluent. This will be accomplished by using supplemental treatment components, which meet the following requirements:

- Designed to reduce nitrogen, and
- Certified by National Sanitation Foundation (NSF) (or other approved third party tester).

Where a drip-line dispersal system is used to enhance vegetative nitrogen uptake, the dispersal system must have at least 12 inches of soil cover.

OWTS Located Near Water Bodies Impaired for Pathogens

When an OWTS is located near a water body impaired for pathogens, the supplemental treatment components (designed to perform disinfection of pathogens) must provide sufficient pretreatment of the wastewater so effluent from the supplemental treatment components:

- Does not exceed a 30 day average Total Suspended Solids (TSS) of 30 milligrams per liter (mg/L), and
- Will achieve an effluent fecal coliform bacteria concentration less than, or equal to, 200 Most Probable Number (MPN) per 100 milliliters.

The minimum soil depth and the minimum depth to the anticipated highest level of groundwater below the bottom of the dispersal system will not be less than 3 feet. All dispersal systems will have at least 12 inches of soil cover.

OWTS Installed Within an APMP

All OWTS installed within an APMP must:

- Meet the requirements for Alternative Treatment Systems (refer to [Chapter 5](#) for more information regarding Alternative Treatment Systems), which require:
 - An annual operating permit, and
 - Monitoring and maintenance of the OWTS.
- Connect to a sewer as soon as it is available, and properly abandon the supplemental treatment system.
- Monitor the OWTS in accordance with the operation and maintenance manual for the OWTS (or more frequently as required by the County and/or RWB).
- Be equipped with a visual and/or audible alarm, as well as a telemetric alarm, which will alert the owner and service provider in the event of a system malfunction.

Note: Where telemetry is not possible, the owner (or owner's agent) will inspect the system at least monthly while the system is in use as instructed by a service provider. The owner/owner's agent must also notify the service provider not less than quarterly of the observed operating parameters of the OWTS.

Testing and Inspection of Wastewater

All OWTS installed near water bodies impaired for pathogens will be inspected quarterly by a service provider for proper operation, unless a telemetric monitor system is capable of continuously assessing the operation of the disinfection system. Testing of the wastewater flowing from the supplemental treatment components that perform disinfection will be:

- Sampled at a point in the system:
 - After the treatment components, and
 - Before the dispersal system.
- Conducted quarterly based on analysis of total coliform, with a minimum detection limit of 2.2 MPN.

All effluent samples must include the geographic coordinates of the sample's location. Effluent samples will be taken by a service provider and analyzed by a California Department of Public Health (CDPH) certified laboratory.

CHAPTER 7: LAMP SCOPE OF COVERAGE

There are types of wastewater treatment which are not under the County's purview. These can range from cesspools, which are prohibited in the State of California, to wastewater treatment plants treating high strength waste, or Onsite Wastewater Treatment Systems (OWTS) receiving a projected flow over 10,000 gallons per day (GPD) [which are under the purview of the Regional Water Quality Control Boards (RWBs)]. This chapter provides information regarding the County's role and the scope of coverage provided by the Program in the monitoring of OWTS within the County of San Bernardino's boundaries.

Onsite Inspections and Monitoring

Onsite inspections and/or monitoring are required for all new OWTS in Designated Maintenance Areas (DMAs), sewage holding tanks and alternative treatment systems. This section provides information regarding the inspection and monitoring required for various OWTS.

New OWTS

DEHS may conduct an onsite inspection of percolation testing for new OWTS on any lot which is:

- Located in the mountain areas, this includes any area:
 - Within National Forest boundaries, or
 - Above 4,500 feet, if outside of National Forest boundaries.
- Less than 1.5 acres, and is not served by a permitted water system.
- Located:
 - On a slope greater than 20%,
 - Within 200 feet of a river (in the horizontal map direction), or
 - Within 100 feet of a stream (perennial or ephemeral).
- Located in an area which cannot meet the minimum setback requirements for a conventional septic system due to:
 - Historically high groundwater, or
 - Perched groundwater.

Note: For more information regarding minimum setback requirements, refer to [Chapter 3](#).

Required Onsite Inspection

The DEHS must complete an onsite inspection for percolation testing when the Qualified Professional submitting the report has:

- Not submitted a report to DEHS in the previous 2 years, or
- Previously submitted reports which have been deemed:
 - Incomplete, and/or
 - Significantly deficient.

DEHS may also, at its discretion, determine an on-site inspection is necessary in instances not mentioned above, or where it is determined the installation of an OWTS may have an adverse impact to water quality, public health and safety.

OWTS in DMAs

All OWTS which are located within a DMA are required to maintain an operating permit with DEHS. These OWTS are inspected biennially. DEHS has approximately 1,200 permitted OWTS within the DMAs. Refer to [Designated Maintenance Areas \(DMAs\)](#) for more information regarding the DMAs located within the County of San Bernardino Mountains.

Sewage Holding Tanks

All sewage holding tanks located within the County are required to:

- Maintain an operating permit with DEHS, and
- Be inspected annually.

Note: Refer to [Sewage Holding Tanks](#) for more information.

Supplemental Treatment Systems

Owners of supplemental treatment systems located within the County are required to:

- Maintain an operating permit and pay the required fees,
- Ensure the supplemental treatment system is inspected annually and a report provided to DEHS, and
Submit water samples during the first year of use.

Variations

On a case by case basis, DEHS may establish alternative OWTS siting and operational requirements where it is determined by DEHS that the alternate requirements will provide a similar level of protection. There will be situations, however, where variations are not granted. This section details the instances when variations will not be granted.

Above Surface Discharge

Variations will not be granted for any OWTS which utilizes any form of effluent disposal discharging on, or above, the post installation ground surface; this includes, but is not limited to sprinklers, exposed drip lines, free-surface wetlands, and lagoons.

Sewer Availability

Variations will not be granted for any OWTS where there is a public sewer available. DEHS and/or the Building and Safety Division may require a "Will or Will Not Serve" letter from the local sewer purveyor with each new or replacement OWTS proposal in order to evaluate the proximity and availability of community systems to the proposed OWTS site. This will ensure septic systems are only installed in areas where a sewer is unavailable. The "Will or Will Not Serve" letter must:

- Include the following:
 - Parcel number for the property where the OWTS is being proposed.
 - Distance to the nearest available sewer line.
 - Whether or not the sewer entity will provide service to the parcel.
- Be completed and signed by the appropriate official representing the sewer entity and be filed with DEHS:
 - Prior to submittal of the percolation report/plot plan, or
Upon request once the percolation report/plot plan has been submitted.

DEHS maintains a physical map of all of the sewer lines in the county and incorporated cities so as to prevent the approval of a septic system when a sewer is available. In addition, when reviewing requests for replacement systems, DEHS uses Google Earth to evaluate the site at ground level looking for sewer manholes that may not be on the map. DEHS proposes to update and create an electronic version of this data within the next two years. Further, DEHS will use the assessor's records of improved lots within the County to locate parcels with septic systems for mapping purposes and moving forward DEHS will continue mapping new systems. See page 62.

Sewer Requirement

Connection to a public sewer system is required within established sewer service districts and outside such districts with an out of agency service agreement and Local Agency Formation Commission (LAFCO) approval. Developments must connect to a sewer system when the nearest property line is within 200 feet of an available sewer line. This requirement will be increased by 100 feet for each additional equivalent dwelling unit within the development/project. In unincorporated San Bernardino County area, proposed subdivisions with more than 40 lots where the lot sizes are less than 2.5 acres per lot shall require review and approval by DEHA and may require Water Board Permitting or a waiver of waste discharge. A site specific study will be required to consider hydrogeological conditions, the proposed project, and surrounding development's groundwater impacts so as to best protect groundwater.

The following options must be considered:

- Require the project to be sewer with an out of agency agreement and LAFCO approval
- Require a Supplement Treatment Plant for the entire project with approved operation and maintenance
- Require larger lot sizes of 2 ½ acres
- Require individual supplemental treatment systems in lieu of septic systems
- Allow septic systems and install monitoring well (s) with a mechanism for sampling established.

Ground Slope

Variations will not be granted for slopes greater than a 30% incline without a slope stability report approved by a Qualified Professional. Refer to Natural Ground Slope for more information regarding natural ground slope requirements.

Leaching Areas

As referenced in [Leach Line Dispersal Systems](#), the maximum allowable decreased leaching area for International Association of Plumbing and Mechanical Officials (IAPMO) certified infiltrator type systems will be a multiplier of 0.70. No variances will be granted for systems using a multiplier of less than 0.70.

Supplemental Treatment

As referenced in Onsite Supplemental Treatment and Alternative Dispersal Systems, OWTS utilizing supplemental treatment require periodic monitoring or inspections. No variances will be granted for supplemental treatments that are unable to meet this requirement.

Depth to Groundwater

No variance will be granted for OWTS with a separation from the bottom of the dispersal system to groundwater less than 5 feet for leachlines. Seepage pits will have a separation of no less than 10 feet. Refer to the [Soil Depth](#) section for more information.

Note: At the discretion of the County, the depth to groundwater requirement may be reduced to 2 feet when there is a supplemental treatment unit with disinfection installed.

Recreational Vehicle (RV) Holding Tanks

No variances will be granted for OWTS receiving significant amounts of wastes from RV holding tanks.

Minimum Horizontal Setbacks

All new and replacement OWTS must meet the minimum horizontal setbacks from domestic or municipal water supply well sources, including private wells. This section provides details regarding the minimum horizontal setback requirements for OWTS located near public water sources.

Setbacks Determined by Depth

The minimum horizontal setbacks for effluent dispersal systems are dependent on the depth of the system. The following table describes the required setbacks for effluent dispersal systems located near public water wells: (see table on page 22)

If the depth of the effluent dispersal system...	Then the required horizontal setback from the public water well is...
Does not exceed 10 feet,	150 feet.
Equals to or exceeds 10 feet and does not exceed 20 ft,	200 feet.
Equals to or exceeds 20 feet	600 feet

Where the effluent dispersal system is within 600 feet of a public water well, and the depth exceeds 20 feet, a Qualified Professional must conduct an evaluation. The evaluation is to determine the horizontal setback required to achieve a two-year travel time for microbiological contaminants. In no case, however, will the setback be less than 200 feet.

Dispersal Systems Near Surface Water Intake Points

The following minimum horizontal setbacks will be determined when effluent dispersal systems are located:

- Near a public surface water intake point (e.g., reservoir, lake, or flowing water body),

- Within the catchment of the drainage area, and
- In such a way that it may impact water quality at the intake point (i.e., upstream of the intake point for flowing water bodies).

When the effluent dispersal system is located ...	Then the dispersal system will be no less than...
Within 1,200 feet of the intake point,	400 feet from the high water mark.
<ul style="list-style-type: none"> • More than 1,200 feet, and • Less than 2,500 feet from the intake point, 	200 feet from the high water mark.

OWTS Within Required Setbacks of a Public Water Supply

Existing or proposed OWTS (in close proximity to domestic or municipal water wells, and surface water treatment plant intakes) have the potential to adversely impact source water quality. [County Code Section 33.0636](#) indicates horizontal setback requirements which apply to all OWTS located in the proximity of individual and public water supply wells. Refer to [Setback Requirements](#) for information regarding OWTS located within required setbacks.

Replacement OWTS Not Meeting Horizontal Setback Requirements

Replacement OWTS not meeting the horizontal setback requirements must meet the separation requirements to the greatest extent practicable. When this occurs, the OWTS must use mitigation measures (i.e., supplemental treatment) to ensure the public water source is not adversely affected. Mitigation measures, including supplemental treatment, will not be required when DEHS and/or the RWB find there is no indication that the previous OWTS adversely impacted the public water source.

This will be determined based on:

- Topography,
- Soil depth,
- Soil Texture, and
- Groundwater separation.

Separation Requirements for OWTS Pre-existing the Program

New OWTS installed on parcels of record existing on the effective date of this Program, which are unable to meet the horizontal setback requirements, must:

- Meet the separation requirements to the greatest extent practicable,
- Use the supplemental treatment for pathogens as detailed in the APMP (refer to [Chapter 6](#) for more information regarding the APMP), and
- Use other mitigation measures, if necessary, as determined by the permitting authority.

Note: No variances will be granted for any of the minimum horizontal setback requirements outlined in this section.

Site Assessment

Prior to approving the use of an OWTS, a site evaluation by Building and Safety may be required to:

- Ensure the proper system design.
- Determine compliance with site suitability, and whether adequate capacity is available.

Septage disposal from septic tanks is reported by septic tank pumpers monthly to DEHS with the location pumped, quantity pumped and the disposal location declared. These reports are entered into an electronic database.

Cesspool Elimination

Cesspools are not permitted in the County of San Bernardino. When County staff discovers a cesspool is still in use, the property owner will be required to replace the cesspool with an OWTS, which meets current standards. The timeframe for complying with this requirement will vary based on the condition of the cesspool and the potential threat it represents to water quality, public health and safety. While the County does not have a point of sale requirement for existing septic systems certification, voluntary certifications are performed routinely and system upgrades are permitted and replacements are constructed under Building permit.

Public Education

Reference and educational material for owners of OWTS can be found on the [DEHS website](#). These educational documents provide information for owners regarding how to locate, operate, and maintain their OWTS.

Local Watershed Management

The County of San Bernardino has three local watershed management agencies which manage the watersheds located within their boundaries. These agencies include the Chino Basin Watermaster, the Mojave Water Agency (MWA), and the San Bernardino Municipal Water District. DEHS notifies the local watershed management agencies regarding all new well construction within their boundaries, as well as attends meetings, as needed, to stay informed of any relevant water quality concerns. This section provides information regarding each local watershed management agency.

Chino Basin Watermaster

The Chino Basin Watermaster is a consensus based organization, which facilitates development and utilization of the Chino Groundwater Basin. The basin:

- Consists of approximately 235 square miles of the upper Santa Ana River watershed, and
- Has an estimated storage capacity of five to seven million acre feet (refer to the figure below for a map of the Chino Basin Watermaster boundaries).

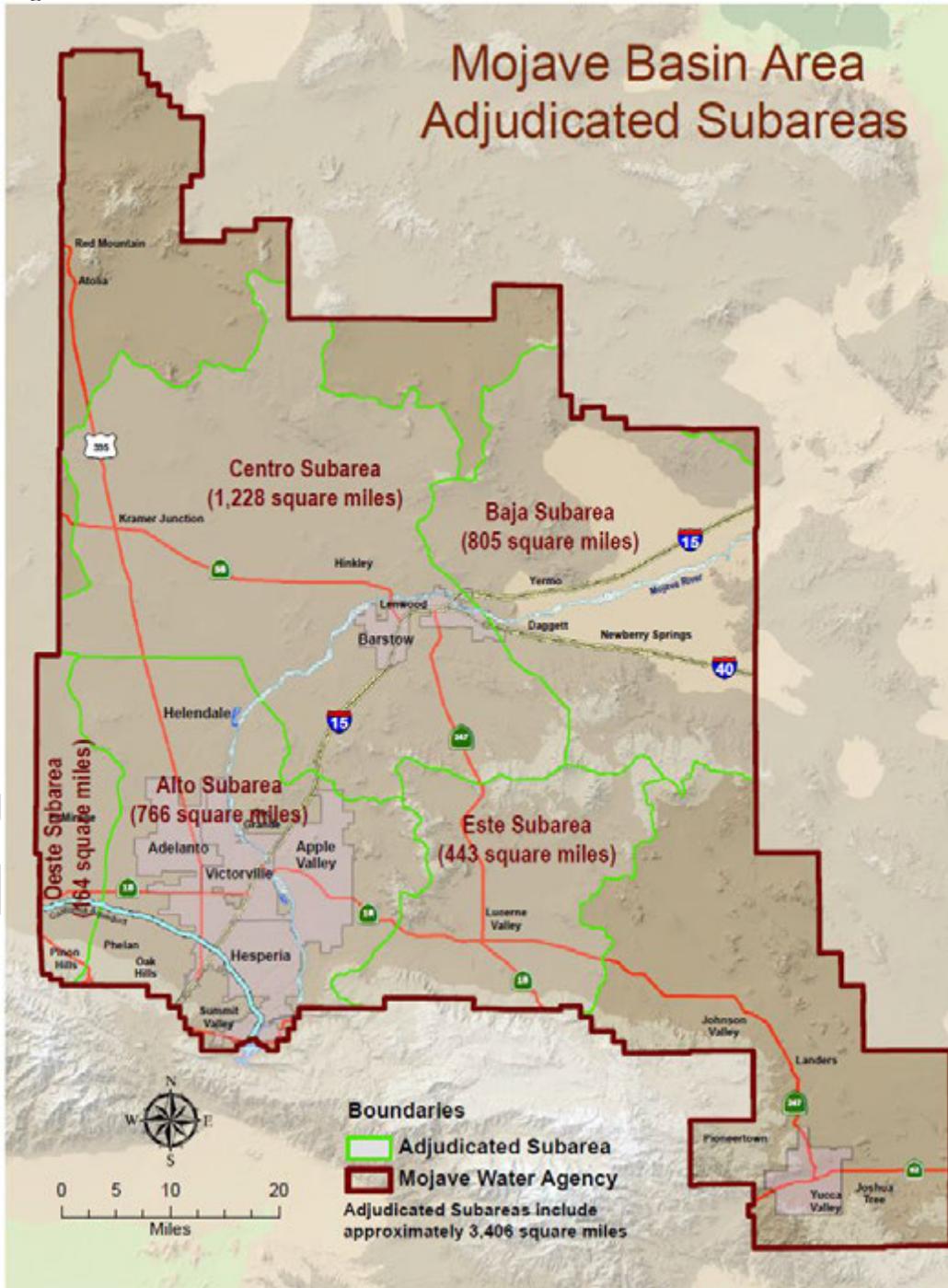
Figure 7.1



Mojave Water Agency (MWA)

The MWA is a State water contractor which manages an annual allotment of 82,800 acre feet of water from the State Water Project via the California Aqueduct. The MWA boundaries encompass approximately 4,900 square miles of the High Desert area within the County (refer to the figure below for a map of the MWA boundaries).

Figure 7. 2

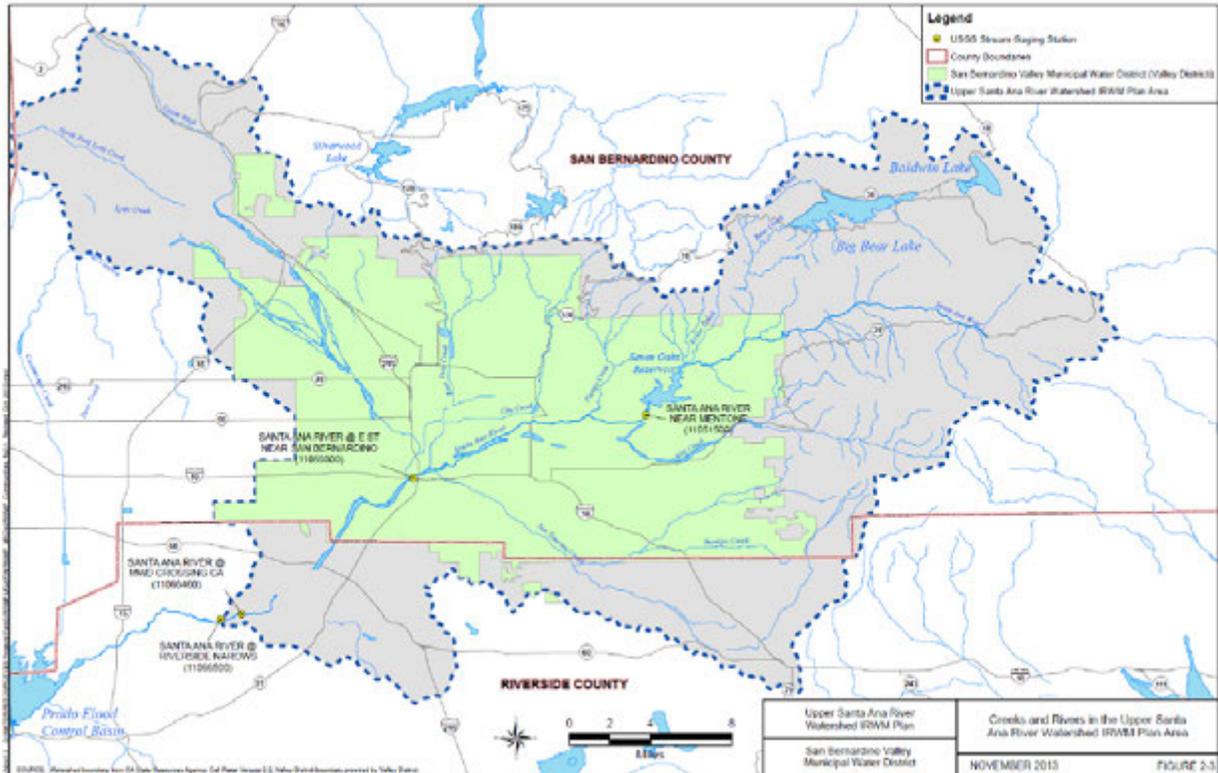


San Bernardino Valley Municipal Water District

The San Bernardino Valley Municipal Water District:

- Covers approximately 353 square miles in the southwestern region of the County,
- Spans two-thirds of the San Bernardino Valley,
- Imports water through the State Water Project, and
- Manages water storage within its boundaries (refer to the figure below for a map of the San Bernardino Valley Municipal Water District boundaries).

Figure 7.3



CHAPTER 8: REPORTING REQUIREMENTS AND DATA COLLECTION

As a condition to having oversight of the Onsite Wastewater Treatment Systems (OWTS) within the County of San Bernardino, the DEHS must collect certain data and report it to the Regional Water Quality Control Boards (RWBs), and in some instances to the Division of Drinking Water (DDW), and owners of water systems. This chapter provides information regarding the minimum reporting responsibilities, the OWTS Water Quality Assessment Program, and the Program assessment.

Reporting to the Regional Water Quality Control Boards (RWBs)

DEHS must report the following information to the RWBs on an annual basis, no later than February 1st of each year after the one year adjustment period addressing Program needs:

- The quantity and location of complaints pertaining to OWTS in the unincorporated areas of the County, and specifying which complaints were investigated, and how the complaints were resolved.
- The permits issued for new and replacement OWTS, including the number, location and description of the permits, and which Tier the permit was issued under.
- The quantity, location and description of permits issued for OWTS where a variance from the approved Program was granted.
- The number, location and results of septic tank pumper inspection reports which were received.
- A list of the applications and registrations issued for the Liquid Waste Hauler Program.
- The permits issued to domestic and municipal supply wells, including number, location, and description of permits. A written assessment and tabulation of the data in each information type, including (1) the distribution of new OWTS by group of lot size and (2) any new OWTS with supplemental treatment, and type of dispersal, including type of alternative dispersal system.

The records will be maintained using the current primary business application Envision Connect.

OWTS Water Quality Assessment Program (WQAP)

The WQAP is required to provide a better understanding regarding how OWTS located within the County of San Bernardino is affecting and/or contributing to ground water contamination by nitrates and pathogens. This section provides information regarding the WQAP, including individual well sampling, establishing the water quality baseline levels, constituents of concern and monitoring for pathogens and nitrogen.

Individual Well Sampling

The DEHS permits and regulates small public water systems and issues well permits throughout the County. In addition, all new individual wells are sampled for the following:

- Total coliform bacteria,
- Nitrates, and
- Other constituents of concern, which may include:
 - Arsenic,
 - Perchlorate,
 - Chromium VI, and
 - Gross alpha and uranium.

Establishing Water Quality Baseline Levels

All community drinking water wells, which are utilized as a public water system, will be analyzed for chemicals regulated by [Title 22](#) to ensure that the well meets drinking water standards. To establish water quality baseline levels, DEHS will use data obtained from:

- All public water systems regulated by the County,
 - Permitted individual and community drinking water wells, and
 - Random sampling of existing wells and new construction wells as permitted by property owners.
- *Note:* Once the baseline is established, the sample data from new permitted wells, and random samples of existing wells, will be used to maintain a reliable OWTS water quality assessment. DEHS will support agencies in their cumulative impact assessments for non-sewered areas. DEHS currently utilizes a database management system that allows authorized personnel to configure, manage, administer, and report information through Accela’s Envision software or Microsoft SQL Server. Assessment, statistical and spatial analyses, and mapping are primarily conducted through ESRI’s ArcGIS 10.4.1 and SAS 9.4.

Constituents of Concern

As part of the WQAP, DEHS has identified areas within San Bernardino County which have elevated levels of constituents of concern. The following table indicates those areas and the constituents of concern. In addition to total coliform and nitrate testing, sampling will be required for all new well construction in the areas indicated (this list will be updated as new information dictates).

Constituent	Areas
Arsenic	<ul style="list-style-type: none"> • Hinkley • North of Barstow to State Line • Calico/Yermo • Newberry Springs to Ludlow • Kramer Junction • Pioneertown • 29 Palms and north of 29 Palms
Perchlorate	<ul style="list-style-type: none"> • Loma Linda • Rialto • Fontana • Ontario • Barstow (near the I-15 and Hwy 58 intersection) • Within a 5-mile radius of George Air Force Base
Gross Alpha and Uranium	<ul style="list-style-type: none"> • Pioneertown • Morongo Valley • Twin Peaks • Fawnskin • Crestline • Running Springs

	<ul style="list-style-type: none"> • Lake Arrowhead
Chromium VI	<ul style="list-style-type: none"> • Hinkley • Oak Hills
Chlorinated solvents (e.g. TCE or PCE)	<ul style="list-style-type: none"> • Within a 5-mile radius of George Air Force Base

Pathogen and Nitrogen Monitoring

In an effort to distinguish water quality degradation which is attributable to OWTS, and water quality degradation which does not have a relation to OWTS, DEHS will monitor and collect water quality data for pathogens and nitrogen from the following available sources:

- Alternative treatment systems.
- Water quality sample data received from:
 - County agencies which have National Pollutant Discharge Elimination System (NPDES) permits (i.e., San Bernardino County Flood Control), and
 - Various water agencies [i.e., Mojave Water Agency (MWA)].
 - Crestline Sanitation District
 - Lake Arrowhead CSD
 - For Wrightwood, DEHS will require the standard water quality and quantity well driller report and monitor new private residential wells as allowed by the well owner (s).
 - DEHS will pursue obtaining data from monitoring wells, other cleanup sites or other means in areas of concern where data is not available. Currently the Wrightwood area fits this criteria.
 - DEHS will consider the use of the USGS computer vadose model tools or other vadose zone/groundwater models or land use planning tools to assess OWTS impacts on groundwater during the 5 year assessment and WB reporting.
 - DEHS will continue to search for new ways to monitor water quality. As a condition of approval for the creation of new lots of 1/2 acre utilizing OWTS, DEHS may require installation of monitoring wells prior to recordation for tracts of 40 lots or less when the cumulative impact report indicates potential contamination of the groundwater, with a mechanism established for sampling every 5 years for 40 years.

DEHS will pursue collaboration with other agencies to enhance the WQAP and further meet the needs of both the county and the jurisdictional agencies.

Ground water data collected as part of the Groundwater Ambient Monitoring Assessment Program, which is available in the [Geotracker database](#).

- The Salt and Nutrient Management Plan for Region 8 is now incorporated into the Basin Plan. The Basin Plan specifies surface and groundwater water quality objectives for TDS and N and identifies those groundwater basins that have no TDS assimilative capacity. The Basin Monitoring Program Task Force (BMPTF) periodically assesses the water quality for TDS and N within the region. The OWTS impact to TDS and N objectives will be included in the County's 5 year evaluation of OWTS impacts to groundwater and surface water.
- The Mojave Salt and Nutrient Management Plan prepared by MWA has been approved by WB 6 and can be relied upon as part of establishing baseline water quality in the Mojave River Valley Groundwater Basin

Program Assessment

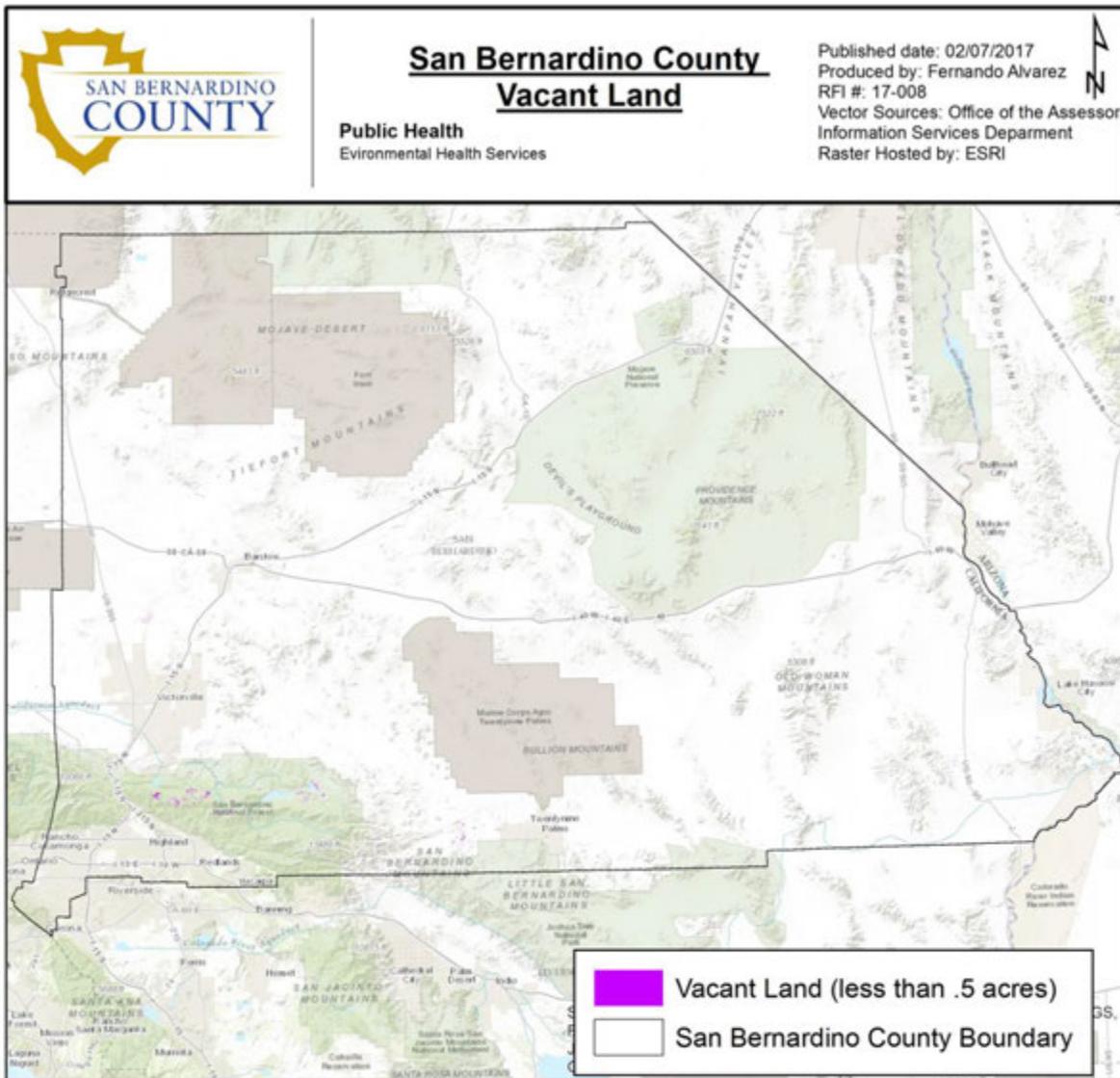
Every five years an assessment will be completed to evaluate the Program and determine whether OWTS within the County are affecting water quality. Since it is not possible to know where and when growth will occur that could impact groundwater, during this first review the Program will be modified, as needed, to address the discovered impacts of OWTS. This section provides information regarding how the information will be compiled and reviewed, as well as how the information will be submitted to both the California Environmental Data Exchange Network (CEDEN) and Geotracker. In order to assess the operational status of the OWTS within the County, DEHS will develop the Program capability during the adjustment period to compile and review:

- Septic tank pumper inspection reports, volume generated and hauled and the disposal locations,
- Complaints and abatement activities for failing OWTS,
- Variances issued for new and/or repair OWTS,
- Sample data from the WQAP,
- Water quality monitoring reports for alternative treatment systems or other OWTS having an operating permit, and
- Septic system certifications of existing OWTS in connection with:
 - Building additions/remodel projects,
 - Land Use Reviews with existing septic systems

All groundwater monitoring data generated will be submitted in electronic deliverable format (EDF) for inclusion into Geotracker. Surface water monitoring will be submitted to CEDEN in a Surface Water Ambient Monitoring Program (SWAMP) comparable format.

DEHS believes this Program will continue the protection of groundwater, public health and safety.

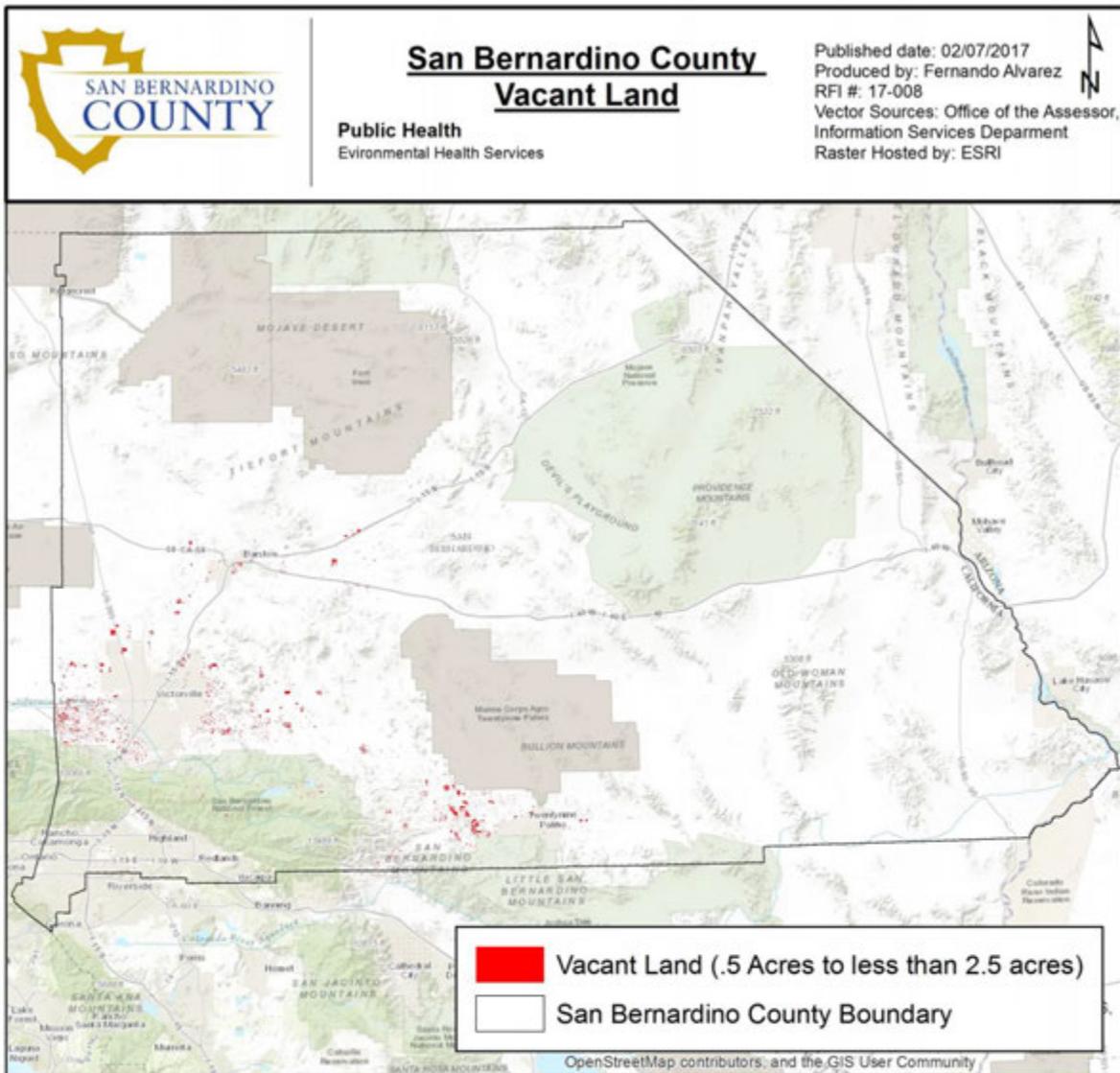
San Bernardino County Vacant Land (Less than .5 Acres)



San Bernardino County Vacant Land (less than .5 acres)*		
Total Vacant Parcels**	Total Vacant Acres**	Total Vacant Square Miles**
31,199	4,722	7.5
* Vacant land not within municipal, state, federal, military, or other recognized government boundaries		
** All values are approximate		

Disclaimer:
 Every reasonable effort has been made to ensure the accuracy of this map. San Bernardino County makes no warranty, representation or guaranty of the content, sequence, accuracy, timeliness or completeness of the data provided herein. The user of this map should not rely solely on the data provided herein for any reason. San Bernardino County shall assume no liability for any errors, omissions, or inaccuracies in the information provided regardless of how caused. San Bernardino County shall assume no liability for any decisions made or actions taken or not taken by the data furnished on this map.
WARNING: REFERENCE MATERIAL ONLY, NOT TO BE USED FOR NAVIGATION.

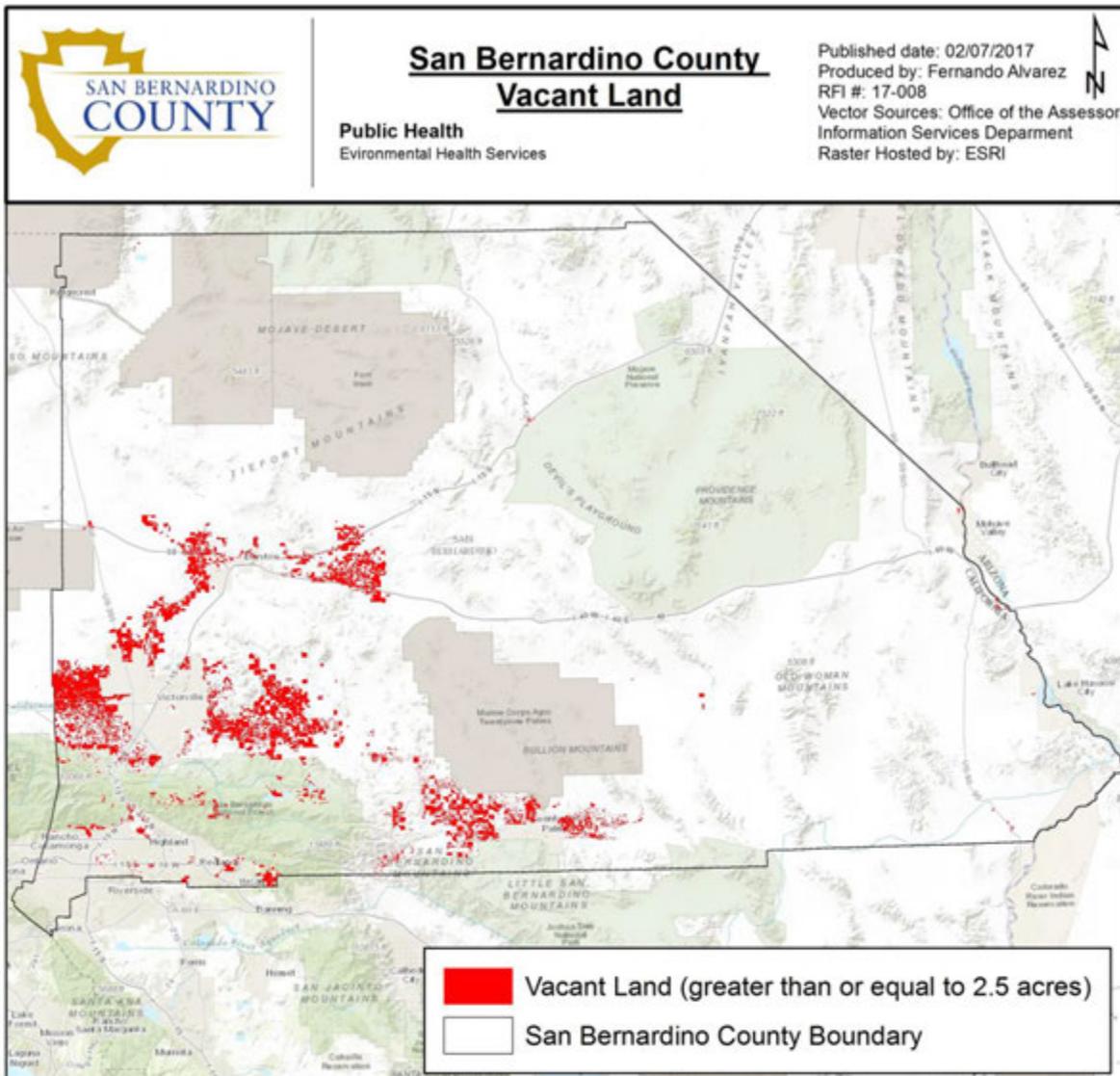
San Bernardino County Vacant Land (.5 Acres to Less than 2.5 Acres)



San Bernardino County Vacant Land (.5 acres to less than 2.5 acres)*		
Total Vacant Parcels**	Total Vacant Acres**	Total Vacant Square Miles**
21,014	37,059	57.9
* Vacant land not within municipal, state, federal, military, or other recognized government boundaries		
** All values are approximate		

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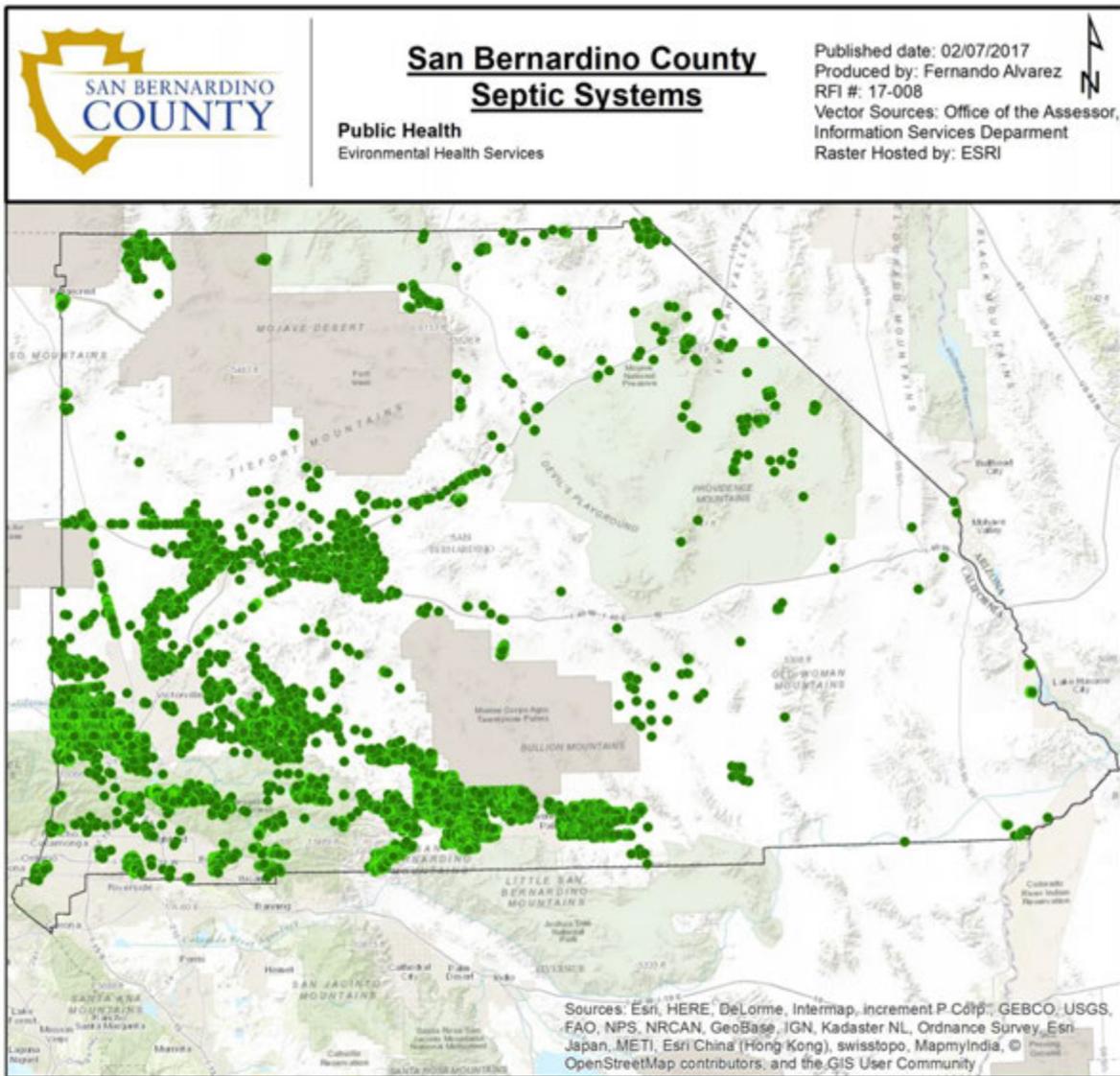
San Bernardino County Vacant Land (Greater than or Equal to 2.5 Acres)



San Bernardino County Vacant Land (greater than or equal to 2.5 acres)*		
Total Vacant Parcels**	Total Vacant Acres**	Total Vacant Square Miles**
32,297	380,491	594.5
* Vacant land not within municipal, state, federal, military, or other recognized government boundaries		
** All values are approximate		

Disclaimer:
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San Bernardino County Septic Systems

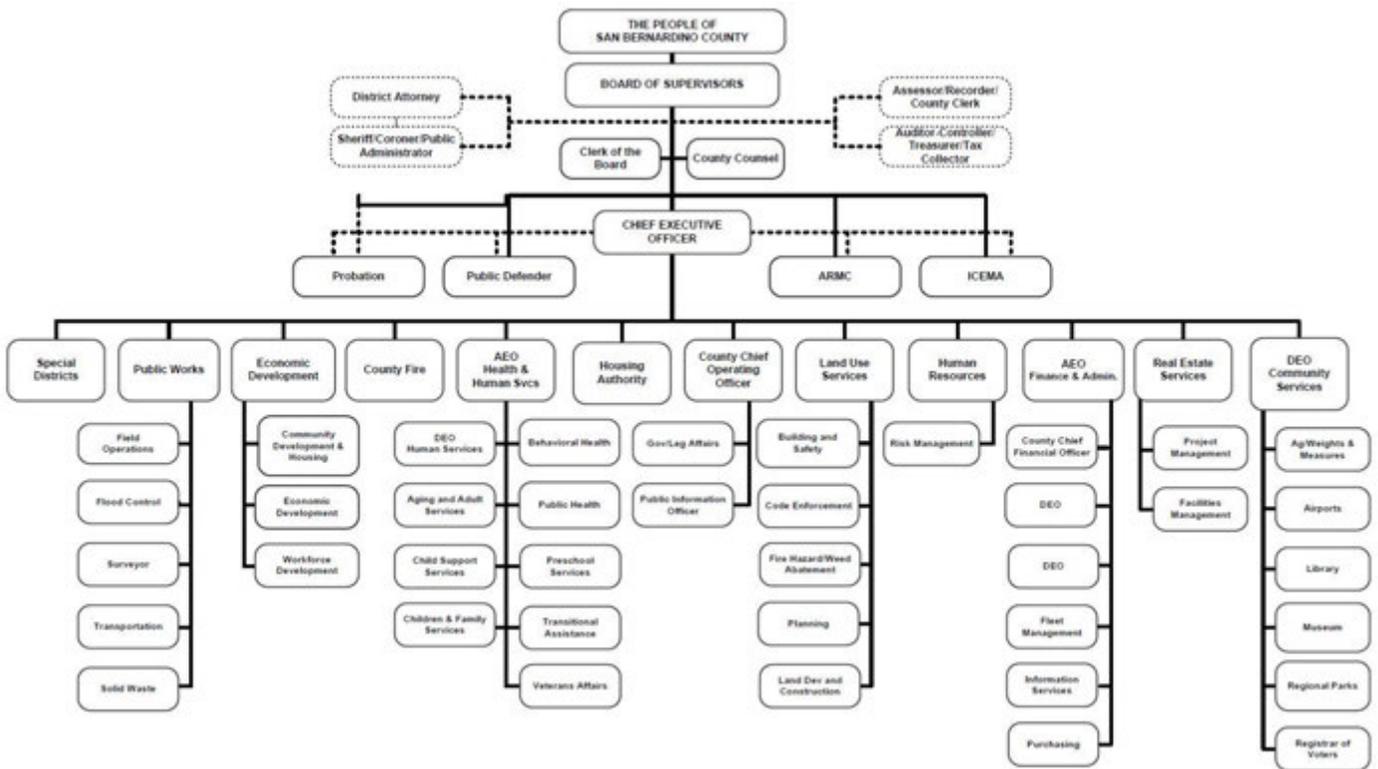


Land Type	Septic System Count*
Industrial	1,580
Administrative/Professional	10
Commercial	921
Public	297
Single Residential	36,348
Multiple Residential	137
Agricultural	534
Multiple Zonings	6
Restricted	140
Total Septic Systems: 39,973*	
* All Values are approximate	

● Septic System
 San Bernardino County Boundary

Disclaimer:
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San Bernardino County Organization Chart



DRAFT



ENCLOSURE 7A

Lahontan Regional Water Quality Control Board

June 23, 2016

(LAMP) San Bernardino County

Raymond Britain
Environmental Health Services
County of San Bernardino
172 W. 3rd Street, 1st Floor
San Bernardino, CA 92415
Raymond.britain@dph.sbcounty.gov

Lahontan, Colorado River and Santa Ana Water Board Comments on the San Bernardino County Draft Local Area Management Program

The County of San Bernardino Department of Environmental Health Services (County) submitted the Draft Local Area Management Program (LAMP) to the California Regional Quality Water Quality Control Boards (Water Boards) within the County's jurisdiction, dated October 30, 2015. The County proposes a LAMP (Tier 2) for new and replacement onsite septic systems instead of Tier 1 compliance under the State Board's June 19, 2012 policy for Onsite Wastewater Treatment Systems (OWTS Policy). As the lead Water Board for review of the County LAMP, the Lahontan Water Board provides these comments following joint review by this agency, the Santa Ana Water Board, and the Colorado River Water Board. Our technical comments as Attachment 1, Santa Ana Water Board comments as Attachment 2, and Colorado River Water Board comments as Attachment 3.

Summary

The Lahontan Water Board staff finds the LAMP generally meets the intent of the OWTS Policy with one exception. The LAMP is not consistent with OWTS Policy §9.3, primarily with respect to an effective Water Quality Assessment Program that will evaluate the extent and impact of septic discharges on groundwater quality over time.

Issues of Common Concern

- A. **Water Quality Assessment Program** – We recognize that the single most challenging issue for the County and Water Boards is development and implementation of a meaningful, cost-effective, and adequate water quality assessment program to satisfy Policy §9.3. The proposed Water Quality Assessment Program described on draft LAMP Page 61 does not meet Policy §9.3.2 requirements, which is to “determine the general operation status of OWTS and to evaluate the impact of OWTS discharges, and assess the extent to which groundwater and local surface water quality may be adversely impacted.” The County's proposed program is too basic and general to achieve the Policy goals.

AMY L. HORNE, PH.D., CHAIR | PATTY Z. KOUYOUMDJIAN, EXECUTIVE OFFICER

2501 Lake Tahoe Blvd., So. Lake Tahoe, CA 96150 | 14440 Civic Dr., Ste. 200, Victorville, CA 92392
e-mail Lahontan@waterboards.ca.gov | website www.waterboards.ca.gov/lahontan

The LAMP proposes annual reporting by February 1 with a program assessment every five years as the policy requires. The assessment program is limited to: 1) sampling new individual production wells for selected constituents, 2) establishing baseline water quality using individual and community drinking water wells, and 3) distinguishing water quality degradation from OWTS and other sources.

A Policy Tier 2 LAMP involves a fundamental shift from a purely prescriptive to partially performance-based program as described in Policy §9.5 and §9.6. The monitoring and water quality assessment program should address or include the following principles:

- Be adaptive and modified over time in collaboration with affected stakeholders.
- Include basic elements that apply county-wide;
- Include specific elements for particular locales or areas of concern such as high density OWTS, areas experiencing large numbers of failing systems, or areas where water quality data indicate trends of increasing nitrate concentrations in ground or surface waters;
- Identify individual owner residential wells in areas of high density OWTS willing to participate in regional groundwater data collection;
- Identify areas with high density OWTS, especially those located in high risk areas where hydrogeological conditions, soil conditions, shallow water table, or high domestic well usage may lead to pollution from OWTS;
- Assess efforts to establish onsite maintenance districts or zones and feasibility of installing municipal sewage collection systems in areas of high density OWTS;
- Assess particular areas with high numbers of failing systems;
- Assess locations near high density OWTS where future groundwater monitoring wells should be installed, especially in areas of shallow groundwater;
- Assess water quality trends, especially with respect to nitrate concentrations;
- Clarify procedures to exchange data with other agencies and collaboration efforts that can be improved;
- Consider electronic mapping location of existing and new OWTS, focusing on areas with characteristics listed under Section 9.1 of the OWTS Policy; and,
- Identify existing supply and monitoring wells (private and public) and prioritize wells that can be used to assess water quality associated with OWTS over time.

B. Jurisdictional Area – San Bernardino County covers a large area and encompasses numerous incorporated cities and federal lands with interspersed private lands that are not under the jurisdiction of the County's septic system approval authority. Some cities retain septic system approval and others do not. We recognize that these boundaries change over time. We request clarification in the form of a map that identifies areas within the County that are subject to the proposed LAMP requirements. Please provide these data in printed format and in ArcGIS data format (shape files).

C. Septic System Discharge Density – We recognize that each Water Board has similar, although different, approaches to the OWTS discharge minimum area, or maximum density, that were developed in the late 1980's. However, since then the County subdivision minimum lot size for a single family home with OWTS discharge has generally been one-half acre. The County proposes to continue this lot size through the LAMP.

It is also generally understood that OWTS discharges pollute groundwater over time, primarily with respect to pathogens and nitrate, under various soil type, climatic, hydrogeological, and *density* conditions¹. We believe that in arid regions with closed groundwater basins, high density OWTS discharges will have long-term adverse groundwater impacts.

While we believe the County should consider increasing the minimum lot size for future subdivisions, we accept the County's proposal to continue this density standard provided there is an adequate Water Quality Assessment Program.

We also believe that certain areas of high density OWTS should be considered for municipal sewage collection systems. The Colorado River Water Board adopted Basin Plan prohibitions for the Town of Yucca Valley area. In the Lahontan Water Board jurisdiction, the community of Wrightwood, Phelan commercial core, and north Barstow have a high density of OWTS. The County should endeavor to identify areas with high density OWTS and develop plans to connect these areas to municipal or regional sewage collection systems. Treatment alternatives should include both centralized and decentralized treatment.

- D. Basin Plan Prohibitions - Policy §2.1 states that OWTS must comply with the *Water Quality Control Plan for the Lahontan Region* (Basin Plan) prohibitions. The Policy also states that if the prohibition authorizes discharges under specified conditions, the owner of OWTS must comply with those Basin Plan conditions, typically called "exemptions". Only the Regional Water Board or the State Water Resources Control Board can modify the Basin Plan. The LAMP should refer to each Water Board's Basin Plan OWTS prohibition and exemption conditions.
- E. Identifying Unauthorized Systems - We believe that the County practices and policies, including the LAMP, should describe tasks and milestones to identify and address unauthorized OWTS, including existing: cesspools, systems with flow greater than 10,000 gal/day, high-strength wastewater discharges, or inappropriately functioning grease traps.

Closing

The OWTS Policy designates the Lahontan Regional Water Quality Control Board (Lahontan Water Board) as the lead Water Board for the purposes of reviewing and approving San Bernardino County's Draft LAMP. The three Water Board staffs are available to discuss these comments at your convenience. If you have questions, please contact either of the following individuals:

- Lahontan Water Board - Mike Plaziak (760) 241-7325
mike.plaziak@waterboards.ca.gov

¹ Izbicki, John A.; Flint, Alan L.; O'Leary, David R.; Nishikawa, Tracy; Martin, Peter; Johnson, Russell D.; and Clark, Dennis A., "Storage and mobilization of natural and septic nitrate in thick unsaturated zones, California", *Journal of Hydrology*, 10.1016/j.jhydrol.2015.02.005

- Colorado River Water Board - Mary Serra (760) 776-8972
mary.serra@waterboards.ca.gov
- Santa Ana Water Board – Milasol Gaslan (951) 782-4419
milasol.gaslan@waterboards.ca.gov

We thank you for your efforts to develop a LAMP that is protective of water quality. We would request a meeting with your staff to discuss our comments in more detail. The Policy requires the Water Boards to review and approve LAMPs by May 2017. To that end, the County's LAMP will need to be finalized by Fall/Winter 2016 in order to meet the Policy schedule.



Mike Plaziak, P.G.
Supervising Engineering Geologist
South Lahontan Basins Division

Enclosures:

1. Lahontan Water Board technical comments
2. January 15, 2016, Santa Ana Water Board comments
3. February 25, 2016, Colorado River Water Board comments

cc w/enc: Mary Serra, Colorado River Water Board, mary.serra@waterboards.ca.gov
Susan Beeson, Santa Ana Water, susan.beeson@Waterboards.ca.gov
Milasol Gaslan, milasol.gaslan@waterboards.ca.gov
Rob Tucker, Lahontan Water Board, robert.tucker@waterboards.ca.gov

MC/rc/LAMP comments 6-23-16 mp

Lahontan Water Board Technical Comments

Following are technical comments on the draft LAMP. Page numbers refer to the Draft LAMP.

1. General. The Draft LAMP indicates that only "Alternate Onsite Treatment Systems" are required to maintain annual operating permits from the County's Division of Environmental Health. The Building and Safety Division is responsible for issuing permits for "new construction, repair and replacement of OWTS," while Code Enforcement is responsible for inspections, operation, maintenance, and responding to failures of OWTS systems. The LAMP should include a County organizational chart, describing how the multiple County divisions will collaborate and describe inventory control and proposed data reporting methodology.
2. Page 1 - The draft LAMP indicates that only 15% of the county is subject to the LAMP requirements. We recommend the County's LAMP include a map, including but not limited to:
 - Jurisdictional areas e.g. where County has jurisdiction and where local governments or other entities have jurisdiction;
 - Locations where permits are issued for new or failing systems in the past twelve months;
 - Onsite maintenance districts or zones;
 - Water Board septic system prohibition areas;
 - Locations of impaired water bodies due to nitrogen or pathogens and impaired water bodies with an approved Total Maximum Daily Load; and,
 - Water quality assessment program features (e.g. wells included for sampling and analysis, surface water collection stations, etc.).
3. Page 2 – Definitions, Domestic Well. Please revise the last clause to read the following: "...and is not regulated by the SWRCB Division of Drinking Water (DDW)."
4. Page 4 – Definitions, Notice of Condition – Please clarify and explain the legal basis, scope, and purpose of the referenced Notice of Condition site specific document.
5. Page 10 – LAMP Standards Applicability, Requirements and Exceptions, 1st sentence. Please revise as follows: "...to protect public health, water quality, and safety."
6. Pages 8, 23, 24, 25, 26, 32, 41, 42 — Statements on these pages indicate that the County may refer selected new and replacement OWTS to the Water Board at its discretion. Please note that for OWTS that are not covered under the scope of San Bernardino County's LAMP (Policy §9.1, §2.6.1), Policy §2.6.1 requires the owner to submit a report of waste discharge to the Water Board. In addition, the owner must pay fees and obtain waste discharge requirements (Policy §12.0). We request that the LAMP clarify that County will make the initial referral to the Water Board and

include a County contact to which questions may be addressed. We have been contacted by many applicants, ostensibly referred by the County, that have no idea of the reason for their referral. The LAMP should indicate that Water Board requirements vary from region-to-region and case-by-case, but regulation by the Water Board may significantly delay the project and introduce additional requirements.

7. Page 10 — LAMP Standards Applicability, Requirements and Exceptions, Exceptions. Related to the above comment, the bottom of this page lists specific OWTS which are not included in the LAMP. Please clarify if supplemental treatment systems as defined in Policy §1.0 are included in the term "wastewater treatment plants of any kind or size". Supplemental treatment systems for small applications are not necessarily a wastewater treatment plant. The County is authorized to approve supplemental treatment systems provided there is a performance monitoring and inspection program as required in Policy § 9.4.6. We prefer the County approve supplemental treatment systems for small applications and require periodic performance monitoring and inspections. If not, applicants must submit a report of waste discharge to the Water Board (Policy 2.6.1).
8. Page 10 — The County has permitting authority for onsite wastewater disposal siting, design, operation, maintenance and has historically focused its efforts to protect public health. The OWTS Policy advocates for the additional protection of water quality. The Draft LAMP should include the County's wastewater disposal ordinance for reference, a discussion of modifications, if any, to that ordinance, and the schedule for its hearing and adoption of the final LAMP by the County's Board of Supervisors. In addition, clarification is necessary where the Draft LAMP cites "public health and safety" (such as at the bottom of page 51) as its mandate, leaving out water quality considerations. This is because Water Code §13291(a)(4), under Chapter 4.5, Onsite Sewage Treatment System", requires that county adopted regulations for onsite system must include systems that have a "a reasonable potential to cause a violation of water quality objectives ..."
9. Pages 13, 18, 25, 35, 36, 38 and Table of Contents— Please add a definition for "alternative treatment systems" and explain the relationship to the "supplemental treatment" term defined in the LAMP and OWTS Policy.
10. Page 18 — The Draft LAMP (Minimum Qualifications and Certification for OWTS Practitioners) should detail the function of a "service provider." The term service provider is listed in the definitions section on page 6 and minimum qualifications should be defined. The Draft LAMP should also detail the methodology that the County will use to either accept a national OWTS educational certification for service provider or create a program of its own.
11. Page 24 and 25, Densities and Minimum Lot Sizes. The draft LAMP proposes an equivalent dwelling unit (EDU) flow of 300 gallons per day. This is greater than Lahontan's Water Board's Basin Plan criteria of 250 gallons per day found on page

4.4-10. For projects in the Lahontan Water Board's jurisdiction, please use 1 EDU = 250 gallons per day.

12. Page 26 — Minimum Requirements for Natural Ground Slope and Percolation Rates, Natural Ground Slope. In the draft LAMP, the county proposes the owner obtain Water Board approval for proposed OWTS where the slope exceeds 25%. Water Code §13360 prohibits Water Board to stamp approve this type of report. The Policy §9.4.4 states that systems with a slope greater than 30% must be approved by a qualified professional as defined in OWTS Policy §1.0. Water Board staff recommend revision of this section in a manner to reflect the policy and Water Code §13360.
13. Page 27 — OWTS Design Table, first row after header row, second column, systems greater than 10,000 gallons per day. Please replace second bullet to read as follows: "Will be referred to the appropriate Water Board for review and permit issuance (Policy §2.6 and 2.6.2).
14. Pages 31 and 32 — Prohibitions and Exemptions. Requesting Exemptions in Prohibition Areas: The prohibitions in the County areas of the Lahontan region are presented in the *Water Quality Control Plan for the Lahontan Region (Basin Plan)*, Page 4.1-21. The Mojave Hydrologic Unit Prohibition No. 3, states the following:

"The discharge of waste from new leaching or percolation systems is prohibited in the following areas (Figure 4.1-17):

- (a) The Silverwood Lake watershed.*
- (b) Deep Creek and Grass Valley Creek watersheds above elevation 3,200 feet.*

For this prohibition, "new" systems are any installed after May 15, 1975.

An exemption to this prohibition may be granted whenever the Water Board's Executive Officer finds that the operation of septic tanks, cesspools, or other means of waste disposal in a particular area will not, individually or collectively, directly or indirectly, adversely affect water quality or beneficial uses, and that the sewerage of such area would have a damaging effect upon the environment."

Please clarify, under OWTS prohibitions, "Lahontan RWQCB Prohibition Areas 1-5", should be "Mojave Hydrologic Unit Prohibition Area 3." Under Lahontan Water Board Order No. 6-81-3 for Crestline and Lahontan Water Board Order No. 6-84-93 for Lake Arrowhead, the County is authorized to issue OWTS building permits in these exemption areas, usually without Lahontan Water Board's approval. Please add the OWTS approval process for Lake Arrowhead and Crestline exemption areas.

15. Page 40 — Alternative Treatment Systems, Wastewater Sample Requirements for Supplemental Treatment Systems. Please specify the required sampled constituents and sample locations for performance monitoring of supplemental treatment systems. For effluent, Lahontan Water Board staff suggests the

constituents listed in the Lahontan Water Board Basin Plan, page 4.4-7, to include as a minimum the following:

- nitrate (as nitrogen)
- total (Kjeldahl) nitrogen

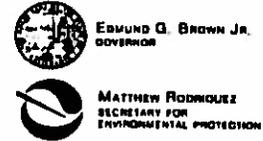
Lahontan Water Board also suggests sampling the influent for total nitrogen to determine the nitrogen removal rate. Nitrogen is important because in its oxidized state, nitrate, is very stable, and its concentration in water below the drain field may pollute groundwater.

16. Page 57 - LAMP Scope of Coverage, Site Assessment. OWTS Policy Section 9.2.6, page 30, specifies that the LAMP include, "An assessment of existing and proposed disposal locations for septage, the volume of septage anticipated, and whether adequate capacity is available." Please include a site evaluation by the Building and Safety Division to:

- Ensure the proper system design, and the existing and proposed disposal locations for septage meet the minimum requirements of the LAMP.
- Determine compliance with site suitability requirements, the volume of septage anticipated and whether adequate capacity is available for the septage disposal.

17. Page 58 — Local Watershed Management. Please clarify groundwater data collection, exchange and assessment plans with local agencies and methods to manage data and assess effectiveness of the County's water quality assessment program.

- Mojave Water Agency (MWA) groundwater data. This agency consolidates data from source agencies into a single database for the Mojave groundwater basin and Lucerne Valley.
- Crestline Sanitation District performs water quality assessments in their respective area.
- Lake Arrowhead Community Services District performs water quality assessments in their respective area.
- In Wrightwood, County Special Districts formerly collected samples from a County Service Area (CSA) 56 groundwater monitoring well in compliance with waste discharge requirements Order 6-76-38. While the Lahontan Water Board rescinded this order in 2013, the County still maintains this well and well sampling could be resumed as an element of the water quality assessment program.



Santa Ana Regional Water Quality Control Board

January 15, 2016

Mike Plaziak, Supervising Engineering Geologist
 Lahontan Regional Water Quality Control Board, Victorville Office
 14440 Civic Drive, Suite 200
 Victorville, CA 92392

COMMENTS ON SAN BERNARDINO COUNTY'S PROPOSED LOCAL AGENCY MANAGEMENT PROGRAM

Dear Mr. Plaziak:

San Bernardino County falls within multiple Regional Water Board jurisdictions. The Lahontan Regional Water Quality Control Board (Region 6) is the designated¹ Regional Water Board, for purposes of reviewing and, if appropriate, approving the Local Agency Management Plan (LAMP) for San Bernardino County. It is our understanding that Region 6 will coordinate the comments from the three Regional Boards (Regions 6, 7, and 8) on this LAMP.

Consistent with this approach, we have the following general comments that apply to the LAMP area as a whole and specific comments applicable to areas within the Region 8 jurisdiction.

General Comments:

1. LAMP, Chapter 1, Introduction: The LAMP states that the unincorporated area under County's jurisdiction spans 1.9 million acres and encompasses 15% of the entire County. An additional 4% is directly under the control of 24 incorporated city governments.

The County LAMP should identify where the unincorporated 15% area is located and indicate if any areas under the control of the 24 incorporated city governments will be subject to this LAMP.

2. LAMP, Chapter 1, Introduction: The LAMP states that the requirements defined in Tier 1 of the Onsite Wastewater Treatment System (OWTS) Policy do not meet the future development needs of the County due to diversity. Therefore, under Chapter 3, Siting Standards, Density/Minimum Lot Size Requirements, the County proposes any new lot creations, subdivisions, etc. will require a minimum of one-half acre lot size. All other lots created prior to the LAMP adoption will be grandfathered from the one-half acre requirement. Further, the County proposes to defer those projects that may require a more stringent lot size requirement for the protection of water quality to the Regional Board offices.

¹ Attachment 3 of the Onsite Wastewater Treatment Policy,
http://www.waterboards.ca.gov/water_issues/programs/owts/docs/owts_policy.pdf.

We note that the County's approach to the proposed Density/Minimum Lot Size Requirements (MLSR) of one-half acre is somewhat consistent with the Santa Ana Region's MLSR as adopted September 8, 1989 (and subsequent amendments), and also the Memorandum of Understanding between the County and the Santa Ana Regional Board. However, Section 7.8, Tier 1 of the OWTS Policy sets the standard for low risk siting and design requirements that calls for a larger lot size based on average annual rainfall (2.5-acre lots sizes or more). LAMPs approved under Tier 2 provide an alternative to Tier 1 if such proposal will still achieve the Policy's purpose.

We agree that those lots created prior to September 7, 1989 should continue to be grandfathered from the Policy provided they meet County requirements and are not located within areas of water quality concern, including the septic system prohibition areas within Region 8. However, the County should consider the adoption of a 2.5-acre lot size requirement or Tier 1 requirements for those specific areas which are necessary in order to protect water quality and not simply defer those areas to the Regional Board.

To address diversity within the County, we are also agreeable to the County's approval of proposed one-half acre lot size requirements for any new lots being created with supporting documentation on a case-by-case basis or for specific geographic areas to be identified in the LAMP where the County had evaluated site conditions and determined that higher density will continue to protect water quality and public health. In identifying requirements different from Tier 1 for specific areas, the OWTS Policy specifies that the County consider the factors identified in Section 9.1, as well as any other conditions deemed appropriate.

3. OWTS Policy Section 9.2.6, page 30, specifies that the LAMP include, "An assessment of existing and proposed disposal locations for septage, the volume of septage anticipated, and whether adequate capacity is available."

In Chapter 7, LAMP Scope of Coverage, Site Assessment, page 57, please revise as follows:

"Site Assessment

Prior to approving the use of an OWTS, a site evaluation by the Building and Safety Division will be required to:

- Ensure the proper system design, and the existing and proposed disposal locations for septage meet the minimum requirements of the LAMP.
- Determine compliance with site suitability requirements, the volume of septage anticipated and whether adequate capacity is available for the septage disposal."

4. OWTS Policy Section 9.3.2, page 31 specifies the County's responsibility to "Maintain a water quality assessment program to determine the general operation status of OWTS and to evaluate the impact of OWTS discharges, and assess the extent to which groundwater and local surface water quality may be adversely impacted. The focus of the assessment should be areas with characteristics listed under section 9.1."

The LAMP specifies that the County will annually report the number, location, and description of permits issued for OWTS or where a variance is granted. In addition to maintaining records for newly permitted OWTS, the County should maintain an inventory of existing and new OWTS. As part of the water quality assessment program (WQAP), please map the location of existing and new OWTS, focusing on areas with characteristics listed

under Section 9.1 of the OWTS Policy. Mapping will assist in evaluating the County's rationale for the design and implementation of the WQAP specified under Section 9.3.2. The WQAP is intended to determine the general operational status of OWTS and to evaluate the impact of OWTS discharges on groundwater and surface water quality.

5. Consistent with the rationale in item 4 above, please add the following information as the fourth bulleted item on page 61 of the LAMP, Chapter 8, Reporting to the Regional Water Quality Control Boards as follows:
 - The quantity and location of complaints pertaining to OWTS in areas where this LAMP is applicable, and specifying which complaints were investigated, and how the complaints were resolved.
 - The permits issued for new and replacement OWTS, including the number, location and description of the permits, and which Tier the permit was issued under.
 - The quantity, location and description of permits issued for OWTS where a variance from the approved LAMP was granted.
 - Electronic workable file (such as an Excel spreadsheet) which contains information on all new, replaced, or current OWTS. At a minimum, please include the following information:
 - o Latitude & Longitude
 - o Parcel size
 - o Number of structures
 - o Bedrooms per Dwelling(s)/structure
 - o Estimated gallons per day of wastewater

Specific Comments Applicable to San Bernardino County Areas within Region 8 Jurisdiction:

6. LAMP, Chapter 4, OWTS Design and Construction: The County proposes to continue to defer all projects within the Fontana/Bloomington area to the Regional Board for consideration. Please advise why the County prefers to defer these OWTS projects within these specific areas to the Regional Board.
7. LAMP, Sections 9.2.8, on page 30, states that the LAMP's permitting program provide "Any consideration given to the development and implementation of, or coordination with, Regional Salt and Nutrient Management Plans."

The Salt and Nutrient Management Plan for Region 8 is now incorporated into the Basin Plan. The Basin Plan specifies surface and groundwater water quality objectives for TDS and N and identifies those groundwater basins that have no TDS assimilative capacity. The Basin Monitoring Program Task Force (BMPTF) periodically assesses the water quality for TDS and N within the region. The OWTS impact to TDS and N objectives should be included in the County's 5 year evaluation of OWTS impacts to groundwater and surface water.

8. LAMP, Chapter 8, Reporting to the Regional Water Quality Control Boards, page 61 identifies the information to be reported annually to the Regional Boards.

January 15, 2016

A majority of 303(d) listed water bodies in Region 8 are impaired for pathogens and nutrients. Some publicly owned treatment works in Region 8 have acceptance criteria for septage wastes. Hauler loads are rejected when those acceptance criteria are not met.

We recommend that the LAMP include a brief description of procedures used by the County to ensure that pumped septage wastes generated within the County are disposed of properly. An example would be for the DEHS licensing and reporting requirement for Liquid Waste Haulers to include information that would allow the County to report annually that all pumped septage have been accounted for and disposed of properly. Also, please modify the bulleted item on page 61, under "Reporting to the Regional Water Quality Control Boards" as follows:

- The number, location and results of septic tank pumper inspection reports which were received. Provide a summary of total volume generated and hauled and the corresponding disposal locations.

In closing, we appreciate Region 6's efforts in coordinating the review of the proposed Local Agency Management Plan and look forward to further discussions regarding the Santa Ana Regional Board comments, as needed. Should you have any questions, please contact me at (951) 782-4419 or at milasol.gaslan@waterboards.ca.gov or Susan Beeson at (951) 782-4902 or at susan.beeson@waterboards.ca.gov.

Sincerely,



for Milasol C. Gaslan, Chief
Wastewater Program

Cc: Jehiel Cass, Lahontan Regional Water Quality Control Board, R6V
Francis Coony, Lahontan Regional Water Quality Control Board, R6V
Mary Serra – Colorado River Regional Water Quality Control Board, R7



Colorado River Basin Regional Water Quality Control Board

Sent via email

February 25, 2016

Mike Plaziak, Supervising Engineering Geologist
mike.plaziak@waterboards.ca.gov
 Lahontan Regional Water Quality Control Board, Victorville Office
 14440 Civic Drive, Suite 200
 Victorville, CA 92392

COMMENTS ON SAN BERNARDINO COUNTY'S DRAFT LOCAL AGENCY MANAGEMENT PROGRAM

Dear Mr. Plaziak

Colorado River Basin Regional Water Quality Control Board (Colorado River Basin Water Board) staff received a copy of the draft "Local Agency Management Program for Onsite Wastewater Treatment Systems" (Draft LAMP) from San Bernardino County, Public Health, and Environmental Health Services on November 2, 2015. The Draft LAMP was developed in response to the State Water Resources Control Board's *Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems* (OWTS Policy).

The OWTS Policy designates the Lahontan Regional Water Quality Control Board (Lahontan Water Board) as San Bernardino County's primary contact for the purposes of reviewing and, if appropriate, approving the Draft LAMP. Because San Bernardino County includes jurisdictional areas within the Colorado River Basin Water Board, the Lahontan Water Board staff requested written comments on the Draft LAMP. Our comments are as follows:

1. The County has permitting authority for onsite wastewater disposal siting, design, operation, maintenance and has historically focused its efforts to protect public health. The OWTS Policy advocates for the additional protection of water quality. The Draft LAMP should include the County's wastewater disposal ordinance for reference, a discussion of modifications, if any, to that ordinance, and the schedule for its hearing and adoption of the final LAMP by the County's Board of Supervisors. In addition, clarification is necessary where the Draft LAMP cites "public health and safety" (such as at the bottom of page 51) as its mandate, leaving out water quality considerations.

2. As a point of clarification, the Draft LAMP should improve its description of the extent of its jurisdictional boundaries for onsite wastewater treatment system permitting authority as it relates to the incorporated areas of Needles, Twentynine Palms and Yucca Valley.
3. The Draft LAMP should use the following text in order to improve the definition of Regional Water Quality Control Board: "Regional Water Board is any of the Regional Water Quality Control Boards designated by California 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. Depending on the site specific location of the onsite wastewater treatment system, Regional Water Board reference in this document may refer to the Colorado River Basin Water Board, the Lahontan Water Board, or the Santa Ana Water Board."
4. Section 2.1 of the OWTS Policy states "All new, replacement, or existing OWTS within an area that is subject to a Basin Plan prohibition of discharges from OWTS, must comply with the prohibition." The Colorado River Basin Water Board has an onsite wastewater prohibition zone in San Bernardino County in the incorporated area of Yucca Valley.

The Draft LAMP includes an authority statement on page 12; "The Building and Safety Division requires Division of Environmental Health Safety approval on all OWTS proposals when the OWTS is located within a prohibition area." In addition, the Draft LAMP includes a discussion of Prohibitions and Exemptions beginning on page 31 that lists Yucca Valley and contains a protocol to obtain an exemption from the Basin Plan prohibition. The Colorado River Basin Water Board's Basin Plan prohibition cannot be modified by the LAMP. Only the Regional Water Board or the State Water Resources Control Board can modify the Basin Plan¹. The Colorado River Basin Water Board Basin Plan contains protocols for OWTS owners seeking an exemption.

5. The Colorado River Basin Water Board under the delegated authority of its Executive Officer requires the ability to identify new areas of special concern with regard to onsite wastewater treatment system disposal resulting from their density and threat to groundwater quality. Colorado River Basin Water Board staff recommends that the text of Chapter 4 (OWTS Design and Construction, Special Considerations) include the following text:

"Areas of Special Concern or Designated Maintenance Areas: Improper siting, design, operation and maintenance or density may subsequently be determined to be a source of pathogens or nitrogen in groundwater or surface water. The Areas of Special Concern may be identified by the

¹ A copy of the Basin Plan can be downloaded at:
http://www.waterboards.ca.gov/coloradoriver/water_issues/programs/basin_planning/

San Bernardino's Public Health Officer or the appropriate Regional Water Board's Executive Officer. The following provisions apply:

- a. No existing OWTS within the Area of Special Concern or Designated Maintenance Areas, shall be expanded or otherwise modified to accommodate new construction and/or additional wastewater generating fixtures or appliances unless that system is designed to remove no less than eighty percent (80%) of the nitrogen released in the effluent (advanced treatment, denitrifying systems).
 - b. The minimum parcel size for any new subdivision or residential lot division within an Area of Special Concern or a Designated Maintenance Areas shall be one dwelling unit per two and one half (2.5) acres.
 - c. No application for a new septic system shall be accepted for any lot within the Area of Special Concern or a Designated Maintenance Areas unless that system is designed to remove no less than eighty percent (80%) of the nitrogen released in the effluent (advanced treatment, denitrifying systems)."
6. The 2.5 acre lot size is the OWTS Policy strategy to control density within San Bernardino County for areas with low rainfall. The County might also offer an alternative strategy to control density. This might include strategies to measure and report regional density in conjunction with a one-acre or smaller lot size; or shallow groundwater monitoring in areas with overall densities greater than one dwelling unit per two and one half (2.5) acres.
 7. The Colorado River Basin Water Board does not have any Clean Water Act Section 303(d) listed impaired water bodies within San Bernardino County. As such, no comments are provided for the Draft LAMP provisions for Advanced Protection Management Program for Impaired Areas including those OWTS that neighbor 303(d) listed impaired water bodies for nitrogen or pathogens.
 8. The Draft LAMP presents cesspools in a fashion that indicates they are not under the County's purview and states on page 57: "Cesspools are no longer allowed in the County of San Bernardino. When County staff discovers a cesspool is still in use, the property owner will be required to replace the cesspool with an OWTS, which meets current standards. The timeframe for complying with this requirement will vary based on the condition of the cesspool and the potential threat it represents to public health and safety." The OWTS Policy prohibits cesspools. The Colorado River Basin Water Board staff believe cesspools pose a significant threat to groundwater water quality. Cesspools must be timely located and properly abandonment and replacement with the appropriately sited and designed onsite wastewater treatment system in accordance with the OWTS Policy.

9. The Draft LAMP indicates that only "Alternate Onsite Treatment Systems" are required to maintain annual operating permits from the County's Division of Environmental Health. The Building and Safety Division is responsible for issuing permits for "new construction, repair and replacement of OWTS," while Code Enforcement is responsible for inspections, operation, maintenance, and responding to failures of OWTS systems. The Draft LAMP should include a County organizational chart, describe how the multiple divisions will collaborate and describe inventory control and proposed data reporting methodology.
10. Page 18 of the Draft LAMP (Minimum Qualifications and Certification for OWTS Practitioners) should detail the function of a "service provider." The term service provider is listed in the definitions section on page 6 and minimum qualifications should be defined. The Draft LAMP should also detail the methodology that the County will use to either accept a national OWTS educational certification for service provider or create a program of its own.

Colorado River Basin Water Board staff are available to meet with you and support the Lahontan Water Board's efforts to coordinate the successful review and approval of the San Bernardino County LAMP. Contact me at 760-776-8972 or at mary.serra@waterboards.ca.gov, or Mr. Doug Wylie at 760-776-8960 or at doug.wylie@waterboards.ca.gov with questions or to facilitate ongoing review and approval efforts.

Sincerely,



Mary Serra
Supervising Water Resources Control Engineer

cc: Jehiel Cass, Lahontan Water Board; jehiel.cass@waterboards.ca.gov
Francis Coony, Lahontan Water Board; francis.coony@waterboards.ca.gov
Milasol Gaslan, Santa Ana Water Board; milasol.gaslan@waterboards.ca.gov

ENCLOSURE 7B

Lahontan Regional Water Quality Control Board

October 26, 2016

(LAMP) San Bernardino County
City of Adelanto

Cindy Herrera, City Manager
City of Adelanto
Adelanto City Hall
11600 Air Expressway
Adelanto, CA 92301

Lahontan Water Board Comments on the City of Adelanto Draft Local Area Management Program, San Bernardino County

The City of Adelanto (City) submitted a Draft Local Area Management Program (LAMP) to the Lahontan Regional Water Quality Control Board (Water Board), dated May 13, 2016. The City proposes a LAMP (Tier 2) for new and replacement onsite wastewater treatment systems (OWTS) instead of Tier 1 compliance under the State Board's OWTS Policy. Our comments are presented in the body of this letter.

Issues of Concern

- A. Water Quality Assessment Program (WQAP) – We recognize that the single most challenging issue for the City and Water Board is implementing a meaningful, cost-effective, and adequate WQAP to satisfy OWTS Policy §9.3. The City identifies the Salt and Nutrient Management Program (SNMP) for identification of existing groundwater data sources. However, the proposed program does not describe how the City will select and use the data to meet OWTS Policy §9.3.2 requirements to assess the impact of OWTS on surface and groundwater.

A Policy Tier 2 LAMP involves a fundamental shift from a purely prescriptive to partially performance-based program as described in OWTS Policy §9.5 and §9.6. The monitoring and WQAP should address or include the following principles.

- Be adaptive and modified over time in collaboration with affected stakeholders.
- Include specific elements for particular areas of high risk to water quality impairment such as high density OWTS, areas experiencing large numbers of failing systems, or areas where water quality data indicate trends of increasing nitrate concentrations in ground or surface waters. In Adelanto, these areas may include existing or proposed OWTS discharges within municipal production well capture zones.
- Identify individual owner residential wells in areas of high density OWTS willing to participate in regional groundwater data collection.
- Assess feasibility of extending municipal sewage collection systems.

AMY L. HORNE, PH.D, CHAIR | PATTY Z. KOUYOUMDJIAN, EXECUTIVE OFFICER

- Assess locations near high density OWTS where future groundwater monitoring wells could be installed.
- Assess water quality trends, especially with respect to nitrate concentrations.
- Clarify procedures to exchange data with other agencies and improve collaboration between entities collecting data.
- Consider electronic mapping location of existing and new OWTS, focusing on areas with characteristics listed under OWTS Policy §9.1.
- Identify existing domestic or municipal supply and monitoring wells (private and public) and prioritize wells that can be used to assess water quality associated with OWTS over time.

B. Performance Regulatory Program for supplemental treatment systems (STS) and non-conventional dispersal systems – please address the following items:

1. The City defines STS in LAMP Chapter 2, and the definition is identical to the definition in the OWTS Policy. However, in LAMP Chapter 5, the City states that pressurized drip dispersal system are allowed. Please clarify whether pressurized drip dispersal systems are regulated in your performance regulatory program.
2. Please list the types of STS and non-conventional dispersal systems that are within the scope of your STS performance regulatory program. Please include the maximum flow rate, design standards, and performance objectives for each type of system. This information could be placed in a LAMP design manual that is made part of the LAMP.
3. Please provide detailed requirements of your performance regulatory program. Please include the following items:
 - a. The performance regulatory program effective date.
 - b. An organization chart for the City showing the responsible individuals or departments for administering the program.
 - c. Program description, including:
 - i. Permit application, review, approval, and renewal process
 - ii. OWTS owner service provider requirements
 - iii. Methods of specifying, receiving, and storing monitoring data from OWTS owners or OWTS service providers
 - iv. OWTS inspection program, including your inspection form and the number of OWTS inspections each year
 - v. Enforcement program, including evaluation of monitoring data and inspection results, issuing corrective action notices, and assuring that OWTS owners complete necessary repairs.
4. Please provide ordinance or other evidence of authorities that defines the procedures for administering the program, including enforcement.

C. OWTS Discharge Density – Generally, the City proposes to continue with the past Memorandum (MOU) density standards, which include a minimum ½ acre lot size for individual residences and a maximum of 500 gallons per acre per day for non-residential or mix occupancy development (Chapter 3, Maximum Flow and Land Use Density). Please address the following comments:

1. It is generally understood that OWTS discharges pollute groundwater over time, primarily with respect to pathogens and nitrate, under various soil type, climatic, hydrogeological, and density conditions. We believe that in arid regions with closed groundwater basins, high density OWTS discharges will have long-term adverse groundwater impacts. As such, in areas where the City continues with ½ acre minimum lot size for development using OWTS, we request that the WQAP address these areas to verify that OWTS are not polluting groundwater quality.
2. Staff also encourages the City to consider that certain areas of high density OWTS should be considered for municipal sewage collection and treatment systems:
 - a. Area bounded by Vintage on the north, Bellflower on the east, Crippen on the south, and New Hampshire on the west.
 - b. The mobile home park along the west side of Bellflower about 110 yards north of Vintage.
 - c. Area bounded by White on the north, Perimeter on the east, Bartlett on the south, and Jonathan on the west.
 - d. Area bounded by Bartlett on the north, Hermosa on the east, Lawson on the south, and Verbena on the west.
 - e. Areas with OWTS discharges within municipal production well capture zones.

The City should endeavor to identify areas with high density OWTS and develop plans to connect these areas to municipal or regional sewage collection systems. Treatment alternatives should include both centralized and decentralized treatment.

3. Please clarify LAMP section 3 (Maximum flow and Land Use Density), the second bullet regarding the 15,000 square feet limit. This implies that future lots may be subdivided down to 15,000 square feet with OWTS for sewage disposal. The Basin Plan previously allowed OWTS on lots of less than ½ acre, no smaller than 15,000 square feet net, when that lot was subdivided before June 16, 1988. However, the OWTS Policy supersedes the Basin Plan density requirements and no longer supports new OWTS discharges in new subdivisions on lot sizes smaller than 2 - 2.5 acres.
4. OWTS Policy §9.6 allows a regional water board, in reviewing a LAMP, to consider the past performance of the local agency program to adequately protect water quality. For density, you propose to continue with the MOU as a past performance method. However, the MOU did not include findings that the

density standards are protective of water quality. Therefore, please provide technical justification as to why the existing MOU density standards are protective of water quality.

- D. Referrals to the Water Board – The LAMP does not discuss referrals of proposed OWTS to the Water Board for approval. Referrals may also include systems with STS and systems with dispersal systems other than leach fields or seepage pits. The referral process should be clearly identified in the LAMP and City staff (not the discharger) should make the initial referral to the Water Board. A City contact should be provided to which Water Board staff may direct questions.

In draft LAMP Chapter 5, the City states that systems with a STS must be approved by both the City and the Water Board. The City with an appropriate regulatory program can be the sole permitter of STS's. However, Water Code section 13360 restricts the Water Board from approving the manner or method of wastewater treatment system design of any kind. The Water Board can, however, offer suggestions in the design of systems referred to the Water Board. Therefore, the City needs to explain in the LAMP that the Water Board will review the design of referred systems and provide recommendations to the City for their use in their approval of these systems. The Water Board may consider issuance of waste discharge requirements when needed to ensure water quality protection and adequate regulation if the City does not issue operating permits.

- E. Items not allowed for authorization in a LAMP (OWTS Policy § 9.4) – Water Board has reviewed Chapter 8 of the draft LAMP and finds that it meets LAMP OWTS Policy §9.4 of items not allowed in a LAMP.
- F. Future OWTS – The LAMP section 1 (City of Adelanto General Information), third paragraph second sentence should be clarified. It states: “All areas on Figure 1-2 that are not highlighted either currently utilize OWTS and will be allowed to remain on OWTS; or are vacant properties that will be allowed to utilize OWTS as they develop.” Water Board staff believes that, given the size of the City Limits, that there may be areas of future concentrated growth that should be connected to the City's sewer system.

Closing

Please submit a revised draft LAMP that addresses the above comments. This revised draft LAMP must include, as an appendix or attachment, an objective-based process for establishing and conducting the WQAP. In addition, please provide the draft ordinance, as another appendix, for the annual operating permit for STS.

The OWTS Policy requires the Water Boards to review and approve LAMPs by May 2017. To that end, the City's LAMP will need to be finalized by **early 2017** in order to meet the OWTS Policy schedule.

Please send all future correspondence regarding this Project to the Water Board's email address at Lahontan@waterboards.ca.gov.

If you have any questions, please call Mike Coony at (760) 241-7353 (mike.coony@waterboards.ca.gov), or Jehiel Cass, P.E., Senior Engineer, at (760) 241-2434 (jehiel.cass@waterboards.ca.gov). We are also available to hold a meeting to discuss these comments with you.

A handwritten signature in blue ink that reads "Lauri Kemper". The signature is fluid and cursive, with the first name "Lauri" being larger and more prominent than the last name "Kemper".

Lauri Kemper, P.E.
Assistant Executive Officer

mcoony\Ltr42538LampCmtsAdelanto.docx

ENCLOSURE 7C

Lahontan Regional Water Quality Control Board

October 26, 2016

(LAMP) San Bernardino County
Town of Apple Valley

Lori Lamson, Assistant Town Manager
Town of Apple Valley
14955 Dale Evans Parkway
Apple Valley, CA 92307

Lahontan Water Board Comments on the Town of Apple Valley Draft Local Area Management Program, San Bernardino County

The Town of Apple Valley (Town) submitted a Draft Local Agency Management Program (LAMP) to the Lahontan Regional Water Quality Control Board (Water Board), dated May 13, 2016. The Town proposes a LAMP (Tier 2) for new and replacement onsite wastewater treatment systems (OWTS) instead of Tier 1 compliance under the State Board's OWTS Policy. Our comments are presented in the body of this letter.

Issues of Concern

- A. Water Quality Assessment Program (WQAP) – We recognize that the single most challenging issue for the Town and Water Board is implementing a meaningful, cost-effective, and adequate WQAP to satisfy OWTS Policy §9.3. The Town identifies the Salt and Nutrient Management Program (SNMP) for identification of existing groundwater data sources. However, the proposed program does not describe how the Town will select and use the data to meet OWTS Policy §9.3.2 requirements to assess the impact of OWTS on surface and groundwater.

A OWTS Policy Tier 2 LAMP involves a fundamental shift from a purely prescriptive to partially performance-based program as described in OWTS Policy §9.5 and §9.6. The monitoring and WQAP should address or include the following principles.

- Be adaptive and modified over time in collaboration with affected stakeholders.
- Include specific elements for particular areas of high risk to water quality impairment such as high density OWTS, areas experiencing large numbers of failing systems, or areas where water quality data indicate trends of increasing nitrate concentrations in ground or surface waters. In Apple Valley, these areas may include the following:
 1. Remaining non-sewered areas along the Mojave River.
 2. Areas with existing or proposed OWTS discharges within municipal production well capture zones.
- Identify individual owner residential wells in areas of high density OWTS willing to participate in regional groundwater data collection.

AMY L. HORNE, PhD, CHAIR | PATTY Z. KOUYOUMDJIAN, EXECUTIVE OFFICER

- Assess feasibility of extending municipal sewage collection systems.
- Assess locations near high density OWTS where future groundwater monitoring wells could be installed.
- Assess water quality trends, especially with respect to nitrate concentrations.
- Clarify procedures to exchange data with other agencies and improve collaboration between entities collecting data.
- Consider electronic mapping location of existing and new OWTS, focusing on areas with characteristics listed under OWTS Policy §9.1.
- Identify existing domestic or municipal supply and monitoring wells (private and public) and prioritize wells that can be used to assess water quality associated with OWTS over time.

B. Performance Regulatory Program for supplemental treatment systems (STS) and non-conventional dispersal systems – please address the following items:

1. The Town defines STS in LAMP Chapter 2, and the definition is identical to the definition in the OWTS Policy. However, in LAMP Chapter 5, the Town states that pressurized drip dispersal systems are allowed. Please clarify whether pressurized drip dispersal systems are regulated in your performance regulatory program.
2. Please list the types of STS and non-conventional dispersal systems that are within the scope of your STS performance regulatory program. Please include the maximum flow rate, design standards, and performance objectives for each type of system. This information could be placed in a LAMP design manual that is made part of the LAMP.
3. Please provide detailed requirements of your performance regulatory program. Please include the following items:
 - a. The performance regulatory program effective date.
 - b. An organization chart for the Town showing the responsible individuals or departments for administering the program.
 - c. Program description, including:
 - i. Permit application, review, approval, and renewal process
 - ii. OWTS owner service provider requirements
 - iii. Methods of specifying, receiving, and storing monitoring data from OWTS owners or OWTS service providers
 - iv. OWTS inspection program, including your inspection form and the number of OWTS inspections each year
 - v. Enforcement program, including evaluation of monitoring data and inspection results, issuing corrective action notices, and assuring that OWTS owners complete necessary repairs.
4. Please provide ordinance or other evidence of authorities that defines the procedures for administering the program, including enforcement.

- C. OWTS Discharge Density – Generally, the Town proposes to continue with the past Memorandum (MOU) density standards, which include a minimum ½ acre lot size for individual residences and a maximum of 500 gallons per acre per day for non-residential or mix occupancy development (Chapter 3, Maximum Flow and Land Use Density). Please address the following comments:
1. It is generally understood that OWTS discharges pollute groundwater over time, primarily with respect to pathogens and nitrate, under various soil type, climatic, hydrogeological, and density conditions. We believe that in arid regions with closed groundwater basins, high density OWTS discharges will have long-term adverse groundwater impacts. As such, in areas where the Town continues with ½ acre minimum lot size for development using OWTS, we request that the WQAP address these areas to verify that OWTS are not polluting groundwater quality.
 2. Staff also encourages the Town to consider that certain areas of high density OWTS should be considered for municipal sewage collection and treatment systems, especially areas along the east side of the Town limits and Apple Valley Village Mobile Home Park (this mobile home park is outside Town limits yet still within the sphere of influence of the Town). The Town should endeavor to identify areas with high density OWTS and develop plans to connect these areas to municipal or regional sewage collection systems. Treatment alternatives should include both centralized and decentralized treatment.
 3. Please clarify LAMP section 3 (Maximum flow and Land Use Density), the second bullet regarding the 15,000 square feet limit. This implies that future lots may be subdivided down to 15,000 square feet with OWTS for sewage disposal. The Basin Plan previously allowed OWTS on lots of less than ½ acre, no smaller than 15,000 square feet net, when that lot was subdivided before June 16, 1988. However, the OWTS Policy supersedes the Basin Plan density requirements and no longer supports new OWTS discharges in new subdivisions on lot sizes smaller than 2 - 2.5 acres.
 4. OWTS Policy §9.6 allows a regional water board, in reviewing a LAMP, to consider the past performance of the local agency program to adequately protect water quality. For density, you propose to continue with the MOU as a past performance method. However, the MOU did not include findings that the density standards are protective of water quality. Therefore, please provide technical justification as to why the existing MOU density standards are protective of water quality.
- D. Referrals to the Water Board – The LAMP does not discuss referrals of proposed OWTS to the Water Board for approval. Referrals may also include systems with STS and systems with dispersal systems other than leach fields or seepage pits. The referral process should be clearly identified in the LAMP and Town staff (not the discharger) should make the initial referral to the Water Board. A Town contact should be provided to which Water Board staff may direct questions.

In draft LAMP Chapter 5, the Town states that systems with a STS must be approved by both the Town and the Water Board. The City with an appropriate regulatory program can be the sole permitter of STS's. However, Water Code section 13360 restricts the Water Board from approving the manner or method of wastewater treatment system design of any kind. The Water Board can, however, offer suggestions in the design of systems referred to the Water Board. Therefore, the Town needs to explain in the LAMP that the Water Board will review the design of referred systems and provide recommendations to the Town for their use in their approval of these systems.

- E. Items not allowed for authorization in a LAMP (OWTS Policy § 9.4) – Water Board has reviewed Chapter 8 of the draft LAMP and finds that it meets OWTS Policy §9.4 of items not allowed in a LAMP.
- F. Future OWTS – The LAMP section 1 (Town of Apple Valley General Information), third paragraph, second sentence should be clarified. It states: “All areas on Figure 1-2 that are not highlighted either currently utilize OWTS and will be allowed to remain on OWTS; or are vacant properties that will be allowed to utilize OWTS as they develop.” Water Board staff believes there may be areas of future commercial development that will likely be connected to a sewer collection system that not highlighted, such as along Hwy 18 or Bear Valley Rd east of Central.

Closing

Please submit a revised draft LAMP that addresses the above comments. This revised draft LAMP must include, as an appendix or attachment, an objective-based process for establishing and conducting the WQAP. In addition, please provide the draft ordinance, as another appendix, for the annual operating permit for STS.

The OWTS Policy requires the Water Boards to review and approve LAMPs by May 2017. To that end, the Town's LAMP will need to be finalized by **early 2017** in order to meet the OWTS Policy schedule.

Please send all future correspondence regarding this Project to the Water Board's email address at Lahontan@waterboards.ca.gov.

If you have any questions, please call Mike Coony, Water Resources Control Engineer, at (760) 241-7353 (mike.coony@waterboards.ca.gov), or Jehiel Cass, P.E., Senior Engineer, at (760) 241-2434 (jehiel.cass@waterboards.ca.gov). We are also available to hold a meeting to discuss these comments with you.



Lauri Kemper, P.E.
Assistant Executive Officer

ENCLOSURE 7D

Lahontan Regional Water Quality Control Board

October 26, 2016

(LAMP) San Bernardino County
Hesperia

Tina Souza, Management Analyst
Development Services Department
City of Hesperia
9700 Seventh Ave.
Hesperia, CA 92345
tsouza@cityofhesperia.us

Lahontan Water Board Comments on the City of Hesperia Draft Local Agency Management Program, San Bernardino County

The City of Hesperia (City) submitted a Draft Local Agency Management Program (LAMP) to the Regional Water Quality Control Board, Lahontan Region (Water Board), dated May 13, 2016. The City proposes a LAMP (Tier 2) for new and replacement onsite wastewater treatment systems (OWTS) instead of Tier 1 compliance under the State Board's OWTS Policy. Our comments are presented in the body of this letter.

Issues of Concern

- A. Water Quality Assessment Program (WQAP) – We recognize that the single most challenging issue for the City and Water Board is implementing a meaningful, cost-effective, and adequate WQAP to satisfy OWTS Policy §9.3. The City identifies the Salt and Nutrient Management Program (SNMP) for identification of existing groundwater data sources. However, the proposed program does not describe how the City will select and use the data to meet OWTS Policy §9.3.2 requirements to assess the impact of OWTS on surface and groundwater.

A OWTS Policy Tier 2 LAMP involves a fundamental shift from a purely prescriptive to a partially performance-based program as described in OWTS Policy §9.5 and §9.6. The monitoring and WQAP should address or include the following principles.

- Be adaptive and modified over time in collaboration with affected stakeholders.
- Include specific elements for particular areas of high risk to water quality impairment such as high density OWTS, areas experiencing large numbers of failing systems, or areas where water quality data indicate trends of increasing nitrate concentrations in ground or surface waters. In Hesperia, these areas may include the following.

1. Areas with shallow groundwater, particularly the Mojave River flood plain aquifer (see Enclosure, Area "1").

AMY L. HORNE, PHD, CHAIR | PATTY Z. KOUYOUMDJIAN, EXECUTIVE OFFICER

2. High density ($\frac{1}{2}$ acre or less lot size) areas that are not sewerred (see Enclosure, Area "2").
 3. Areas with existing or proposed OWTS discharges within municipal production well capture zones.
- Identify individual private residential wells in areas of high density OWTS willing to participate in regional groundwater data collection.
 - Assess efforts to establish onsite maintenance districts or zones and feasibility of extending municipal sewage collection systems.
 - Assess locations near high density OWTS where future groundwater monitoring wells could be installed.
 - Assess water quality trends, especially with respect to nitrate concentrations.
 - Clarify procedures to exchange data with other agencies and improve collaboration between entities collecting data.
 - Consider electronic mapping location of existing and new OWTS, focusing on areas with characteristics listed under OWTS Policy §9.1.
 - Identify existing domestic or municipal supply and monitoring wells (private and public) and prioritize wells that can be used to assess water quality associated with OWTS over time.

B. Performance Regulatory Program for supplemental treatment systems (STS) and non-conventional dispersal systems – please address the following items:

1. The City defines STS in LAMP Chapter 2, and the definition is identical to the definition in the OWTS Policy. However, in LAMP Chapter 5, the City states that pressurized drip dispersal systems are allowed. Please clarify whether pressurized drip dispersal systems are regulated in your performance regulatory program.
2. Please list the types of STS and non-conventional dispersal systems that are within the scope of your STS performance regulatory program. Please include the maximum flow rate, design standards, and performance objectives for each type of system. This information could be placed in a LAMP design manual that is made part of the LAMP.
3. Please provide detailed requirements of your performance regulatory program. Please include the following items:
 - a. The performance regulatory program effective date.
 - b. An organization chart for the City showing the responsible individuals or departments for administering the program.
 - c. Program description, including:
 - i. Permit application, review, approval, and renewal process
 - ii. OWTS owner service provider requirements

- iii. Methods of specifying, receiving, and storing monitoring data from OWTS owners or OWTS service providers
 - iv. OWTS inspection program, including your inspection form and the number of OWTS inspections each year
 - v. Enforcement program, including evaluation of monitoring data and inspection results, issuing corrective action notices, and assuring that OWTS owners complete necessary repairs.
 4. Please provide ordinance or other evidence of authorities that defines the procedures for administering the program, including enforcement.
- C. OWTS Discharge Density – Generally, the City proposes to continue with the past Memorandum (MOU) density standards, which include a minimum ½ acre lot size for individual residences and a maximum of 500 gallons per acre per day for non-residential or mix occupancy development (Chapter 3, Maximum Flow and Land Use Density). Please address the following comments:
1. It is generally understood that OWTS discharges pollute groundwater over time, primarily with respect to pathogens and nitrate, under various soil type, climatic, hydrogeological, and density conditions. We believe that in arid regions with closed groundwater basins, high density OWTS discharges will have long-term adverse groundwater impacts. As such, in areas where the City continues with ½ acre minimum lot size for development using OWTS, we request that the WQAP address these areas to verify that OWTS are not polluting groundwater quality.
 2. Staff also encourages the City to consider that certain areas of high density OWTS should be considered for municipal sewage collection and treatment systems, especially along the Mojave River and in central Hesperia (see enclosure, Areas “1” and “2”, respectively). The City should endeavor to identify areas with high density OWTS and develop plans to connect these areas to municipal or regional sewage collection systems. Treatment alternatives should include both centralized and decentralized treatment.
 3. Please clarify LAMP section 3 (Maximum flow and Land Use Density), the second bullet regarding the 15,000 square feet limit. This implies that future lots may be subdivided down to 15,000 square feet with OWTS for sewage disposal. The Basin Plan previously allowed OWTS on lots of less than ½ acre, no smaller than 15,000 square feet net, when that lot was subdivided on or before June 18, 1988. However, the OWTS Policy supersedes the Basin Plan density requirements and no longer supports new OWTS discharges in new subdivisions on lot sizes smaller than 2 – 2.5 acres.
 4. OWTS Policy §9.6 allows a regional water board, in reviewing a LAMP, to consider the past performance of the local agency program to adequately protect water quality. For density, you propose to continue with the MOU as a

past performance method. However, the MOU did not include findings that the density standards are protective of water quality. Therefore, please provide technical justification as to why the existing MOU density standards applied within your jurisdiction are protective of water quality.

- D. Referrals to the Water Board – The LAMP does not discuss referrals of proposed OWTS to the Water Board for approval. Some previous referred cases were situations with new or replacement OWTS and densities greater than two equivalent dwelling units / acre (or 500 gal/acre). Referrals may also include systems with STS and systems with dispersal systems other than leach fields or seepage pits. The referral process should be clearly identified in the LAMP and City staff (not the discharger) should make the initial referral to the Water Board. A City contact should be provided to which Water Board staff may direct questions.

Water Code section 13360 restricts the Water Board from approving the manner or method of wastewater treatment system design of any kind. The Water Board can, however, offer suggestions in the design of systems referred to the Water Board. Therefore, the City needs to explain in the LAMP that the Water Board will review the design of referred systems and provide recommendations to the City for their use in their approval of these systems.

- E. Items not allowed for authorization in a LAMP (OWTS Policy §9.4) – Water Board has reviewed Chapter 8 of the draft LAMP and finds that it meets OWTS Policy §9.4 of items not allowed in a LAMP.
- F. Future OWTS – The LAMP section 1 (City of Hesperia General Information), third paragraph second sentence should be clarified. It states: “All areas on Figure 1-2 that are not highlighted either currently utilize OWTS and will be allowed to remain on OWTS; or are vacant properties that will be allowed to utilize OWTS as they develop.” This figure shows areas that are not highlighted where the City has proposed a sewer collection and treatment system, such as the Tapestry Project area (see Enclosure, Area “3”). Additionally, Water Board staff believes there are areas of future commercial development that will likely be connected to a sewer collection system that is not highlighted, such as the I-15/Hwy 395 corridor and the Rancho Road corridor (see Enclosure, Area “4”).

Closing

Please submit a revised draft LAMP that addresses the above comments. This revised draft LAMP must include, as an appendix or attachment, an objective-based process for establishing and conducting the WQAP. In addition, please provide the draft ordinance, as another appendix, for operating permits for STS.

The OWTS Policy requires the Water Boards to review and approve LAMPs by May 2017. To that end, the City’s LAMP will need to be finalized by early 2017 in order to meet the OWTS Policy schedule.

Please send all future correspondence regarding this Project to the Water Board's email address at Lahontan@waterboards.ca.gov.

If you have any questions, please call Mike Coony, Water Resources Control Engineer, at (760) 241-7353 (mike.coony@waterboards.ca.gov), or Jehiel Cass, P.E., Senior Engineer, at (760) 241-2434 (jehiel.cass@waterboards.ca.gov). We are also available to hold a meeting to discuss these comments with you.

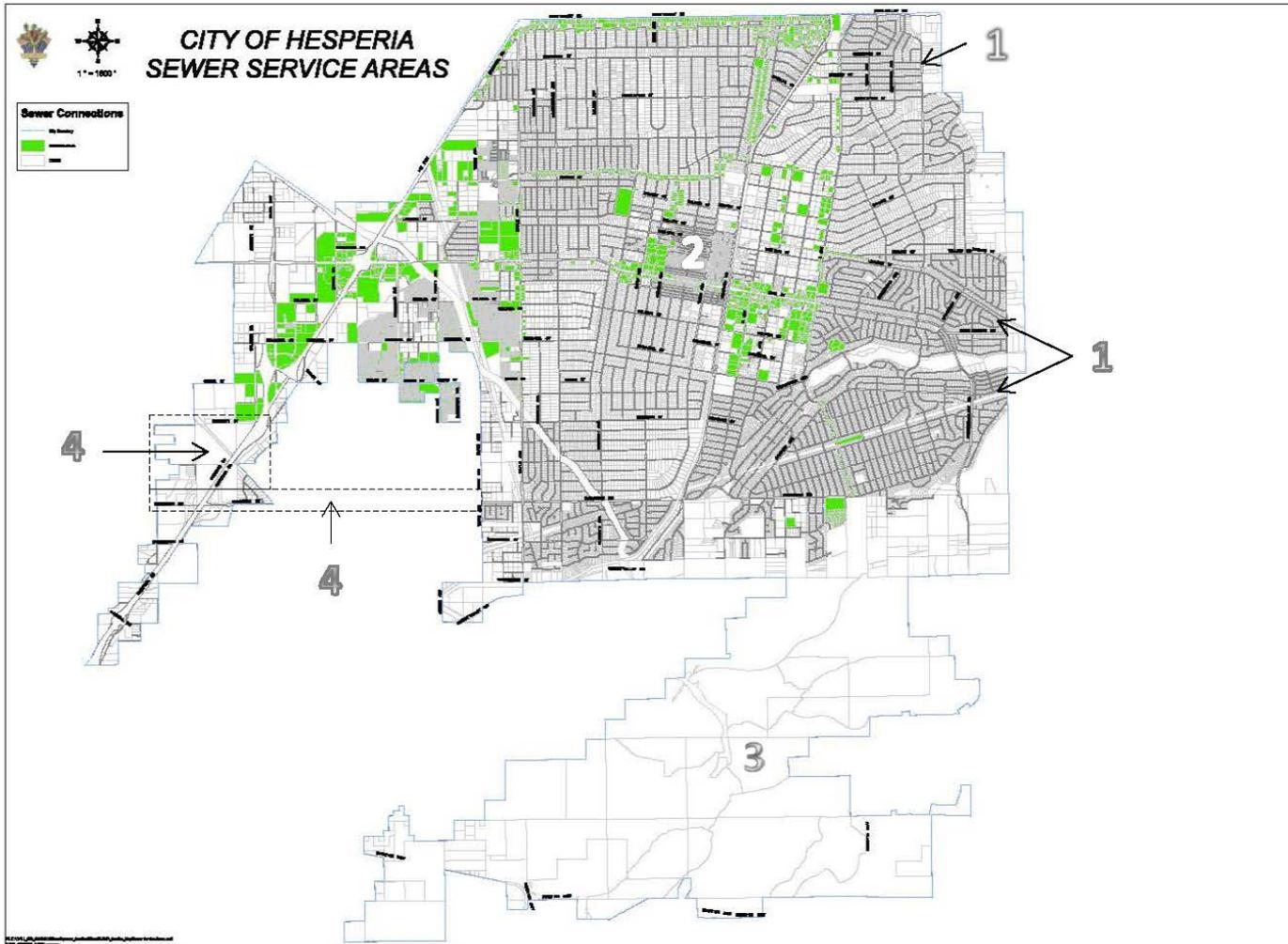


Lauri Kemper, P.E.
Assistant Executive Officer

Enclosure: City of Hesperia, Sewer Service Areas

cc: Mike Podegracz, Charles Abbott Associates, Inc.
Mike Coony, Lahontan Water Board
Jehiel Cass, Lahontan Water Board

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Legend

- 1 = Areas in or near the Mojave River flood plain aquifer
- 2 = High density (½ acre or less) areas that are not sewered (green areas indicate sewered areas)
- 3 = Tapestry Development
- 4 = Commercial corridors along I-15 and Rancho Rd (Rancho Rd is considered within Hesperia sphere of influence)

Hesperia High Density / High Risk Areas

Enclosure

ENCLOSURE 7E

Lahontan Regional Water Quality Control Board

November 15, 2016

ECM Index: LAMP- Inyo County

Marvin Moskowitz, Director
Environmental Health Services
Inyo County
207 W. South St.
Bishop, CA 93514
mmoskowitz@inyocounty.us

Water Comments – Proposed Inyo County Local Agency Management Plan

Lahontan Water Board staff has reviewed your proposed Local Agency Management Program (LAMP) for Inyo County. You submitted the proposed LAMP by email on May 12, 2016. Our comments, which are not listed in any particular order, are the following:

1. LAMP in general – The LAMP is your program to regulate onsite wastewater treatment systems (OWTS) within your jurisdiction. Therefore, the LAMP must include the entire county program, which includes codes, technical guides, and ordinances. Please submit a revised proposed LAMP that includes these items.
2. Past Local Program – OWTS Policy §9.6 states that a Water Board, in reviewing a LAMP, must consider the past performance of the local agency's program to adequately protect water quality. We interpret this to mean, in part, that local agencies may use their existing Memorandum of Understanding (MOU) agreements as a baseline for the LAMP. Therefore, please consider incorporating the existing Basin Plan MOU agreements into your LAMP as long as they meet Tier 2. Also, please provide an effectiveness evaluation of the current program to protect human health and water quality.
3. Tier 1 verses Tier 2 LAMP – Under Section "Tier 1 OWTS", you propose to use Tier 1 siting and design requirements except for selected Tier 1 percolation rates. Since you have at least one requirement that is different from Tier 1, you must have a Tier 2 LAMP. In addition, all permitted OWTS are Tier 2 systems, even if most of them meet Tier 1. Tier 1 becomes applicable only when you do not have a LAMP.
4. OWTS Projected Flow – Under LAMP section "Introduction", you state that you will issue construction permits for OWTS with a projected flow of up to and including 2500 gallons/day. The OWTS Policy allows a projected flow up to and including

AMY L. HORNE, PHD, CHAIR | PATTY Z. KOUYOUMDJIAN, EXECUTIVE OFFICER

2501 Lake Tahoe Blvd., So. Lake Tahoe, CA 96150 | 15095 Amargosa Road, Bldg 2, Ste 210, Victorville CA 92394
e-mail Lahontan@waterboards.ca.gov | website www.waterboards.ca.gov/lahontan

10,000 gallons/day. Please confirm your maximum projected flow value for both conventional and non-conventional OWTS (see Enclosure, Onsite Systems Type Hierarchy).

5. Equivalent dwelling unit flow – Please provide your selected equivalent dwelling unit flow, in gallons per day. Please justify a flow value that is greater than the existing Basin Plan value of 250 gallons per day.
6. Tier 2 LAMP options – Your LAMP has two Tier 2 options, as follows:
 - Tier 2 OWTS (Option 1)
 - Tier 2 OWTS (Option 2)

In your transmittal email of May 12, 2016, you stated one (Option 1) has more detail, and the other (Option 2) is bullet items that address OWTS Policy Section 9 items. Option 2 is probably the best approach because it is intended as you state to address the considerations of OWTS Policy Section (§) 9. Nevertheless for, either option, your LAMP must clearly and completely address OWTS Policy § 9 considerations. Based on our review, your proposed LAMP for Tier 2 does not adequately address the considerations in OWTS Policy § 9. For guidance on how to respond to this comment, see separate comment titled “Tier 2 Prescriptive Requirements.”

7. Tier 2 Prescriptive Requirements – The OWTS Policy has few prescriptive requirements for Tier 2 LAMPs. Instead, the OWTS Policy requires a local agency to address “considerations.” This means that the local agency must describe how they will meet each of the OWTS Policy considerations in a LAMP. The considerations are presented in OWTS Policy §9.1 and §9.2. Some considerations are required and others are optional. Please describe how you will address each consideration in your LAMP. Also, specific to your LAMP under section Tier 2 OWTS (Option 2), we recommend that OWTS Policy §9.1 considerations should not be addressed at the permit application state.
8. Onsite Maintenance Districts or Zones – Under your LAMP section “Tier 2 OWTS – LAMP Option 2)” please explain why there is no need to create an onsite maintenance districts or zones. Clarify that the Mustang Mesa Community Services District has onsite maintenance responsibilities, per a MOU signed in August 1993.
9. Supplemental treatment system monitoring and inspections – OWTS Policy §9.4.6 requires monitoring and inspections for supplemental treatment systems. Please provide procedures and implementing ordinances to meet this requirement.
10. Water Quality Assessment Program (WQAP) – We suggest a focused WQAP and collaboration with other agency programs.

- a. Focused areas – The suggested focus areas are Mustang Mesa and other areas yet to be identified.
 - i. Mustang Mesa – To assure the adequacy of public health and water quality, we recommend a focused WQAP for this area. The program could include inspections at a specified frequency, sampling of surface seepage if observed, evaluating sample results, and taking corrective action if needed.
 - ii. We also recommend monitoring and reporting for any other area where OWTS could affect beneficial uses of surface water or groundwater. We recommend periodic sampling, analysis, and reporting of key domestic wells and at risk surface waters. Recommended sampled constituents are pathogens and nutrients. Nutrients include nitrogen series consisting of organic nitrogen, ammonia nitrogen, nitrate, and total nitrate.
- b. Collaboration
 - i. OWTS Policy §9.3.2 states that you may use existing water quality data from other programs in your WQAP. We recommend collaboration with programs in your jurisdiction to reduce costs and resources. One example is your participation with the Bishop Creek Bacteria Data Sharing Working Group. At the data sharing group meeting of April 27, 2015, Water Board staff presented evidence, from collected data, that livestock, and not humans, was the predominant contaminant source. At the same meeting, you stated your interest in “(1) gathering more microbial source tracking data to hone in on the sources of fecal contamination in Bishop Creek, and (2) deliberating a coordinated community response to the bacterial pollution of Bishop Creek” (Lahontan Water Board Executive Officer’s Report, June 10-11 2015 Water Board meeting). This is an example where active collaboration may be used as part of your WQAP.
 - ii. Another example is participation in a Salt/Nutrient Management Plan (SNMP) development and implementation, in the event that the Inyo – Mono County Integrated Regional Water Management (IRWM) develops an SNMP for your area (<http://inyo-monowater.org/>). The program manager is Mark Drew (mdrew@caltrout.org, 760-924-1008). Therefore, please describe your commitment to a SNMP as required in OWTS Policy §9.2.8. We suggest coordination of surface water sampling in areas of high density OWTS.

One related comment is your statement in section “Tier 2 OWTS – LAMP (Option 2)” that there is no need to develop and/or implement a regional SNMP. The amendment to the State’s Recycled Water

Policy §6.b(1)(a1) states "it is the intent that every groundwater basin/subbasin in California to have a consistent salt/nutrient management plan." Therefore, we expect a SNMP will be prepared and implemented in your area of jurisdiction. We suggest replacing this text with your commitment to participate in the development and implementation of an SNMP.

11. Prohibition Areas – You present supporting arguments to modify selected Basin Plan prohibition areas, even though you acknowledge that the OWTS Policy does not affect existing Basin Plan prohibitions. We suggest these arguments be removed from the LAMP because they have no effect on your program to regulate OWTS. However, should Inyo County desire to pursue this request, please submit a separate letter to the Water Board's Executive Officer.
12. LAMP scope of its coverage (OWTS Policy §9.2) – Discharges from new or replacement OWTS that are within your scope of coverage (OWTS Policy §9.2) also receive coverage under the conditional waiver of waste discharge requirements (WDR) (OWTS Policy §2.6.1 and §12.0). Please make sure your scope of coverage is precisely defined in your LAMP, including coverage for specific kinds of conventional and non-conventional OWTS (see Enclosure, Onsite Systems Type Hierarchy). This is because owners of new and replacement systems outside your scope of coverage must submit a report of waste discharge, pay annual fees, and obtain waste discharge requirements (WDR) from the Lahontan Water Board. The WDR authorize the owner to discharge waste from their OWTS providing they meet the WDR performance requirements. Please note that we have limited staff resources to process WDRs for individual OWTS.

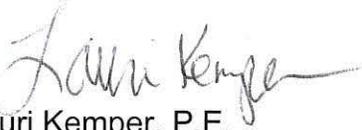
Equally important is the jurisdictional area scope of coverage. Please identify and describe your authority on US Forest Service lands, Bureau of Land Management lands, Federal reservations, and Los Angeles Department of Water and Power. Please include drawings at an appropriate scale that shows jurisdictional boundaries, such as the drawings you provided at our meeting with you and Mono County on February 27, 2015.

13. Water Board siting and design approval – State Water Code §13360 prohibits the Water Board to approve the siting and design of any OWTS. Nevertheless, Water Board staff will, upon local agency request, review the siting and design of OWTS and provide recommendations to the local agency. Please provide your procedures that for selecting and referring types of OWTS to the Water Board for recommendations.
14. LAMP effective date – The LAMP must have an effective date. The Basin Plan MOUs expire on the LAMP effective date, or May 18, 2018, whichever occurs first. Therefore, the LAMP effective date may range from the county LAMP approval date to May 18, 2018.

Closing

1. We plan to schedule your LAMP for Water Board approval at its July 2017 meeting. To meet our schedule for processing agenda items, we must assemble a complete agenda package on or before March 15, 2017. We need a week to assemble your LAMP documents into the agenda package. Therefore, you must submit the board of supervisors approved LAMP to us or before **March 10, 2017**. The LAMP must address the comments in this letter and meet the requirements of OWTS Policy Tier 2.
2. Please send all future correspondence regarding your LAMP to the Water Board's email address at Lahontan@waterboards.ca.gov.
3. Because your proposed LAMP is generally organized in the same manner as the Mono County proposed LAMP, we are sending a courtesy copy of this letter to Mono County Health Department.

If you have any questions, please call Mike Coony at (760) 241-7353 (mike.coony@waterboards.ca.gov), or Jehiel Cass, P.E., Senior Engineer, at (760) 241-2434 (jehiel.cass@waterboards.ca.gov). We are also available to hold a meeting to discuss these comments with you.



Lauri Kemper, P.E.
Assistant Executive Officer

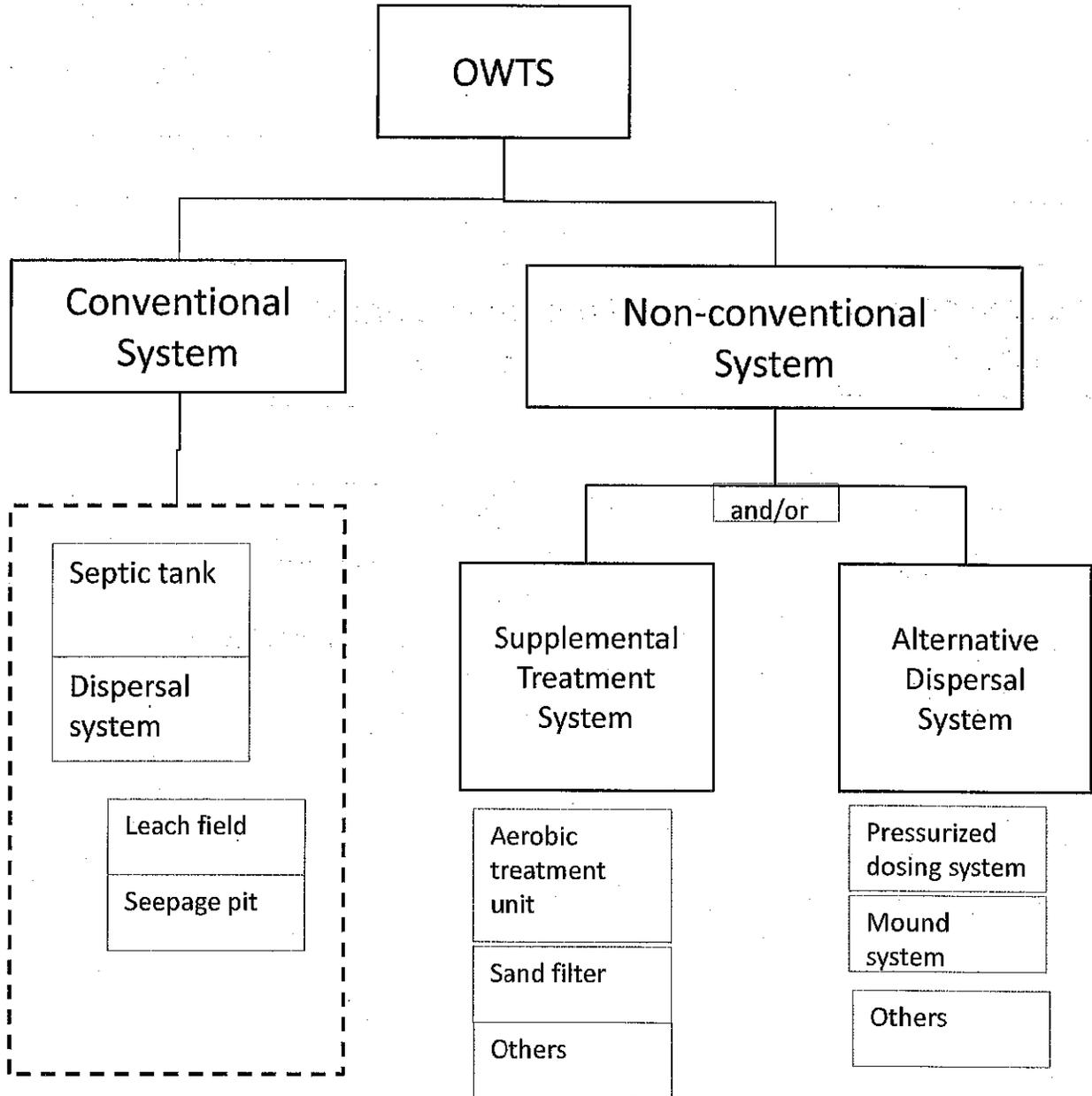
Enclosure: Onsite Systems Type Hierarchy

cc: Louis Molina, Mono County Health Department lmolina@mono.ca.gov
Mark Drew, Inyo – Mono IRWM Program mdrew@caltrout.org
Sean McCarthy, State Division of Drinking Water Sean.McCarthy@waterboards.ca.gov

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Enclosure

Onsite System Type Hierarchy



ENCLOSURE 7F

Lahontan Regional Water Quality Control Board

November 15, 2016

ECM: LAMP – Mono County

Louis Molina
Environmental Health Director
Mono County Health Department
P.O. Box 3329
Mammoth Lakes, CA 93546
lmolina@mono.ca.gov

Water Board Comments – Proposed Mono County Local Agency Management Plan

Lahontan Water Board staff has reviewed your proposed Local Agency Management Program (LAMP) for Mono County. You submitted the proposed LAMP by email on May 18, 2016. Our comments, which are not listed in any particular order, are the following:

1. LAMP in general – The LAMP is your program to regulate onsite wastewater treatment systems (OWTS) within your jurisdiction. Therefore, the LAMP must include the entire County program, which includes codes, technical guides, and ordinances. Please submit a revised proposed LAMP that includes these items.
2. Past Local Program – OWTS Policy §9.6 states that a Water Board, in reviewing a LAMP, must consider the past performance of the local agency's program to adequately protect water quality. We interpret this to mean, in part, that local agencies may use their existing Memorandum of Understanding (MOU) agreements as a baseline for the LAMP. Therefore, please consider incorporating the existing Basin Plan MOU agreements into your LAMP as long as they meet Tier 2. Also, please provide an effectiveness evaluation of the current program to protect human health and water quality.
3. Tier 1 verses Tier 2 LAMP – Under Section Tier 2 (LAMP) OWTS, you propose to use Tier 1 siting and design requirements except for selected Tier 1 percolation rates. Since you have at least one requirement that is different from Tier 1, you must have a Tier 2 LAMP. Tier 1 applies only when you do not have a LAMP.
4. OWTS Projected Flow – Please provide the maximum projected flow limit for an OWTS, in gallons per day, that you intend to authorize construction. The OWTS Policy allows a projected flow up to and including 10,000 gallons/day. Please

provide your projected flow value for both conventional and non-conventional OWTS (see Enclosure, Onsite Systems Type Hierarchy), even if both are the same.

5. Equivalent dwelling unit flow – Please provide your selected equivalent dwelling unit flow, in gallons per day. Please justify a flow value that is greater than the existing Basin Plan value of 250 gallons per day.
6. Tier 2 Prescriptive Requirements – The OWTS Policy has few prescriptive requirements for Tier 2 LAMPs. Instead, the OWTS Policy requires a local agency to address “considerations.” This means that the local agency must describe how they will meet each of the OWTS Policy considerations in a LAMP. The considerations are presented in OWTS Policy §9.1 and §9.2. Some considerations are required and others are optional. Please describe how you will address each consideration in your LAMP.
7. Supplemental treatment system monitoring and inspections – OWTS Policy §9.4.6 requires monitoring and inspections for supplemental treatment systems. Please provide procedures and implementing ordinances to meet this requirement.
8. Water Quality Assessment Program (WQAP) – We suggest a focused areas WQAP and collaboration with other agency programs.
 - a. Focused areas – The suggested focus areas are Mammoth Lakes and other areas yet to be identified.
 - i. Mammoth Lakes area – In the Mammoth Lakes area, the U.S. Forest Services has a campground south of Sherwin Creek. U.S. Forest Service campground’s restrooms were connected to a sewage collection system. The collection system was connected to an interceptor that conveyed sewage to the Mammoth Community Water District Sewage Treatment Plant. A separate private group camp was also connected to this sewage collection system. The sewage collection system was probably installed to comply with the Basin Plan prohibition for the Mammoth Lakes Area.

A few years ago, the US Forest Service installed holding tanks at their campground, thereby discontinuing the sewage collection system. This left the private group camp without a sewage disposal means.

The private group camp proposed an OWTS with a large leach field for disposal. Because there was no other disposal option for the private group camp, the Water Board executive officer approved an exemption to the prohibition, thereby authorizing the county to issue a building permit for the OWTS.

Because this OWTS is in a prohibition area, we recommend, as part of the WQAP, periodic inspections of the camp's OWTS for subsurface seepage, particularly during periods of campground use. The inspections could be done by your agency, or a partnership with the campground where they perform the inspections and provide inspection results to you.

- ii. We also recommend monitoring and reporting for any other area where OWTS could affect beneficial uses of surface water or groundwater. We recommend periodic sampling, analysis, and reporting of key domestic wells and at risk surface waters. Recommended sampled constituents are pathogens and nutrients. Nutrients include nitrogen series consisting of organic nitrogen, ammonia nitrogen, nitrate, and total nitrogen.

b. Collaboration

- i. OWTS Policy §9.3.2 states that you may use existing water quality data from other programs in your WQAP. Of significance are programs established and managed under Water Code §13181. We recommend collaboration with programs in your jurisdiction to reduce costs and resources.
- ii. Another example is participation in the development and implementation of a Salt and Nutrient Management Plan (SNMP). An amendment to the State's Recycled Water Policy §6.b(1)(a1) states "it is the intent that every groundwater basin/subbasin in California to have a consistent salt/nutrient management plan." Therefore, we expect one or more SNMPs will be prepared and implemented in your area of jurisdiction. Integrated Regional Water Management (IRWM) groups are responsible for SNMP development. The local IRWM group is the Inyo – Mono County Integrated Regional Water Management Program <http://inyo-monowater.org/>. The Program Manager is Mark Drew (mdrew@caltrout.org) 760-924-1008.

Therefore, please describe your commitment to a SNMP as required in OWTS Policy §9.2.8. We suggest coordination of surface water sampling in areas of high density OWTS.

9. Density exemption request for the Twin Lakes Subdivision – The exemption process goes away under a LAMP. The draft Mono County LAMP states that an overall density of 500 gallons/day/acre for OWTS will be allowed. Because the overall density of OWTS development in the Twin Lakes is already approaching 500 gallons/day/acre, it is not appropriate to request an exemption. Rather, it is appropriate to justify the OWTS density proposed as a process within your LAMP. This is an area where a focused cumulative impact assessment may be appropriate as part of the Water Quality Assessment Program.

10. OWTS loading rates greater than 500 gallons/day/acre – In the Introduction section, you state that any OWTS with a projected loading rate greater than 500 gallons/day/acre will require the owner to obtain waste discharge requirements (WDR) from the Lahontan Water Board. This is the correct step, as individual Executive Officer approved exemptions that were allowed under the existing MOUs can no longer be granted under the OWTS Policy. Please note that we have limited staff resources to process WDRs.

As an alternative, we encourage you to include in your LAMP scope coverage of onsite systems with projected loading rates greater than 500 gallons/day/acre, providing the owner installs a supplemental treatment system (see definition in the OWTS Policy). The purpose of a supplemental treatment is to reduce the pathogen and nutrient load to the dispersal system that is equivalent to an OWTS load of 500 gallons/day/acre or less. Under this approach, the owner would not need to apply for waste discharge requirements.

11. LAMP scope of its coverage (OWTS Policy 9.2) – Discharges from new or replacement OWTS that are within your scope of coverage (OWTS Policy §9.2) also receive coverage under the conditional waiver of waste discharge requirements (WDR) (OWTS Policy §2.6.1 and §12.0). Please make sure your scope of coverage is precisely defined in your LAMP, including coverage for specific kinds of conventional and non-conventional OWTS (see Enclosure, Onsite Systems Type Hierarchy). This is because owners of new and replacement systems outside your scope of coverage must submit a report of waste discharge, pay annual fees, and obtain waste discharge requirements (WDR) from the Lahontan Water Board. The WDR authorize the owner to discharge waste from their OWTS providing they meet the WDR performance requirements. Please note that we have limited staff resources to process WDRs for individual OWTS.

Equally important is the jurisdictional area scope of coverage. Please identify and describe your authority on US Forest Service lands, Bureau of Land Management lands, Federal reservations, and Los Angeles Department of Water and Power. Please include drawings at an appropriate scale that shows jurisdictional boundaries.

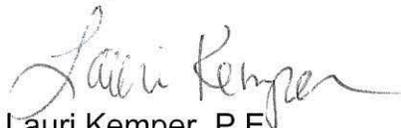
12. Water Board siting and design approval – State Water Code §13360 prohibits the Water Board to approve the siting and design of any OWTS. Nevertheless, Water Board staff will, upon local agency request, review the siting and design of any new or replacement OWTS and provide recommendations to the local agency. Please provide your procedures that for selecting and referring types of OWTS to the Water Board for recommendations. Typically, referred systems require a report of waste discharge be submitted and adoption of waste discharge requirements.
13. LAMP effective date – The LAMP must have an effective date. The Basin Plan MOUs expire on the LAMP effective date, or May 18, 2018, whichever occurs first.

Therefore, the LAMP effective date may range from the county LAMP approval date to May 18, 2018.

Closing

1. We plan to schedule your LAMP for Water Board approval at its July 2017 meeting. To meet our schedule for processing agenda items, we must assemble a complete agenda package on or before March 15, 2017. We need a week to assemble your LAMP documents into the agenda package. Therefore, you must submit the board of supervisors approved LAMP to us or before **March 10, 2017**. The LAMP must address the comments in this letter and meet the requirements of OWTS Policy Tier 2.
2. Please send all future correspondence regarding your LAMP to the Water Board's email address at Lahontan@waterboards.ca.gov.
3. Because your LAMP has generally organized in the same manner as the Inyo County proposed LAMP, we are sending a courtesy copy of this letter to Inyo County Health Department.

If you have any questions, please contact Mike Coony at (760) 241-7353 (mike.coony@waterboards.ca.gov), or Jehiel Cass, P.E., Senior Engineer, at (760) 241-2434 (jehiel.cass@waterboards.ca.gov). We are also available to hold a meeting to discuss these comments with you.



Lauri Kemper, P.E.
Assistant Executive Officer

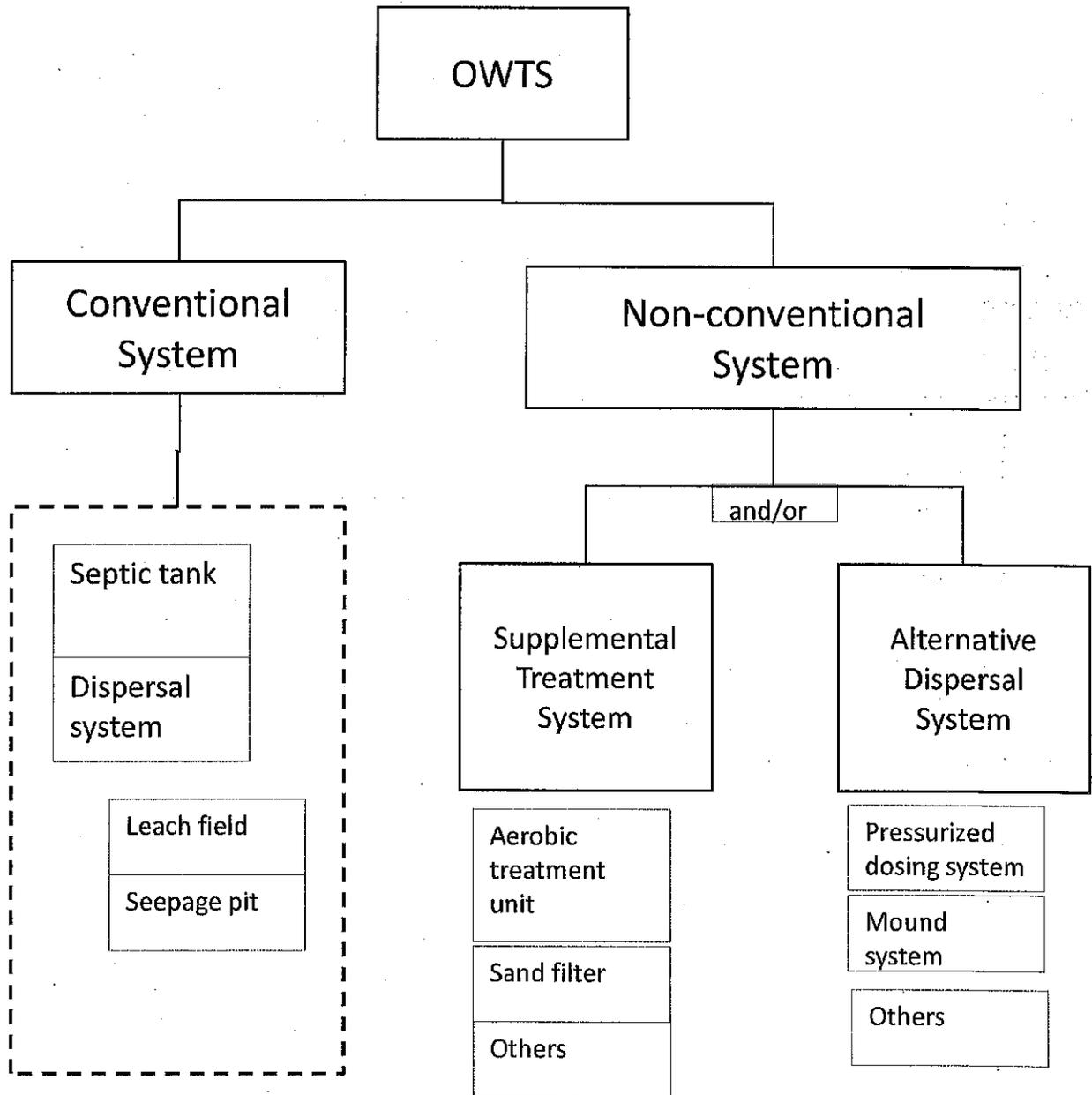
Enclosure: Onsite Systems Type Hierarchy

cc: Marvin Moskowitz, Inyo County Environmental Health Services mmoskowitz@inyocounty.us
Mark Drew, Inyo – Mono IRWM Program mdrew@caltrout.org
Sean McCarthy, State Division of Drinking Water Sean.McCarthy@waterboards.ca.gov

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Enclosure

Onsite System Type Hierarchy



ENCLOSURE 7G

Lahontan Regional Water Quality Control Board

December 12, 2016

ECM: (LAMP) Kern County

William T. Weil, City Manager
City of California City
City Hall
21000 Hacienda Blvd
California City, CA 93505
citymgr@californiacity.gov

Lahontan Water Board Comments – Proposed California City Local Agency Management Program

The Lahontan Regional Water Quality Control Board, Lahontan Region (Water Board) staff has reviewed a proposed Local Agency Management Program (LAMP) for the City of California City (City). The City submitted the proposed LAMP on March 7, 2016. Our comments, which are not listed in any particular order, are the following:

1. LAMP in general – The LAMP is the City's program to regulate onsite wastewater treatment systems (OWTS) within the City's jurisdiction. Therefore, the LAMP must include the entire City program, which includes codes, technical guides, and ordinances. The ordinances must include Ordinance No. 89-414, or its equivalent, regarding development in "distinctly defined zone." This ordinance requires halting development when the zone's cumulative density reaches ½ acre per equivalent dwelling unit (edu). Please submit a revised proposed LAMP that includes these items.
2. Memorandum of Understanding (MOU) migration – Water Board staff accepts the City's proposal to migrate the MOU requirements into the LAMP providing the City has an adequate Water Quality Assessment Plan (WQAP). The density criterion in the MOU is unique to the City. Under the criterion, the City, in the "First Community", may issue building permits on lots less than ½ acre per edu as long as the cumulative density remains less than ½ acre per edu within distinctly specified zones, hereafter referred to as "zones". The zones are delineated on Map "A" of the MOU. Map "A" is Figure 2 of the proposed LAMP.

Specific comments on MOU migration to the LAMP are the following:

- a. Derivation of OWTS requirements – In the first sentence on Page 4, please insert the word "former" so that the text reads "... Local Agency Management Program are derived from the ... former Lahontan Basin Plan criteria..." Under OWTS Policy §3.2, the existing Basin Plan OWTS criteria expire on either the LAMP effective date or May 13, 2018, whichever occurs first.

- b. Edu flow per day – On Page 5, the City states that one equivalent dwelling unit (edu) is 2.7 people, and each person contributes 100 gallons of sewage per day (wastewater flow rates, Page 18). Therefore, 1 edu = 270 gallons sewage per day. Yet on Page 8 the City states that two (2) dwelling units equal 500 gallons per day, which converts to 1 edu = 250 gallons sewage per day.

Please provide a single value for gallons of sewage per edu. We suggest 250 gallons per edu. This is because it is consistent with the existing MOU/Basin Plan criterion.

- c. Sewer Assessment Districts – Please provide a revised Figure 2 or another map that shows sewer assessment district locations and boundaries, because these boundaries are not readable on Figure 2.
- d. City OWTS requirements – On Page 8 the City proposes to carryover the 15,000 ft² lot size criterion into the LAMP. Water Board staff recommends discontinuing this criterion because it has no effect on the cumulative density criterion.
- e. Exemptions – On Page 8, the City proposes to incorporate MOU exemptions into the LAMP. The exemption was a process by which the Water Board Executive Officer was allowed to exempt either a class of OWTS or a specific OWTS.

The OWTS Policy does not allow exemptions. Instead, the owners of OWTS types that are outside the LAMP scope of coverage must submit a report of waste discharge, pay fees, and obtain waste discharge requirements. Please remove “exemption” criteria from the LAMP.

- f. Second City Criteria – Please define criteria for the “Second City”. We suggest a minimum lot size of ½ acre per edu, by each lot, unless the lot is connected to a public sewer. However, we also request the City justify how this density protects water quality as it is now understood that this density may not be protective of underlying groundwater.

3. Wastewater treatment plant OWTS – On Page 7, the City states that the LAMP scope of coverage excludes regulation of wastewater treatment plants of any kind or size. On Page 8, the City states that they will not issue building permits for wastewater treatment package plants. On Page 10, the City states that Kern County Division of Public Health is responsible for review, approval, and issuing permits for alternative treatment systems. On Page 23, the City states that these systems must be submitted to the Lahontan Water Board for approval.

- a. Please clarify the types of OWTS that are within the LAMP scope of coverage. A breakdown structure showing the names and relationships among conventional and non-conventional OWTS is presented in Enclosure 1.
- b. Please clarify the types of OWTS that are referred to Kern County Environmental Health Division for approval. Please describe Kern County’s review and approval process for alternative systems. Kern County’s review and approval process for

these systems must be included in the Kern County LAMP. Water Board staff understands the Kern County LAMP as currently written would not apply to California City.

- c. OWTS Policy §9.4.6 requires monitoring and inspections for OWTS that include supplemental treatment beyond a conventional OWTS (see Enclosure 1). If the City decides to include supplemental treatment systems within the LAMP scope, please provide criteria, procedures, and implementing ordinances for these systems.
 - d. Regarding Lahontan Water Board siting and design approval, State Water Code §13360 prohibits the Water Board to approve the siting and design of any OWTS. Nevertheless, Water Board staff will, upon local agency request and resources allowing, review the siting and design of OWTS and provide recommendations to California City. Please provide procedures for referring types of OWTS to the Water Board for recommendations.
 - e. The State Water Resources Control Board (State Water Board) conditional waiver of waste discharge requirements applies only to OWTS within the LAMP scope of coverage. For OWTS outside the LAMP scope of coverage, please include text in the LAMP that direct the owner of these systems to submit a report of waste discharge, obtain waste discharge requirements from the Lahontan Water Board, and pay fees for OWTS discharges.
4. Tier 2 Considerations – Please describe how the City will meet each OWTS Policy considerations in the LAMP. The considerations are presented in OWTS Policy §9.1 and §9.2. Some considerations are required and others are optional. For each required consideration, please give a justification for any “no” answer. Please see also separate comment on consideration §9.2.8, salt/nutrient management plans.
 5. Page 26 Salt/Nutrient Management Plan (SNMP) – The City states that they maintain wastewater treatment plant groundwater monitoring data, and indicate that the measured water quality constituents are currently at acceptable level. The City does not, however, list planned/completed SNMPS.

Part of the City overlies the Fremont Valley groundwater basin, and the other part of the City overlies the Antelope Valley groundwater basin. The City is preparing the SNMP for the Fremont Valley groundwater basin, which has yet to be completed. The Antelope Valley SNMP is complete, and it can be accessed at: <http://www.avwaterplan.org>.

Consideration of §9.2.8 requires the City to consider development or implementation of, and coordination with, regional SNMP. Therefore, please describe the City's commitment to meet this consideration.

6. OWTS Building Permits – OWTS Policy §9.3.1 requires, in part, that the City maintain records of the number and location of OWTS issued permits. To track cumulative OWTS density, please consider reporting OWTS permit data by zone using the reporting instructions of Enclosure 2.

OWTS Policy §3.3 requires annual reports on February 1. Please report permit data on February 1 of each year, beginning with February 1, 2019, which is the year following the latest possible LAMP effective date of May 13, 2018.

7. Water Quality Assessment Program (WQAP) – Water Board staff suggests a focused WQAP with collaboration with other agencies.

a. Focused program

The need for assessing the cumulative effect of OWTS nitrate discharges in the Lahontan region was presented at the Lahontan Water Board OWTS workshop on September 15, 2016. OWTS discharges will eventually recharge underlying aquifers, even where the density is limited to a minimum of 2 equivalent dwelling units per acre. Some unsewered zones within the City's jurisdiction are approaching an OWTS density of 2 edu/acre. The program must justify that continued use of 2 edu/acre is protective of water quality.

Recently John A. Izbicki, USGS, published² a paper describing the use of an Unsaturated Zone (UZ) computer model to predict the storage and mobilization of OWTS nitrate for Yucca Valley community within the Colorado River Basin Region. One of the findings in this paper is that OWTS nitrate discharges reached groundwater in ½ the time from areas of high density OWTS than in areas with lower density. USGS has offered use of the UZ model for other areas that have similar climate and geology as Yucca Valley. Water Board staff would accept a WQAP proposal to use this model or a similar model in assessing the cumulative impact to aquifers in high OWTS density areas. The first priority might be use of the model for zones that are approaching a cumulative density of ½ acre per edu. Water Board staff suggests that this computer modeling be conducted in conjunction with the 5-Year WQAP report and periodically thereafter when comparing the computer model results to other collected groundwater data as a result of land development and growth patterns. The scope and cost of model use is dependent upon the nature of work proposed. The USGS contact person for use of the model is Claudia Faunt, Program Manager, 619-225-6142 ccfaunt@usgs.gov.

b. Collaboration

Water Board staff has discussed the use of the UZ model with Kern County. Please consider collaboration with Kern County, Los Angeles County, or other local agencies to provide optimal use of the UZ model, or some other model, that may be used for Kern County cumulative impact assessments for existing subdivided areas. Los Angeles County is identified because they regulate OWTS in the Antelope Valley, and the "second City" is located at the northern end of the Antelope Valley. Proposed collaborative efforts with Kern County and other local agencies must be included in the City's LAMP.

8. LAMP effective date – The LAMP must have an effective date. The Basin Plan MOUs expire on the LAMP effective date, or May 13, 2018, whichever occurs first.

Therefore, the LAMP effective date may range from LAMP approval by the Lahontan Water Board acceptance date to May 13, 2018.

9. Items not allowed in a LAMP – OWTS Policy §9.4.1 to OWT Policy §9.4.12 contain the items not allowed in a LAMP. In the proposed LAMP, the City commits to items §9.4.1 through §9.4.3 on Page 29. Of significance is §9.2.2, in which the City will permit up to a projected flow maximum of 10,000 gal/day. Item §9.4.6 is covered in another comment of this letter. Please provide the City's commitment to implement OWTS Policy §9.4.4, §9.4.5, and §9.4.7 through §9.4.12.
10. Grinder pumps and pressure sewer system – The proposed system is presented on Page 27. Please provide technical guides and ordinance that defines the conditions necessitating their installation and requirements for maintenance. Please indicate whether the City or the property owner is responsible for system maintenance. Please evaluate the need for an individual backup system, such as a conventional OWTS. This might be needed because systems with moving parts are subject to break-down at any time. In addition, please include in the City's Sanitary Sewer System Management Plan (SSMP) to address maintenance of grinder pumps and pressure sewers. The SSMP is a requirement of the statewide order for sanitary sewer systems, State Water Board Order No. 2006-0003-DWQ, as amended. The City is an enrollee under this Order (WDID No. 6SSO11135).
11. Sewer Extension – When the cumulative density reaches ½ acre per edu in any zone, please provide construction drawings showing the extension of the public sewer system to serve the entire zone. Include budgetary information and construction milestones.

Closing

1. The OWTS Policy milestone for Lahontan Water Board LAMP approval is May 13, 2017. Water Board staff plans to schedule the LAMP for Water Board approval at its July 12-13, 2017 meeting in Bishop. To meet our schedule for processing agenda items, Water Board staff must assemble a complete agenda package on or before **February 15, 2017**. Water Board staff needs a week to assemble the LAMP documents into the agenda package. Therefore, please submit the City council approved LAMP to the Lahontan Water Board on or before February 10, 2017. The LAMP must address the comments in this letter and meet the requirements of OWTS Policy Tier 2.
2. Please send all future correspondence regarding the City's LAMP to the Lahontan Water Board's email address at Lahontan@waterboards.ca.gov.
3. Because Kern County reviews and approves non-conventional OWTS for the City, Water Board staff is sending a courtesy copy of this letter to Kern County Environmental Health. Because the Central Valley Regional Water Quality Control Board (Central Valley Water Board, or Region 5) is the designated water board under the OWTS as the Kern County LAMP approval authority, Water Board staff is sending a copy of this letter to Central Valley Water Board staff.

If the City has any questions, please call Mike Coony P.E. (760) 241-7353 Mike.Coony@waterboards.ca.gov or Jehiel Cass, P.E., Senior Engineer (760) 241-2434 Jehiel.Cass@waterboards.ca.gov. Water Board staff is also available to hold a meeting to discuss these comments with the City.



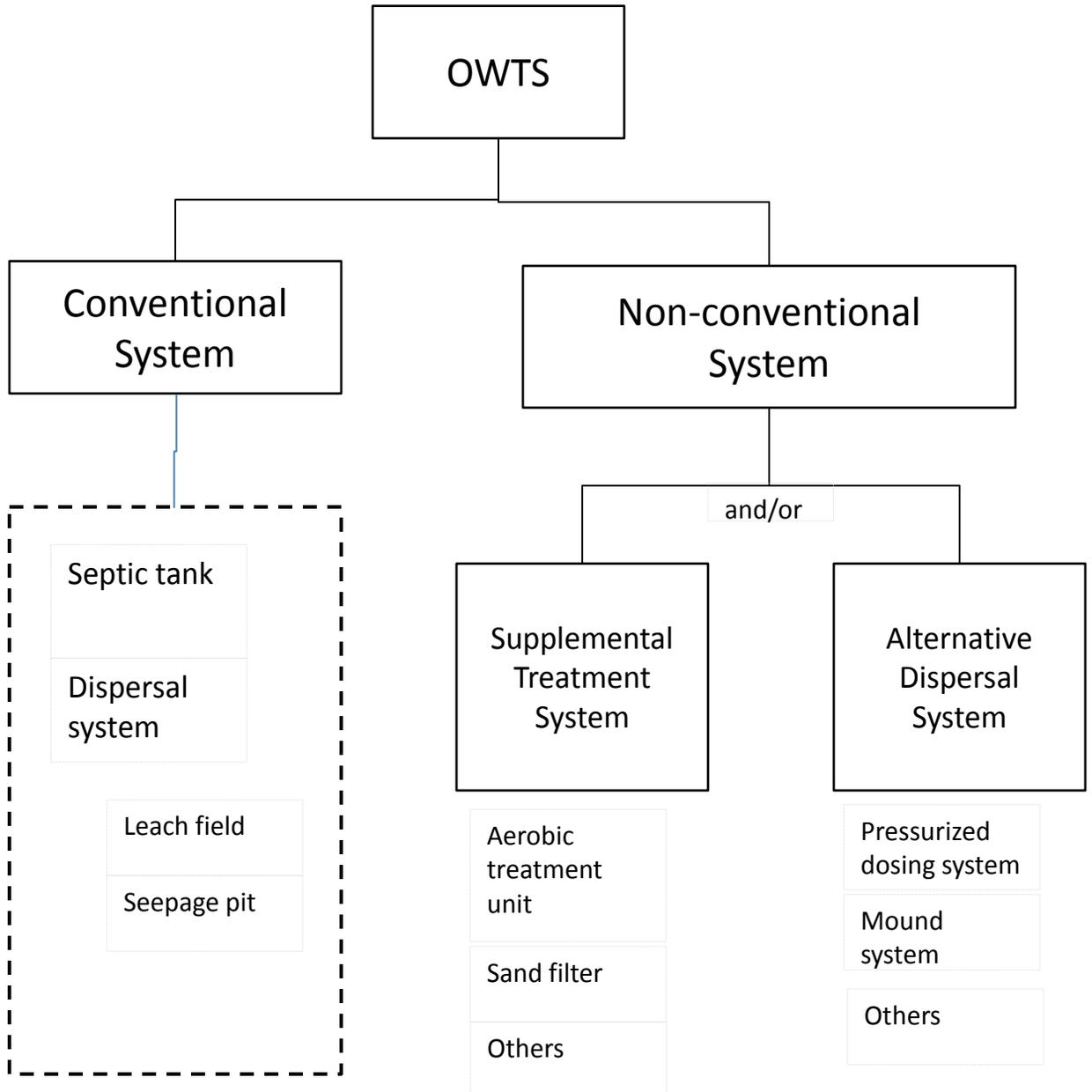
Lauri Kemper, P.E.
Assistant Executive Officer

- Enclosure 1: OWTS Type Breakdown Structure
- Enclosure 2: California City OWTS Permit Record Reporting Requirements
- Enclosure 3: California City Watershed Boundaries

cc w/encl: Gerald Helt, Helt Engineering jhelt@heltengr.com
Jesse Dhaliwal, DDW Jesse.Dhaliwal@waterboards.ca.gov
Eric Rapport, Region 5 Eric.Rapport@waterboards.ca.gov
Katie Carpenter, Region 5 Katie.carpenter@waterboards.ca.gov
Donna Fenton, Kern Co. Environmental Health donna@co.kern.ca.us
Amy Rutledge, Kern Co. Environmental Health rutledge@co.kern.ca.us
Claudia Faunt, USGS ccfaunt@usgs.gov

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Onsite System Type Hierarchy



California City Permitted OWTS Reporting Requirements

Note: For the 1st report due on Feb 1, 2019, the annual numbers are the numbers of permits from 7/15/15¹ to 12/31/18.

Table 1: Number of permitted OWTS by zone

1. Cumulative number of permitted OWTS prior to the previous calendar year for each zone.
2. Annual number of permitted new OWTS during the previous calendar year for each zone.
3. Revision/correction number of permitted OWTS during the previous calendar year for each zone.
4. Cumulative number of permitted OWTS at the end of the previous calendar year for each zone.
5. Cumulative number of permitted OWTS prior to the previous calendar year summed over all zones.
6. Annual number of permitted new OWTS during the previous calendar year summed over all zones.
7. Revision/correction number of permitted OWTS during the previous calendar year summed over all zones.
8. Cumulative number of permitted OWTS at the end of the previous calendar year summed over all zones
9. Annual number of permitted replacement OWTS during the previous calendar year for each zone.
10. Annual number of permitted replacement OWTS during the previous calendar year summed over all zones.

Table 2. Cumulative Density Calculations

This table has the same format of Figure 3 of the proposed LAMP.

Zone

- a. Zone number.
- b. Tract Id number(s) in each zone.
- c. Number of lots per tract in each zone.
- d. Land area in acres, for each zone.
- e. Number of allowed du at 2 du per acre for each zone.
- f. Cumulative permits issued at end of previous calendar year for each zone.
(*must equal Table 1 item 4*)
- g. Total number of lots for each zone.
- h. Number of undeveloped lots at end of previous calendar year for each zone.
- i. Current lots used, percent of allowed du, for each zone.
- j. Total capacity at buildout, percent of du, for each zone.

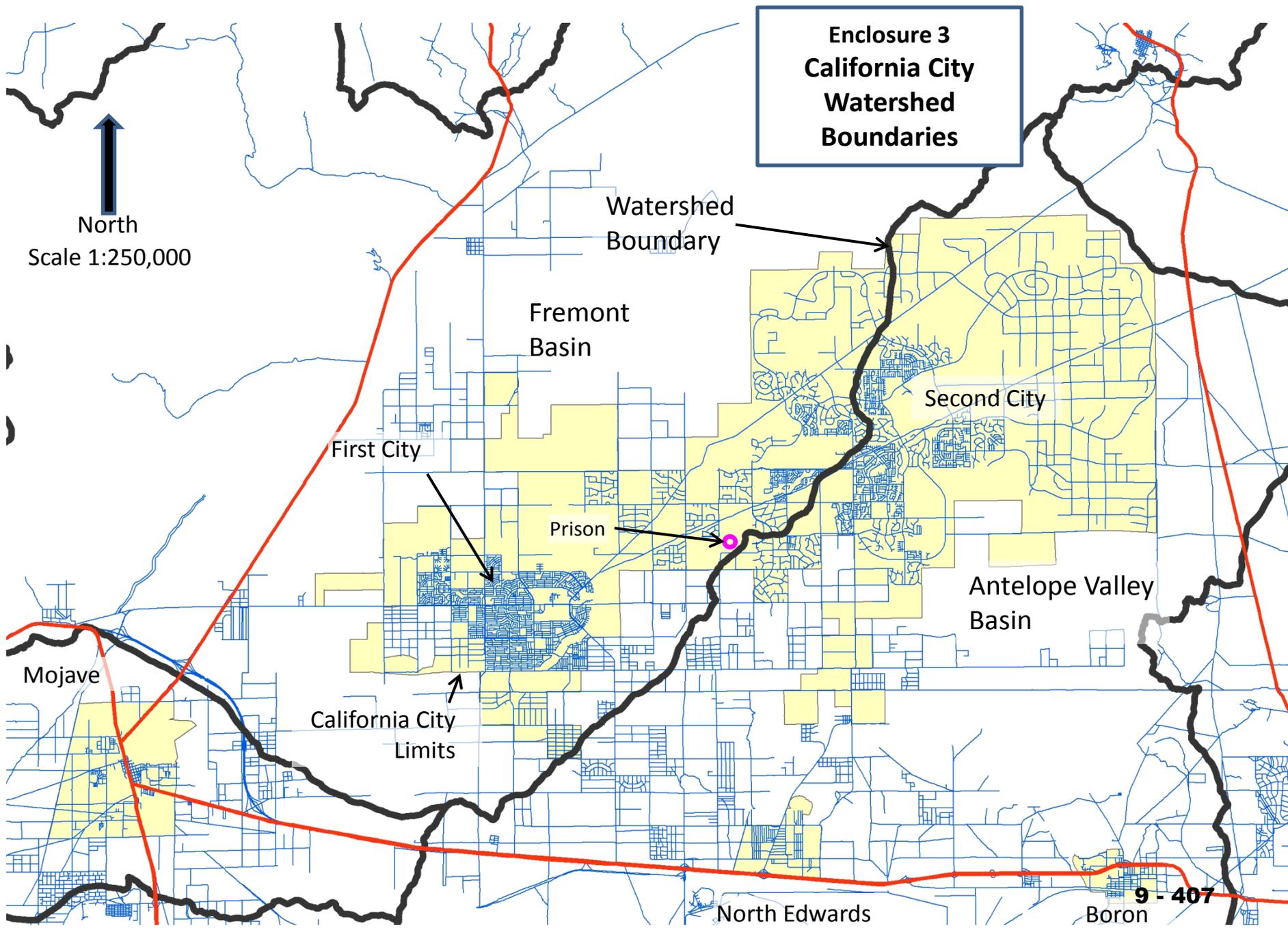
Sums

- k. Land area in acres, summed over all zones.
- l. Number of allowed du at 2 du per acre summed over all zones.
- m. Cumulative permits issued at end of previous calendar year summed over all zones.
(*must equal Table 1, item 8*)
- n. Total number of lots summed over all zones.
- o. Number of undeveloped lots at end of previous calendar year summed over all zones.

Averages

- p. Current lots used, percent of allowed du averaged over all zones.
- q. Total capacity at buildout, percent of du average over all zones.

¹The cumulative number of permits by zone in Figure 3 of the proposed LAMP is numbers through 7/14/15.



**Enclosure 3
California City
Watershed
Boundaries**

North
Scale 1:250,000

Watershed
Boundary

Fremont
Basin

Second City

First City

Prison

Antelope Valley
Basin

Mojave

California City
Limits

North Edwards

Boron

9 - 407

ENCLOSURE 7H

Lahontan Regional Water Quality Control Board

File: Kern County LAMP

TO: Katie Carpenter, Engineering Geologist
Central Valley Regional Water Quality Control Board
1685 E Street
Fresno, CA 93706
Katie.carpenter@waterboards.ca.gov

FROM: 
Lauri Kemper, Assistant Executive Officer
Lahontan Regional Water Quality Control Board
2501 Lake Tahoe Boulevard
South Lake Tahoe, CA 96150
Lauri.kemper@waterboards.ca.gov

DATE: August 8, 2016

SUBJECT: Region 6 Comments - Kern County Draft Local Agency Management Plan

The Regional Water Quality Control Board, Lahontan Region (Water Board) staff has reviewed the May 25, 2016 draft Kern County Local Agency Management Plan (LAMP) and comments provided by Region 5. We appreciate the discussion with Region 5 and Kern County staff on July 19, 2016 to discuss comments. Region 6 provides the following comments on the Kern County LAMP.

1. Onsite Wastewater Treatment System (OWTS) Policy Section 9.1, Considerations for LAMPs (Relevant LAMP Sections, 2 & 4).

The Water Quality Assessment Program should consider the following elements.

- Identify areas of, and include specific assessment elements for, particular locales or areas of concern with high-risk conditions that may lead to groundwater pollution from OWTS. These areas include poor soil conditions, shallow water table, high domestic well usage, high density of OWTS, areas experiencing large numbers of failing systems, or areas where water quality data indicate trends of

increasing nitrate concentrations in ground or surface waters. Within the Region 6 portion of Kern County these areas include the following.

- Indian Wells Valley
 - Northwest Antelope Valley
 - North Edwards
- Identification of individual residential wells in areas of high density OWTS willing to participate in regional groundwater data collection.
 - Identification of existing monitoring wells or other supply wells in areas of high density OWTS (include names of well owners and any current monitoring being conducted).
 - Assess efforts to establish onsite maintenance districts or zones and feasibility of installing municipal sewage collection systems in areas of high density OWTS.
 - Assess locations near high density OWTS where future groundwater monitoring wells should be installed, especially in areas of shallow groundwater.
 - Assess water quality trends, especially with respect to nitrate concentrations.
2. OWTS Policy Section 9.1.9, Areas of High OWTS Density (Relevant LAMP Section, 2, Appendix B).

Kern County requires a cumulative impact assessment for new subdivisions with lots sizes smaller than 2.5 acres, but only where individual domestic wells are used. The *Water Quality Control Plan for the Lahontan Region* (Basin Plan) requires all groundwater with a municipal beneficial use designation to be free of pollution and the Water Board is required to maintain high quality water for future beneficial uses where feasible. The Water Board recommends that Kern County complete a cumulative impact assessment for all new subdivisions with lots smaller than 2.5 acres, regardless of whether the water supply is from on-site domestic wells or a community water system service.

3. OWTS Policy Section 9.1.10, Limits to parcel size (Relevant LAMP Section, 2).

Clarify what Kern County is proposing for density requirements in LAMP for new and existing subdivisions. Provide justification for the parcel sizes and how ground water quality protection will be ensured.

At a minimum, the Basin Plan's maximum density criteria for use of OWTS should be incorporated into the LAMP unless the County is proposing more restrictive density criteria (such as Tier 1 requirements in the OWTS Policy). These criteria were incorporated in 1988. The Basin Plan, Chapter 4.4, page 4.4-10 may be found at the following internet address:

http://www.waterboards.ca.gov/lafrontan/water_issues/programs/basin_plan/docs/ch4_implementationplans.pdf

- a. Use of OWTS for single family homes on lots subdivided after 1988 may have a gross density of no greater than two (2) single family equivalent dwelling units per acre. Developments with higher density are required to have secondary-level treatment of wastewater. Equivalent dwelling units (EDUs) are defined as 250 gallons per day per EDU. The secondary level treatment also applies to domestic wastewater discharges from commercial, industrial, recreational and all other developments with wastewater discharge volumes exceeding two EDU per acre density (500/gal/day/acre based on 250 gal/day/EDU).
 - b. Use of new OWTS is permitted on lots subdivided prior to 1988 if the lot sizes has a net area greater than or equal to 15,000 square feet.
4. OWTS Policy Section 9.2, Scope of Coverage (Relevant LAMP Sections, 1 & 3, p. 6).

Referrals to Water Board would result in our becoming the lead regulatory agency. Discharges would be regulated by waste discharge requirements which require annual fees and monitoring costs. We concur with Region 5 that Kern County should clarify the systems that will be referred and suggest the County retain lead for all systems up to the OWTS Policy allowed up to 10,000 gal/day.

Additionally, the County should reconsider its intent to seek Water Board approval of each new type of alternative OWTS (LAMP, Page 26; and Kern County Onsite Manual, Part 3). Water Code §13360 prohibits the Water Board from specifying the manner or method of treatment and disposal. Water Board staff welcomes consultation with County staff on specific OWTS applications. Perhaps a better phrase may be the following: "County code allows for the future additions of alternative treatment and dispersal systems, as approved by the director after receiving and considering recommendations from the appropriate Water Board."

5. OWTS Policy Section 9.2.8, Regional Salt and Nutrient Management Plans (Relevant LAMP Section, 4 p. 33, Appendix B).

The LAMP should reference the appropriate Salt and Nutrient Management Plans (Plans).

The Antelope Valley Salt and Nutrient Management Plan prepared by the Antelope Valley Integrated Regional Water Management Plan group may be accessed on the internet at: <http://www.avwaterplan.org/>. The Plan looks to the LAMP to ensure OWTS do not adversely affect groundwater. It concludes that with respect to nitrate, groundwater concentrations levels in the Antelope Valley Groundwater Basin are well below the MCL. It also concludes that with respect to total dissolved solids (TDS), average TDS concentrations in the Antelope Valley Groundwater Basin are below the recommended Secondary Maximum Contaminant Level, or drinking water

standard. This means that receiving groundwater in the Antelope Valley is of high quality and does not appear to have been adversely impacted by OWTS. However, as mentioned earlier, the Water Board is required by state policy and regulations to maintain high quality where feasible or unless specific findings can be made to allow degradation.

The Indian Wells Valley Salt and Nutrient Management Plan is being prepared by the Indian Wells Valley Water District and is not yet completed. The Fremont Valley Salt and Nutrient Management Plan is being prepared by the City of California City and is not yet completed. However, you can incorporate available water quality information and evaluate current water quality conditions and predict any changes (benefit or detriment) based on proposed LAMP implementation.

We look forward to working with Region 5 and Kern County to finalize a LAMP that is protective of public health and groundwater quality from OWTS discharges. Water Board staff are available to discuss our comments and concerns in more detail. If you have any questions, please contact me at (530) 542-5436 (lauri.kemper@waterboards.ca.gov), Francis Coony at (760) 241-7353 (mike.coony@waterboards.ca.gov) or Jehiel Cass at (760) 241-2434 (jehiel.cass@waterboards.ca.gov).

cc: Donna Fenton, donnaf@co.kern.ca.us

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ENCLOSURE 7I

Lahontan Regional Water Quality Control Board

January 12, 2017

File: (LAMP) Los Angeles County

Eric Wu
California Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013
Eric.Wu@waterboards.ca.gov

Lahontan Water Board Comments – Proposed Los Angeles County Local Agency Management Program

The California Regional Water Quality Control Board, Lahontan Region (Lahontan Water Board) staff has reviewed a proposed Local Agency Management Program (LAMP) for the County of Los Angeles (County), dated May 13, 2016. The proposed LAMP includes a guide titled “Conventional and Non-conventional Onsite Wastewater Treatment Systems – Requirements and Procedures,” dated May 2016. Our comments and recommendations, which are not listed in any particular order, are the following:

1. LAMP in general. The LAMP is the County’s program to regulate onsite wastewater treatment systems (OWTS) within the County’s jurisdiction. Therefore, Lahontan Water Board staff requests that the LAMP include the entire County program, which includes codes, technical guides, and ordinances.
2. Tier 1 Density. The County proposes Tier 1 densities for their LAMP (Table E-1, Table 2-5). However, the County does not state the effective date for the densities. Lahontan Water Board staff requests that the County provide the effective date of the Tier 1 densities.
3. Density criteria for existing parcels. While the County selects Tier 1 densities for new subdivisions, the County does not define density criteria for existing platted parcels in the Lahontan region portion of the County. Lahontan Water Board staff density comments and recommendations are the following:
 - a. Lahontan Water Board staff requests the County evaluate adding density criteria for existing parcels in the Lahontan Region. For the Lahontan region, Water Board staff requests the County to consider using the existing Memorandum of Understanding (MOU)¹ criteria. These criteria generally allow two (2) equivalent dwelling units (edu) per acre.

¹ Los Angeles County and Lahontan Water Board entered into a MOU dated September 26, 1989, amended March 11, 1991, that defines criteria or conditions for when the County may approve subsurface disposal systems.

- b. The edu flow value in the Lahontan MOU is 250 gallons per day (gal/day). This value is used in proposed LAMP section 1.1.2. However, in proposed LAMP Appendix B, section B-3, the County selects a value of 200 gpd (gal/day) per edu. For consistency purposes, Lahontan Water Board staff requests the County select 250 gal/day consistent with the *Water Quality Control Plan for the Lahontan Region* (Basin Plan).
 - c. The County has been referring proposed OWTS to the Water Board for design approval when the density is less than ½ acre per edu; the current criterion allowed under the MOU. This process is not stated in the proposed LAMP. Lahontan Water Board staff requests that the County state whether they will continue this referral process under the LAMP, and specify the process. All referrals must come from the County staff and not individual dischargers.
 - d. Lahontan Water Board exemptions. Up to the effective date of the OWTS Policy, the Lahontan Water Board or its Executive Officer could issue exemptions to the Lahontan MOU density criteria. On the effective date of the Policy, exemption considerations were replaced with a conditional waiver of waste discharge requirements (OWTS Policy §12.0), and the Lahontan Water Board staff may no longer issue exemptions to the MOU density criteria. Instead, all onsite system referrals will result in regulation under waste discharge requirements, unless the County identifies a regulatory process in the LAMP for these project proposals.
4. Non-conventional treatment OWTS. The County presents non-conventional OWTS siting and design requirements in proposed LAMP section 3.5; inspection, monitoring, maintenance and reporting requirement in proposed LAMP section 4.1; and additional design and operation details in Appendix A.6. Non-conventional systems include both non-conventional treatment and non-conventional subsurface disposal systems.
- a. Lahontan Water Board staff requests that the County define the types of OWTS that are within their scope of coverage (OWTS Policy 9.2). A breakdown structure showing the names and relationships among common conventional and non-conventional OWTS is presented in Enclosure 1.
 - b. Lahontan Water Board staff requests the County state if they will include package treatment plants in their scope of coverage. Like aerobic treatment units (ATU), a package plant uses supplied air to stabilize the organic content of sewage. However, an ATU is a single tank inserted after the septic tank and before the subsurface disposal system. A package plant, in contrast, is a complete fabricated wastewater treatment plant that typically uses activated sludge technology. The principal parts are an aeration tank, clarifier, and activated sludge recycle pumps.
 - c. The State Water Resources Control Board (State Water Board) conditional waiver of waste discharge requirements applies only to OWTS within the LAMP scope of coverage. For OWTS outside the LAMP scope of coverage, Lahontan Water Board staff requests that the County include text in the LAMP that directs the owner to submit a report of waste discharge, obtain waste discharge requirements from the Lahontan Water Board, and pay fees for OWTS discharges.

- d. Table 4-1 of proposed LAMP section 4.1 states that non-conventional OWTS operation requires the County to issue an annual public health permit and perform an annual inspection. While the County may have this authority in its ordinances to perform this function, past discussions with the County on specific projects indicate that the County has not funded this program. Lahontan Water Board requests that the County reconsider this decision, as OWTS Policy §9.4.6 requires monitoring and inspections for non-conventional treatment OWTS. Preferably, the County funds this program.
- e. Lahontan Water Board staff requests the County explain why a public health permit lasts only one year. Since the purpose of these permits is to authorize OWTS waste discharges, this public health permit should last indefinitely to keep discharge authorization current and reduce program administrative costs, and allowing annual fees to fund the performance oversight program.
- f. State Water Code §13360 prohibits the Water Board to approve the siting and design of any OWTS. Nevertheless, Lahontan Water Board staff will, upon local agency request and resources allowing, review the siting and design of OWTS and provide recommendations to the County. Lahontan Water Board staff requests that the County provide revised referral procedures that are consistent with Water Code §13360.
- g. The County specifies OWTS discharge numerical limitation in proposed LAMP section 3.5 and A-6. These limitations are 30 mg/L for biochemical oxygen demand, 30 mg/L for total suspended solids, 50% total nitrogen removal based on influent total Kjeldahl nitrogen measurement, and a pH range of 6 to 9. Lahontan Water Board staff recommendations on these limitations are the following:
 - i. The County should specify a period for compliance. Lahontan Water Board staff suggests a 30 day average for biochemical oxygen demand (BOD) and total suspended solids (TSS), because this is consistent with the Federal secondary standards.
 - ii. To measure total nitrogen percent removal, the OWTS owner must sample both the influent and the effluent. Except for package plants, influent sampling of OWTS is difficult. In lieu of a percent removal limitation, Lahontan Water Board staff will accept an estimated influent total nitrogen value of 40 mg/L², requiring a total nitrogen limitation of 20 mg/L.
 - iii. A 50 percent reduction of influent total kjeldahl nitrogen (TKN) is not adequate because it does not account for the oxidation of TKN to nitrate in the treatment process. Lahontan Water Board staff requests the County revise the effluent limitation to reflect the sum of TKN and nitrate.

²Metcalf & Eddy, Inc, Wastewater Engineering: Treatment Disposal Reuse, 2nd Edition, 1979, Table 3-5, medium strength sewage.

- iv. With a 50 percent reduction in total nitrogen, the average effluent concentration is 20 mg/L. To be protective of groundwater quality, the OWTS owner will need to remove 75 percent nitrogen to achieve 10 mg/L total nitrogen. Lahontan Water Board will consider allowing subsurface drip irrigation of plants to provide this additional nitrogen removal.
 - v. Lahontan Water Board staff requests that the County provide a list of public health permits for OWTS located in the Lahontan Regional. Lahontan Water Board staff requests reporting of parcel number, discharge monitoring results, completed inspection reports, permit issuance date, and permit expiration date.
5. Tier 2 Considerations. Lahontan Water Board staff requests that the County describe how they meet each OWTS Policy §9.2 considerations in the LAMP. Some considerations are required and others are optional. For each required consideration, Lahontan Water Board staff requests the County give a justification for any “no” answer. Please see also separate comment on consideration of OWTS Policy §9.2.8, salt/nutrient management plans.
6. Salt/Nutrient Management Plan (SNMP).
 - a. OWTS Policy §9.2.8 requires the County to consider development or implementation of, and coordination with, regional SNMP. The proposed LAMP states in Sec 4.8 that the County will “contribute to the planning efforts providing data and input regarding OWTS.” Lahontan Water Board staff requests that the County also consider receiving data from the SNMP stakeholders to help with their assessment on groundwater recharge conditions.
 - b. The SNMP for the Antelope Valley portion of the County is complete, and it can be accessed at: <http://www.avwaterplan.org>. Lahontan Water Board staff requests that the County recognize the completion of this SNMP in their LAMP.
7. Water Quality Assessment Program (WQAP). For the Lahontan portion of the County, Lahontan Water Board staff suggests a focused WQAP with collaboration with other agencies.
 - a. Focused program

The need for assessing the groundwater recharge of OWTS nitrate discharges in the Lahontan region was presented at the Lahontan Water Board OWTS workshop on September 15, 2016. OWTS discharges will eventually recharge underlying aquifers, even where the density is limited to a minimum of two (2) edu per acre. Of significance are clustered, higher density non-sewered areas of Antelope Acres, Quartz Hill, Lake Los Angeles, Sun Village, Pearblossom, Juniper Hills, Littlerock, and Leona Valley.

Recently John A. Izbicki, USGS, published a paper describing the use of an Unsaturated Zone (UZ) computer model to predict the storage and mobilization

of OWTS nitrate for Yucca Valley community within the Colorado River Basin Region.³ One of the findings in this paper is that OWTS nitrate discharges reached groundwater in ½ the time from areas of high density OWTS than in areas with lower density.

USGS has offered use of the UZ model for other areas that have similar climate and geology as Yucca Valley. Lahontan Water Board staff discussed use of the USGS with Los Angeles County staff in November 2016 for the portion of the County in the Lahontan Region. Lahontan Water Board staff would accept a WQAP proposal to use this model or a similar model to assess the occurrence of groundwater recharge from OWTS discharges in the higher density areas. Lahontan Water Board staff suggests that this computer modeling be conducted in conjunction with the 5-Year WQAP report and periodically thereafter when comparing the computer model results to other collected groundwater data as a result of land development and growth patterns. The scope and cost of model use is dependent upon the nature of work proposed. The USGS contact person for use of the model is Claudia Faunt, Program Manager, 619-225-6142 ccfault@usgs.gov.

b. Collaboration

Lahontan Water Board staff has discussed the use of the UZ model with Kern County. Lahontan Water Board staff recommends that Los Angeles County consider collaboration with Kern County and or other local agencies in the Antelope Valley to provide optimal use of the UZ model, or some other model, that may be used for Los Angeles County cumulative impact assessments for existing subdivided areas.

8. Cumulative Impact Assessments. The County's process for conducting a cumulative impact assessment is presented in proposed LAMP section 3.1. The proposed LAMP states that these assessments are "for new OWTS installations." Lahontan Water Board staff requests that these assessments include existing and future OWTS because they also contribute to OWTS discharges that will eventually recharge groundwater. Lahontan Water Board staff requests that the cumulative impact assessment results be reported in the County's 5-year WQAP evaluation.
9. LAMP effective date. Lahontan Water Board staff requests that the LAMP have an effective date. The Basin Plan MOUs expire on the LAMP effective date, or May 13, 2018, whichever occurs first.
10. Periodic LAMP revisions. The County proposes to revise the LAMP and Technical Guide approximately every 3 years, submit the revisions to the Water Board, and receive Water Board approval. The process for revisions in the OWTS Policy is that the local agency identify LAMP changes in the 5-Year WQAP assessment report (OWTS Policy §9.3.3). Lahontan Water Board staff requests that the County submit

³ John A. Izbicki et al, Storage and mobilization of natural and septic nitrate in thick unsaturated zones, California, U.S. Geological Survey, *Journal of Hydrology*, 2015.

LAMP revisions as required under OWTS Policy §9.3.3. LAMP revisions submitted in this manner may not require Water Board action.

Closing

The Los Angeles Water Board is the OWTS Policy designated water board authority for Los Angeles County LAMP approval. Therefore, the County should allow enough time to respond to these comments and receive acceptance of the County's response from Lahontan Water Board staff, so as to meet the Los Angeles Water Board schedule for approval of the County LAMP.

If Los Angeles Water Board staff have any questions, please call Mike Coony P.E. (760) 241-7353 Mike.Coony@waterboards.ca.gov or Jehiel Cass, P.E., Senior Engineer (760) 241-2434 Jehiel.Cass@waterboards.ca.gov. Water Board staff is also available to hold a meeting with the Los Angeles Water Board and the County to discuss these comments with the Los Angeles Water Board staff.



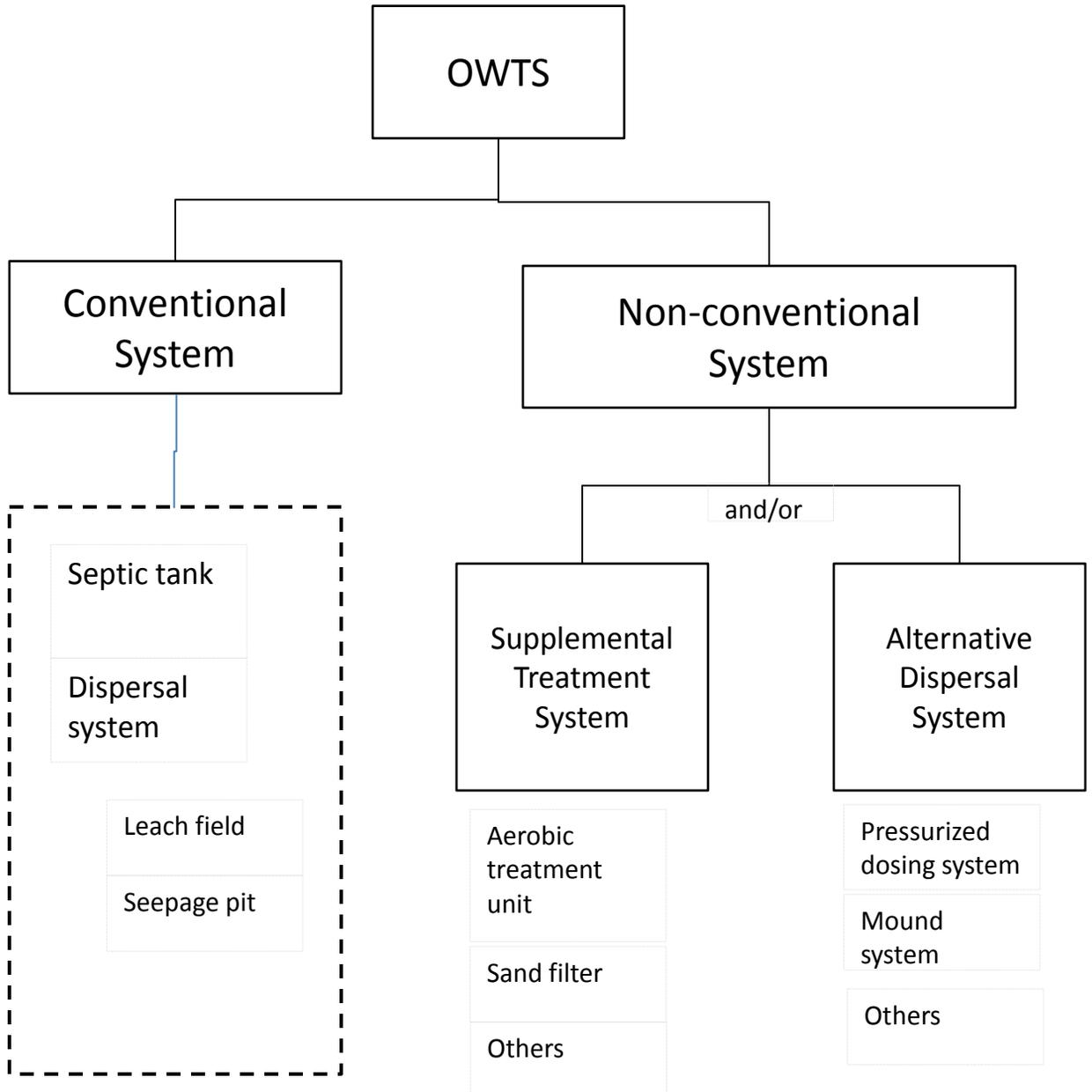
Lauri Kemper, P.E.
Assistant Executive Officer

Enclosure: OWTS Type Breakdown Structure

cc w/encl: Claudia Faunt, USGS, ccfaunt@usgs.gov

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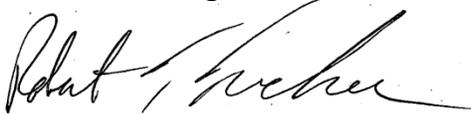
Onsite System Type Hierarchy



ENCLOSURE 7J

Lahontan Regional Water Quality Control Board

TO: Eric Rapport
Senior Engineer Geologist
Eric.Rapport@waterboards.ca.gov
California Regional Water Quality Control Board, Central Valley Region


FROM: Robert Tucker
Water Resource Control Engineer
Robert.Tucker@waterboards.ca.gov
California Regional Water Quality Control Board, Lahontan Region

DATE: May 10, 2016

SUBJECT: Comments on the El Dorado County Local Agency Management Plan (LAMP)

We appreciate the opportunity to comment on the El Dorado County LAMP for onsite waste treatment systems (OWTS). Our comments are limited because we are not aware of any portions of El Dorado County within the Lahontan region where the discharge of treated wastewater from OWTS is legally allowed. Basically, OWTS discharges in most - if not all - of El Dorado County that is within the Lahontan Region are restricted by the California Water Code to provide for protection of Lake Tahoe water quality. Here are our comments/questions on the LAMP:

1. A map of El Dorado County would be helpful to understand if any portion of the county is within the Lahontan Region, but not within the Lake Tahoe watershed. Please consider providing a map of the County.
2. In reviewing the LAMP we did not see information on minimum parcel size regarding the siting criteria for OWTS, but in section 5.3.1.2 the LAMP appears to be very strict requiring 5 acres for an OWTS without a public water system available. The cited section appears to be a requirement for new subdivisions. Is that correct? Is there a minimum parcel size siting criterion for new OWTS on existing lots?
3. In the introduction of the LAMP on page 9, under "Reporting to RWQCB," number 3 states the following:

"The number, location and description of permits issued for OWTS where a variance from the approved LAMP was granted."

We did not find the procedures for a variance in the LAMP. It is understandable that variances may need to occur; however, there needs to be a description of the procedure in the LAMP. We suggest Lake Tahoe basin should be singled out as an area where no variance for OWTS will be allowed. A variance for a holding tank within the Lake Tahoe watershed basin could be acceptable (no discharge). A variance for an OWTS with a discharge within the Lake Tahoe watershed basin would be an illegal variance from the California Water Code Sections 13951-13952.2. The LAMP must describe the procedures for allowing a variance.

Please contact me at (530) 542-5467 (robert.tucker@waterboard.ca.gov) if you have any questions.

cc (via email): Scott Armstrong, Senior Engineering Geologist, SWQCB, Region 5
Lixin Fu, Water Resource Control Engineer, SWQCB, Region 5

RTT/ma/T: Comments on El Dorado LAMP
File Under: ECM/General/Counties/El Dorado/Septic Systems

ENCLOSURE 7K

Comments on Modoc County Lamp

Record note: Rob Tucker, Lahontan Region, sent these comments to Eric Rapport, Reg 5, on July 8, 2016, as an attachment to an email. On April 27, 2017, Francis Coony, Lahontan Region, edited the comments to correct misspelled words and grammar errors.

I have reviewed the Modoc County Lamp and the following are my questions and comments on the LAMP.

1. The ordinance in the Modoc County requires one acre for lots that need to have both their own disposal system and individual water supply, and only ½ acre lot for lots that only need their own disposal system (Drinking water system available). These appear reasonable and on page 25 under section 15 the standard projected sewage flow is 450 gallons per day, are these standard condition to base some independent judgement if an alternative system is needed?

Question: Will the criteria above and if a proposing developer or individual lacks the lot size or the sewage flow is estimated to be greater than 450 gallons a day. Will an alternative system be considered/suggested to reduce the load to the land area? Provided all other criteria will be acceptable. Also as an example if a small commercial development with a supplied water system (shopping strip mall) is going to be designed for a 1000 gallon per day for a one acre parcel would this site would also be considered a candidate for an alternative treatment system?

2. The Monitoring and identification of high Risk areas page 49 of the LAMP under section 32 (3) state the following:

A refined water quality monitoring program that will prove relevant information to the function of the OWTS in Modoc County is planned to be developed by year ten when the State Water Board renews the waiver. At this time MCEH will endeavor to compile data relevant to OWTS and Comply with State water Resources Control Board policy section 9.3.3

Waivers need to be renewed every five years so the next renewal will be in 2017 and the next one after that is 2022. I would like the LAMP to state “. . . Modoc County is planned to be developed prior by year ten when the State Water Board renews the waiver .”

3. There was no LAMP variance procedures listed in the LAMP on what cannot be granted a variance due to the States policy or Regional Water Board Policy or the process for reviewing and granting a variance. I think this section needs to be added and may be vague but needs to outline a process not what may or may not be authorized.

ENCLOSURE 7L

Lahontan Regional Water Quality Control Board

TO: Eric Rapport
Senior Engineering Geologist
California Regional Water Quality Control Board, Central Valley Region



FROM: Lauri Kemper, Assistant Executive Officer
California Regional Water Quality Control Board, Lahontan Region

DATE: December 2, 2016

SUBJECT: Comments on the Nevada County draft Local Agency Management Plan for Onsite Waste Treatment Systems

The California Regional Water Quality Control Board, Lahontan Region (Lahontan Water Board) staff reviewed the Nevada County Local Agency Management Plan (LAMP). We appreciate the opportunity to provide our comments to the California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board). The following are our comments on the LAMP.

1. On Page 2, the second and third paragraphs of the introduction discuss the density criteria in the Water Quality Control Plan for the Lahontan Region (Lahontan Basin Plan) and that the County will not issue permits that do not meet the density criteria in the Lahontan Basin Plan. These criteria in the Lahontan Basin Plan are now for OWTS that are not covered by the OWTS policy so should not be referenced by the County. After the LAMP is approved by the Central Valley Water Board the LAMP procedures should supersede the existing Memorandum of Understanding (MOU) between the County and the Lahontan Water Board.

There are prohibitions in the Lahontan Basin Plan that the LAMP may not supersede. Therefore, here are some suggested changes to the third paragraph and an additional fourth paragraph.

“The Water Quality Control Plan for the Lahontan Region (Lahontan Basin Plan) contains criteria for individual waste disposal systems. Some of the Lahontan Basin Plan criteria may be more stringent than those provided in this LAMP. However, after the LAMP is approved the County will allow the Department to authorize onsite waste treatment systems using the criteria in the approved LAMP.”

“The Lahontan Basin Plan also contains discharge prohibitions which include discharges from OWTS in certain areas of the County. One such discharge prohibition is against discharges within the 100-year floodplain of the Truckee and Little Truckee Rivers. The Department will not issue permits for new individual

AMY L. HORNE, PhD, CHAIR | PATTY Z. KOUYOUMDJIAN, EXECUTIVE OFFICER

onsite waste treatment systems in conflict with a discharge prohibition in the Lahontan Basin Plan, except as authorized by the Lahontan Water Board.”

2. On Page 8 under A-008, General Standards and Requirements, item (20) states, “OWTS dedicated to receiving significant amounts of waste dumped from RV holding tanks shall be prohibited.” If the County wishes to prohibit future or existing OWTS at RV parks that could lead to an increase in illegal discharges from RVs that may need consideration. However, if the intent is only to follow the OWTS policy, under which the County is not to authorize or permit OWTS that receive a significant amount of their waste from RV holding tanks, the County may wish to alter that language. Here is some suggested language for the County to consider.

“OWTS dedicated to receiving significant amounts of waste dumped from RV holding tanks may not be authorized by these regulations. Those who want to construct an RV park or discharge RV wastes using an OWTS must contact the appropriate California Regional Water Quality Control Board and request written authorization from the Water Board for the discharge.”

3. Pages 21 and 22, section on How to Obtain a Variance. This section provides no mention of contacting the appropriate Regional Water Board, such as for getting an exemption from a Water Board prohibition. The following is some suggested language for the County to consider adding between items 2A and 2B, or as part of 2A.

“In some instances an exemption or exception to a prohibition may be issued by the appropriate Regional Water Board. The proponent of the project will be required to obtain the authorization or requirements separately and will also be required to provide these as part of the final package submitted to the Department.”

4. We pose the following general question on water quality data collection: In locations where the OWTS density is greater than would be authorized under tier one, or where density does not meet the County’s current siting criteria, are there any plans to collect data on groundwater quality in those areas? We suggest monitoring be provided for areas such as these.

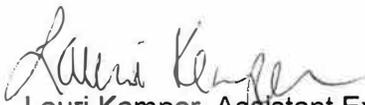
We look forward to working with the Central Valley Water Board and Nevada County to finalize the LAMP. The Water Board staff is available to discuss our comments. If you have questions, please contact me at (530) 542-5436 (lauri.kemper@waterboards.ca.gov), or Rob Tucker, Water Resources Control Engineer, at (530) 542-5467 (robert.tucker@waterboards.ca.gov).

cc: Robin Merod, Ph.D, Central Valley Water Board
Rob Tucker, Lahontan Water Board

ENCLOSURE 7M

Lahontan Regional Water Quality Control Board

TO: Eric Rapport
Senior Engineering Geologist
California Regional Water Quality Control Board, Central Valley Region

FROM: 
Lauri Kemper, Assistant Executive Officer
LAHONTAN REGIONAL WATER QUALITY CONTROL BOARD

DATE: January 3, 2017

SUBJECT: COMMENT ON THE PLACER COUNTY LOCAL AGENCY MANAGEMENT PLAN FOR ONSITE WASTE TREATMENT SYSTEMS

The California Regional Water Quality Control Board, Lahontan Region (Lahontan Water Board) staff reviewed the Placer County (County) Local Agency Management Plan (LAMP). We appreciate the opportunity to provide our comment to the California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board).

The Water Quality Control Plan for the Lahontan Region (Basin Plan) contains discharge prohibitions applicable to the LAMP and, even though prohibitions are not described in the County's LAMP, the LAMP may not supersede our Basin Plan's discharge prohibitions. Presently, County staff members we work with are aware of our discharge prohibitions. One prohibition we discuss with County staff regularly is the discharge prohibition within the 100-year floodplain of the Truckee River, which includes discharges from an OWTS. County staff contacts us and directs individuals to contact us when activities to construct or replace an OWTS near the Truckee River and its floodplain are proposed to obtain the approval required from the Lahontan Water Board. We appreciate that communication with the County staff and hope that communication continues.

Most of the high-density housing developments in the County within the Lahontan Water Board's jurisdiction are connected to a sewer. The prohibition information is our only substantive comment towards the County's LAMP. While the County should recognize the limitations of our prohibitions, the prohibition information need not be incorporated in the LAMP. We trust the information about our prohibitions will be preserved independently of the LAMP and made available to future County staff members.

We look forward to seeing the finalized LAMP that Region 5 and Placer County agree on. The Water Board staff is available to discuss our comment. The Lahontan Water Board has gone paperless; if you wish to respond to our comments in writing please e-mail your comments to lahontan@waterboards.ca.gov. If you have questions please, contact me at (530) 542-5436 (lauri.kemper@waterboards.ca.gov), or Rob Tucker, Water Resources Control Engineer, at (530) 542-5467 (robert.tucker@waterboards.ca.gov).

cc: Robin Merod, Ph.D, P.E., Central Valley Water Board, Sacramento Office
Robert Tucker, Lahontan Water Board

RTT/ma/T: Comments on Placer County LAMP

File Under: ECM / Placer County LAMP Comments/General/County/Placer County/Septic Systems

AMY L. HORNE, PHD, CHAIR | PATTY Z. KOUYOUMDJIAN, EXECUTIVE OFFICER

ENCLOSURE 8

Item 9

OWTS Regulatory Status Update

Francis Coony, P.E., Water Resources Control Engineer
Lahontan Regional Water Quality Control Board

May 11, 2017

South Lake Tahoe — Victorville, CA



1

Purpose

- State Board adopted Onsite Wastewater Treatment Systems (OWTS) Policy – requires Water Boards to approve Local Agency Management Programs (LAMPs)
- Board asked for additional time to discuss key elements of LAMPs
- Today's focus: compare LAMP elements and share staff's key concerns/comments

2

Chronology

- Sep 2016 – Discussed policy and 4 issues:
 - Lot sizes, WQAP, STS, funding
- Apr 2017 - Discussed 3 issues:
 - Degradation, approval flexibility, funding
- May 2017 – Discuss 2 issues:
 - LAMP element comparison, staff comments

Future: July 2017 – Water Board to consider
San Bernardino County LAMP

3

Tier 2- LAMPs

- OWTS policy places local agencies in driver's seat (they make proposal with justification)
- Requires Water Quality Assessment Program
- Staff has provided technical assistance to local agencies for improving LAMPs

- Water Board accepts or rejects

4

Comparing LAMP key elements

San Bernardino, Kern, Riverside Counties

- Lot sizes
- Max number of lots in a subdivision
- Supplemental Treatment Systems
- Annual reports
- Water Quality Assessment Program (WQAP)
- 5-year WQAP assessment report
- Areas of special concern



Lot size

- Most local agencies proposed to continue with the Basin Plan minimum density of $\frac{1}{2}$ acre for new subdivisions with OWTS
- OWTS are allowed on existing subdivided lots any size
- Local agencies have different approaches (e.g. larger lot size for lots with private wells)
- Staff have asked for additional protective measures (e.g. increased monitoring)



Maximum number of lots in a subdivision

- Riverside County sets 40 lots as maximum subdivision size using OWTS
- Water Board staff recommended:
 - Setting a maximum subdivision size using OWTS
 - Larger subdivisions should be sewered



Supplemental treatment system (STS)

- Large local agencies will allow STS
- Small local agencies will defer to Water Board
- Water Board staff recommends agencies develop ordinances and program to require nitrogen removal, proper operation and maintenance (e.g. certified operators) tracking, inspections, and monitoring



Annual Report

In addition to Policy required elements, Water Board staff requested local agencies include:

- Indication of bacteria or nitrate problems
- Improvements to the WQAP to address water quality impacts or predicted impacts



WQAP

Water Board requested local agencies

- Ensure WQAP is meaningful
- Ensure WQAP evaluates OWTS operation status, impact, and extent of water quality impacts
- Collaborate with other agencies to share data
- Perform analyses based on existing and proposed land-use patterns and drinking water receptors or vadose zone modeling to predict the release of OWTS discharges to groundwater
- Consider installation of monitoring wells in high-risk areas



WQAP

Key Management Questions

- Where are areas of existing OWTS developments that will likely contribute/cause or have caused groundwater contamination or pollution? To what areal extent? Where are the nearest existing receptors (supply wells) or likely potential supply wells?
- For future growth areas, where will OWTS be allowed? Which of these areas will likely contribute/cause groundwater contamination or pollution? Where will likely receptors be located in these areas?
- When will pollution occur (greater than 10 mg/L – NO₃-N) and to what extent?

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5-year WQAP assessment

- Evaluate the monitoring program
- Assess water quality impacts from OWTS
- Identify changes in the LAMP that will be undertaken to address impacts from OWTS (OWTS Policy §9.3.3)
- Staff recommends responses to Key Management Questions

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Areas of special concern

- Not defined in policy, staff have indicated the following:
 - San Bernardino Co.: Wrightwood, and North Barstow
 - Kern Co.: Indian Wells Valley, Northwest Antelope Valley, and North Edwards
 - Other areas in the region



Options

- Lot size – consider larger lot sizes or additional protective measures (e.g. subdivision size or location, monitoring)
- Max Number of lots in subdivision – consider setting a limit such as 40 lots
- Add O&M requirements, inspections and monitoring for Supplemental Treatment Systems



Options

- Add to annual report:
 - Results of monitoring data, inspections, and enforcement actions
 - Progress towards data collection and analysis for 5-yr report
- WQAP - commitment to evaluating key management questions
- WQAP 5 year Report – recommendations for improvements. Responses to questions
- Areas of Special Concern – additional monitoring and/or protective measures

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Discussion and Feedback to Staff

What is the Board's guidance for staff regarding each of the options?

Next steps:

- Transmittal of Board's guidance to local agencies
- Bring proposed LAMPs to Board meetings (July 2017 through May 2018)

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