

**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**

This page is intentionally left blank.



# **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

## Table of Contents

Purpose	1
Background	2
<i>Septic System Impacts to Receiving Groundwater</i>	2
<i>Septic Systems Issues in Lahontan Region</i>	4
<i>Basin Plan Prohibitions</i>	6
<i>Current Septic System Regulatory Approach</i>	7
<i>OWTS Policy Incorporated in the Basin Plan</i>	8
OWTS Policy	8
OWTS Policy Overview	8
OWTS Policy Milestones	9
OWTS Not Subject to the Policy	10
OWTS Policy Tier Description	10
Regional Board Lead for LAMP Approval	12
LAMP Deficiencies	13
Summary	17
Recommendations	18
References	18

## List of Tables

1. Typical Composition of Untreated Domestic Sewage
2. Typical Septic Tank Effluent and Soil Water Quality
3. Septic Systems Issues in Lahontan Region
4. Basin Plan Septic System Prohibition Areas
5. Region 6 Local Agencies with Septic Guideline MOUs
6. OWTS Policy Milestones Dates
7. OWTS Policy Tier Description
8. LAMP Maximum Densities, South Lahontan Counties and Cities\*
9. LAMP Maximum Densities, North Lahontan Counties

## List of Figures

1. Waste discharge requirements for domestic wastewater treatment plants
2. Regional Board's designated to approve LAMPS

## 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\***

<b>Contaminant</b>	<b>Units</b>	<b>Septic Tank Effluent</b>	<b>Soil Water at 2' below dispersal depth</b>	<b>Soil Water at 4' below dispersal depth</b>
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. <sup>1</sup> Water Board staff also supports a proposed feasibility study to evaluate sewerage options. <sup>2</sup>
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. <sup>3</sup>	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.

<sup>1</sup> 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.

<sup>2</sup> 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.

<sup>3</sup>This 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 Apendell)	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**

<b>Agency</b>	<b>Date Water Board Signed MOU</b>
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 (ft<sup>2</sup>). 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**

<b>Milestone</b>	<b>Requirement</b>
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.
<b><u>May 13, 2017</u></b>	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"> <li>• <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></li> </ul>

Tier	Requirement														
	<table border="1" data-bbox="581 264 1263 604"> <thead> <tr> <th data-bbox="587 268 808 380">Avg. Annual Rainfall (in/yr.)</th> <th data-bbox="815 268 1256 380">Allowable Density (acres/single family dwelling unit)</th> </tr> </thead> <tbody> <tr> <td data-bbox="587 380 808 415">0 - 15</td> <td data-bbox="815 380 1256 415">2.5</td> </tr> <tr> <td data-bbox="587 415 808 451">&gt;15 - 20</td> <td data-bbox="815 415 1256 451">2</td> </tr> <tr> <td data-bbox="587 451 808 487">&gt;20 - 25</td> <td data-bbox="815 451 1256 487">1.5</td> </tr> <tr> <td data-bbox="587 487 808 522">&gt;25 - 35</td> <td data-bbox="815 487 1256 522">1</td> </tr> <tr> <td data-bbox="587 522 808 558">&gt;35 - 40</td> <td data-bbox="815 522 1256 558">0.75</td> </tr> <tr> <td data-bbox="587 558 808 594">&gt;40</td> <td data-bbox="815 558 1256 594">0.5</td> </tr> </tbody> </table> <p data-bbox="488 646 1325 825">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 data-bbox="537 863 1325 932">➤ <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														
Tier 2 Local Agency Management Plan	<p data-bbox="488 978 1333 1266">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 data-bbox="488 1272 1333 1528" style="list-style-type: none"> <li>• Inspection and maintenance requirements.</li> <li>• Criteria for systems near impaired water bodies.</li> <li>• Certification and training requirements for service providers.</li> <li>• Consideration of onsite system maintenance districts.</li> <li>• Consideration of Regional Salt and Nutrient Management Plans.</li> </ul> <p data-bbox="488 1535 1333 1864">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.</p> <p data-bbox="488 1871 1333 1894">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"> <li>• Cesspools.</li> <li>• OWTS with flows greater than 10,000 gal/day.</li> <li>• Above ground effluent disposal.</li> <li>• OWTS systems receiving RV waste.</li> </ul>
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 ft<sup>2</sup>.

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 <sup>2</sup> in subdivision approved before Aug 17, 1987	Other minimum parcel size	EDU, gallons per day
San Bernardino County	Yes	No	--	300 <sup>1</sup>
Adelanto, Apple Valley, and Hesperia	Yes	Yes <sup>2</sup>	--	250
Inyo and Mono Counties	Yes	No	--	250
Kern County	No	No	Varies <sup>3</sup>	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.

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

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

<sup>3</sup>In 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 ft<sup>2</sup> to 2½.

**Table 9. LAMP Maximum Densities, North Lahontan Counties\***

County	Alpine	El Dorado	Lassen	Maricopa	Nevada	Placer	Sierra
Density	½ to 2 <sup>1</sup>	1	1	1	(none) <sup>2</sup>	(none) <sup>2</sup>	(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 ft<sup>2</sup> minimum lot size in pre-1988 subdivision.

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

<sup>2</sup>Set 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](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*  
[http://www.waterboards.ca.gov/water\\_issues/programs/owts/docs/owts\\_policy.pdf](http://www.waterboards.ca.gov/water_issues/programs/owts/docs/owts_policy.pdf)
3. Tchobanoglous, George, and Franklin L. Burton, 1991, *Wastewater Engineering Treatment, Disposal, and Reuse*, Third Edition, McGraw-Hill, Inc.
4. U.S. Environmental Protection Agency, 2002, *Onsite Wastewater Treatment Systems Manual*, EPA/625/R-00/008.
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*  
[http://www.waterboards.ca.gov/lahontan/water\\_issues/programs/basin\\_plan/references.shtml](http://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.shtml)
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

R:\RB6\RB6Victorville\Shared\PUBLIC\Board Orders 2016\OWTS Policy Staff Report\OwtsWorkshopGreenSheetStaffReportSept2016-Enclosure1.docx

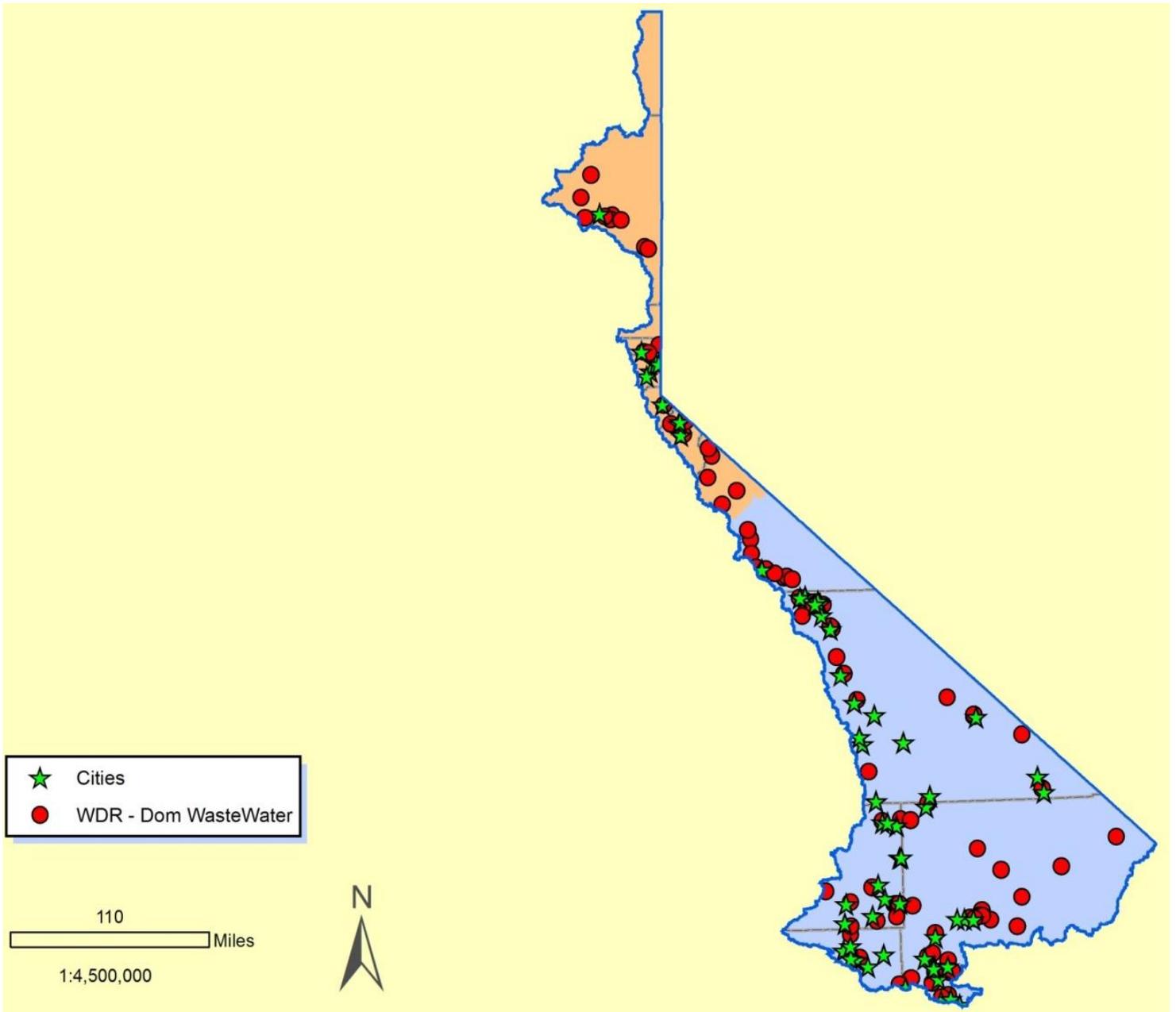


Figure 1: Waste discharge requirements for domestic wastewater treatment plants.

### Region 6 Local Agency Management Plans



\*<http://www.spl.usace.army.mil/Missions/Regulatory/FinalRegulatoryActions.aspx>

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

# **ENCLOSURE 2**

This page is intentionally left blank.

## 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](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](mailto:Sherly.Rosilela@waterboards.ca.gov) or (916)341-5578

This page is intentionally left blank.

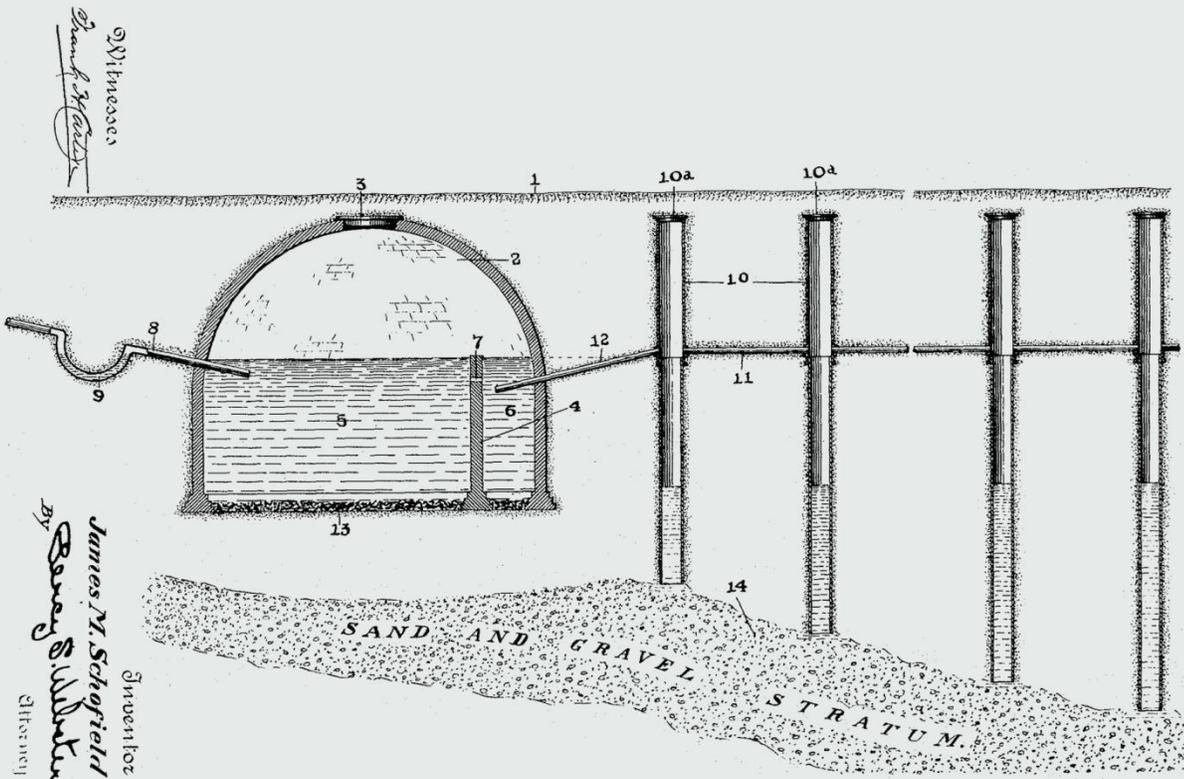
# **ENCLOSURE 3**

This page is intentionally left blank.

933,121.

J. M. SCHOFIELD.  
ODORLESS SEWER SYSTEM.  
APPLICATION FILED SEPT. 8, 1908.

Patented Sept. 7, 1909.



Witnesses  
*James M. Schofield*

Inventor  
*James M. Schofield*  
By *Rosey 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



**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>

*Charles R. Hoppin, Chair*  
*Frances Spivy-Weber, Vice Chair*  
*Tam M. Doduc, Member*  
*Steven Moore, Member*

*Thomas Howard, Executive Director*  
*Jonathan Bishop, Chief Deputy Director*  
*Caren Trgovcich, Chief Deputy Director*

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

## **Preamble – Purpose and Scope – Structure of the Policy**

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

## **Preamble – Purpose and Scope – Structure of the Policy**

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/](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/](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;

## Responsibilities and Duties

- 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.

## **Responsibilities and Duties**

- 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:

## Responsibilities and Duties

- 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.

## Responsibilities and Duties

- 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.

<b>Average Annual Rainfall (in/yr)</b>	<b>Allowable Density (acres/single family dwelling unit)</b>
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.

<b>Table 2: Tier 1 Minimum Depths to Groundwater and Minimum Soil Depth from the Bottom of the Dispersal System</b>	
<b>Percolation Rate</b>	<b>Minimum Depth</b>
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

<b>Table 3: Application Rates as Determined from Stabilized Percolation Rate</b>							
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

<b>Table 4: Design Soil Application Rates</b>			
<b>(Source: USEPA Onsite Wastewater Treatment Systems Manual, February 2002)</b>			
<b>Soil Texture (per the USDA soil classification system)</b>	<b>Soil Structure Shape</b>	<b>Grade</b>	<b>Maximum Soil Application Rate(gallons per day per square foot)<sup>1</sup></b>
Coarse Sand, Sand, Loamy Coarse Sand, Loamy Sand	Single grain	Structureless	0.8
Fine Sand, Very Fine Sand, Loamy Fine Sand, Loamy Very Fine Sand	Single grain	Structureless	0.4
Coarse Sandy Loam, Sandy Loam	Massive	Structureless	0.2
	Platy	Weak	0.2
		Moderate, Strong	Prohibited
	Prismatic, Blocky, Granular	Weak	0.4
Moderate, Strong		0.6	
Fine Sandy Loam, very fine Sandy Loam	Massive	Structureless	0.2
	Platy	Weak, Moderate, Strong	Prohibited
	Prismatic, Blocky, Granular	Weak	0.2
		Moderate, Strong	0.4
Loam	Massive	Structureless	0.2
	Platy	Weak, Moderate, Strong	Prohibited
	Prismatic, Blocky, Granular	Weak	0.4
		Moderate, Strong	0.6
Silt Loam	Massive	Structureless	Prohibited
	Platy	Weak, Moderate, Strong	Prohibited
	Prismatic, Blocky, Granular	Weak	0.4
		Moderate, Strong	0.6
Sandy Clay Loam, Clay Loam, Silty Clay Loam	Massive	Structureless	Prohibited
	Platy	Weak, Moderate, Strong	Prohibited
	Prismatic, Blocky, Granular	Weak	0.2
		Moderate, Strong	0.4
Sandy Clay, Clay, or Silty Clay	Massive	Structureless	Prohibited
	Platy	Weak, Moderate, Strong	Prohibited
	Prismatic, Blocky, Granular	Weak	Prohibited
		Moderate, Strong	0.2

<sup>1</sup> 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

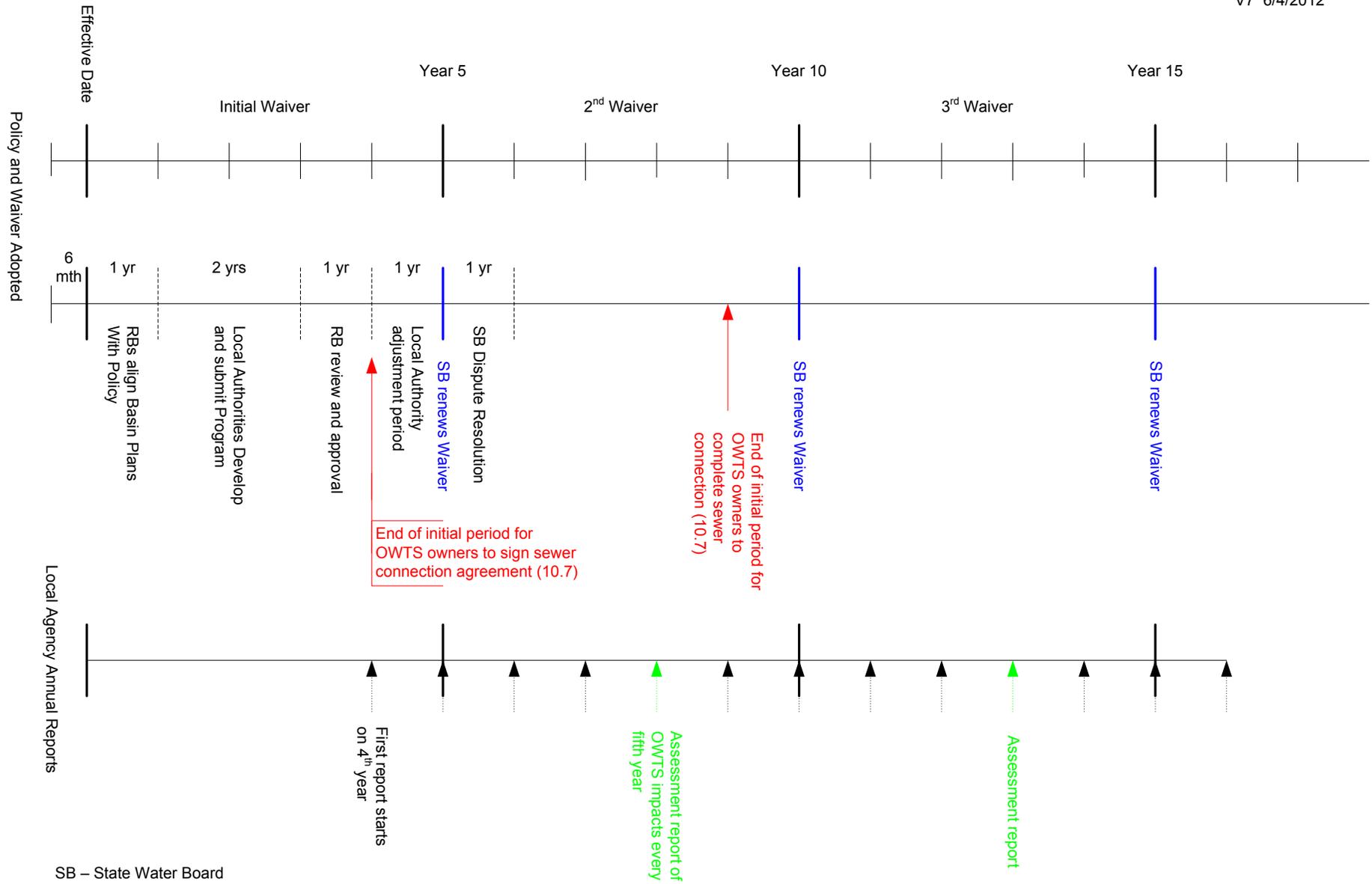
## Financial Assistance

- 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



SB – State Water Board  
RB – Regional Water Board

## 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

## Attachment 2

<b>REGION NO</b>	<b>REGION NAME</b>	<b>WATERBODY NAME</b>	<b>COUNTIES</b>	<b>TMDL Completion Date</b>
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

<b>REGION NO</b>	<b>REGION NAME</b>	<b>WATERBODY NAME</b>	<b>COUNTIES</b>	<b>TMDL Completion Date</b>
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	Lytle 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	Tomales 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
Alameda	2,5	2
Alpine	5,6	6
Amador	5	5
Butte	5	5
Calaveras	5	5
Colusa	5	5
Contra Costa	2,5	2
Del Norte	1	1
El Dorado	5,6	5
Fresno	5	5
Glenn	5,1	5
Humboldt	1	1
Imperial	7	7
Inyo	6	6
Kern	3,4,5,6	5
Kings	5	5
Lake	5,1	5
Lassen	5,6	6
Los Angeles	4,6	4
Madera	5	5
Marin	2,1	2
Mariposa	5	5
Mendocino	1	1
Merced	5	5
Modoc	1,5,6	5
Mono	6	6
Monterey	3	3
Napa	2,5	2
Nevada	5,6	5
Orange	8,9	8

County	Regions with Jurisdiction	Designated Region
Placer	5,6	5
Plumas	5	5
Riverside	7,8,9	7
Sacramento	5	5
San Benito	3,5	3
San Bernardino	6,7,8	6
San Diego	9,7	9
San Francisco	2	2
San Joaquin	5	5
San Luis Obispo	3,5	3
San Mateo	2,3	2
Santa Barbara	3	3
Santa Clara	2,3	2
Santa Cruz	3	3
Shasta	5	5
Sierra	5,6	5
Siskiyou	1,5	1
Solano	2,5	5
Sonoma	1,2	1
Stanislaus	5	5
Sutter	5	5
Tehama	5	5
Trinity	1	1
Tulare	5	5
Tuolumne	5	5
Ventura	4,3	4
Yolo	5	5
Yuba	5	5

# **ENCLOSURE 4**

This page is intentionally left blank.

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

---

Municipal and domestic wastewater<sup>1</sup> 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

---

<sup>1</sup> **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

## Ch. 4, IMPLEMENTATION

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

**4.4, Municipal and Domestic Wastewater:  
Treatment, Disposal, and Reclamation**

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 <sup>1</sup>	30-Day	7-Day
	Arithmetic Mean	Arithmetic Mean
20°C BOD <sub>5</sub> (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

<sup>1</sup> Note: The arithmetic mean of the values for effluent samples collected for 20°C BOD<sub>5</sub> 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).

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

## Ch. 4, IMPLEMENTATION

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

#### 4.4, Municipal and Domestic Wastewater: Treatment, Disposal, and Reclamation

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

## Ch. 4, IMPLEMENTATION

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.

#### **4.4, Municipal and Domestic Wastewater: Treatment, Disposal, and Reclamation**

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

## Ch. 4, IMPLEMENTATION

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

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

## 4.4, Municipal and Domestic Wastewater: Treatment, Disposal, and Reclamation

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

## Ch. 4, IMPLEMENTATION

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).

#### 4.4, Municipal and Domestic Wastewater: Treatment, Disposal, and Reclamation

### 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.

## Ch. 4, IMPLEMENTATION

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.

#### 4.4, Municipal and Domestic Wastewater: Treatment, Disposal, and Reclamation

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.

**Ch. 4, IMPLEMENTATION**

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

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

<sup>1</sup> As measured from the line which defines the limit of a 100-year-frequency flood.

<sup>2</sup> As measured from the edge of the channel.

<sup>3</sup> 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.

<sup>4</sup> 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)

<sup>5</sup> 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.)

<sup>6</sup> 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**

<b>ITEM 10</b>
<b>WORKSHOP - ONSITE WASTEWATER TREATMENT SYSTEM (OWTS) POLICY IMPLEMENTATION</b>

<b>LATE ADDITION</b>
Please insert new the late addition to Enclosure 5 after bates stamp 10-110

<b>ENCLOSURE</b>	<b>ITEM</b>	<b>BATES NUMBER</b>
<b>5</b>	LAMP local government comment letters	<b>10-115</b>

This page is intentionally left blank.

# **ENCLOSURE 5**

This page is intentionally left blank.

**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:** Hatton, 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.H.G., 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

This page is intentionally left blank.

**TO:** Eric Rapport  
Senior Engineer Geologist  
[Eric.Rapport@waterboards.ca.gov](mailto: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](mailto: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](mailto: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](mailto: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](mailto: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](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](mailto:lauri.kemper@waterboards.ca.gov)), Francis Coony at (760) 241-7353 ([mike.coony@waterboards.ca.gov](mailto:mike.coony@waterboards.ca.gov)) or Jehiel Cass at (760) 241-2434 ([jehiel.cass@waterboards.ca.gov](mailto:jehiel.cass@waterboards.ca.gov)).

cc: Donna Fenton, [donnaf@co.kern.ca.us](mailto:donnaf@co.kern.ca.us)

MC/rc/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. 3<sup>rd</sup> Street, 1<sup>st</sup> Floor  
San Bernardino, CA 92415  
[Raymond.britain@dph.sbcounty.gov](mailto: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.

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* conditions<sup>1</sup>. 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](mailto:mike.plaziak@waterboards.ca.gov)

---

<sup>1</sup> 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](mailto:mary.serra@waterboards.ca.gov)
- Santa Ana Water Board – Milasol Gaslan (951) 782-4419  
[milasol.gaslan@waterboards.ca.gov](mailto: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](mailto:mary.serra@waterboards.ca.gov)  
Susan Beeson, Santa Ana Water, [susan.beeson@Waterboards.ca.gov](mailto:susan.beeson@Waterboards.ca.gov)  
Milasol Gaslan, [milasol.gaslan@waterboards.ca.gov](mailto:milasol.gaslan@waterboards.ca.gov)  
Rob Tucker, Lahontan Water Board, [robert.tucker@waterboards.ca.gov](mailto: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, 1<sup>st</sup> 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

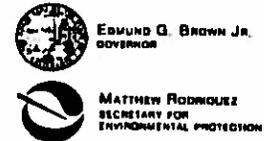
Lahontan Water Board also suggests sampling the influent for total nitrogen to determine the nitrogen removal rate. Nitrogen is important because in its oxidized state, nitrate, is very stable, and its concentration in water below the drain field may pollute groundwater.

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 designated<sup>1</sup> 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.

<sup>1</sup> Attachment 3 of the Onsite Wastewater Treatment Policy,  
[http://www.waterboards.ca.gov/water\\_issues/programs/owts/docs/owts\\_policy.pdf](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](mailto:milasol.gaslan@waterboards.ca.gov) or Susan Beeson at (951) 782-4902 or at [susan.beeson@waterboards.ca.gov](mailto: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](mailto: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 Plan<sup>1</sup>. 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

---

<sup>1</sup> A copy of the Basin Plan can be downloaded at:  
[http://www.waterboards.ca.gov/coloradoriver/water\\_issues/programs/basin\\_planning/](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](mailto:mary.serra@waterboards.ca.gov), or Mr. Doug Wylie at 760-776-8960 or at [doug.wylie@waterboards.ca.gov](mailto: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](mailto:jehiel.cass@waterboards.ca.gov)  
Francis Coony, Lahontan Water Board; [francis.coony@waterboards.ca.gov](mailto:francis.coony@waterboards.ca.gov)  
Milasol Gaslan, Santa Ana Water Board; [milasol.gaslan@waterboards.ca.gov](mailto: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**

<b>ITEM 10</b>
<b>WORKSHOP - ONSITE WASTEWATER TREATMENT SYSTEM (OWTS) POLICY IMPLEMENTATION</b>

<b>LATE REVISION</b>
Please replace the current presentation with the revised presentation in Enclosure 6

<b>ENCLOSURE</b>	<b>ITEM</b>	<b>BATES NUMBER</b>
<b>6</b>	LAMP Presentation	<b>10-143</b>

This page is intentionally left blank.

# 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

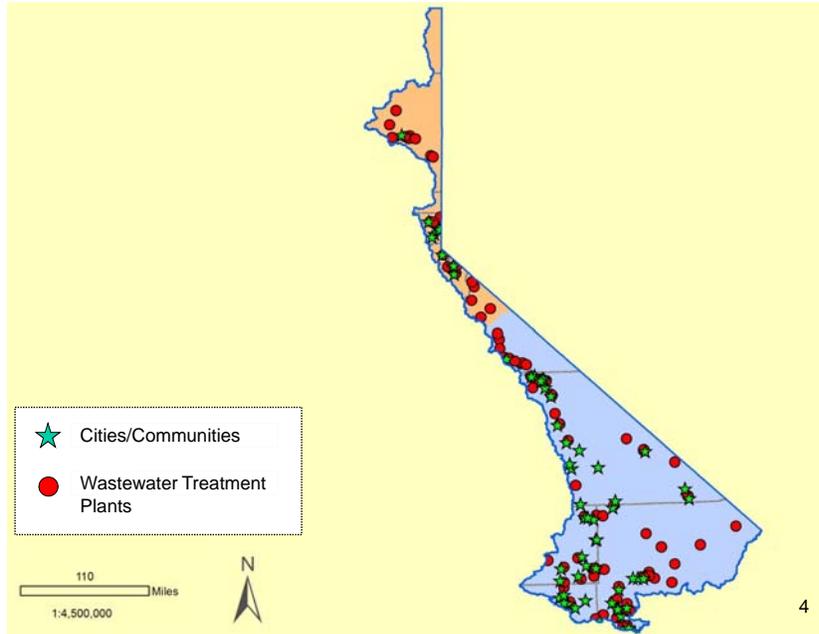
- **OWTS Policy overview**
  - Septic system description and locations; policy purpose, tiers, responsibilities, implementation
- **LAMP topics**
  - Implementation timeline, Density, Water Quality Assessment Program, and Supplemental Treatment Systems (STS)
- **LAMP Issues**
- **Discussion**
  - Opportunity for Water Board input

# Summary of LAMP Issues

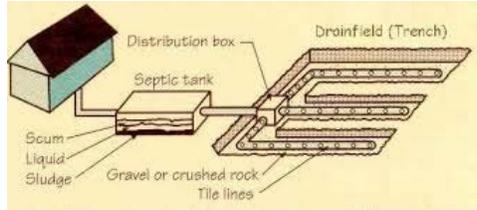
- Density
- Water Quality Assessment Programs
- Supplemental Treatment Systems (STS)
- Local agency funding



Lahontan Areas Served with a Wastewater Treatment Plant



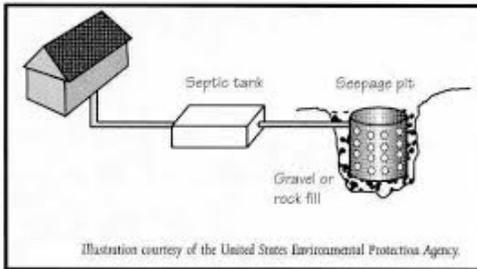
### Conventional Onsite Wastewater Treatment System



Schematic of a Leach Line



Prefabricated leach chamber



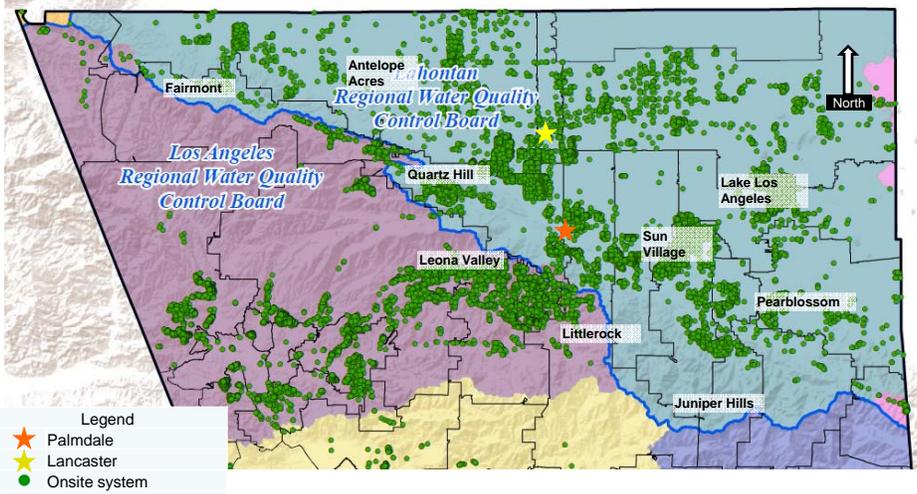
Schematic of a Seepage Pit (Dry Well)



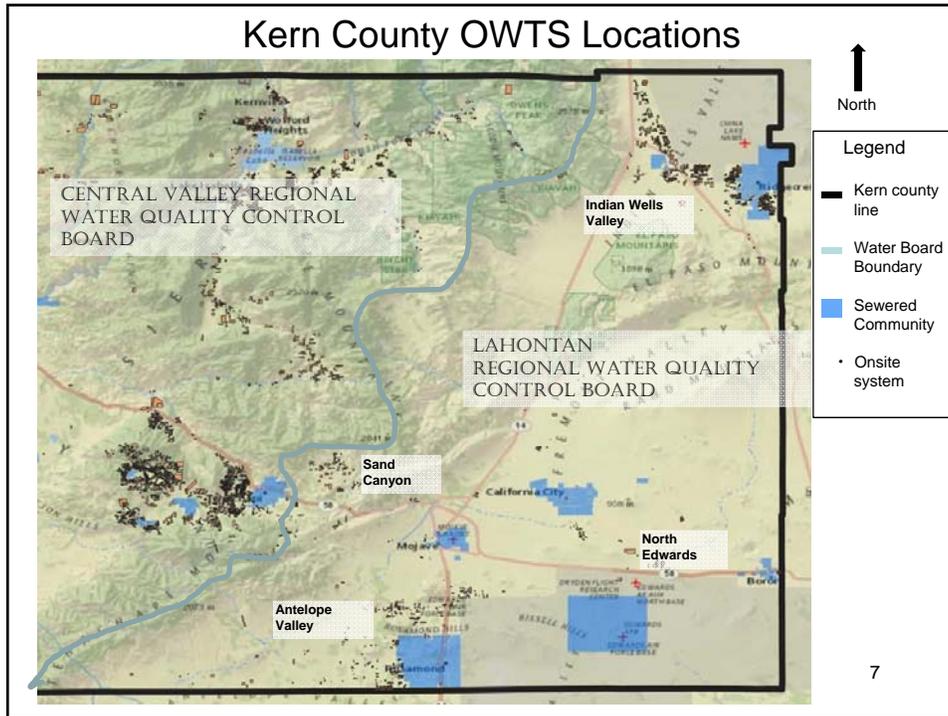
Fabricated in-place pit

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



## 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

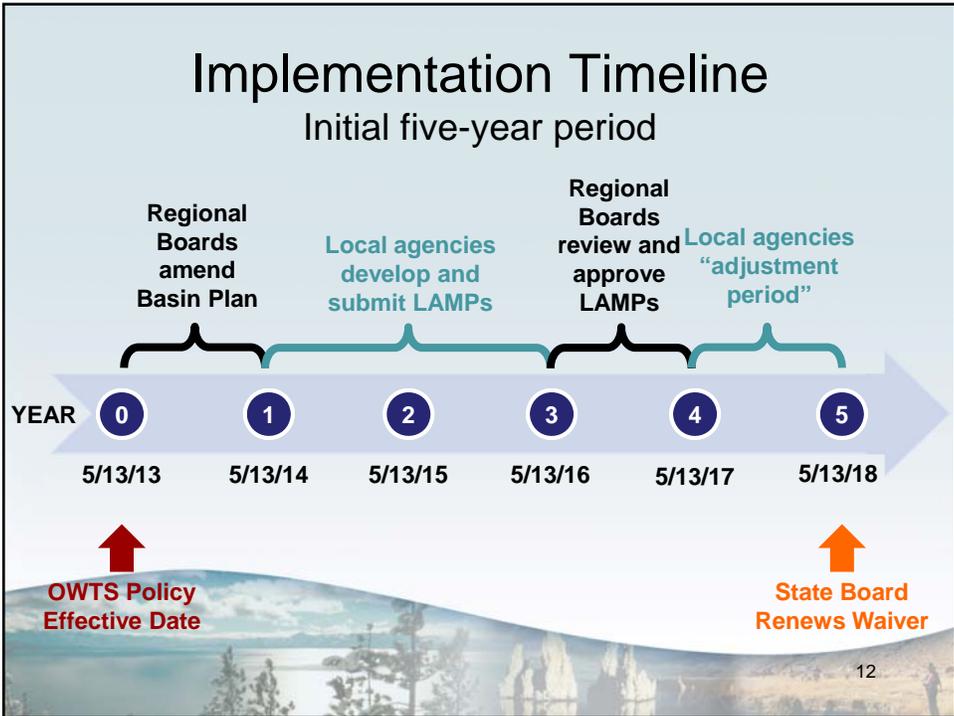
10

## 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)



11



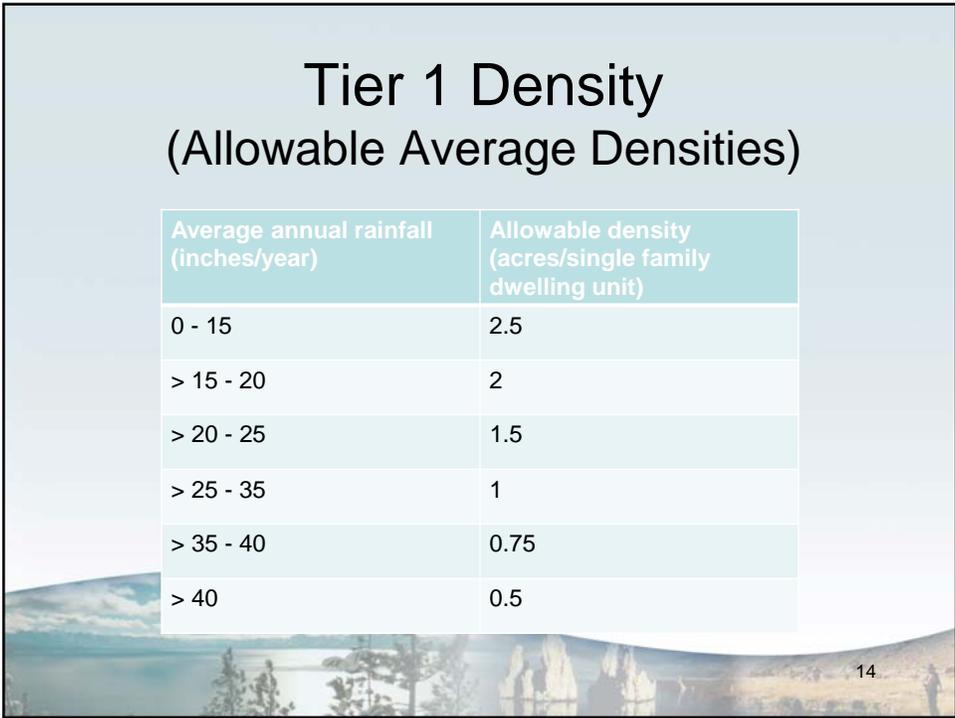
## Tier 1 – Low Risk New or Replacement OWTS

- 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



## 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



## 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)



## 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



## 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



## 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



## 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

23

## Local Agency Funding

- Support increased funding to implement LAMP
- Additional technical expertise needed to implement WQAP and oversee STS performance

24

## 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
BOD	Biochemical Oxygen Demand
DDW	Division of Drinking Water
EDU	Equivalent dwelling unit
ft	feet
gal	gallons
GAMA	Groundwater Ambient Monitoring and Assessment
Geo-tracker	State Water Board data system for selected groundwater monitoring data
LAMP	Local Agency Management Plan

Item	Description
OWTS	Onsite Wastewater Treatment System
RWD	Report of Waste Discharge
SNMP	Salt and Nutrient Management Plan
sq ft	square feet or square foot
STS	Supplemental Treatment System
TMDL	Total Maximum Daily Load
WDR	Waste Discharge Requirement
WC	(California) Water Code
WQAP	Water Quality Assessment Program

