SAN BERNARDINO COUNTY

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Local Agency Management Program

For Onsite Wastewater Treatment Systems

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TABLE OF CONTENTS

This document is organized into eight (8) main Chapters, which contain several sections, in order to address all the requirements of a Local Agency Management Program (LAMP):

CHAPTER 1: INTRODUCTION 1

SAN BERNARDINO COUNTY GEOGRAPHICAL INFORMATION 1
DEFINITIONS 2
LAMP OVERVIEW 8
LAMP NEED 9
LAMP STANDARDS, APPLICABILITY, REQUIREMENTS AND EXCEPTIONS 10
CONTACT INFORMATION 11
INVOLVED AGENCIES 12

CHAPTER 2: MINIMUM SITE EVALUATION STANDARDS 14

PERCOLATION TESTING 14
EVALUATION METHODS 16
MINIMUM QUALIFICATIONS AND CERTIFICATION FOR OWTS 18
PLOT AND GRADING REQUIREMENTS 18

CHAPTER 3: SITING STANDARDS 20

SETBACK REQUIREMENTS 20
NATURAL GROUND SLOPE 23
DENSITY/MINIMUM LOT SIZE REQUIREMENTS 24
MINIMUM LOT SIZE EXEMPTIONS 25

CHAPTER 4: OWTS DESIGN AND CONSTRUCTION 26

MINIMUM REQUIREMENTS FOR NATURAL GROUND SLOPE AND PERCOLATION RATES 26
OWTS DESIGN 27
SEPTIC TANK REQUIRMENTS 30

PROHIBITIONS AND EXEMPTIONS 31

SPECIAL CONSIDERATIONS 33
SURFACE WATER QUALITY PROTECTION 35
WRIGHTWOOD 36
LAKE WILLIAMS 38
TIER 4 CLASSIFIED OWTS 39

CHAPTER 5: ALTERNATIVE TREATMENT SYSTEMS AND SEWAGE HOLDING TANKS 40

ALTERNATIVE ONSITE TREATMENT SYSTEMS 40
SEWAGE HOLDING TANKS 43

DRAFT

CHAPTER 6: TIER 3 – ADVANCED PROTECTION MANAGEMENT PROGRAM FOR IMPAIRED AREAS 45

BASIN PLANS 45
TOTAL MAXIMUM DAILY LOAD 47
OWTS WITHOUT AN ADOPTED TMDL IMPLEMENTATION PLAN 49

CHAPTER 7: LAMP SCOPE OF COVERAGE 51

ONSITE INSPECTIONS AND MONITORING 51
VARIANCES 53
MINIMUM HORIZONTAL SETBACKS 55
SITE ASSESSMENT 57
CESSPOOL ELIMINATION 57
PUBLIC EDUCATION 57
LOCAL WATERSHED MANAGEMENT 58
PUBLIC EDUCATION ..... **ERROR! BOOKMARK NOT DEFINED.**

CHAPTER 8: REPORTING REQUIREMENTS AND DATA COLLECTION 61

REPORTING TO THE REGIONAL WATER QUALITY CONTROL BOARDS (RWQCBS) 61
OWTS WATER QUALITY ASSESSMENT PROGRAM (WQAP) 61
LAMP ASSESSMENT 63

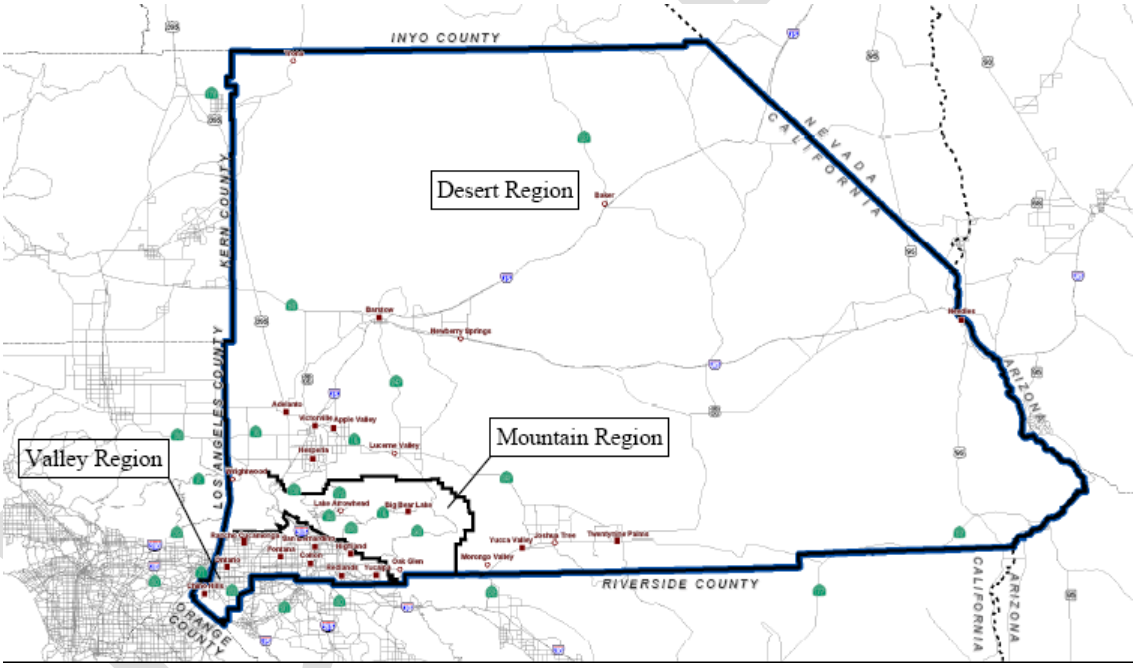
DRAFT

CHAPTER 1: INTRODUCTION

San Bernardino is the largest county in the contiguous United States with 20,160 square miles. This chapter will provide an overview of the County of San Bernardino, Local Agency Management Program (LAMP), the Agencies responsible for Onsite Wastewater Treatment Systems (OWTS), as well as commonly used definitions.

San Bernardino County Geographical Information

San Bernardino County was founded in 1853, and contains mountain, desert, and valley regions. Within these regions are a wide variety of geologic and climatic conditions. These regions are varied in area, population, geology, and water resources. The unincorporated area, which is completely under County jurisdiction, spans 1.9 million acres and encompasses 15% of the entire county. An additional 4% is directly under the control of the 24 incorporated city governments located within the County borders. The remaining area is managed by government agencies, which includes Tribal, Local, State, and Federal.



San Bernardino County includes land at varied elevations ranging from the desert valleys at 2,000 and 5,000 feet above sea level to the mountain ranges which contain areas exceeding 8,000 feet above sea level. The soils are predominantly sandy gravel with high runoff coefficients and fast percolation. The mountain ranges support exposed bedrock and mineral deposits in granite rock. The majority of the County is crossed by expansive alluvial wash deposits. Unique soil types include major dune formation, desert pavement, and dry alkaline lake beds.

Definitions

Above Ground Dispersal System

A covered sand bed elevated above original ground surface with an effluent leach field located in the sand bed.

Basin Plan (or Water Quality Control Plan)

A plan which identifies surface and ground water bodies within each region's boundaries, and establishes for each, it's respective beneficial uses, and water quality objectives. Basin plans are adopted by the Regional Water Quality Control Board (RWQCB) and State Water Resources Control Board (SWRCB), and are approved by the Office of Administrative Law.

Bedrock

The rock, usually solid, which underlies soil or other unconsolidated, surficial material.

California Environmental Data Exchange Network (CEDEN)

A central location to find and share information about California's water bodies, including streams, lakes, rivers, and coastal oceans.

Cesspool

An excavation in the ground receiving domestic wastewater, designed to retain the organic matter and solids, while allowing the liquids to seep into the soil.

Clay

Term used to describe a soil particle, or type of soil texture. As a soil:

- Particle – clay consists of individual rock or mineral particles having diameters of <0.002 millimeters (mm).
- Texture – clay is a soil material that is comprised of 40%, or more, clay particles, not more than 45% sand, and not more than 40% silt particles using the United States Department of Agriculture (USDA) soil classification system.

Cobbles

Rock fragments measuring 76 mm or larger, using the USDA soil classification systems.

Dispersal System

A type of system for final wastewater treatment and subsurface discharge, which may include a leach field, seepage pit, mound, subsurface drip field, or evapotranspiration and infiltration bed.

Domestic Wastewater

Wastewater with a measured strength less than high strength wastewater, which is discharged from plumbing fixtures, appliances and other household devices.

Domestic Well

A groundwater well that provides water for human consumption, and is not regulated by the SWRCB.

Effluent

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

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Electronic Deliverable Format (EDF)

The data standard adopted by the SWRCB for submittal of groundwater quality monitoring data to the State Water Board's internet-accessible database system, Geotracker.

Existing OWTS

An OWTS that, was constructed, operating, and issued a permit prior to the effective date of the LAMP.

Grease Interceptor

A passive interceptor with a rate of flow exceeding 50 gallons-per-minute located outside a building, and used for separating and collecting grease from wastewater.

Groundwater

Water below the land surface that is at, or above, atmospheric pressure.

High Strength Wastewater

Wastewater, prior to septic tank or other form of OWTS treatment component, having:

- A 30-day average concentration of Biochemical Oxygen Demand (BOD) greater than 300 milligrams per liter (mg/L),
- Total Suspended Solids (TSS) greater than 330 mg/L, or
- A Fats, Oil, and Grease (FOG) concentration greater than 100mg/L.

Impaired Water Bodies/303(d) List

Surface water bodies, or segments thereof, identified on the Section 303(d) list pursuant to the Federal Clean Water Act, approved by the SWRCB, and United States Environmental Protection Agency (EPA).

International Association of Plumbing and Mechanical Officials (IAPMO)

An association that assists individual jurisdictions, both in the United States and abroad, to meet their specific needs by coordinating the development and adaptation of plumbing, mechanical, swimming pools, and solar energy codes.

Local Agency

Any subdivision of state government responsible for permitting, installation, and regulation of OWTS within its jurisdictional boundaries; typically a county, city, or special district.

Local Agency Management Program (LAMP)

A program for the siting, design, operation and maintenance of OWTS, developed by a local agency, and approved by the RWQCB as an alternate method to achieve the same policy purpose as that of OWTS policy.

Major Repair

A repair for an OWTS dispersal system due to surfacing wastewater effluent from the dispersal field and/or wastewater backed up into plumbing fixtures. because the dispersal system is not able to percolate the design flow of wastewater associated with the structure served, or for a septic tank as a result of compartment baffle failure, or tank structural integrity; failure such that either wastewater is exfiltrating, or groundwater is infiltrating.

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Mottling

A soil condition that:

- Results from oxidizing or reducing minerals due to soil moisture changes from saturated to unsaturated over time,
- Is characterized by spots or blotches of different colors or, shades of color (grays and reds), interspersed within the dominant color as described by the USDA soil classification system, and
- May indicate historic seasonal high ground water levels.

Mound System

An above ground dispersal system, having subsurface discharge, used to enhance soil treatment, dispersal, and absorption of effluent discharged from an OWTS treatment unit (e.g., septic tank).

National Sanitation Foundation (NSF) International

A not for profit, non-governmental organization which develops health and safety standards, and performs product certification.

New Development

A proposed tract, parcel, industrial, or commercial development which has not been granted one or more of the following, on or prior to approval of the LAMP:

- Approval, or conditional approval, of a tentative parcel or tract map by a local agency (i.e., County/City Planning Commission, City Council, Board of Supervisors),
- A conditional use permit, and/or
- Approval, or conditional approval, from the Division of Environmental Health Services (DEHS), and/or Building and Safety Division.

New OWTS

An OWTS permitted after the effective date of this LAMP.

Notice of Condition

A "Notice of Condition" is a site specific document that is provided to the customer by DEHS. It is the owner's responsibility to ensure the document is recorded with the County Recorder's office.

OWTS

Wastewater treatment systems that use subsurface disposal, including: individual; community collection and disposal; and alternative collection and disposal systems.

Note: OWTS do not include "graywater" systems pursuant to California Health and Safety Code, Section 17922.12.

Percolation Test

A method of testing water absorption of the soil by using clean water to determine the dispersal system design.

Permit

A document issued by a local agency that allows the installation, use, and/or monitoring of an OWTS.

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Projected Flows

Wastewater flows into the OWTS determined in accordance with any of the applicable methods for determining average daily flow in the California Plumbing Code.

Public Water System

A system for the provision of water for human consumption, through pipes or other constructed conveyances, that has 15 or more service connections (or regularly serves at least 25 individuals daily), at least 60 days out of the year. Per California Health and Safety Code Section 116275(h), a public water system includes any:

- Collection, treatment storage, and distribution facilities under control of the operator of the system that are used primarily in connection with the system.
- Collection or pretreatment storage facilities not under the control of the operator that are used primarily in connection with the system.
- Water system that treats water on behalf of one or more public water systems for the purpose of rendering it safe for human consumption.

Public Water Well

A ground water well serving a public water system.

Qualified Professional

An individual licensed, or certified by a State of California agency, to design OWTS and practice as a professional for other associated reports, as allowed under their license or registration. Qualified Professionals include the following:

- Registered Civil Engineers
- Certified Engineering Geologists
- Registered Environmental Health Specialists (REHSs)
- Registered Geologists
- Geotechnical Engineers.

Replacement OWTS

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

Regional Water Quality Control Board (RWQCB)

A regional water board that regulates wastewater discharges to surface water (rivers, ocean, etc.) and to groundwater (via land). It also regulates storm water discharges from construction, industrial, and municipal activities; discharges from irrigated agriculture; dredge and several other activities with practices that could degrade water quality.

Sand

A soil particle or type of soil texture. As a:

- Soil particle – Sand consists of individual rock, or mineral particles, having diameters ranging from 0.05 to 2.0 mm.
- Soil texture – Sand is soil that is comprised of 85% or more sand particles, with the percentage of silt plus 1.5 times the percentage of clay particles comprising less than 15%.

Seepage Pit

A drilled or dug excavation three to six feet in diameter. It is also gravel filled and receives effluent discharge for dispersal from a septic tank or other OWTS treatment unit.

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Septic Tank

A watertight, covered, receptacle designed for primary treatment of wastewater and constructed to:

- Receive wastewater discharged from a building,
- Separate settleable and floating solids from liquid,
- Digest organic matter using anaerobic bacterial action,
- Store digested solids, and
- Clarify wastewater for further treatment with final subsurface discharge.

Service Provider

A person capable of operating, monitoring and maintaining an OWTS in accordance with this LAMP.

Silt

A soil particle or type of soil texture. As a:

- Soil particle – Silt consists of individual rock, or mineral particles, having diameters ranging from 0.05 to 0.002mm.
- Soil texture – Silt is soil that is comprised of approximately 80% or more silt particles, and not more than 12% clay particles using the USDA soil classification system.

Site

The location of the OWTS and/or a reserve dispersal area, capable of disposing 100% of the design flow from all the sources the OWTS is intended to serve.

Site Evaluation

An assessment of the characteristics of the site, sufficient to determine its suitability for an OWTS that meets the requirements of this LAMP.

Soil

The naturally occurring body of porous mineral and organic materials on the land surface, which is composed of:

- Unconsolidated materials, including sand, silt, and clay sized particles.
- Varying amounts of larger fragments, and organic matter.
- Earthen material with particles smaller than 0.08 inches (2mm) in size.

Soil Texture

The soil class that describes the relative amount of sand, clay, silt, and combinations thereof.

State Water Resources Control Board (SWRCB)

A five member State Water Board, which develops statewide water protection plans, and establishes water quality standards.

Supplemental Treatment

Any OWTS, or component thereof, which performs additional wastewater treatment, so the effluent meets performance requirements prior to the discharge of effluent into the dispersal field. This excludes septic and/or dosing tanks.

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Surface Water Ambient Monitoring Program (SWAMP)

A unifying program created to fulfill the Legislature's mandate for the coordination of all water quality monitoring conducted by the State and RWQCBs. It is managed by a roundtable of monitoring coordinators from the SWRCB and nine RWQCBs.

Telemetric

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

Total Coliform

A group of bacteria consisting of several genera belonging to the family *Enterobacteriaceae*, which includes Escherichia coli (E. coli) bacteria.

USDA

The federal department which provides leadership regarding food, agriculture, natural resources, and related issues.

Waste Discharge Requirement

A permit issued for operation and discharge of waste pursuant to California Water Code Section 13260.

Water Quality Control Plan

Refer to the Basin Plan definition.

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LAMP Overview

This section provides information regarding the different regions, OWTS Policy, Lamp needs, requirements, and exceptions, as well as the RWQCBs contact information.

Regional Water Quality Control Boards (RWQCB)s in San Bernardino County

OWTS located within San Bernardino County are governed by the following RWQCBs:

- Region 6 – Lahontan
- Region 7 – Colorado River
- Region 8 – Santa Ana

Each region has environmental differences that create unique construction design concerns. To address these concerns the three regional boards have developed individualized basin plans. These basin plans provide criteria for the installation of OWTS, affected waterways and prohibition areas within their region. This criterion is used to determine which sites may need RWQCB approval.

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OWTS Policy

The OWTS Policy was created to meet the requirements of Assembly Bill (AB) 885 to promulgate consistent, statewide, standards for the regulation of OWTS. The policy was adopted by the State Water Board in June 2012, and became effective May 13, 2013. The policy categorized OWTS into the following tiers:

Tier	Description
0	Applies to all existing systems which function properly, do not meet the conditions of a failing system, and are not contributing to pollution of any waterways.
1	Applies to all new and/or replacement OWTS which meet low risk siting and design requirements in areas which do not have an approved LAMP as specified in Tier 2.
2	Applies to any new and/or replacement OWTS which do not fall into the Tier 3 adjacent to impaired waterways, or in prohibition areas category. This tier is referred to as the LAMP and allows the County to apply standards that differ from the State.
3	Describes all systems currently located within areas denoted as impaired waterways. These systems have been identified as potential sources of pollution, and need to abide by the Advanced Protection Management Program prescribed in Tier 3 of the OWTS Policy**.**
4	A temporary classification for all systems that have been found to be failing, and/or needing repair. Once the system has been repaired, it will be placed in either Tier 0, Tier 2, or Tier 3.

LAMP Need

With development in rural areas of San Bernardino County continuing to grow, and with nearly 25% of housing units using OWTS, the requirements defined by Tier 1 of the OWTS Policy do not meet the future development needs of San Bernardino County. The LAMP specifically addresses waste water issues, County requirements, and scope of coverage for OWTS installation and maintenance. It also allows for the continued use and installation of OWTS. The requirements in the LAMP are derived from the California Plumbing Code requirements for private sewage disposal systems. This section describes the various needs due to diversity and construction.

Diversity

Requirements for OWTS necessitate flexibility due to the diversity of soil conditions, depth to ground water, climates, and population.

Construction

The LAMP was created to accommodate the various construction needs throughout the unincorporated areas of the County of San Bernardino. The LAMP includes general technical information regarding construction needs within the County, as well as provides an effective means to manage OWTS on a routine basis.

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LAMP Standards Applicability, Requirements and Exceptions

The LAMP provides minimum standards and requirements for the treatment and disposal of sewage through the use of OWTS, when no connection to a sewer is available, to protect public health and safety. This section describes the minimum standards, and requirements for OWTS under the LAMP, as well as detailing the OWTS that are exceptions, and therefore not covered under the LAMP.

Support of Onsite Wastewater Disposal

When a community sewer is not available, and a property improvement will generate wastewater, the property owner must demonstrate the following to DEHS to verify the lot will support onsite wastewater disposal:

- Soils are conducive to onsite wastewater disposal.
- Sewer is not available within 200 feet (plus 100 feet per dwelling unit thereafter).
- Enough area is available to install a septic system that meets proper setbacks (for new construction, 100% expansion area must be available).
- OWTS will not impact ground or surface water.
- OWTS is sized appropriately to serve the intended land use.

Applicability of LAMP Standards

LAMP standards apply to all OWTS which:

- Are newly constructed, replaced, subject to a major repair, and discharge liquid waste below ground.
- Have affected, or have the potential to affect, ground water or other water quality or health hazards.

Requirements

The LAMP addresses the minimum requirements for monitoring, and/or conditional waiver of waste discharge for OWTS located within the County of San Bernardino. The LAMP may include one, or more, of the following to achieve this purpose:

- Differing system requirements
- Differing siting controls (i.e., system density and setback requirements)
- Requirements for owners to enter agreements regarding monitoring and maintenance.
- Creation of an onsite management district (also known as a designated maintenance area)

In addition to all standards and requirements, all proposed, and/or currently installed OWTS must be in compliance with Section 33.0890.33-33.08131 of San Bernardino County Code.

Exceptions

There are specific OWTS which are not included in the LAMP. These exceptions require individual discharge requirements, or a waiver of individual waste discharge requirements issued by the RWQCB. Exceptions include:

- OWTS having a projected wastewater flow of over 10,000 gallons per day (GPD).
- OWTS receiving high strength wastewater, unless the waste stream:
  - Is from a commercial food service facility with BOD less than 900 mg/L, and
  - Has a properly functioning oil/grease interceptor.
- Wastewater treatment plants of any kind or size.

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Contact Information

This section provides contact information for the three (3) RWQCBs which can provide additional guidance regarding OWTS in San Bernardino County.

Lahontan Region (6)

14440 Civic Drive, Suite 200
Victorville, CA 92392
(760) 241- 6583
www.waterboards.ca.gov/lahontan

Colorado River Basin Region (7)

73-720 Fred Waring Dr. Suite 100
Palm Desert, CA 92260
(760) 346-7491
www.waterboards.ca.gov/coloradoriver

Santa Ana River Region (8)

3737 Main Street, Suite 500
Riverside, CA 92501-3339
(951) 782-4130
www.waterboards.ca.gov/santaana

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Involved Agencies

Oversight of OWTS installation and maintenance is a multiple agency effort. This section provides an overview of the primary agencies involved in San Bernardino County.

Building and Safety Division

The Building and Safety Division is responsible for:

- Issuing permits for new construction, replacement and repair of OWTS.
- Reviewing plot plans for new and replacement OWTS.
- Retaining permit information regarding new construction, replacement systems, repairs, and plot plans.
- Complying with LAMP reporting requirements regarding issued permits for new and replacement OWTS.

The following information must be provided by the Building and Safety Division to the RWQCB annually for new, replacement and/or repaired OWTS, along with information provided by other divisions:

- Number of permits issued
- Location
- Description of permits (i.e., new, replacement, an/or repair)
- Tier the permit was issued under

The Building and Safety Division requires DEHS approval on all OWTS proposals when the OWTS is located within a prohibition area, or within the Advanced Protection Management Program (APMP) area (refer to Chapter 6 for more information regarding the APMP).

Obtaining an OWTS permit, and obtaining local land use approval, are two separate processes. Local Land Use approval (i.e., obtaining a Land Use permit) is not a substitute for an OWTS permit issued by the Division of Building and Safety, nor does it guarantee issuance of an OWTS permit.

Code Enforcement

This division is responsible for:

- Investigating complaints for overflowing/failed septic tanks for single family residences, and two-unit dwellings, which includes:
  - Requiring property owners to obtain applicable permits from the Building and Safety Division for repairs, or replacement of failing systems.
  - Retaining information regarding complaints and investigations for overflowing or failed septic systems, and subsequent actions taken.
- Complying with the LAMP reporting requirements for complaint investigations, which includes:
  - Providing information to the RWQCB annually pertaining to OWTS operation and maintenance, including number, and location of the complaints.
  - Identifying investigated complaints, and
  - Determining how the complaints were resolved.

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Division of Environmental Health Services (DEHS)

This division is responsible for:

- Issuing permits for alternative treatment systems.
- Reviewing:
  - Percolation reports, and
  - Alternative treatment proposals for new and replacement septic systems in:
    - ✓ High risk residential areas, and
    - ✓ Commercial projects.
- Investigating and storing records of complaints for OWTS in multi-family dwellings (3 or more units).
- Complying with LAMP reporting requirements, which includes:
  - Providing information to the RWQCB annually regarding:
    - ✓ Complaints pertaining to OWTS operation and maintenance for multi-family dwellings, including number and location of complaints.
    - ✓ Applications and registrations issued as part of the liquid waste hauler program.
  - Identifying investigated complaints for multi-family dwellings, and
  - Determining how complaints were resolved.

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CHAPTER 2: MINIMUM SITE EVALUATION STANDARDS

This chapter provides information, to determine when a percolation test is required, the minimum site evaluation standards for parcels where an Onsite Wastewater Treatment System (OWTS) is proposed, and minimum qualifications for OWTS practitioners when a sewer connection is not available.

Percolation Testing

The Division of Environmental Health Services (DEHS) requires percolation testing for all new septic systems for residential and non-residential development where a percolation report has not already previously been completed. This section provides information regarding the percolation testing, including the site evaluation, percolation testing notification, and information regarding when seepage pits are allowed.

Site Evaluation

Prior to reviewing a percolation test, and approving the use of an OWTS, DEHS may require a site evaluation during percolation testing to:

- Ensure proper system design, and
- Evaluate site location to ensure the system will be in compliance.

Percolation Testing Notification

A Qualified Professional (as defined in the Definitions section of this document) must first submit a Notification of Percolation Test, to DEHS, at least two business days prior to performing any percolation test in the unincorporated areas of San Bernardino County. When a percolation test notification is submitted for a lot which requires a site evaluation (or a percolation *report* is submitted for a lot which requires a site evaluation and no inspection was conducted), then DEHS will conduct an inspection of the lot to evaluate:

- Lot size,
- Slope,
- Streams,
- Rock outcroppings, and
- Any other criteria which may affect installations of a standard septic system.

Prior to the site evaluation, DEHS personnel will contact the applicant to inform him/her of the site evaluation date and fee requirement.

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Percolation Testing

DEHS requires percolation testing, and accompanying reports, to be prepared by a Qualified Professional. For soil to be considered uniform, test results must fall within 25% of the mean percolation rate. Determining the number of percolation tests required will be based on soil conditions and project type. Percolation testing:

- Is used to ensure the dispersal site is located in an area where no conditions exist, which could:
  - Adversely affect the performance of the system, or
  - Result in groundwater contamination.
- Is used to determine the necessary area needed to treat, and maintain underground sewage properly.
- Must be in the general area of the disposal system, both primary and expansion, if the proposed area is known.

Seepage Pits

The use of seepage pits, as a dispersal field, will only be allowed in instances where leach lines are not feasible, and minimum separation requirements to groundwater are met. DEHS requires there be a 10-foot minimum separation from the bottom of the seepage pit to groundwater. When the pit minutes per inch (MPI) is less than 10, the following must occur:

- The separation to groundwater must be at least 40 feet from the bottom of the seepage pit, or
- A sieve analysis of the soil, for a thickness of 10 feet below the bottom of the seepage pit, must contain at least 15% fines passing the #200 United States standard sieve.

Section 33.0895 of the San Bernardino County Code prohibits the use of seepage pits in the mountain areas.

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Evaluation Methods

Site evaluations contain site specific information, which includes a review of the physical features of the site. Exploratory borings or trenches are the main evaluation methods to determine if there is adequate separation from the bottom of the dispersal system to the groundwater. To determine the highest level of groundwater with the dispersal, data from permitted wells, local water purveyors, and the United States Geological Survey (USGS) are used in addition to exploratory borings or trenches. This section details the evaluation methods, as well as the information that will be reported.

Parcel Features

The following parcel features will be evaluated within the percolation report:

- Location of the parcel(s) where the OWTS is being proposed.
- Description of the site and surroundings, including:
  - Water courses,
  - Vegetation type,
  - Existing structures
  - Location of any rock outcroppings, and
  - Historic groundwater.
- Any other feature that may affect sewage disposal.

Soil Profile

Soil characteristics determine the minimum number of exploratory borings (or trenches), as well as the number of percolation tests required for the parcel(s). A soil profile must be created to:

- Determine the suitability of the soils for absorption of wastewater, and
- Verify adequate vertical separation between the bottom of the dispersal field, and historic groundwater levels.

More extensive testing is required, as determined by a Qualified Professional, for moderate and severe soil conditions.

Exploratory Borings

The table below shows the minimum number of exploratory borings needed per development.

Gross Lot size		Soil Conditions	
		Favorable to moderate	**Severe**
Subdivisions and individual lot sales	<1 acre	3 borings first 10 lots 1 boring every 10 thereafter	8 borings first 10 lots 5 borings every 10 thereafter
	1-5 acres	5 borings first 10 lots 3 borings every 10 lots thereafter	2 borings per lot*
	>5 acres	1 boring per lot*	
Residential lot	Any size	1 boring*	
Commercial lot, or confluent system under one ownership	Any size	1 boring per 4,000 gallons septic tank capacity*	1 boring per 2,000 gallons septic tank capacity*
Parcel Map	5 acres or less	1 boring in the center of the undivided parcel	2 borings evenly spaced in the undivided parcel

* This indicates borings in the area of the disposal system.

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Boring and Trenching Results

When reporting the results for boring and trenching, each hole or excavation must be numbered, and graphically describe the soil strata at each excavation. In areas where there is a discrepancy between soil profile indicators (mottling) and direct observations, the direct observation method indicating the highest ground water level will govern. To ensure the reporting results provide all the required information, the following table will be used as a guide:

Observation	Information Described
Soil Profile	• Color • Field texture analyses • Soil Mottles • Bedrock • Structure • Roots • Pores
Soil Lithology	Direct visual observation when the soil lithology is stratified and contains low-permeability layers; which may affect the onsite disposal system performance (i.e., sandy silts and clay caliche).
Textures	Approximate percentage of cobbles, gravel, sand, silt, and clay.
Colors	Background soil color using the Munsell Soil Color Chart.
Roots	Presence and extent of small and/or large roots.
Excavating/Drilling	Ease of excavating or drilling based on: • Depth to bedrock, and • Rock competency (i.e., soft, firm, hard, refusal).
Moisture at or near the point of saturation after 24 hours	• Presence of free water. • Observed groundwater, at the: – Level the groundwater reaches in the excavation, or – Highest level of sidewall seepage into the excavation.
Structural Characteristics	Structural characteristics, stratigraphy and geologic origin when it is determined necessary and/or for severe sites.

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Minimum Qualifications and Certification for OWTS Practitioners

The following table outlines the minimum qualifications for OWTS practitioners. Any licenses or certifications possessed by these practitioners must have been issued from the State of California.

OWTS Service	Minimum Qualifications
Alternative Treatment System Inspection and Monitoring	Manufacturer Certified Wastewater Maintenance Provider
OWTS Design	• Qualified Professional, or • Licensed Contractor (Class A, C-36, or C-42)
OWTS Certification	
Percolation Test	Qualified Professional
Septic Tank Pumping & Reporting	DEHS permitted Liquid Waste Hauler
System Installation (new and replacement)	Licensed Contractor (Class A, C-36, or C-42)

Exception: Per the California Health and Safety Code Sections 19826 and 19826 homeowners may build within their property as an Owner-Builder without the need of a professional.

Plot and Grading Requirements

This section provides the requirements needed by the Building and Safety Division and/or DEHS when preparing plot plans and grading plans.

Plot Plans

A plot plan is a plan that is required to be submitted with the percolation report to show where the system will be sited. The plot plan must:

- Include the tested property, drawn to the following scale:
  - Single Family Home, Small Commercial Minimum 1” = 30’
  - Parcel Map, Subdivision, Large Commercial Minimum 1” = 40’
- Show the proposed system, and 100% expansion area, including existing and potential structures, wells, streams, contours, significant vegetation (including trees), rock outcroppings, the location of all borings/tests, and the proposed house pad.
- Include a hypothetical system using the following table:

If lot sales are zoned for…	Then provide a hypothetical system…
Single family homes (lot sale subdivisions),	For a five (5) bedroom home on each lot.
Multi-unit development,	Sufficient for the effluent discharged by an average of three bedrooms per unit.

The proposed dwelling/development must be located so the initial subsurface sewage disposal system (and the required 100% expansion area) functions by gravity flow, unless otherwise approved. When leach lines or pits serve a common system for two or more units, add 30% more square footage to the total absorption area.

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Grading Plans

Depending on the degree of grading for a project, San Bernardino County Land Development may require a grading plan. If a grading plan is required it should be included with the percolation report submittal. A grading plan helps DEHS ensure testing was done at the correct depths. Where grading is expected, include the original and finished elevations in the grading plan. For details on how to complete a grading plan contact San Bernardino County Land Development.

If…	Then …
The grading plan was prepared by others,	Comment in regards to the recommendations set forth in the report.
It is unknown if a grading plan is needed,	• Include qualifying statements in the area(s) for the primary and expansion systems, or • Title the report "Preliminary" (preliminary reports are adequate for purposes of recordation, with recommendations to be followed for building permit purposes).

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To ensure that Onsite Wastewater Treatment Systems (OWTS) do not adversely affect water quality, the government agencies tasked with protecting the public's health and safety have developed siting standards for OWTS. This chapter provides information regarding siting standards such as, minimum lot size, setback requirements (including increased setback and notification requirements for OWTS located near public water systems), natural ground slope and density.

Setback Requirements

The minimum separations listed herein are largely derived from the California Plumbing Code, Appendix H and are measured in feet. In some cases, additions or changes have been made in order to adequately protect public health. Where differences exist, the greater separation prevails, unless waived for cause by the County [as described in Chapter 7 of the Local Agency Management Program (LAMP)]. The following table provides the minimum requirements for installation of OWTS for either new or existing structures.

Table 3.1

Minimum Setback Required From	Septic Tank	Disposal Field	Seepage Pit
Non-Public Water Supply Well[1,8]	100	100[2]	150[2]
Public Water Supply Well[1]	100	150[2]	200
Buildings or Structures[3]	5	8	8
Property line adjoining private property	5	5	8
Streams and other flowing bodies of water[9,11]	100	100	150
Drainage Course	50	50	50
Lakes, ponds, and other surface water bodies[10,11]	200	200	200
Colorado River/ Mojave River	50	200	200
Large Trees[4]	10	-	10
Seepage pits	5	5	12
Disposal field	5	4[6]	5
Private domestic water lines (building service line)	5	5	5
Public Domestic Water Lines	10	10	10
Distribution Box	n/a	5	5
Ground surface on sloping ground	n/a	15	15
Groundwater[5]	5	5[7]	10

[1] Drainage piping will clear domestic water supply wells by not less than 50 feet. This distance will be permitted to be reduced to not less than 25 feet where the drainage piping is constructed of materials approved for use within a building.
[2] For any system discharging 5,000 gallons per day (GPD), or more, the required setback will be increased to 200 feet.
[3] Includes porches and steps whether covered or uncovered, breezeways, roofed porte cocheres, roofed patios, carports, covered walls, covered driveway, and similar structures or appurtenances.
[4] Any tree with a trunk diameter of one foot or more within 5 feet of the system that will not be removed during construction.
[5] The highest known level to which groundwater is known to have occurred rather than the level at the time when testing occurred.
[6] Plus 2 feet for each additional foot or depth in excess of 1 foot below the bottom of the drain line.
[7] For any system utilizing advanced treatment, this minimum separation may be reduced to 2 feet with approval under the Advanced Protection Management Program (APMP) (refer to Chapter 6 for more information regarding the APMP) and the Regional Water Quality Control Board (RWQCB).
[8] Unless regulatory or legitimate data requirements necessitate that monitoring wells be located closer.
[9] Where the edge of the water body is the natural or levied bank for creeks and rivers, or may be less where site conditions prevent mitigation of wastewater to the water body.
[10] Where the edge of the water body is the high water mark for lakes and reservoirs and the mean high tide line for tidally influenced water bodies.
[11] Where the effluent dispersal system is within 1,200 feet from a public water systems' surface water intake point, within the catchment of the drainage, and located such that it may impact water quality at the intake point (such as upstream of the intake point for flowing water bodies), the dispersal system will be no less than 400 feet from the high water mark of the reservoir, lake or flowing water body. Where the effluent dispersal system is located more than 1,200 feet but less than 2,500 feet from a public water systems' surface water intake point, the dispersal system will be no less than 200 feet from the high water mark of the reservoir, lake or flowing water body.

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Minimum Set Back Requirements

When reviewing setback requirements, the minimum:

- Depth of earth cover required over the dispersal field is twelve inches. When the dispersal field cannot be installed twelve inches below the ground surface, and meet the above separation requirements, then a supplemental treatment system will be required.
- Criteria specified in Table 3.1 must be met within the area of the proposed system and within the 100% expansion area for the proposed system.

OWTS Located Near Public Water Systems

Existing or proposed OWTS in close proximity to public water wells and surface water treatment plant intakes, have the potential to adversely impact source water quality. Due to this possibility:

- Increased setback requirements (i.e., OWTS location within 1200 feet of a surface water intake) are necessary.
- The Division of Environmental Health Services (DEHS) and the Building and Safety Division will follow the table below to provide adequate notification (regarding OWTS installations, replacements or repairs to existing OWTS near groundwater or surface water intake) to:
  - Owner(s) of public water systems, and
  - State Water Resources Control Board (SWRCB), Division of Drinking Water (DDW), if the water system is regulated by the DDW.

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>1</td><td>Determine which division is responsible for the OWTS review.
<table>
<tr><th>If the OWTS review is done for a…</th><th>Then the review will be completed by…</th></tr>
<tr><td>Percolation report,</td><td>DEHS.</td></tr>
<tr><td>Plot plan,</td><td>Building and Safety Division.</td></tr>
</table></td></tr>
<tr><td>2</td><td>Review the location of the proposed new/replacement OWTS (at the time of permit application) in relation to:
• Impaired water bodies within the County of San Bernardino, and
• Public water system service area boundary maps (boundary maps and boundaries are updated annually and/or as needed).</td></tr>
</table>

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Table continued from previous page.

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>3</td><td>Determine if a proposed or existing OWTS location is within the required setbacks:
<table>
<tr><th>If the proposed OWTS location…</th><th>Then…</th></tr>
<tr><td>Cannot be relocated and is within:
• The required horizontal setback of a public well, or
• 1,200 feet of an intake point,</td><td>• Building and Safety will refer the customer to DEHS.
• DEHS will:
– Notify the water system owner(s)/DDW of the following:
✓ The required setbacks have not been met.
✓ They have five (5) business days from the receipt of the application to provide recommendations and comments to DEHS.
– Refer to the section Notifying Water System Owners and the Division of Drinking Water (DDW) for notification requirements.
– Proceed to step 5.</td></tr>
<tr><td>Is not within:
• The required horizontal setbacks of a public well, or
• 1,200 feet of an intake point,</td><td>The OWTS will continue to be reviewed based on the requirements in the LAMP, and will not need to meet the additional setbacks.</td></tr>
<tr><td>Is suspected to be within the required setbacks, and the location of the public water source cannot be verified,</td><td>The agency completing the review will require the customer to:
• Contact the water purveyor, and
• Obtain a letter verifying the proposed OWTS is not within the setback requirements.</td></tr>
</table></td></tr>
<tr><td>4</td><td>Review any comments/recommendations submitted by the affected water system owner(s) and the DDW prior to issuing an OWTS installation or repair permit for any system.</td></tr>
<tr><td>5</td><td>Notify the affected water system owner(s) and the DDW regarding the action taken upon issuance and/or denial of an OWTS installation or repair permit. Approval/denial will be determined based on the risk of the OWTS to water quality.</td></tr>
<tr><td>6</td><td>Determine if the proposed OWTS location is approved:
<table>
<tr><th>If the location is…</th><th>Then DEHS will…</th></tr>
<tr><td>Approved,</td><td>• Refer the customer to Building and Safety Division to complete the plot plan review, or
• Complete the percolation report review.</td></tr>
<tr><td>Not Approved,</td><td>Inform the customer he/she will need to install an alternative treatment system (refer to Chapter 5 for information regarding alternative treatment systems).</td></tr>
</table></td></tr>
</table>

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Horizontal Sanitary Setbacks for Public Wells

The table below provides information to determine the horizontal sanitary setbacks for public wells.

If the dispersal system…	Then the horizontal sanitary setback will be…
Does not exceed 10 feet in depth,	150 feet.
Exceeds 10 feet in depth,	200 feet.
Exceeds 20 feet in depth,	600 feet.

Dispersal systems which exceed 20 feet in depth, and are located within 600 feet of a public well, will be required to have a Qualified Professional evaluate the two-year time travel for microbial contaminants to determine the required setback. In no case will the minimum setback be less than 200 feet.

Notifying Water System Owners and the Division of Drinking Water (DDW)

Based on who is responsible for the water system, DEHS must send notification to the water system owner(s) and/or the DDW regarding any proposed OWTS. The notification will be done either electronically or in writing, and must contain a copy of the permit application, which includes:

- Estimated wastewater flows,
- Intended use of the proposed structure generating the wastewater,
- Soil data,
- Estimated depth to seasonally saturated soils, and
- A topographical plot plan for the parcel showing the OWTS, including:
  - Layout of the system,
  - Property boundaries,
  - Proposed structures,
  - Physical address, and
  - Name of the property owner.

The DDW will only be contacted for systems which are under their purview; this includes any system with more than 200 connections. Systems with fewer than 200 connections will be under the jurisdiction of the local agencies.

Natural Ground Slope

DEHS requires geological factors be identified by a Qualified Professional during a percolation test, or by DEHS during a basic site evaluation for all systems. For systems located on slopes 25% or greater, or on unstable landmasses, the Qualified Professional is required to submit a slope study for review and approval to all applicable regulatory agencies including the local RWQCB.

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Density/Minimum Lot Size Requirements

The County of San Bernardino has minimum lot size requirements for subdivisions of property, which rely on OWTS. In the unincorporated areas, a minimum lot size of one half acre (average gross) per dwelling unit is required for all new developments. This section provides definitions for a new development, as well as an explanation of the requirements for various development types located within the unincorporated areas of the County.

New Developments

When additional structures are added to existing developments, and these additions will result in increased wastewater flows to the existing septic system, these developments will be considered new developments. This applies to single family residential, commercial, and/or industrial developments.

No exemptions will be granted for new developments on tracts/parcels which are 200 feet or less from a sewer, which could serve that tract/parcel, barring legal impediments to such use. Based on this information, each additional development (i.e., any development which is more than a single family dwelling) will require this distance to be increased by 100 feet per dwelling unit. As an example, a 10-lot subdivision will be required to connect to a sewer if the sewer is within 1,100 feet [200 + (9 x 100 feet)] = 1,100 feet) of the proposed development.

Commercial/Industrial Development Requirements

For new commercial/industrial developments which will be utilizing a septic tank/subsurface disposal system, the wastewater flow for each one-half acre of land may not exceed that from a single dwelling unit. When determining compliance with this criterion, the following will be considered equivalent to a single family dwelling unit:

- A flow rate of 300 gallons per day (this flow rate will be prorated for commercial/industrial developments with lots smaller than one half acre), or
- The equivalent of 20 fixture units.

County Discretion

The minimum lot size requirement of one-half acre does not preclude the prescription of more stringent lot size requirements in specific areas, if it is determined necessary to protect water quality. When there is a potential for water quality impacts, the County, at its discretion, may defer consideration of projects to the RWB when the criterion below has not been met. The minimum criteria specified must be met within the area of the proposed OWTS, and within the 100% expansion area of the proposed system.

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Minimum Lot Size Exemptions

The minimum lot size requirements do not apply to existing developments with OWTS which were installed prior to the effective date of the LAMP. Nor does it affect the lot size criterion for continuing exemptions in prohibition areas where a 1 acre minimum lot size is required. This section details when exemptions apply to the minimum lot size requirement for new and/or existing developments.

Single Family Residential Developments

For single family residential developments, when the existing septic system will accommodate additional wastewater flows, additional installations (i.e., rooms, bathrooms) will be exempt from the minimum lot size requirements. A septic certification may be required to verify the septic tank's capacity to accept additional wastewater flows.

Replacements

There will be times when the replacement of a septic tank/subsurface disposal system will be required for systems in existing residential, commercial, and industrial developments to bring the system up to code, based on requirements by Building and Safety Division, and/or DEHS.

For single family residential developments only, replacement of the existing septic tank/ subsurface disposal system may be allowed when the system is proposed to allow additional flows, which result from additions to the existing dwelling unit. This does not include any free standing additional structures, which would be considered new developments (refer to the New Developments section for more information).

Tracts, Parcels, and Commercial/Industrial Developments

Tracts, parcels, and/or commercial/industrial developments which received land use approval from the local agencies prior to the effective date of the LAMP, are exempt from the minimum lot size requirements for the use of septic tank/subsurface disposal systems. The local agencies which grant approval include the County of San Bernardino Planning Division, and/or Board of Supervisors.

Combined Lots Smaller than One Half Acre

New lots, which are smaller than one-half acre, may be formed by combining two or more existing lots which have received land use approval prior to the effective date of the LAMP. Individually, these lots would be eligible for an exemption from the minimum lot size requirement. Developments on combined lots may also qualify for an exemption:

- Provided the total number of units proposed for the new parcel is equal to, or less than the total number of units proposed for the existing parcel, and/or
- When an alternative treatment system is utilized.

When requesting to use an alternative treatment system, each system will be reviewed on a case-by-case basis, and will require the approval of DEHS, and the RWQCB.

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In an effort to control contamination, pollution and nuisance resulting from the discharge of domestic wastes, the County of San Bernardino has developed minimum criteria to ensure geological factors are identified, and the potential for contamination is minimized during a basic site evaluation. This chapter provides an overview of the minimum requirements for Onsite Wastewater Treatment Systems (OWTS) design and construction.

Minimum Requirements for Natural Ground Slope and Percolation Rates

This section details the minimum criteria for natural ground slopes, as well as percolation rates for OWTS located within the County.

Natural Ground Slope

Natural or finished ground slopes in disposal areas must not be greater than a 25% incline. When systems are located on slopes 25% or greater, the owner is required to get approval from all applicable regulatory agencies, including the Regional Water Quality Control Board (RWQCB).

Disposal Area Percolation Rates

Due to varying soil conditions, the following table will be used as a guide to determine if effluent is being processed effectively.

If the discharge is to a…	Then the percolation rate in the disposal area must not be…
Leach field,	Greater than 60 minutes per inch (MPI).
Seepage pit,	Less than 1.1 gallons of effluent per square foot, per day.

Groundwater Protection

The minimum required soil thickness/separation below the bottom of the disposal field to groundwater is determined by the minimum setback requirements in Chapter 3; however, there is an increased separation requirement for faster percolation rates. The following table will be used to determine the required separation.

If the percolation rate is…	Then…
Faster than 5 MPI,	The soil, for a total thickness of five feet below the bottom of the leachline to groundwater, must contain: • At least 15% of material passing the #200 United States standard sieve, and • Less than one-fourth of the representative soil occupied by stones larger than 6 inches.
• Faster than 5 MPI, and • The above requirements cannot be met,	A 40 foot separation (based on recorded data and/or observed mottling) must be maintained between the: • Bottom of the leachline, and • Highest historic groundwater level.

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Requirement Exception

The County of San Bernardino prohibits discharge from any OWTS which do not conform to the above stated criteria. An exception occurs when the developer demonstrates, by substantial evidence (or as determined by the County), that pollution, nuisance, and/or contamination will not occur as a result of the discharge of domestic waste.

OWTS Design

The County of San Bernardino has minimum and maximum criteria for design of OWTS located within its borders. This section details these criteria, as well as explains when OWTS no longer fall within the scope of County oversight, and therefore will be referred to the RWQCB.

Maximum Allowable Flow

Each one-half acre must have a flow rate of no more than 300 gallons per day (GPD) (or 20 fixture units); which is considered the equivalent flow for a single family dwelling unit. For industrial/commercial developments with lots smaller than one-half acre, this flow rate requirement may be prorated. The following table will be used when determining if OWTS no longer fall under the scope of DEHS oversight based on daily flow.

If the projected flow rate is…	Then the OWTS…
More than 10,000 GPD,	• Is not approved in the Local Agency Management Program (LAMP), and • Will be referred to the RWQCB for review.
Less than 10,000 GPD,	• Will be reviewed by County agencies, and • May be referred to the RWQCB on a case-by-case basis, based on individual circumstances.

Soil Depth

The depth of soil between the bottom of the dispersal field and the anticipated level of groundwater (or impermeable material such as clay or bedrock) in the disposal area must not be less than:

- 5 feet for leach lines, and/or
- 10 feet for seepage pits.

On a case by case basis, the required separation may be reduced to 2 feet for leach lines where supplemental treatment is provided in accordance with the Advanced Protection Management Program (APMP) (refer to Chapter 6 for more information regarding the APMP). Approval from the Division of Environmental Health Services (DEHS) and the RWQCB is required for all supplemental treatment systems.

Leachline Percolation Rates

Leachline percolation rates are measured in MPI and will be determined by a percolation test. Once determined, the MPI will be converted to ft^2/gal/day using the midpoints of ranges for leach field design referenced in the Environmental Protection Agency (EPA) Design Manual (1980). Leachline systems are limited to soils with rates at a minimum of 55 square feet per 100 gallon septic tank capacity (0.83 ft^2/gal/day) to a maximum of 147 square feet per 100 gallon septic tank capacity (2.2 ft^2/gal/day).

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The following table will be used when determining percolation rates based on the uniformity of the soil.

If the soil units are…	Then use…
Uniform,	A percolation rate between the mean and most conservative MPI.
Not uniform,	The most conservative percolation rate.

Note: Percolation rates which are faster than 3 MPI will not be credited, see the Groundwater Protection section for requirements when MPI is less than 5 MPI. Refer to Figure 4. 1 for a graph of the midpoints of ranges for leach field design.

Seepage Pit Rates

Seepage pit percolation rates are measured in gallons/square feet/day (referred to as the design Q), and will be determined by a percolation test. The design Q for seepage pits must be between 1.1 and 4 gal/ft^2/day. Q's greater than 4 gal/ft^2/day will not be credited. Caving seepage pit test holes in coarse textured soils with rates greater than 3 gal/ft^2/day will not be credited.

Minimum Allowable Replacement Area

The minimum allowable replacement area is an area which will remain undeveloped and available to be used once the dispersal area is replaced. This area must be 100% of the original OWTS proposal. The 100% replacement area must meet all minimum criteria outlined within the LAMP, and be gravity fed.

Pump Systems

A pump system will be considered as a hardship and may only be used under the following conditions:

- To salvage an existing structure when an adequate disposal area cannot be reached by gravity flow, and/or
- To allow new house construction on an existing lot when there is no other alternative to pumping. This hardship consideration will be based on reasonable site development.

All construction details for designed systems utilizing a pump system are subject to review and approval by the Building and Safety Division. Minimum conventional construction details can be found in the currently adopted California Plumbing Code.

Leach Line Dispersal Systems

According to the California Plumbing Code and the OWTS Policy, when computing the absorption area of the leach line dispersal system, the maximum allowable infiltrative area (as an infiltrative surface) per square foot of trench is 7 square feet. The maximum allowable trench width is 3 feet. Where leaching chambers are used, the maximum allowable decreased leaching area for International Association of Plumbing and Mechanical Officials (IAPMO) certified dispersal systems will be computed by using a multiplier of .70.

Oxygen Transfer in Dispersal Systems and/or Replacement Areas

To ensure proper oxygen transfer to the soil, dispersal systems or replacement areas (with the exception of seepage pits) must not be covered by any impermeable material (i.e., paving, building foundation slabs, and/or plastic sheeting).

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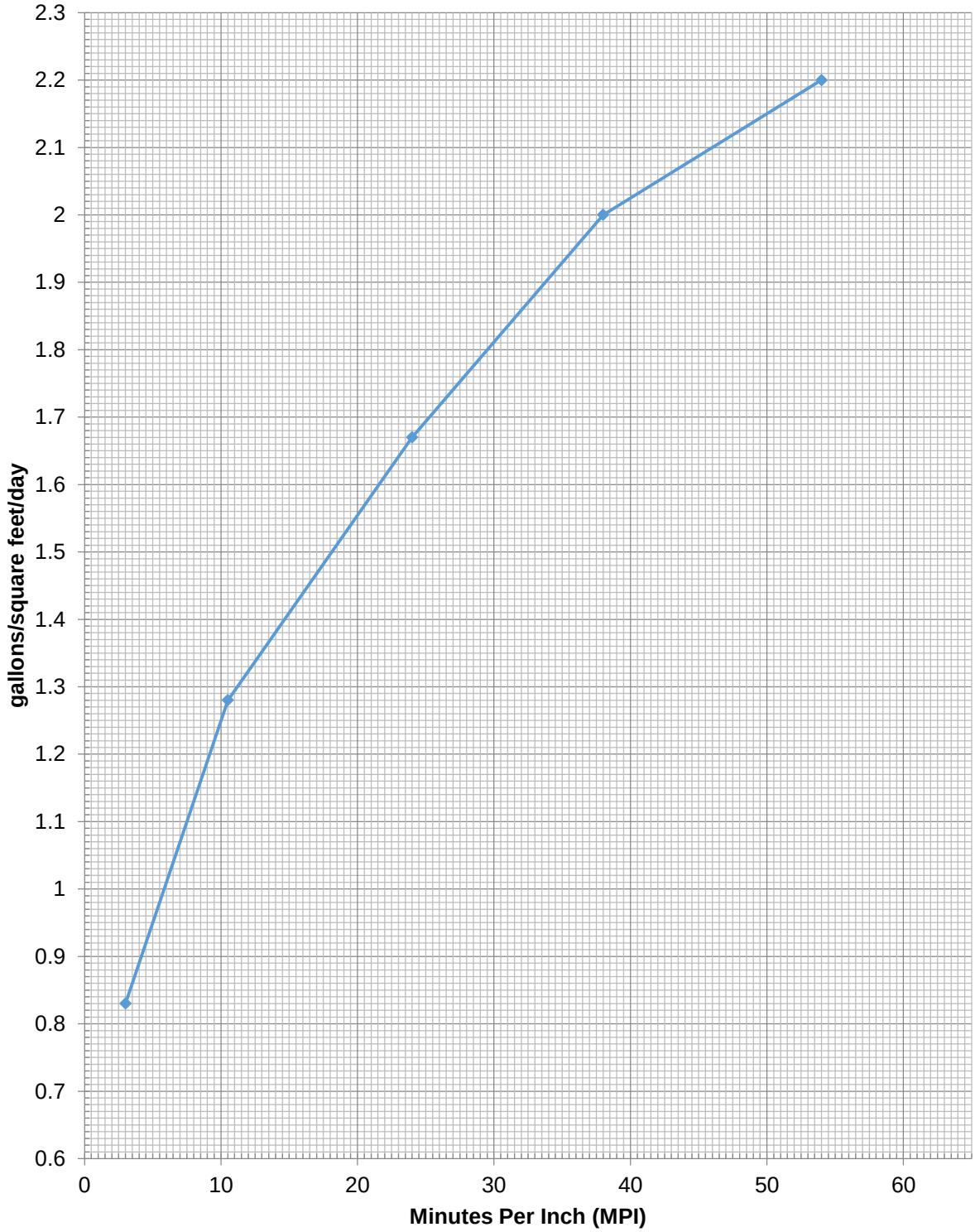
Leachfield Design – Using MPI to Determine Design Rate

(derived using the Midpoints of Ranges from the EPA Design Manual, 1980)

Figure 4. 1



Septic Tank Requirements

Construction and installation requirements for septic tanks are reviewed and approved by the Building and Safety Division. Once construction and installation plans are approved, the Building and Safety Division will issue construction permits. This section provides septic tank capacities and requirements for various development types.

Septic Tank Capacity – Single Family Residences

The septic tank capacity for a single family residence is based on the number of bedrooms contained in the unit. The table below provides a summary of the septic tank capacity requirements for a single family residence.

Number of Bedrooms	Gallons of Effluent Per Day	Gallons of Septic Tank Capacity
1-2	500	750
3	670	1,000
4	800	1,200
5-6	1,000	1,500

The design flows used for a primary and secondary dwelling unit must be determined independently, regardless of whether the flows are treated separately or combined in a single OWTS.

Septic Tank Capacity – Multi-Unit Residences and Non-Residential Facilities

The septic tank capacity for multi-unit residences and non-residential facilities is based on the estimated daily flow, or the number of fixture units as determined by the California Plumbing Code, whichever is greater. When creating design proposals for OWTS, developers must:

- Give full consideration to the estimated flows for all projected activities, and
- Include sufficient technical information to support the proposed design flow estimates.

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Septic Tank Requirements

The following table provides information regarding septic tank requirements:

Component	Requirement
Capacity	Minimum of 750 gallons.
Two Compartments	The first compartment must be equal to two-thirds the total tank volume.
Materials	Must be: • Water-tight, • Properly vented, and • Made out of durable, and non-corrosive material.
Construction	All tanks must be listed and approved by: • IAPMO, or • An American National Standards Institute (ANSI) accredited testing organization.
Access Opening	Access to each tank compartment must have a manhole at least 20 inches in diameter.
Access Risers	A riser must: • Extend from each manhole opening to, or above, the surface of the ground, and • Be a size larger than the manhole opening.
Effluent Filter	The outlet of the tank must be fitted with an effluent filter capable of: • Screening solids with a diameter in excess of three-sixteenths of an inch, and • Conforming to National Sanitation Foundation (NSF)/ANSI standard 46.
Tank Connections	Tank connections must comply with standards required by the Building and Safety Division.

Prohibitions and Exemptions

Due to the geology and hydrology of certain areas within the County, prohibitions have been set to protect public health and safety. This section provides information regarding the areas within the County which have prohibitions, as well as information regarding when an exemption may be granted within these prohibition areas.

OWTS Prohibitions

There are areas within the County of San Bernardino in which the discharge of waste from OWTS is prohibited. These areas include:

- Grand Terrace (County Service Area (CSA) 70, Improvement Zone H)
- Yucaipa – Calimesa (Yucaipa Valley Water District)
- Lytle Creek (above 2,600 feet in elevation)
- Mill Creek (above 2,600 feet in elevation)
- Bear Valley (including Baldwin Lake drainage area)
- Lahontan RWQCB Prohibition Areas 1-5
- Town of Yucca Valley

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Prohibition Exemptions

Exemptions to prohibitions may be granted by the RWQCB when it determines that an OWTS (on a particular parcel) will not individually or collectively, directly or indirectly, affect water quality from continued system operation, and/or maintenance. A Qualified Professional must present geological and hydrologic evidence that the OWTS will not result in a pollution, contamination, or nuisance.

Requesting Exemptions in Prohibition Areas

All persons requesting an exemption to the prohibition must complete the process for submitting a percolation report to DEHS. The following table describes the exemption process:

Stage	Description
1	The customer will request an exemption by: • Completing a percolation test, and • Submitting a percolation report to DEHS.
2	DEHS will: • Review the percolation report, • Approve/deny the request, and • Return the percolation report to the customer, and • Instruct the customer to obtain RWQCB approval prior to submitting the plot plan to the Building and Safety Division.
3	The customer will: • Contact his/her RWQCB to submit the following for approval: – Percolation report – Proposed plot plan • Submit the following to the Building and Safety Division for review: – Proposed plot plan – Percolation report – Verification of RWQCB approval
4	The Building and Safety Division will: • Review, • Approve, and • Issue Permit.

Concurrent or preliminary approval from the RWQCB of the exemption proposal may be requested by DEHS. Other necessary information may also be requested by DEHS or the RWQCB for review of the exemption request. Commercial projects and residential projects of six or more lots in the Fontana and Bloomington area will require approval from the Santa Ana RWQCB.

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Special Considerations

The majority of the County of San Bernardino is rural desert areas, where geologic conditions have a less significant impact on OWTS. The mountain areas throughout the County, however, have significantly more geological factors which must be addressed prior to installing an OWTS. This section discusses the various geological factors within the County which will be given special consideration when reviewing requests for OWTS installation.

Geological Factors

The performance of OWTS is affected greatly by the geology of the land in which it is located. Geological factors which must be accounted for prior to installing an OWTS include:

- Soil characteristics,
- Slope stability,
- Topography,
- Landforms, and
- Presence and movement of subsurface water.

Groundwater Conditions

The County relies on local aquifers for both public and private water supplies. Site evaluation includes identifying and documenting any signs of groundwater. The documentation and soil permeability identified by a percolation test provides the basis for selecting OWTS design and separation distance of the dispersal system. This documentation is obtained to minimize the contamination of the groundwater contained in the local aquifers.

Designated Maintenance Areas (DMAs)

There are areas within the County which have a high density of OWTS. Due to the unique topographical and hydrogeological conditions in these areas, additional monitoring and maintenance is required. To respond to the needs in these areas, DMAs have been created to establish criteria and minimum requirements for the discharge of sewage effluent from OWTS, without endangering public health and safety.

DEHS has approximately 1,200 OWTS permitted in the DMAs. All systems located in these areas are required to maintain an operating permit with DEHS and are inspected biennially. The following are all the DMAs located within the United States Forest Service, as defined by the maps filed with the Clerk of the Board:

- Polique Canyon Tract
- Lakeview Tract
- Pine Knot Tract
- Metcalf Creek Tract
- Big Bear Tract
- Willow Glen Tract

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Salt and Nutrient Management Plan (SNMP)

A SNMP is required as a part of the RWQCB Recycled Water Policy. The plan was developed to:

- Ensure the region's long term water quality is understood,
- Streamline the permitting process for various water quality related projects, and
- Ensure compliance with water quality objectives.

DEHS will work with the RWBs, Mojave Water Agency (MWA), Chino Basin Watermaster, San Bernardino Valley Municipal Water District, and San Bernardino County Flood Control to provide requested information regarding OWTS usage within the unincorporated areas of the County. This information may be used by the RWQCB and/or any area watermaster when developing the SNMP. DEHS will utilize the SNMPs from these agencies as a tool to:

- Assess whether OWTS within the unincorporated areas are contributing to nitrate loading, and
- Address any necessary changes during the LAMP evaluation, which is every five years.

Domestic Well Usage

The majority of domestic wells in San Bernardino County are located throughout the desert and rural unincorporated areas. In these areas domestic wells are often used in conjunction with OWTS. In an effort to ensure the protection of new and existing wells from the effects of OWTS, the following requirements exist:

- Minimum horizontal setback distances between OWTS and any well.
- Well water testing for all newly constructed wells.
- Allowing supplemental treatment as an option for OWTS in areas where there are potential impacts to groundwater due to:
  - High domestic well usage, and/or
  - Existence of other limiting factors (i.e., shallow groundwater or fast percolation rates).

Prohibited Discharge Conditions for Septic Tank Systems

In an effort to ensure the proper functioning of septic tank systems, as well as prevent adverse effects to the environment, the following discharge conditions are prohibited for septic tank systems:

- Surface water, rain, and/or other clear water.
- Toxic or hazardous chemicals to a domestic system.
- Water softener and iron filter discharge to a sewage disposal system or on the ground surface, unless specifically approved by RWQCB. Water softener and iron filter discharge must be disposed of at an approved disposal site.

Note: Commercial developments will have individual monitoring ports for each unit connected to a confluent sewage disposal system, if there is a single owner of the development. Multi-owner units (condo type) will have a separate system for each unit.

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Surface Water Quality Protection

Setback requirements are the primary source of protection for surface water. These setbacks act as a buffer zone between the potential contaminants of the OWTS and the water body. The requirements listed in the LAMP are consistent with the basin plans for all three RWQCBs located in San Bernardino County, as well as meeting or exceeding requirements outlined in the California Plumbing Code. This section describes the requirements for surface water quality protection.

Water Sheds

Water sheds are reservoirs which serve as a local source of drinking water supply, and therefore require special protections. These areas are outlined in the basin plans for the three local RWBs. Increased setback standards are required for any OWTS proposal within 2,500 feet of surface water intake for public water supplies (refer to the Local Watershed Management section for more information regarding the water sheds located within San Bernardino County).

Impaired Water Bodies

There are several water bodies located within the County which are listed as impaired, pursuant to the Clean Water Act, Section 303(d). All of these water bodies are located under the purview of the Santa Ana RWQCB. Any OWTS installed within 600 feet of the impaired water bodies contained in the 303(d) list are subject to the APMP (refer to Chapter 6 for more information regarding impaired water bodies and the APMP).

Special Circumstances

In the mountains and rural areas in the deserts, there are multiple known OWTS located in areas which require setbacks. When these systems are replaced, they will be required to meet the current standards. The following factors will also be given special consideration and will be reviewed on a case-by-case basis:

- Density
- Parcel size
- Potential cumulative OWTS impact issues

Note: To provide greater flexibility to County residents, alternative systems may be approved on a case-by-case basis with revised standards for setback requirements.

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Wrightwood

Wrightwood is located at the east end of the San Gabriel Mountains in the Angeles National Forest. This community is located at an elevation of approximately 6,000 feet above sea level and has no municipal sewer services. As a result, all development in this area requires OWTS. This section details information regarding OWTS requirements that are unique to this area due to its geology and hydrogeology.

Hydrogeology

There are numerous creeks and drainage courses that traverse the Wrightwood community. These include, but are not limited to:

- Heath Canyon Creek,
- Sheep Creek, and
- Swarthout Creek.

Blue Zone

Due to the hydrogeology of this area, there is a designated "Blue Zone" where historically the groundwater has been at or near ground level. As a result of these historic ground water levels, DEHS requires percolation tests be completed for all new and replacement systems for any parcel in this area. The percolation report must show that LAMP requirements can be met with the historic ground water levels indicated in Table 4. 1 (refer to Figure 4.2 for a map of the Blue Zone). When the LAMP requirements cannot be met, an alternative treatment system will be required.

Blue Zone Groundwater Levels

The following table provides information regarding the lots located within the Blue Zone and includes the depth to groundwater in each lot.

Table 4. 1

Tract/Tentative Parcel Map (TPM) Number	Lot Number	Depth to Groundwater (ft.)
TPM 4044	1 and 2	3
Tract 2999	141 through 147	3
	148	0
	149	1
	150	2
	151	3
	152	4
	153	5
	154	6
	161 through 165	3
	180 through 187	3
	188 through 203	5
Tract 6039	17 through 18	3
	33 through 34	3
Tract 6217	1 through 4	3
	5	5
	6 through 11	0
	12 through 19	3

All areas within Wrightwood will require a percolation report for all new construction. DEHS may also, on a case-by-case basis, request an exploratory boring or trench for OWTS replacement proposals to confirm the OWTS can be installed according to the required setbacks.

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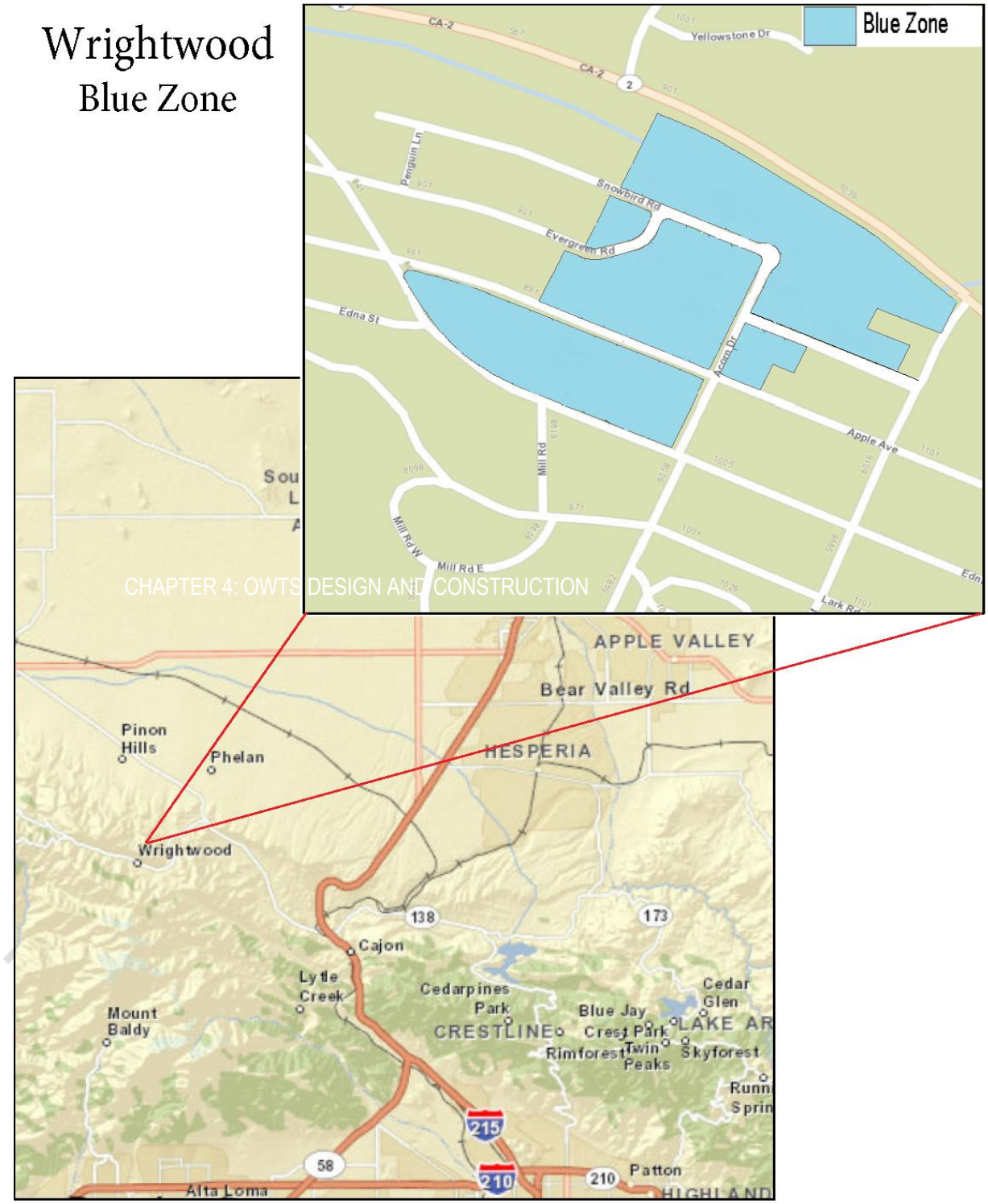
Figure 4.2



Sources: Esri, DeLorme, HERE, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), Tom Tom

Lake Williams

Lake Williams is a community located in the San Bernardino Mountains approximately 3.5 miles southeast of the Baldwin Lake. There is no public sewer system service available to this community and all homes utilize OWTS, with many homeowners utilizing private wells. The City of Big Bear Lake Department of Water and Power (BBLDWP) provides water to residents from two municipal supply wells located in the Lake Williams area. BBLDWP noted an increase in nitrate levels in one of the municipal supply wells beginning in 1990. This section provides information regarding how these levels are being mitigated and/or managed.

Contaminant Study

After noting the increased nitrate levels in the municipal well water, BBLDWP funded a study in 2006 which was conducted by Geoscience Support Services, Inc. This study was done in an effort to mitigate and/or manage the nitrate levels before they exceeded the 45 milligrams per liter (mg/L) maximum contaminant level (MCL). The study determined there had been a steady increase in nitrate levels which was attributed to OWTS.

Note: A copy of the contaminant study may be obtained by contacting the RWQCB.

Requirements

Based on the study, the wells which show an increase in nitrate levels were found down gradient of the Lake Williams community. In an effort to protect public health and safety and mitigate an increase in nitrate concentrations, the following requirements have been established:

- Alternative treatment systems will be required for all new developments in the Lake Williams area.
- Replacement OWTS will be reviewed on a case-by-case basis to determine whether a conventional or alternative OWTS will be required, taking into account:
  - Groundwater nitrate levels,
  - Septic system density, and
  - Type of failure.

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Tier 4 Classified OWTS

As noted in the OWTS Policy section, Tier 4 is a temporary classification for all systems that have been found to be failing, and/or in need of repair. OWTS which are included in Tier 4 must continue to meet applicable requirements of the LAMP, pending completion of corrective action. This section provides detailed information regarding OWTS, which are classified as requiring corrective action.

OWTS Requiring Corrective Action

OWTS have the primary purpose of protecting public health. When systems are no longer meeting this purpose, they are deemed to be failing and require corrective action. When this occurs, systems must be replaced, repaired, or modified so as to return to proper functioning and comply with Tier 2 or 3 as appropriate. Failing OWTS include any OWTS which has:

- A Dispersal system failure which is no longer percolating wastewater adequately, causing:
  - Pooling effluent,
  - Wastewater discharge to the surface, and/or
  - Backed up wastewater into plumbing fixtures.
- A Septic tank failure (i.e., baffle failure, tank structural integrity failure), causing:
  - Wastewater to exfiltrate, or
  - Groundwater to infiltrate the system.
- A Component failure (i.e., broken piping connection, distribution box).
- Affected, or has the potential to affect groundwater, or surface water to a degree which:
  - Makes it unsafe for drinking or other uses, or
  - Is causing a condition, which affects human health, or is a public nuisance.

Addressing Corrective Action Requirements

In order to retain coverage under the LAMP, owners of OWTS must:

- Address any corrective action requirement of Tier 4 as soon as reasonably possible (as determined by DEHS), and
- Comply with the time schedule of any corrective action notice received from the County, or the RWB.

When the owner of an OWTS is not able to comply with corrective action requirements, the County may approve repairs which are in substantial conformance with the LAMP, to the greatest extent practicable.

Failure to Address Corrective Action Requirements

OWTS which fail to meet the corrective action requirements of Tier 4 constitute a failure to meet the conditions of the waiver of waste water discharge requirements contained in the LAMP. These are subject to further enforcement actions, which includes, but is not limited to:

- Citations and/or fines from Code Enforcement
- Legal action against the property

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CHAPTER 5: ALTERNATIVE TREATMENT SYSTEMS AND SEWAGE HOLDING TANKS

This chapter provides information which will be used to determine when an Alternative Treatment System, or other wastewater disposal methods (i.e., a sewage holding tank), is needed.

Alternative Onsite Treatment Systems

Alternative treatment systems are required:

- When it is determined that:
  - A conventional septic system is not feasible for new construction,
  - The repair or upgrade of any existing Onsite Wastewater Treatment System (OWTS) cannot meet the requirements of the Local Agency Management Program (LAMP), or
  - An alternative treatment system would provide greater protection to public health and the environment. Instances when a conventional system may have an adverse effect on the environment requiring an alternative treatment system include, but are not limited to shallow groundwater, impaired water quality, and/or the presence of bedrock.
- To maintain an annual operating permit with DEHS.
- To meet Advanced Protection Management Program (APMP) requirements when installed near impaired bodies of water on the 303(d) list (refer to Chapter 6 for more information regarding impaired water bodies and the APMP).

Types of Alternative Treatment Systems

The types of alternative treatment systems include, but are not limited to:

- Supplemental treatment
- Mound systems
- Evapotranspiration systems
- Pressure distribution
- Subsurface drip dispersal
- Sand filtration systems
- Other non-conventional OWTS approved by DEHS and the appropriate Regional Water Quality Control Board (RWQCB)

Wastewater Sample Requirements for Supplemental Treatment Systems

All supplemental treatment systems are required to have quarterly wastewater samples taken the first year. Important information regarding these samples include:

- The wastewater samples must include the geographic coordinates of the sample's location.
- Effluent samples will be taken by a service provider and analyzed by a California Department of Public Health (CDPH) certified laboratory. A copy of a service provider contract must be submitted to DEHS by January 30th of each calendar year.
- The sample frequency may be reduced to annual water samples, if all four quarterly wastewater samples show the system is meeting the supplemental treatment requirements and with approval from DEHS (refer to the Additional Requirements for Supplemental Treatment Systems section for more information).

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Alternative Treatment System Requirements

Alternative treatment systems must meet the following requirements for review and approval by DEHS:

- Be certified by National Sanitation Foundation (NSF), or another approved third party tester.
- Be designed by a Qualified Professional.
- Contain a description, in the percolation report and/or the plot plan, of the type of wastewater which will be discharged to the OWTS (i.e., domestic, commercial or industrial), and classification of it as domestic wastewater or high-strength waste.
- Contain a schedule of all materials and products that will be used to construct the system. This includes:
  - All technical details and informational maintenance or replacement documentation on the alternative treatment system that will be provided to the homeowner.
  - Procedures to ensure maintenance, repair, or replacement of critical items within 48 hours following failure.
- Receive RWQCB approval (after DEHS approval is granted).
- Ensure all of the following individuals are present onsite during the installation:
  - Qualified Professional,
  - Representative from the alternative treatment system manufacturer,
  - Licensed contractor, and
  - Individuals from any required regulatory agencies.

Additional Requirements for Supplemental Treatment Systems

Supplemental treatment systems must also:

- Install a visible or audible alarm, as well as a telemetric alarm that alerts the owner or owner's agent when there is a system failure or malfunction.
- Provide DEHS literature from the manufacturer showing the:
  - Total nitrogen in the effluent from the alternative treatment system meets a minimum 50 percent reduction in total nitrogen when comparing the 30-day average influent to the 30-day average effluent,
  - Effluent from the alternative treatment system does not exceed a 30-day average Total Suspended Solids (TSS) of 30 milligrams per liter (mg/L), and
  - Effluent has a fecal coliform bacteria concentration less than or equal to 200 Most Probable Number (MPN) per 100 milliliters (for systems near a body of water impaired for pathogens or where required by DEHS or the RWQCB).
- Define which treatment mode will be used, if the system has multiple treatment modes.
- Define the effluent water sample frequency, as determined by DEHS.
- Provide the name and contact information for the approved service provider that will maintain the system.
- Provide the name of the CDPH certified laboratory where the effluent water samples will be analyzed.

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Supplemental Treatment System Submittal

Supplemental treatment systems are required when it is necessary to reduce the biological or nitrogen load of the wastewater effluent. This includes when the OWTS is located:

- Near an impaired water body, or
- Where minimum lot size requirements cannot be met.

When reviewing a supplemental treatment system proposal for an existing septic system, it must be determined if alterations or additions will be completed.

If a supplemental treatment system is proposed for an existing septic system and…	Then a …
No alterations or additions to the septic system will be completed,	Septic certification will be required, in addition to the Alternative Treatment System Requirements.
Alterations or additions to the septic system will be completed,	Percolation report and/or septic certification may be required, in addition to the Alternative Treatment System Requirements.

Supplemental Treatment System Proposals

Property owners proposing an Alternative Treatment System must submit the following to DEHS:

- Application for Percolation or Plot Plan,
- Preliminary approval from the respective RWQCB for the alternative treatment system (if applicable),
- Supplemental Treatment System supporting literature (if applicable).
- Plot Plan,
- Percolation Report (if not previously submitted and approved), and
- The Percolation Report and Alternative Treatment system review fees.

Plot Plan Requirements

Plot plan requirements are the same for alternative system as for conventional systems; however, the plot plan must also be signed and stamped by a Qualified Professional.

When an Alternative Treatment System is Installed

Once property owners install an alternative treatment system:

- A "Notice of Condition" must be recorded. Proof of the filing must be provided to DEHS within 30 days of installation.
- Parcels must connect to a sewer as soon as it becomes available, and the alternative treatment system must:
  - Cease to be used, and
  - Be properly abandoned. The owner must obtain a permit from the Building and Safety Division for the abandonment of the system.

Owner Resources

Owners of Alternative OWTS may obtain information regarding maintenance, repair, and/or replacements from the system designer/installer or manufacturer.

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Sewage Holding Tanks

Under normal circumstances, no person or entity will install, utilize, or control the use of any sewage holding tank within the unincorporated area of the County for the confinement of sewage discharged from a dwelling, business establishment, or other facility. However, this section describes exceptions when a sewage holding tank is allowed.

When to Allow for Sewage Holding Tanks

DEHS may allow sewage holding tanks when the property for which the permit is requested is:

- Within the boundaries (or sphere of influence) of a district or sewering entity, and
- Unsuitable for a conventional or alternative treatment system. Documentation must be provided to DEHS to show that a conventional or alternative wastewater treatment system is not feasible (i.e. percolation report, plot plan, or other documentation as requested by DEHS).

When an existing dwelling, business establishment or other facility is not within the boundaries (or sphere of influence) of a sewering entity, an exemption from the requirement may be granted by DEHS. This is to eliminate a hazardous condition or code violation where no other acceptable means of sewage disposal is feasible or available.

Sewage Holding Tank Requirements

DEHS must approve all plans for the design, location and installation of sewage holding tanks. The following must be provided for review and approval:

- A completed Sewage Holding Tank Application, including documentation that all required DEHS conditions stipulated in the application have been completed.
- A copy of the current maintenance contract with a septic tank pumper. The contract will be placed on file with DEHS and must include the following terms:
  - A minimum of one inspection of the sewage holding tank per month, with servicing (pumping) as necessary.
  - The pumper will provide all emergency servicing required.
  - In the event the contract is cancelled or property ownership changes, the septic tank pumper will immediately notify DEHS of the cancellation or change in ownership.
- A "Notice of Condition" must be recorded on the property once the sewage holding tank has been installed. Proof of the filing must be provided within 30 days of the installation.
- A written agreement with DEHS (refer to the Sewage Holding Tank Agreements section for information.

Requirements When Properties With Sewage Holding Tanks Are Sold

When a property containing a sewage holding tank is sold:

- The present property owner will notify the new property owner of the DEHS requirement to obtain a new permit.
- DEHS will give the new property owner written notice of the permit conditions to be completed prior to occupancy of the property.

Note: Properties served by a sewage holding tank will be subject to an annual operating permit fee, as set forth in the County Fee Schedule, to pay the cost of routine inspections and program administration.

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Sewage Holding Tank Agreements

When submitting sewage holding tank agreements, the document must be:

- Satisfactorily completed,
- Signed by all property owners who will be using the proposed sewage holding tank, and
- Filed with DEHS prior to the issuance of any DEHS permit.

When sewage collection lines become available for service to properties using a sewage holding tank, the property owner will connect to the sewage collection line and properly abandon the sewage holding tank (within 90 days).

Recreational Residences (Forest Service Cabins)

San Bernardino County currently has over 700 Recreational Residences (more commonly referred to as Forest Service Cabins) in the San Bernardino National Forest. Facts regarding Recreational Residences include:

- The majority of these were constructed in the early 1900s with the intent of being summer homes that are occupied at least 15 days annually, but are not to be used as a permanent residence.
- They are privately owned, but the land they are built on is owned by the Forest Service.
- Owners are issued a "Recreational Residence Special Use Permit" by the local district ranger for up to twenty years' time, with the option to renew at the end of that period.

Due to topographical and hydrogeological conditions, and lot size of most of the Recreational Residences, septic system minimum requirements are not always met; therefore:

- Sewage holding tanks may be permitted upon approval.
- For DEHS to approve a septic system, or sewage holding tank, all the requirements outlined in the LAMP must be met.
- Written approval from the Forest Service must be provided prior to DEHS approval.

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CHAPTER 6: TIER 3 – ADVANCED PROTECTION MANAGEMENT PROGRAM FOR IMPAIRED AREAS

An Advanced Protection Management Program (APMP) is the minimum required management program for all Onsite Wastewater Treatment Systems (OWTS) located near a water body that has been listed as impaired due to nitrogen or pathogen indicators, pursuant to the Clean Water Act, Section 303(d). Local agencies are authorized to implement APMPs in conjunction with an approved Local Agency Management Program (LAMP), or when there is no approved LAMP, Tier 1. Per the State Water Resources Control Board's (SWRCB's) OWTS Policy, OWTS which are located near impaired water bodies may be addressed by a Total Maximum Daily Load (TMDL) and its implementation program, or special provisions contained in a LAMP. The County of San Bernardino has chosen to develop an APMP closely derived from Tier 3 requirements provided in the OWTS Policy. This chapter provides information regarding the County's APMP.

Basin Plans

The Regional Water Quality Control Boards (RWQCBs) have developed basin plans to dictate the water quality protection regulations which govern wastewater discharges. This section provides information regarding basin plans for impaired water bodies located within San Bernardino County.

Issues Addressed in Basin Plans

When developing basin plans the RWQCBs address information which includes, but is not limited to:

- Excessive nitrate levels from agricultural practices,
- Perchlorate clean up from industrial activities, and/or
- Bacterial contamination of surface water.

Impaired Water Bodies

Within San Bernardino County, the State Water Resources Control Board has identified various surface waterways as impaired, per Attachment 2 of the OWTS Policy. The water bodies listed have been specifically identified per the 303(d) list, where it is likely:

- OWTS will subsequently be determined to be a contribution source of pathogens or nitrogen, and therefore anticipated that OWTS would receive a loading reduction, and
- New OWTS installations discharging within 600 feet of the water body would contribute to the impairment.

The following table is an excerpt from Attachment 2 of the OWTS Policy indicating the areas within San Bernardino County which are subject to the APMP; the RWQCBs must adopt a TMDL by the date specified.

Table 6. 1

Name	Region	Impairment	TMDL Completion Date
Lytle Creek	Santa Ana	Pathogens	2019
Mill Creek Reach 1	Santa Ana	Pathogens	2015
Mill Creek Reach 2	Santa Ana	Pathogens	2015
Mountain Home Creek	Santa Ana	Pathogens	2019
Mountain Home Creek, East Fork	Santa Ana	Pathogens	2019
Grout Creek	Santa Ana	Nitrogen	2015
Rathbone (Rathbun) Creek	Santa Ana	Nitrogen	2015
Summit Creek	Santa Ana	Nitrogen	2015

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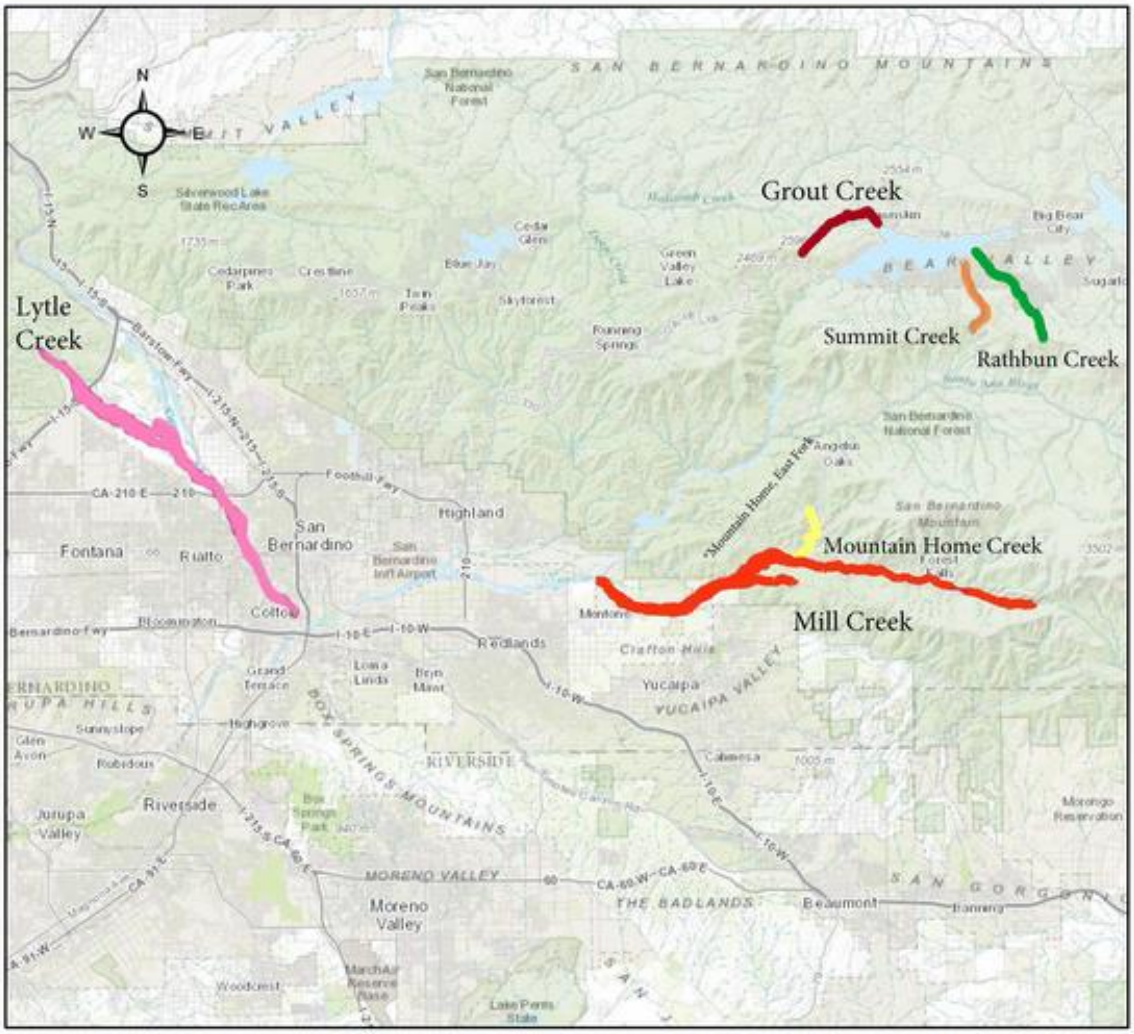
The following map illustrates the impaired water bodies located within San Bernardino County.

Figure 6.1

Impaired Water Bodies in San Bernardino County



Impaired Water Body

- Mill Creek
- Lytle Creek
- Rathbun Creek
- Mountain Home
- Grout Creek
- Mountain Home, East Fork *
- Summit Creek

*Mountain Home, East Fork is approximately 0.5 miles and not visible on this map

0 3.25 6.5 13 Miles

Service Layer Credits: Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Total Maximum Daily Load

Section 303(d) of the Clean Water act requires each state to establish a TMDL for each impaired water body to address the pollutant(s) causing the impairment. In California, TMDLs are generally adopted as Basin Plan amendments and contain implementation plans detailing how water quality standards will be attained. This section provides information regarding the TMDL requirements for impaired water bodies located within the County of San Bernardino.

TMDL Calculation

According to the United States Environmental Protection Agency (EPA) website, a TMDL calculates the maximum amount of a pollutant allowed to enter a water body so the water body will meet, and continue to meet, water quality standards for that particular pollutant. The TMDL calculation includes both anthropogenic and natural background sources of pollutants, which includes allocations to:

- Point sources [Wasteload Allocation (WA)], and
- Nonpoint sources [Load Allocation (LA)].

TMDLs must also include a margin of safety (MOS) to account for the uncertainty in predicting how well pollutant reduction will result in meeting water quality standards, and account for seasonal variations. The TMDL calculation is:

TMDL = Sum of WA (point sources) + Sum of LA (nonpoint sources and background) + MOS

Geographic Area for APMPs

Where there is an approved TMDL, the geographic area for each water body's APMP is defined by the applicable TMDL. When there is not an approved TMDL which defines the geographic area, it will be 600 linear feet (in the horizontal map direction) of a water body listed on the 303(d) list, where the edge of the water body is the:

- Natural or levied band for creeks and rivers.
- High water mark for lakes and reservoirs.
- High tide line for tidally influenced water bodies, as appropriate.

There may be OWTS located near impaired water bodies which would not be included in the APMP; however, must meet all the requirements of the LAMP:

- Not listed in Attachment 2 of the OWTS Policy,
- Without an approved TMDL, and
- Not covered in this LAMP with special provisions.

TMDLs for Impaired Waterbodies

Currently, there are no TMDLs for the impaired water bodies on the 303(d) list. Once a TMDL is adopted, the TMDL implementation plan will supersede the APMP. Unless a TMDL is modified to include actions for OWTS, the OWTS located near an impaired water body is not required to take any further actions when there is an approved TMDL, which:

- Addresses the impairment, and
- Does not assign a load allocation to the OWTS.

Note: Existing, new and replacement OWTS located near impaired water bodies are covered by a Basin Plan prohibition and must comply with the terms of the prohibition (refer to Prohibitions and Exemptions for more information).

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TMDL Completion Dates

The RWQCB must adopt TMDLs for the impaired water bodies identified on the 303(d) list in accordance with the dates specified (refer to Figure 6.1 for more information regarding TMDL completion dates). Should the RWQCB not adopt a TMDL within two years of the specified date, coverage provided by the OWTS Policy's waiver of waste discharge requirements will expire. This applies to any OWTS which has any part of its dispersal system discharging within the geographic area of an APMP. The RWQCB will then be responsible for the following, with regard to these OWTS:

- Corrective action, and
- Issuing:
  - Waste discharge requirements (site specific),
  - General waste discharge requirements (non-site specific), and
  - Waivers of waste discharge requirements.

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OWTS Without an Adopted TMDL Implementation Plan

This section provides information regarding requirements for OWTS and supplemental treatment systems that have been permitted after the water body was initially listed in Attachment 2 of the OWTS policy, and have any discharge within the geographic area of the APMP.

Requirements for OWTS

In the absence of an adopted TMDL implementation plan, all new and/or replacement OWTS must:

- Utilize supplemental treatment.
- Meet performance requirements for nitrogen/pathogen impairment (see OWTS Located Near Water Bodies Impaired for Nitrogen and OWTS Located Near Water Bodies Impaired for Pathogens for information regarding requirements).
- Comply with:
  - Setback requirements detailed in Chapter 3, and
  - Any applicable requirements outlined within the LAMP.

OWTS Located Near Water Bodies Impaired for Nitrogen

When OWTS are located near water bodies which are impaired for nitrogen, the effluent from the supplement treatment component must meet a 50% reduction in total nitrogen when comparing the 30 day average influent to the 30 day average effluent. This will be accomplished by using supplemental treatment components, which meet the following requirements:

- Designed to reduce nitrogen, and
- Certified by National Sanitation Foundation (NSF) (or other approved third party tester).

Where a drip-line dispersal system is used to enhance vegetative nitrogen uptake, the dispersal system must have at least 12 inches of soil cover.

OWTS Located Near Water Bodies Impaired for Pathogens

When an OWTS is located near a water body impaired for pathogens, the supplemental treatment components (designed to perform disinfection of pathogens) must provide sufficient pretreatment of the wastewater so effluent from the supplemental treatment components:

- Does not exceed a 30 day average Total Suspended Solids (TSS) of 30 milligrams per liter (mg/L), and
- Will achieve an effluent fecal coliform bacteria concentration less than, or equal to, 200 Most Probable Number (MPN) per 100 milliliters.

The minimum soil depth and the minimum depth to the anticipated highest level of groundwater below the bottom of the dispersal system will not be less than 3 feet. All dispersal systems will have at least 12 inches of soil cover.

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OWTS Installed Within an APMP

All OWTS installed within an APMP must:

- Meet the requirements for Alternative Treatment Systems (refer to Chapter 5 for more information regarding Alternative Treatment Systems), which require:
  - An annual operating permit, and
  - Monitoring and maintenance of the OWTS.
- Connect to a sewer as soon as it is available, and properly abandon the supplemental treatment system.
- Monitor the OWTS in accordance with the operation and maintenance manual for the OWTS (or more frequently as required by the County and/or RWQCB).
- Be equipped with a visual and/or audible alarm, as well as a telemetric alarm, which will alert the owner and service provider in the event of a system malfunction.

Note: Where telemetry is not possible, the owner (or owner's agent) will inspect the system at least monthly while the system is in use as instructed by a service provider. The owner/owner's agent must also notify the service provider not less than quarterly of the observed operating parameters of the OWTS.

Testing and Inspection of Wastewater

All OWTS installed near water bodies impaired for pathogens will be inspected quarterly by a service provider for proper operation, unless a telemetric monitor system is capable of continuously assessing the operation of the disinfection system. Testing of the wastewater flowing from the supplemental treatment components that perform disinfection will be:

- Sampled at a point in the system:
  - After the treatment components, and
  - Before the dispersal system.
- Conducted quarterly based on analysis of total coliform, with a minimum detection limit of 2.2 MPN.

All effluent samples must include the geographic coordinates of the sample's location. Effluent samples will be taken by a service provider and analyzed by a California Department of Public health (CDPH) certified laboratory.

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There are areas of wastewater treatment which are not under the County's purview. These areas can range from cesspools, which are prohibited in the State of California, to wastewater treatment plants (of any kind or size) or Onsite Wastewater Treatment Systems (OWTS) receiving a projected flow over 10,000 gallons per day (GPD) [which are under the purview of the Regional Water Quality Control Boards (RWQCBs)]. This chapter provides information regarding the County's role and the scope of coverage provided by the Local Agency Management Program (LAMP) in the monitoring of OWTS within the County of San Bernardino's boundaries.

Onsite Inspections and Monitoring

Onsite inspections and/or monitoring are required for all new OWTS, Designated Maintenance Areas (DMAs), sewage holding tanks and alternative treatment systems. This section provides information regarding the inspection and monitoring required for various OWTS.

New OWTS

DEHS may conduct an onsite inspection of percolation testing for new OWTS containing any lot which is:

- Located in the mountain areas, this includes any area:
  - Within National Forest boundaries, or
  - Above 4,500 feet, if outside of National Forest boundaries.
- Less than 1.5 acres, and is not served by a permitted water system.
- Located:
  - On a slope greater than 20%,
  - Within 200 feet of a river (in the horizontal map direction), or
  - Within 100 feet of a stream (perennial or ephemeral).
- Located in an area which cannot meet the minimum setback requirements for a conventional septic system due to:
  - Historically high groundwater, or
  - A confining layer.

Note: For more information regarding minimum setback requirements, refer to Chapter 3.

Required Onsite Inspection

The Division of Environmental Health Services (DEHS) must complete an onsite inspection for percolation testing when the Qualified Professional submitting the report has:

- Not submitted a report to DEHS in the previous 2 years, or
- Previously submitted reports which have been deemed:
  - Incomplete, and/or
  - Significantly deficient.

DEHS may also, at its discretion, determine an on-site inspection is necessary in instances not mentioned above, or where it is determined the installation of an OWTS may have an adverse impact to public health and safety.

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OWTS in DMAs

All OWTS which are located within a DMA are required to maintain an operating permit with DEHS. These OWTS are inspected biennially. DEHS has approximately 1,200 permitted OWTS within the DMAs. Refer to Designated Maintenance Areas (DMAs) for more information regarding the DMAs located within the County of San Bernardino.

Sewage Holding Tanks

All sewage holding tanks located within the County are required to:

- Maintain an operating permit with DEHS, and
- Be inspected annually.

Note: Refer to Sewage Holding Tanks for more information.

Alternative Treatment Systems

Owners of alternative treatment systems located within the County are required to:

- Maintain an operating permit,
- Ensure the alternative treatment system is inspected annually, and
- Submit quarterly water samples during the first year of use.

Note: Sample frequency may be reduced at DEHS discretion when all four quarterly wastewater samples show that the system is meeting the supplemental treatment requirements. Refer to Alternative Onsite Treatment Systems for more information.

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Variances

On a case by case basis, DEHS may establish alternative OWTS siting and operational requirements where it is determined by DEHS the alternate requirements will provide a similar level of protection. There will be situations, however, where variances are not granted. This section details the instances when variances will not be granted.

Above Surface Discharge

Variances will not be granted for any OWTS which utilizes any form of effluent disposal discharging on, or above, the post installation ground surface; this includes, but is not limited to sprinklers, exposed drip lines, free-surface wetlands, and ponds

Sewer Availability

Variances will not be granted for any OWTS where there is a public sewer available. DEHS and/or the Building and Safety Division may require a "Will or Will Not Serve" letter from the local sewer purveyor with each new or replacement OWTS proposal to evaluate the proximity and availability of community systems to the proposed OWTS site. This will ensure septic systems are only installed in areas where a sewer is unavailable. The "Will or Will Not Serve" letter must:

- Include the following:
  - Parcel number for the property where the OWTS is being proposed.
  - Distance to the nearest available sewer line.
  - Whether or not the sewering entity will provide service to the parcel.
- Be completed and signed by the appropriate official representing the sewering entity and be filed with DEHS:
  - Prior to submittal of the percolation report/plot plan, or
  - Upon request once the percolation report/plot plan has been submitted.

Sewer Requirement

Connection to a public sewer system is required within established sewer service districts and outside such districts when required by the RWQCB. Developments must connect to a sewer system when the nearest property line is within 200 feet of a sewer line. This requirement will be increased by 100 feet for each dwelling unit within the development.

Ground Slope

Variances will not be granted for slopes greater than a 25% incline without a slope stability report approved by a Qualified Professional. Refer to Natural Ground Slope for more information regarding natural ground slope requirements.

Leaching Areas

As referenced in Leach Line Dispersal Systems, the maximum allowable decreased leaching area for International Association of Plumbing and Mechanical Officials (IAPMO) certified dispersal systems will be a multiplier of 0.70. No variances will be granted for systems using a multiplier of less than 0.70.

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Supplemental Treatment

As referenced in Alternative Onsite Treatment Systems, OWTS utilizing supplemental treatment require periodic monitoring or inspections. No variances will be granted for supplemental treatments that are unable to meet this requirement.

Depth to Groundwater

No variance will be granted for OWTS with a separation from the bottom of the dispersal system to groundwater less than 5 feet. The exception to this will be seepage pits, which will have a separation of no less than 10 feet. Refer to the Soil Depth section for more information.

Note: At the discretion of the County, the depth to groundwater requirement may be reduced to 2 feet when there is a supplemental treatment system installed.

Recreational Vehicle (RV) Holding Tanks

No variances will be granted for OWTS dedicated to receiving significant amounts of wastes, which are dumped from RV holding tanks.

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Minimum Horizontal Setbacks

All new and replacement OWTS must meet the minimum horizontal setbacks from community water sources. This section provides details regarding the minimum horizontal setback requirements for OWTS located near public water sources.

Setbacks Determined by Depth

The minimum horizontal setbacks for effluent dispersal systems are dependent on the depth of the system. The following table describes the required setbacks for effluent dispersal systems located near public water wells:

If the depth of the effluent dispersal system…	Then the required horizontal setback from the public water well is…
Does not exceed 10 feet,	150 feet.
Exceeds 10 feet,	200 feet.

Where the effluent dispersal system is within 600 feet of a public water well, and the depth exceeds 20 feet, a Qualified Professional must conduct an evaluation. The evaluation is to determine the horizontal setback required to achieve a two-year travel time for microbiological contaminants. In no case, however, will the setback be less than 200 feet.

Dispersal Systems Near Surface Water Intake Points

The following minimum horizontal setbacks will be determined when effluent dispersal systems are located:

- Near a public surface water intake point (e.g., reservoir, lake, or flowing water body),
- Within the catchment of the drainage, and
- In such a way that it may impact water quality at the intake point (i.e., upstream of the intake point for flowing water bodies).

When the effluent dispersal system is located …	Then the dispersal system will be no less than…
Within 1,200 feet of the intake point,	400 feet from the high water mark.
• More than 1,200 feet, and • Less than 2,500 feet from the intake point,	200 feet from the high water mark.

OWTS Within Required Setbacks of a Public Water Supply

Existing or proposed OWTS (in close proximity to public water wells, and surface water treatment plant intakes) have the potential to adversely impact source water quality. County Code Section 33.0636 indicates horizontal setback requirements which apply to all OWTS located in the proximity of individual and public water supply wells. Refer to Setback Requirements for information regarding OWTS located within required setbacks of a public water supply.

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Replacement OWTS Not Meeting Horizontal Setback Requirements

Replacement OWTS not meeting the horizontal setback requirements must meet the separation requirements to the greatest extent practicable. When this occurs, the OWTS must use mitigation measures (i.e., supplemental treatment) to ensure the public water source is not adversely affected. Mitigation measures, including supplemental treatment, will not be required when DEHS and/or the RWB find there is no indication that the previous OWTS adversely impacted the public water source.

This will be determined based on:

- Topography,
- Soil depth,
- Soil Texture, and
- Groundwater separation.

Separation Requirements for OWTS Pre-existing the LAMP

New OWTS installed on parcels of record existing on the effective date of this LAMP, which are unable to meet the horizontal setback requirements, must:

- Meet the separation requirements to the greatest extent practicable,
- Use the supplemental treatment for pathogens as detailed in the APMP (refer to Chapter 6 for more information regarding the APMP), and
- Use other mitigation measures, if necessary, as determined by the permitting authority.

Note: No variances will be granted for any of the minimum horizontal setback requirements outlined in this section.

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Site Assessment

Prior to approving the use of an OWTS, a site evaluation by the Building and Safety Division may 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, and whether adequate capacity is available for the OWTS.

Cesspool Elimination

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.

Public Education

Reference and educational material for owners of OWTS can be found on the DEHS website. These educational documents provide information for owners regarding how to locate, operate, and maintain their OWTS.

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Local Watershed Management

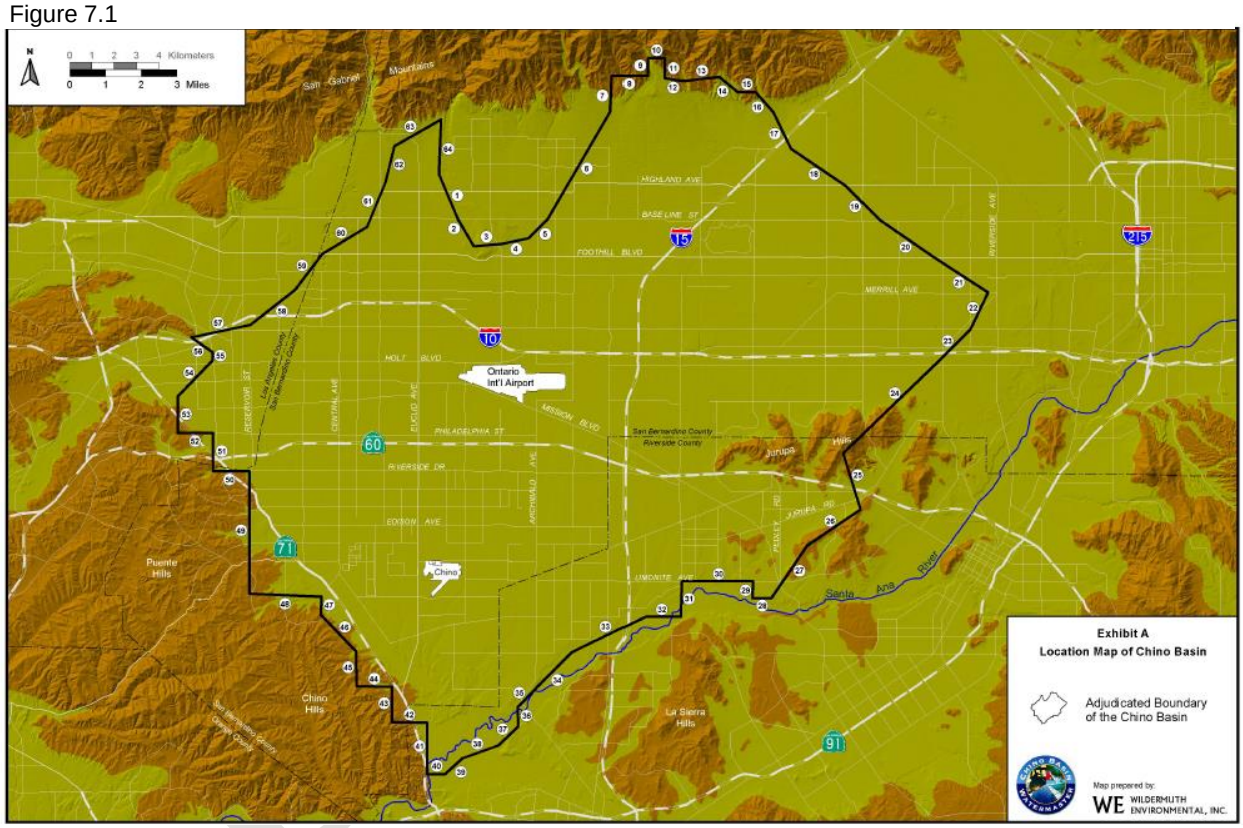
The County of San Bernardino has three local watershed management agencies which manage the watersheds located within their boundaries. These agencies include the Chino Basin Watermaster, the Mojave Water Agency (MWA), and the San Bernardino Municipal Water District. DEHS notifies the local watershed management agencies regarding all new well construction within their boundaries, as well as attends meetings, as needed, to stay informed of any relevant water quality concerns. This section provides information regarding each local watershed management agency.

Chino Basin Watermaster

The Chino Basin Watermaster is a consensus based organization, which facilitates development and utilization of the Chino Groundwater Basin. The basin:

- Consists of approximately 235 square miles of the upper Santa Ana River watershed, and
- Has an estimated storage capacity of five to seven million acre feet (refer to the figure below for a map of the Chino Basin Watermaster boundaries).

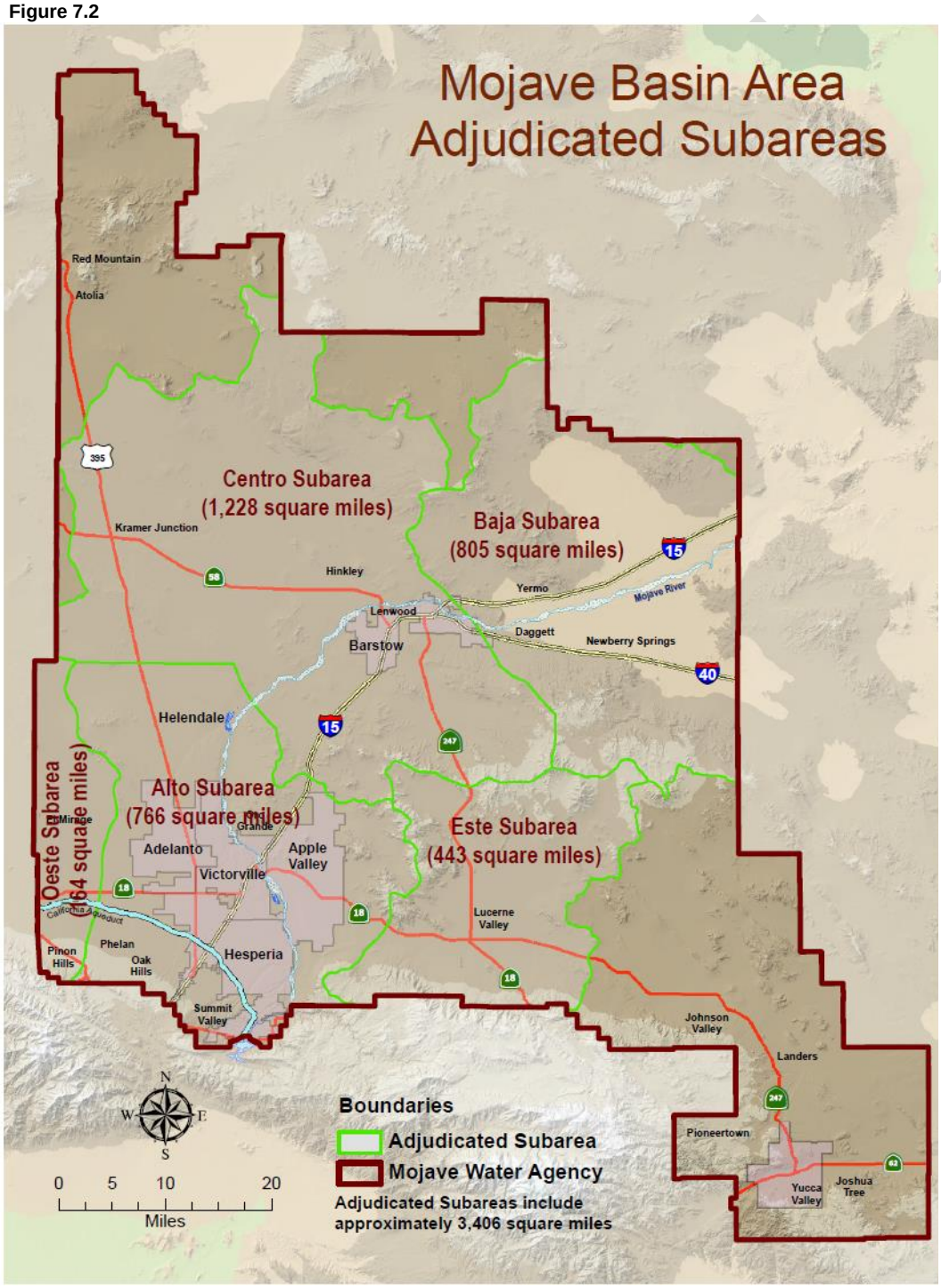
Figure 7.1



Mojave Water Agency (MWA)

The MWA is a State water contractor which manages an annual allotment of 82,800 acre feet of water from the State Water Project via the California Aqueduct. The MWA boundaries encompass approximately 4,900 square miles of the High Desert area within the County (refer to the figure below for a map of the MWA boundaries).

Figure 7.2

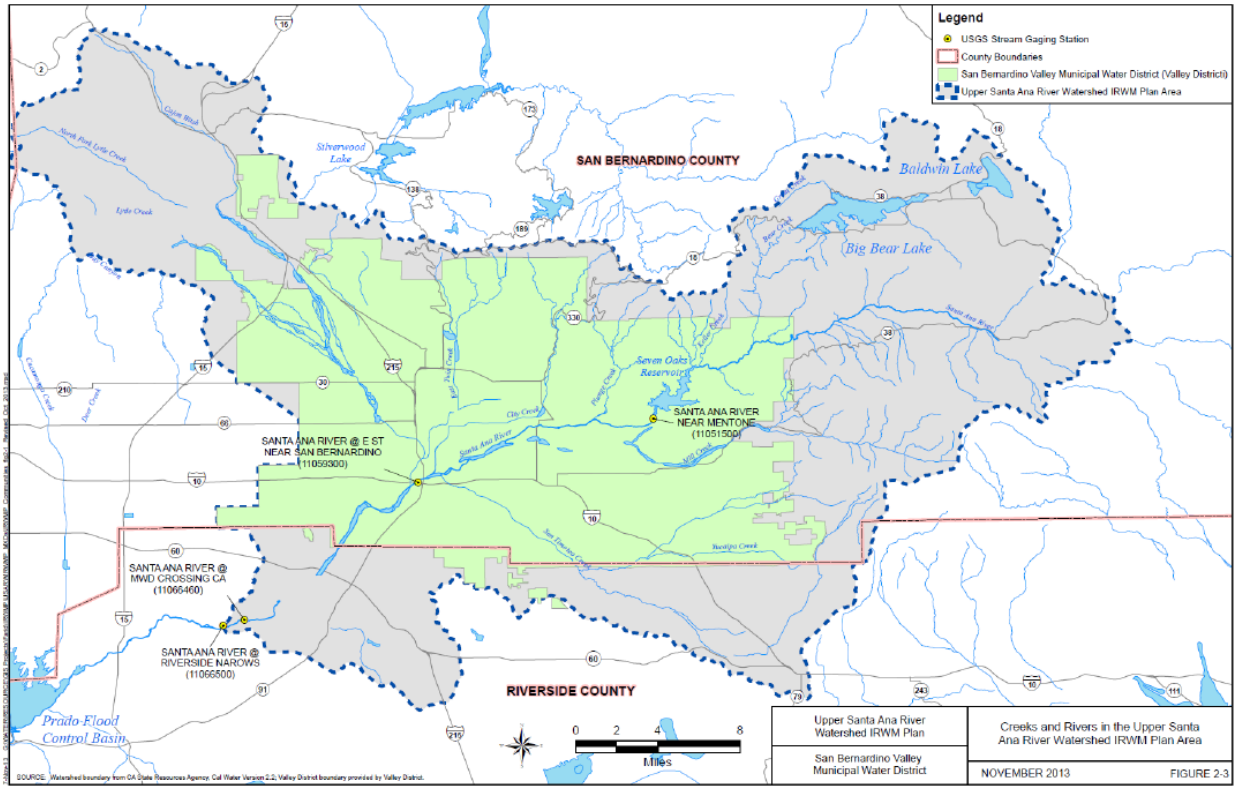


San Bernardino Valley Municipal Water District

The San Bernardino Valley Municipal Water District:

- Covers approximately 353 square miles in the southwestern region of the County,
- Spans two-thirds of the San Bernardino Valley,
- Imports water through the State Water Project, and
- Manages water storage within its boundaries (refer to the figure below for a map of the San Bernardino Valley Municipal Water District boundaries).

Figure 7. 3



CHAPTER 8: REPORTING REQUIREMENTS AND DATA COLLECTION

As a condition to having oversight of the Onsite Wastewater Treatment Systems (OWTS) within the County of San Bernardino, the County must collect certain data and report it to the Regional Water Quality Control Boards (RWQCBs), in some instances, the Division of Drinking Water (DDW), as well as the owners of water systems. This chapter provides information regarding the minimum reporting responsibilities, the OWTS Water Quality Assessment Program, and the Local Agency Management Program (LAMP) assessment.

Reporting to the Regional Water Quality Control Boards (RWQCBs)

The County must report the following information to the RWQCBs on an annual basis, no later than February 1st of each year.

- The quantity and location of complaints pertaining to OWTS in the unincorporated areas of the County, and specifying which complaints were investigated, and how the complaints were resolved.
- The permits issued for new and replacement OWTS, including the number, location and description of the permits, and which Tier the permit was issued under.
- The quantity, location and description of permits issued for OWTS where a variance from the approved LAMP was granted.
- The number, location and results of septic tank pumper inspection reports which were received.
- A list of the applications and registrations issued for the Liquid Waste Hauler Program.

OWTS Water Quality Assessment Program (WQAP)

The WAQP was developed to provide a better understanding regarding how OWTS located within the County of San Bernardino were affecting and/or contributing to ground water contamination by nitrates and pathogens. This section provides information regarding the WQAP, including individual well sampling, establishing the water quality baseline levels, constituents of concern and monitoring for pathogens and nitrogen.

Individual Well Sampling

The Division of Environmental Health Services (DEHS) permits and regulates small public water systems and issues well permits throughout the County. All new individual wells are sampled for the following:

- Total coliform bacteria,
- Nitrates, and
- Other constituents of concern, which include:
  - Arsenic,
  - Perchlorate,
  - Chromium VI, and
  - Gross alpha and uranium.

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Establishing Water Quality Baseline Levels

All community drinking water wells, which will be utilized as a public water system, are analyzed for chemicals regulated by Title 22 to ensure the well meets drinking water standards. To establish water quality baseline levels, DEHS will use data obtained from:

- All public water systems regulated by the County,
- Permitted individual and community drinking water wells, and
- Random sampling of existing wells.

Note: Once the baseline is established, the sample data from new permitted wells, and random samples of existing wells, will be used to maintain a reliable OWTS water quality assessment.

Constituents of Concern

As part of the WQAP, DEHS has identified areas within San Bernardino County which have elevated levels of constituents of concern. The following table indicates the constituent of concern for various areas located within the County. In addition to total coliform and nitrate testing, sampling will be required for all new well construction in the areas indicated (this list may be updated as needed).

Constituent	Areas
Arsenic	• Hinkley • North of Barstow to State Line • Calico/Yermo • Newberry Springs to Ludlow • Kramer Junction • Pioneertown • 29 Palms and north of 29 Palms
Perchlorate	• Loma Linda • Rialto • Fontana • Ontario • Barstow (near the I-15 and Hwy 58 intersection) • Within a 5-mile radius of George Air Force Base
Gross Alpha and Uranium	• Pioneertown • Morongo Valley • Twin Peaks • Fawnskin • Crestline • Running Springs • Lake Arrowhead
Chromium VI	• Hinkley • Oak Hills

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Pathogen and Nitrogen Monitoring

In an effort to distinguish water quality degradation which is attributable to OWTS, and water quality degradation which does not have a relation to OWTS, DEHS will monitor and collect water quality data for pathogens and nitrogen from the following available sources:

- Alternative treatment systems.
- Water quality sample data received from:
  - County agencies which have National Pollutant Discharge Elimination System (NPDES) permits (i.e., San Bernardino County Flood Control), and
  - Various water agencies [i.e., Mojave Water Agency (MWA)].
- Ground water data collected as part of the Groundwater Ambient Monitoring Assessment Program, which is available in the Geotracker database.

LAMP Assessment

Every five years an assessment will be completed to evaluate the LAMP and determine whether OWTS within the County are affecting water quality. During this review the LAMP will be modified, as needed, to address the impacts of OWTS. This section provides information regarding how the information will be compiled and reviewed, as well as how the information will be submitted to both the California Environmental Data Exchange Network (CEDEN) and Geotracker. In order to assess the operational status of the OWTS within the County, the County will compile and review:

- Septic tank pumper inspection reports,
- Complaints and abatement activities for failing OWTS,
- Variances issued for new and/or repair OWTS,
- Sample data from the WQAP,
- Water quality monitoring reports for alternative treatment systems or other OWTS having an operating permit, and
- Septic system certifications of existing OWTS in connection with:
  - Building additions/remodel projects, or
  - Property transactions (if required by a bank or other agency).

All groundwater monitoring data generated will be submitted in electronic deliverable format (EDF) for inclusion into Geotracker. Surface water monitoring will be submitted to CEDEN in a Surface Water Ambient Monitoring Program (SWAMP) comparable format.

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