

10500 Civic Center Drive | P.O. Box 807 | Rancho Cucamonga, CA 91729-0807 | 909.477.2700 | www.CityofRC.us

LOCAL AGENCY MANAGEMENT PROGRAM

Adopted by Santa Ana RWRCB: June 16, 2017

Effective: September 17, 2018

For Onsite Wastewater Treatment System



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CHAPTER 1

Introduction

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

The purpose of the LAMP is to allow the continued use of onsite wastewater treatment systems (OWTS) within the jurisdiction of the City of Rancho Cucamonga as well as to expand the local program to permit and regulate alternative OWTS while protecting water quality and public health.

The LAMP is designed to protect groundwater sources and surface water bodies from contamination through the proper design, placement, installation, maintenance, and assessment of individual OWTS. This plan develops minimum standards for the treatment and ultimate disposal of sewage through the use of OWTS in the City of Rancho Cucamonga.



Figure 1.1 City of Rancho Cucamonga Boundaries



he LAMP does not include the following which require individual waste discharge requirements or a waiver of individual waste discharge requirements issued by the RWQCB.

- Any OWTS with a projected wastewater flow of over 10,000 gallons per day.
- Any OWTS that receives high strength wastewater, unless the waste stream is from a commercial food service facility.
- Any OWTS that receives high strength wastewater from a commercial food service facility with a BOD higher than 900 mg/l or that does not have a properly sized and functioning oil/grease interceptor.

The City of Rancho Cucamonga has four (4) areas where the OWTS is concentrated. Due to the development of the City and the use of older OWTS, a few OWTS systems are scattered throughout the City. If those systems met the criteria and regulations in place at the time of permitting, those systems were required to connect to a sewer.

Figure 1.2 below shows the permitted septic system locations which were permitted from roughly 2011 to 2016.

Figure 1.3 below shows the general areas of the concentrated OWTS within the City of Rancho Cucamonga. The 4 areas have the general names (based on their location) of Northwest, Northeast, Whitram and Redhill naming in a clockwise direction.

The approximate area of the concentrated OTWS is 19% of the City or about 4,900 acres.

City History and Criteria for Minimum Lot Sizing for OWTS

The City of Rancho Cucamonga is proposing to adopt the Tier Two (2) within the Local Agency Management Program. Tier 2 is defined as "Applies to any new and/or replacement OWTS which do not fall into the Tier 3 <u>adjacent</u> to impaired waterways, or in prohibition areas category. This tier is referred to as the LAMP and allows the City to apply standards that differ from the State" (Chapter 1, OWTS Policy).

The City of Rancho Cucamonga has adopted the current Rancho Cucamonga General Plan (Ordinance No. 10-069, adopted on May 19, 2010), the General Plan, and the current Rancho Cucamonga Development Code (Ordinance No. 855, adopted on August 1, 2012), the Development Code. The General Plan and the Development Code provides for the lawful development of privately owned property within the City of Rancho Cucamonga. As development has progressed through the growth of the City the vast majority of lots meeting the



State Water Resources Control Board Minimum Lot Size Requirements and Exemption "Criteria for New Development Using On-Site Septic Tank Subsurface Leaching Percolation Systems (MLSR) adopted in October 1989, meet the requirements of the MLSR one-half (1/2) acre requirements and are considered undeveloped in-fill lots, i.e., a lot with development adjacent to the undeveloped in-fill lot. Several plots of undeveloped land larger than 1-acre have submitted applications through the City of Rancho Cucamonga's entitlement process to subdivide the larger in-fill parcels into one-half (1/2) acre lots. The few remaining large undeveloped parcels of land which will not be required to connect to a public sewer under this LAMP have a property value based on the current General Plan and Development Code. As the City of Rancho Cucamonga is not in a prohibition category nor adjacent to an impaired waterway, Section 3.3.3 "Tier Two (Local Agency Management Program)" of the State Water Resources Control Board's (SWRCB) "Onsite Wastewater Treatment System Policy Final Substitute Environmental Document approved by the State Water Resources Control Board on June 19, 2012" reads:

Tier Two is intended for new and replacement OWTS in local agency jurisdictions where the local agency is administering an approved Tier Two Local Agency Management Program (LAMP). It is expected that most local agencies will administer such programs. Tier Two offers an alternative to compliance with the Tier One requirements, and is especially useful in areas that are potentially problematic for siting a new or replacement OWTS. This Tier is implemented by local government and supportable by enforceable local ordinances and covenants. New and replacement OWTS are included in Tier Two as long as they meet the following eligibility criteria:

- 1) A Regional Water Board or local agency has not determined that:
 - a. The OWTS is near a specifically identified surface water that is polluted due to pathogens or nitrogen compounds, and/or
 - b. The OWTS has affected, or will affect, groundwater or surface water to a degree that makes it unfit for drinking or other uses, or is causing a human health or other nuisance condition, or
 - c. The OWTS must undergo a major repair to address surfacing effluent or the failure of a septic tank's structural integrity, and
- 2) The OWTS meets the requirements of an approved Tier Two local agency management program.



A discussion of the Tier Two eligibility criteria:

- 1) A Regional Water Board or local agency has not determined that:
 - a. The OWTS is near a specifically identified surface water that is polluted due to pathogens or nitrogen compounds, and/or

This LAMP has not identified surface water that is polluted due to pathogens or nitrogen compounds. However in January 2017 the State Water Resources Control Board shared with the City of Rancho Cucamonga a Wildermuth Environmental Inc. (WEI) report dated July 16, 2016 prepared for the Cucamonga Valley Water District regarding "Draft Groundwater Model report, Addendum No. 2 – Projected Nitrate Concentrations Changes with Nitrate Removal Projects." This report indicates that onsite waste water treatment systems could be a source of Nitrates within the ground water basin. The City of Rancho Cucamonga will coordinate with the Cucamonga Valley Water District (CVWD) to review the full report and the study area identifying potential problems and a solution for the affected areas.

- 1) A Regional Water Board or local agency has not determined that:
 - b. The OWTS has affected, or will affect, groundwater or surface water to a degree that makes it unfit for drinking or other uses, or is causing a human health or other nuisance condition, or

This LAMP has not identified the effect groundwater or surface water to a degree that makes it unfit for drinking or other uses, or is causing a human health or other nuisance condition.

- 1) A Regional Water Board or local agency has not determined that:
 - c. The OWTS must undergo a major repair to address surfacing effluent or the failure of a septic tank's structural integrity, and

An existing Tier Zero (0) OWTS which is failing shall be repaired or replaced and any surfacing effluent shall be removed by the owner of the OWTS.

2) The OWTS meets the requirements of an approved Tier Two local agency management program.

All new and replacement OWTS will meet the requirements of this Tier Two City of Rancho Cucamonga Local Agency Management Program (LAMP) for Onsite Wastewater Treatment Systems (OWTS).



Based on the above criteria the City of Rancho Cucamonga will administer the LAMP OWTS for those OWTS within the jurisdiction of the City of Rancho Cucamonga and maintain minimum one-half (1/2) acre lots for those undeveloped parcels of land which require OWTS and those existing OWTS which require repair or replacement.



Septic Systems

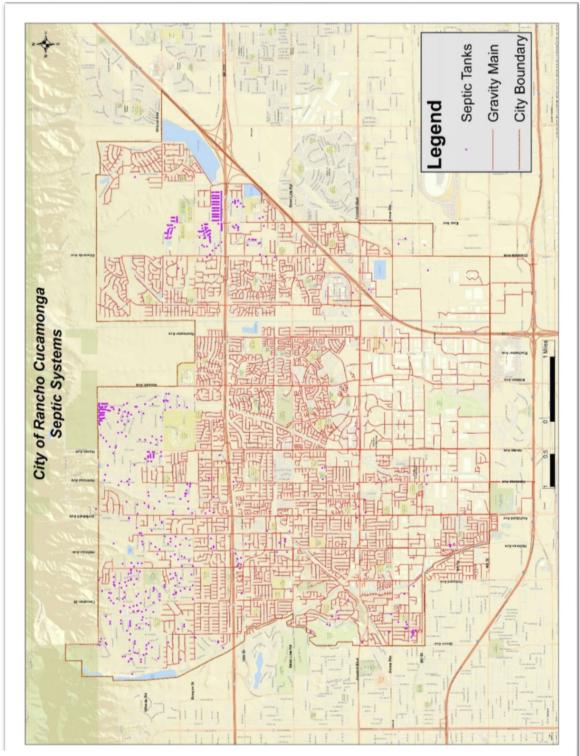


Figure 1.2 OWTS (septic) within Rancho Cucamonga



General Septic Areas



Figure 1.3 General OWTS (septic) Areas within Rancho Cucamonga



Figure 1.4 on the following page shows the location of the public water wells within the City of Rancho Cucamonga. For a larger exhibit see Appendix A.

Also see Potable Water Supply.



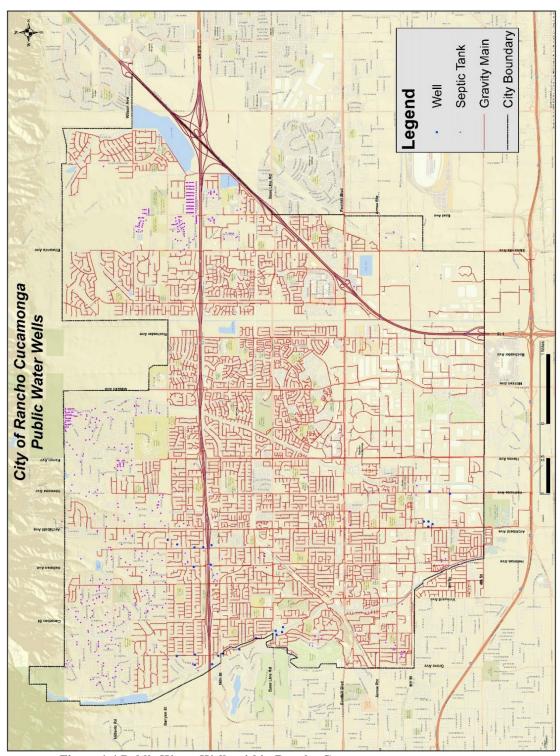


Figure 1.4 Public Water Wells within Rancho Cucamonga



Septic Land Use

Figure 1.5 on the following page was provided by the Cucamonga Valley Water District (CVWD), the local domestic water provider and sewage collection provider for the City of Rancho Cucamonga. CVWD's jurisdiction covers most of the City of Rancho Cucamonga and wholly includes those areas of the City where the onsite wastewater treatment systems (OWTS) are located. Figure 1.5 shows the locations of the OWTS systems within the ground water sheds. It is estimated that about 166 OWTS are remaining which may be constructed under the requirements of this Local Agency Management Program (LAMP) within the water sheds. For a larger exhibit please see Appendix A.



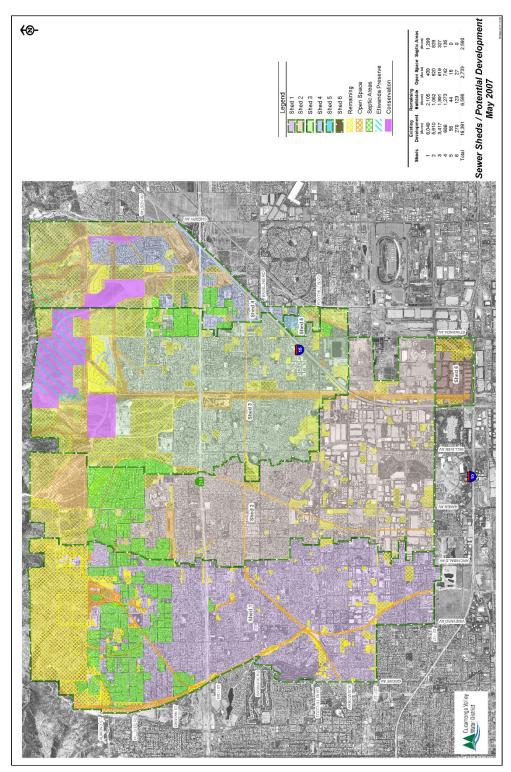


Figure 1.5 OWTS (septic) Land Use Map



City of Rancho Cucamonga Public Sewer Location Map

The red lines in Exhibit 1.6 show the locations of the public sewer mains within the City of Rancho Cucamonga as of the adoption of this document. Please see Appendix A for a larger exhibit.

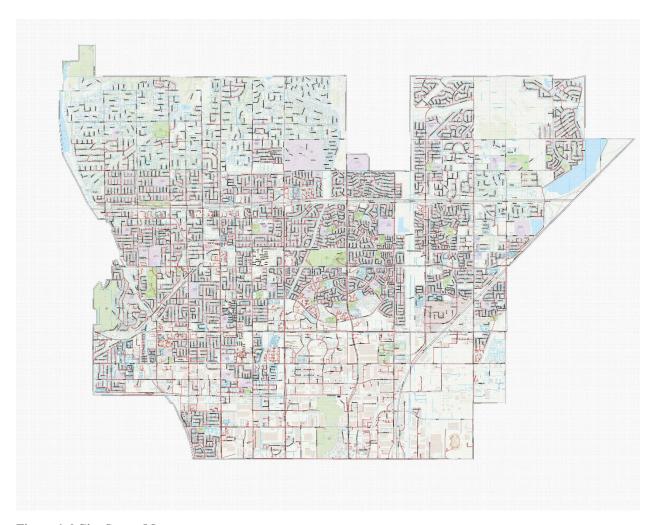


Figure 1.6 City Sewer Map



Organizational Chart

December 2015



BUILDING AND SAFETY SERVICES DEPARTMENT

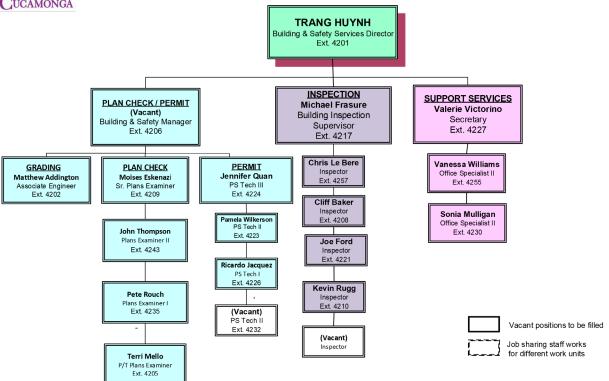
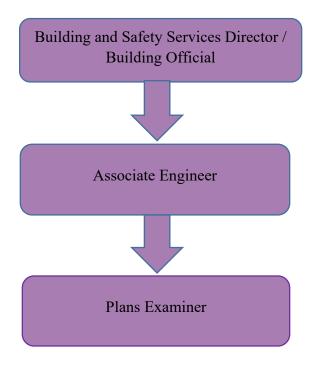


Figure 1.6 City of Rancho Cucamonga Building and Safety Services Department Organizational Chart



OWTS Plan Application Review Flow Chart

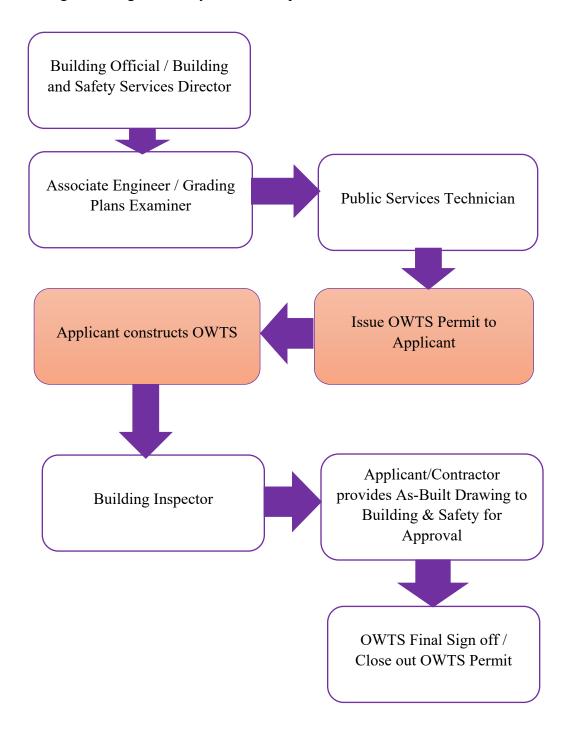
The City of Rancho Cucamonga Building and Safety Services Department does not contract with the San Bernardino County Health Department or the Cucamonga Valley Water District for services. The issuance of septic permits is done under the adoption of Appendix H of the current adopted California Plumbing Code and this adopted Local Agency Management Program (LAMP). The Building and Safety Services Department is headed by the Director of Building and Safety Services/Building Official and the issuance of private sewage disposal permits (as referred to in the current adopted California Plumbing Code)/On-site Wastewater Treatment Systems (OWTS permits as referred to in this LAMP) permits, commonly referred to as septic permits, are issued by the Department Associate Engineer and/or Plan Examiner. This flow chart shows the personnel involved for the review and approval of an OWTS application.





Flow Chart

This flow chart shows the progress from the duties assigned by the Building Official, through permit issuance and construction, to final sign-off of the OWTS permit by the Rancho Cucamonga Building and Safety Services Department.





Definitions

Above Ground Dispersal System

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

Accessory Structures

A subordinate habitable building which is incidental and not attached to the main building or use on the same lot. If an accessory building is attached to the main building or if the roof is a continuation of the main building roof, the accessory building shall be considered an addition to the main building. Includes habitable structures with sanitary sewer plumbing facilities regardless of whether a Building Permit is required, including, but not limited to, barns, guesthouses, second dwelling units, garages, storage buildings/sheds, and pool (swimming) houses/bathrooms.

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.

Biological Oxygen Demand (BOD)

Biochemical oxygen demand (BOD, also called biological oxygen demand) is the amount of dissolved oxygen needed (i.e., demanded) by aerobic biological organisms to break down organic material present in a given water sample at certain temperature over a specific time period..

Building Official

The Building Official for the City of Rancho Cucamonga is the Building and Safety Services Director and is the officer or other designated authority charged with the administration and enforcement of the current adopted California Building Code, or a duly authorized representative.

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.



CCR

California Code of Regulation (CCR, Cal. Code Regs.) is the codification of the general and permanent rules and **regulations** (sometimes called administrative law) announced in the **California** Regulatory Notice Register by **California** state agencies.

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 (3 inches) 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.

Drainage system

Includes all the piping within public or private premises that convey sewage or other liquid wastes to a legal point of disposal, but does not include the mains of a public sewer system or a public sewage treatment or disposal plant.

Effluent



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

Electronic Deliverable Format (EDF)

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

Existing OWTS

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

Grease Interceptor

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

Groundwater

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

High Strength Wastewater

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

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

Mottling

A soil condition that:

- Results from oxidizing or reducing minerals due to soil moisture changes from saturated to unsaturated over time, and/or
- 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/or
- 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 the City of Rancho Cucamonga, and/or
- A conditional use permit, and/or
- Approval, or conditional approval, from the City of Rancho Cucamonga Planning Department, and/or Building and Safety Services Department.

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 Building and Safety Services. 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. This is also referred to as a Private Sewage Disposal System in the current adopted California Plumbing Code and may also be referred to in general vernacular by the public as a "septic system".

Note: OWTS do not include "graywater" systems pursuant to <u>California Health and</u> 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. See Chapter 2.

Permit

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

Projected Flows

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

Public Water System

A system for the provision of water for human consumption, through pipes or other constructed conveyances, that has 15 or more service connections (or regularly serves at



least 25 individuals daily), at least 60 days out of the year. Per <u>California Health and Safety Code Section 116275(h)</u>, 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:

- Professional 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 2.0mm.



• 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, Outside Perimeter

A drilled or dug excavation five (5) to seven (7) feet in diameter with a liner. It is also gravel filled (between the liner and the soil) and receives effluent discharge for dispersal from a septic tank or other OWTS treatment unit.

Seepage Pit Cap

A cover placed on the top of the seepage pit liner.

Septage

Septage, or septic tank sludge, refers to the partially treated sludge stored in a septic tank or (less commonly) in a pit latrine. It is one type of fecal sludge. Septage is a by-product from the pretreatment of household wastewater in a septic tank where it accumulates over time.

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/or
- 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.

Structure

A new separate stand-alone building which is separate from the main structure and does not have a common roof line with the main structure and which requires a plumbing permit.

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.

Tract

For the purposes of this LAMP, a Tract is defined as the development of more than one (1) lot or parcel, and/or more than one (1) structure discharging sewage wastes.

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 <u>California Water Code</u> <u>Section 13260.</u>

Water Quality Control Plan

Refer to the Basin Plan definition.



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 the City of Rancho Cucamonga are governed by the following RWQCB:

• Region 8 – Santa Ana

Region 8 has developed an individualized basin plan. This basin plan provides criteria for the installation of OWTS, affected waterways and prohibition areas within Region 8. This criterion is used to determine which sites may need RWQCB approval.



Figure 1.7 Region 8 Santa Ana



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 categorized OWTS into the following tiers:

Table 1

Tier Description

- O 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.
- 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.
- Applies to any new and/or replacement OWTS which do not fall into the Tier 3 <u>adjacent</u> to impaired waterways, or in prohibition areas category. This tier is referred to as the LAMP and allows the City to apply standards that differ from the State.
- Describes all systems currently located <u>within</u> areas denoted as impaired waterways. These systems have been identified as potential sources of pollution and need to abide by the Advanced Protection Management Program prescribed in Tier 3 of the <u>OWTS</u> Policy.
- 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

City Development

The City of Rancho Cucamonga is approximately 80% built out with potential areas of development throughout the City. As a majority of the City is currently served by a public sewer collection system, small pockets of the City are available for development which will require an OWTS. Those locations are primarily in the northwest area of the City; the northeast area of the City; the southeast area of the City known as the "Whittram" area and is mostly industrial uses; and the western area of the City known as the "Redhill" area with those homes which have slopes which drain to the Redhill Country Club requiring an OWTS.

The typical high historic water depths in the City range from about 10-feet below the surface in the very northerly areas of the City to about 300-feet below the surface in the southerly areas of the City. Each project will have the depth to the water table determined from the San Bernardino County Storm Water Facility Mapping Tool and is available on-line to the public through the San Bernardino County Public Works Department.

The development, entitlement process and the permitting process is further discussed in <u>Chapter 4</u> – On-site Wastewater Treatment Systems Permitting Process and Design Criteria – Procedures and Requirements for the Permitting Process.



The City does have development on slopes greater than 20%. These areas are primarily in the northwest area and the Redhill area of the City. The City's adopted Development Code provides for the following:

Slope Zone 4 (15% to 29.9%). Development within this zone is limited to no more than the less visually prominent slopes and then only where it can be shown that safety, environmental, and aesthetic impacts can be minimized. The use of larger lots, variable setbacks, and variable building structural techniques such as stepped or pole foundations are expected. Structures shall blend with the natural environment through their shape, materials, and colors. Impact of traffic and roadways is to be minimized by following natural contours or using grade separations.

And,

Slope Zone 5 (30% and over). This is an excessive slope condition and development is prohibited, unless all the following are satisfied: (i) the property is located south of Banyan Street; (ii) at least seventy-five percent (75%) of the lots or parcels that are the subject of the development application are surrounded by lots or parcels improved with structures; (iii) the proposed project is determined to appropriately address slope stability and other geological factors of the site; and (iv) vegetation fuel management for wildfire protection can be achieved and maintained.

Slope Setbacks

See <u>Chapter 3</u> for siting of leach line systems on slopes of 25% or greater, and <u>Chapter 9</u> for Dimensions and Construction Requirements for vertical seepage pits. See <u>Chapter 10</u> for Dimensions and Construction Requirements for horizontal seepage pits.

LAMP Needs

With development in areas of the City of Rancho Cucamonga continuing to grow, and with nearly 10% of housing units using OWTS, the requirements defined by Tier 1 of the OWTS Policy do not meet the future development needs of the City of Rancho Cucamonga. The LAMP specifically addresses waste water issues, City 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 incorporated areas of the City of Rancho Cucamonga. The LAMP includes general technical information regarding construction needs within the City, as well as provides an effective means to manage OWTS on a routine basis.

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 the property improvement will generate wastewater, the property owner must demonstrate the following to City of Rancho Cucamonga Building & Safety Services Department 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).
- For new industrial/commercial developments utilizing septic tank-subsurface disposal systems, the wastewater flow for each one-half acre gross area of land may not exceed that from a three-bedroom, two-bathroom single-family dwelling unit. For determining compliance with this criterion, a flow rate of 300 gallons per day shall be considered as the flow equivalent to that from a 3-bedroom, 2-bathroom single family dwelling unit. Exemptions will not be granted for industrial/commercial parcels less than gross one-half acre in size.
- 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 City of Rancho Cucamonga.



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.

In addition to all standards and requirements, all proposed, and/or currently installed OWTS must be in compliance with other City adopted construction codes.

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.

Contact Information

This section provides contact information for Region 8 RWQCB and the City of Rancho Cucamonga which can provide additional guidance regarding OWTS in City of Rancho Cucamonga.

Santa Ana Region (8) 3737 Main Street, Suite 500 Riverside, CA 92501-3339 (951) 782-4130 www.waterboards.com

City of Rancho Cucamonga Building & Safety Services Department 10500 Civic Center Drive Rancho Cucamonga, CA 91730 (909) 477-2710

BuildingandSafety@cityofrc.us

Attention: Building and Safety Services Director/Building Official



Involved Agencies

Oversight of OWTS installation and maintenance is a multiple agency effort. This section provides an overview of the primary agencies involved in the City of Rancho Cucamonga.

Building and Safety Services Department

The department 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 Services Department to the RWQCB annually for new, replacement and/or repaired OWTS:

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

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 Building and Safety Services Department, nor does it guarantee issuance of an OWTS permit.

This department is also 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 Services Department 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.



- 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 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. See CHAPTER 6 and CHAPTER 9 for additional information when a percolation test is exempt.

Percolation Testing

The City of Rancho Cucamonga Building and Safety Services Department will require percolation testing for all new septic systems for non-residential development and for residential development of more than 1 home/dwelling unit where a percolation report has not previously been completed. For a one-lot custom single family home, the home owner may use the current adopted California Plumbing Code, Appendix H – Private Sewage Disposal Systems, Section H 3.0 – Area of Disposal Fields and Seepage Pits, and the included Table H 2.1(2) – Design Criteria of Five Typical Soils for the design of the seepage pit or the leach field. Through policy and handouts for City customers, the City has adopted the following design criteria for leaching area into the soil.

For the areas of the City which are primarily Sandy Loam or Sandy Clay a field design of 60 square feet per 100 gallons as shown on Figure 2.1

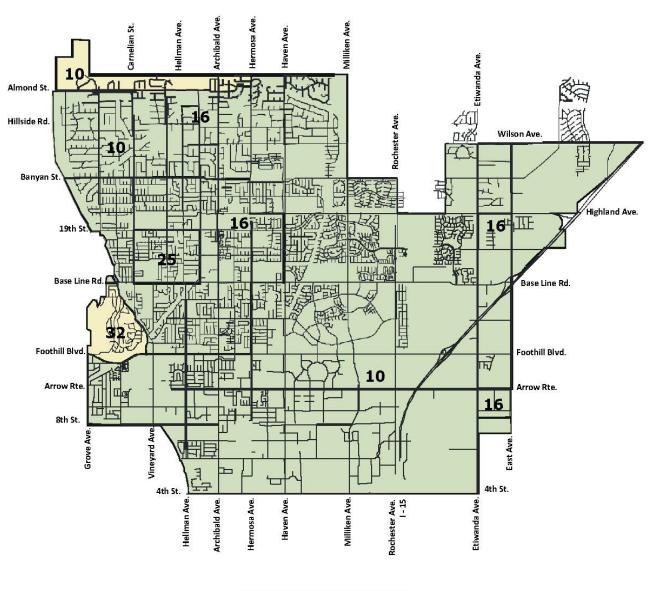
For the areas of the City which are primarily Clay with considerable sand or gravel a field design of 90 square feet per 100 gallons as shown on Figure 2.1.

This section provides information regarding the site evaluation, percolation testing notification, percolation testing, and information regarding when seepage pits are allowed.



Soil Type Map

CITY OF RANCHO CUCAMONGA



LEGEND	
	90 SQ. FT./100 GAL.
	60 SQ. FT./100 GAL.

Figure 2.1



Site Evaluation

Prior to reviewing a percolation test, and approving the use of an OWTS, Building and Safety Services 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) may submit a **Notification of Percolation Test**, to Building and Safety Services at least two business days prior to performing any percolation test in the incorporated areas of the City of Rancho Cucamonga. When a percolation test notification is submitted for a lot which required a site evaluation or a percolation report without prior inspection, the Building and Safety Services Department will conduct the following inspections for a lot evaluation:

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

Prior to the site evaluation, Building and Safety Services staff will contact the applicant to inform him/her of the site evaluation date and applicable fees shall be assessed prior to issuance of the permit.

Percolation Testing

Building and Safety Services 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
 - Results 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, in the proposed known area.

Seepage Pits

The use of seepage pits, as a dispersal field, may be allowed in instances where leach lines are not feasible, and minimum separation requirements to groundwater are met. The Building and



Safety Services Department requires there be a 10-foot minimum separation from the bottom of the seepage pit to ground water. When the percolation rate is less than 10 minutes per inch (MPI), the following must occur to ensure proper infiltration:

- 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.

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.

Table 2-1

OWTS Service	Minimum Qualifications
Alternative Treatment System Inspection and Monitoring	Manufacturer Certified Wastewater Maintenance Provider
OWTS Design OWTS Certification	 Qualified Professional, or Licensed Contractor (Class A, C-36, or C-42)
Percolation Test	Qualified Professional
Septic Tank Pumping & Reporting	Building and Safety Services 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 <u>19826</u> 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 Services Department when preparing plot plans and grading plans.

Plot Plans

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

• Include the property, drawn to the following minimum scales:



- 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.

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, if approved by the City of Rancho Cucamonga Planning Department and Building and Safety Services Department.

Grading Plans

Depending on the scope of grading for a project, City of Rancho Cucamonga Planning Department may require a conceptual grading plan and Building and Safety Services may require a grading plan. If a grading plan is required it should be included with the percolation report submittal. A grading plan helps Building and Safety Services 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 the Cucamonga Building and Safety Services Department.

Table 2-2

If	Then
It is unknown if a grading plan is not required,	 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).
The grading plan was prepared for a previous project on the same site,	Comment in regards to the recommendations set forth in the percolation report.





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CHAPTER 3

Siting Standards

To ensure that Onsite Wastewater Treatment Systems (OWTS) do not adversely affect water quality, the government agencies tasked with protecting the public's health 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 <u>California Plumbing Code</u>, 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 City [as described in <u>Chapter 14 - LAMP Scope of Coverage</u> 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 (feet)	Septic Tank	Disposal Field	Seepage Pit
Non-Public Water Supply Well ^{1,8}	⁸ 100	100^{2}	150^{2}
Public Water Supply Well ¹	100	150^2	200
Buildings or Structures ³	5	8	8
Property line, including Street Right of Way Line	5	5	8
Streams and other flowing bodies of water ⁹	100	100	150
Drainage Course	50	50	50
Lakes, ponds, and other surface water bodies ¹⁰	200	200	200
Large Trees ⁴	10	-	10
Seepage pits, Outside Perimeter	5	5	12
Disposal field, on Center	5	10^{6}	5
On-Site domestic water lines (building service line)	5	5	5
Public Domestic Water Lines	25	25	25



Minimum Setback Required From (feet)	Septic Tank	Disposal Field	Seepage Pit
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,: http://permitrack.sbcounty.gov/wap/
- 6. Plus 2 feet for each additional foot of depth in excess of 1 foot below the bottom of the drain line.
- 7. For any system utilizing Alternate Treatment System and Sewage Holding Tank (Chapter 11), this minimum separation may be reduced to 2 feet with approval under the Advanced Protection Management Program (APMP) (refer to Chapter 12: Tier 3 Advanced Protection Management Program for Impaired Areas 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.

Slope Setback Requirements

On sites with natural slopes of 25% (4:1) or greater, the siting and the design of the leaching system shall be performed by recommendations from a Professional Geotechnical Engineer. The permitted grading plan and the permitted OWTS (a septic plan) shall be prepared by a Professional Civil Engineer and shall follow the recommendation in the Geotechnical report prepared by a Professional Geotechnical Engineer.

Minimum Set Back Requirements

When reviewing setback requirements,



- Depth of earth cover required over the dispersal field is twelve (12") 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 <u>Table 3.1</u> 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 (such as Cucamonga Canyon maintained by the Cucamonga Valley Water District).
- The Building and Safety Services Department 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 3-2

Step Action

- 1. 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).
- 2. Determine if a proposed or existing OWTS location is within the required setbacks

Then... Cannot be relocated and is within: The required horizontal setback of a public well, or 1,200 feet of an intake point. The required setbacks have not been met. They have five (5) business days from the receipt of the



Step Action

application to provide recommendations, and comments to Building and Safety Services Department.

- Refer to the section Notifiying Water System Owners and the Division of Drinking Water (DDW) for notification requirements.
- Proceed to step 5.

Is not within:

- The required horizontal setbacks of a public well, or
- 1,200 feet of an intake point.

Is suspected to be within the required setbacks, and the location of the public water source cannot be verified.

The OWTS will continue to be reviewed based on the requirements in the LAMP, and will not need to meet the additional setbacks.

The Building and Safety Services Department 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.
- 3. 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.
- 4. 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.



Step Action

5. Determine if the proposed OWTS location is approved:

If the location is	Then Building and Safety will
Approved	 Refer the customer to Building and Safety Services Department to complete the plot plan review, or Complete the percolation report review.
Not Approved	• Inform the customer he/she will need to install an alternative treatment system. The alternative treatment system shall be approved by the Building and Safety Services Director prior to the issuance of any building permits.

Horizontal Sanitary Setbacks for Public Wells

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

Table 3-3

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.

Density/Minimum Lot Size Requirements

The City of Rancho Cucamonga has minimum lot size requirements for subdivisions of property, which rely on OWTS. A minimum lot size of one half acre (21,780 square feet), average gross, per dwelling unit, including accessory structures, is required for all new developments, which do not have access to a public sewer. This section provides definitions for a new development, as well as an explanation of the requirements for various development types located within the incorporated areas of the City. The City of Rancho Cucamonga Development Code requirement for the Very Low Residential Zone (1/2 acre) which has a minimum lot size of 20,000 square feet (net lot area), and a minimum average of 22,500 square feet (net lot area). The addition of



the public street area to the net lot area will be considered sufficient to meet the minimum ½-acre gross lot size for OWTS.

Lot Size Requirements

The City of Rancho Cucamonga has a minimum lot size requirement for lots proposed to be created and developed based on the use of an OWTS as provided by SWRCB Resolution No. 89-157. The average density for any subdivision of property made pursuant to the Subdivision Map Act proposing to use OWTS shall not exceed density of 2 units per acre, for a single-family dwelling (SFD), or its equivalent, without additional studies completed by a qualified professional demonstrating no adverse impacts to groundwater quality will occur. Lots created for commercial developments with flows that exceed those of a SFD will also require such studies. Where those studies show there will be impacts to groundwater quality that exceed the RWQCB Basin Plan standards, any proposed development must utilize an OWTS with supplemental treatment as per Alternative Treatment System Requirements of this LAMP to mitigate those impacts or lot sizes shall be increased to eliminate any adverse groundwater impacts. Where zoning regulations require greater lot sizes, those regulations shall take precedent.

Lot Size Exemptions

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 for the first lot + ($\{10 \text{ lot -1 lot =}\} 9 \text{ lots x 100 feet per lot})$] = 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.

Minimum Lot Size Exemptions

The minimum lot size requirements do not apply to existing properties with OWTS which were installed prior to the effective date of the LAMP. This section details when exemptions apply to the minimum lot size requirement for new and/or existing developments.



Single Family Residential Developments for Additions and Accessory Structures

For single family residential developments with an addition, including accessory structures, when the existing septic system will accommodate additional wastewater flows. Additional installations (i.e., rooms, bathrooms or accessory structures) will not be exempt from the minimum lot size requirements. A septic certification may be required to verify the septic tank's and disposal field's capacity to accept additional wastewater flows.

When additional structures (accessory 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.

OWTS Systems 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 Services Department.

For single family residential developments only, replacement of the existing septic tank/ subsurface disposal system may be allowed when the system is proposed and capable to allow additional flows, which result from additions to the existing dwelling unit.

Tracts, Parcels, and Commercial/Industrial Developments

Tracts, parcels, and/or commercial/industrial developments which received land use approval from the City of Rancho Cucamonga prior to the effective date of the LAMP, are exempt from the minimum lot size requirements and shall not be less than one-half (1/2) acre per this chapter for the use of septic tank/subsurface disposal systems.

Combined Lots Smaller than One Half Acre

New lots, which are smaller than one-half acre, may be formed by combining through a lot merger 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 caseby-case basis, and will require the approval of Building and Safety Services, and the RWQCB.





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Onsite Wastewater Treatment Systems Permitting Process and Design Criteria

This Chapter describes how OWTS are reviewed and permits issued in the City of Rancho Cucamonga. This chapter also summarizes key design criteria for these systems. This document relies on and should be read together with Chapter 5 of this LAMP "Groundwater Separation Requirements for Onsite Wastewater Treatment Systems."

Procedures and Requirements for the Permitting Process

The City of Rancho Cucamonga OWTS permitting process includes the steps set out below:

A percolation test may be required when:

- Grading or other soil disturbance has occurred in the proposed OWTS location;
- The applicant choose to not use the City of Rancho Cucamonga standard percolation rates.

The City of Rancho Cucamonga approval of a percolation test design expires after one year, however the test data remains valid and may be used later to design and size an OWTS for a project

- 1. If a percolation test is needed, the applicant should submit a percolation test and design as performed by a registered civil engineer, registered geologist licensed by the State of California Board of Professional Engineers. Land Surveyors and Geologist for City of Rancho Cucamonga approval.
 - Note: Grading or clearing of brush for the purposes of completing a percolation test may require approval of the City of Rancho Cucamonga Planning Department and requires the implementation of wind and storm water erosion best management practices.
- 2. With percolation test data and other data in hand, the applicant must develop and submit a Layout Design for the proposed building project and specific OWTS, for review by the City of Rancho Cucamonga Building and Safety Services Department. The Layout Design must take percolation test data and this guidance into account. See below, "The Layout Design" for additional information on submission requirements.
- 3. After review, if it appears likely that the proposed OWTS can be permitted at the site, City of Rancho Cucamonga Building and Safety Services Department will provide an approval for the Layout Design. The City may require additional testing before providing this approval. In some cases, this additional testing will include depth to groundwater measurements during a normal average rainfall year. This may delay the City of Rancho Cucamonga Building and Safety's approval for a year or more, or



applicant may use the depth to ground water value in the computer program provided by the County of San Bernardino at Stormwater Facility Mapping Tool. In some cases, the City of Rancho Cucamonga Building and Safety may conclude that a conventional or alternative OWTS cannot be safely used on the lot. Because of the potential for delays or disapproval, City of Rancho Cucamonga Building and Safety recommends that applicants submit a Layout Design and obtain an approval before incurring costs for detailed building plans and architectural fees. The approved layout will state whether a field check of completed grading by the City of Rancho Cucamonga Building & Safety Services is required. The Approval Sheet expires after one year.

- 4. Typically, City of Rancho Cucamonga will require submission of preliminary plans and applications to the Planning Services Department before any grading or building permits are issued for new developments.
 - Some projects will require grading permits and some will not. Requirements for grading permits in the City of Rancho Cucamonga are discussed briefly below (<u>Layout Design</u>). Approved layouts and OWTS permits are not grading permits.
- 5. Building plans, bearing the appropriate stamp which documents plan submittal to the City of Rancho Cucamonga, must be submitted to the Building and Safety Services for review of these plans to ensure that they correspond to the project described in the approved Layout Design.
- 6. If the City of Rancho Cucamonga does not require a grading permit, and the requirements set out above have been met, a permit to construct the OWTS will be issued. This permit expires after one year.
- 7. If the City of Rancho Cucamonga requires submission of a grading plan the grading plan must be submitted to the City of Rancho Cucamonga Building and Safety Services for review and approval before grading actually begins. The City of Rancho Cucamonga Building and Safety Services will review the grading plan to verify that it is in agreement with the approved Layout Design.
- 8. Once the permit to construct the OWTS, has been obtained, the OWTS can be installed. The system must be inspected by the City of Rancho Cucamonga Building and Safety Services before the system is backfilled. Appropriate best management storm water practices must be implemented as needed. If that inspection is satisfactory, the City of Rancho Cucamonga Building and Safety Services will sign off on ("final") the OWTS permit. Occasionally, the City of Rancho Cucamonga Building and Safety Services will hold final approval on the OWTS permit pending specific conditions to be met.
- 9. A copy of the OWTS plans for the permit will be scanned and filed electronically by City Staff.
- 10. The City of Rancho Cucamonga Building and Safety Services require that the OWTS inspection be completed and the OWTS permit be made final by the City of Rancho



Cucamonga Building and Safety Services before occupancy permits are issued. As part of the completion process the contractor or permit applicant shall file an As-Built OWTS plan with the Building and Safety Services Department. If the system was constructed to plan without any changes, the contractor/permit applicant may send an email to the Associate Engineer in the Building and Safety Services Department stating that the project was constructed per plan.

The Layout Design

A layout design of the proposed building construction and OWTS is required. This drawing should be prepared using standard engineer's scale on 8.5" x 11" or 11" x 17" minimum size paper. The basis for the OWTS design will be from percolation testing data and/or conditions of approval from a recorded subdivision map, parcel map, boundary adjustment, or certificate of compliance. The size of the OWTS is a function of the anticipated peak sewage flow based on the number of bedrooms, dwellings or use, and the percolation rate of the soil on the site.

The layout design should contain the following information: * = Required Information

- *Site Address;
- Tax Assessor's Parcel Number;
- *Owner's Name, mailing address, and phone number;
- *Consultant's/Contractor's name, mailing address, and phone number;
- *Type of proposed construction (residential vs. commercial);
- *Number of existing or proposed bedrooms;
- *Purpose of project (e.g. new dwelling, new structure, guesthouse, an addition, etc.) Specify scope of work;
- Legal Basis of parcel (map and lot number);
- *Vicinity Map, Scale, North arrow, Thomas Bros. Map coordinates;
- *Property Lines and lot dimensions;
- Topographical lines and elevation points (pad, floor, top leach line, etc);
- *Percent slope and direction of fall;
- *Proposed OWTS design detail;
- Proposed grading with 5:1 setbacks shown along with any impacts to the site and/or adjacent property. Include energy dissipaters for pad drainage;
- *All known, recorded easements on or within 20 feet of lot boundaries (open-space, utility, road, waterline, etc.);
- *Identify source of potable water;
- *Location of all public waterlines on or within 20 feet of property;
- *Location of all wells on or within 200 feet of property;
- Any soils testing information, such as deep borings or percolation tests, plotted on the design.



The layout or percolation test design approval is valid for 180 days for the plan review with the option of obtaining one 180 day extension. The soils testing data does not expire and will be valid in the use of the system design, unless site conditions change. If a site review reveals any evidence of groundwater changes, including but not limited to; plant growth, ponding water, new information on adjacent lots or OWTS failures in the area, additional groundwater test borings may be required. The Building and Safety Services staff will specify the depth and the locations of the additional test borings in consultation with project qualified professional.

- If groundwater is observed in the borings and/or Building and Safety Services has reason to believe that groundwater could rise to an unacceptable level which would not meet the minimum separation requirements during the course of a normal rainfall season, a permit will not be issued and monitoring may be required. Monitoring must be conducted during the course of a normal rainfall year when full groundwater recharge has occurred.
- The qualified professional must support their express conclusion that the highest anticipated groundwater elevation will not encroach upon the minimum separation from the bottom of the proposed OWTS. The supporting data shall include, but not be limited to, data on the sites topography, soils, geology, basin studies, hydro geologic studies, and groundwater-monitoring data from the onsite and offsite observation wells through a normal rainfall year. For more information, see Chapter 5 of this LAMP.

Information on the layout shall also include the OWTS certification found in one of the handouts available for private sewage disposal systems found on the City of Rancho Cucamonga Building and Safety's webpage: It only provides a basis on which to size the onsite wastewater system. A previously approved, valid layout must reflect the current proposed development of the parcel including dwelling size and location, grading and any recent off-site impacts that may affect septic system siting; otherwise, a field review will be required.

Primary and Reserve Area Requirements

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

Percolation rates in excess of 120 minutes per inch demonstrate impermeable soil that should not be considered suitable for an OWTS, as this will have a high probability of premature failure.

Septic Tanks

All conventional OWTS require the use of a septic tank to allow for the removal of solids in the wastewater prior to being discharged to the dispersal field. Alternative OWTS will also require a septic tank unless a settling chamber is a component of the treatment unit. For specific information on the requirements for and sizing of septic tanks, see Chapter 7 - Septic Tanks of this LAMP.



OWTS Disposal Systems

Dispersal systems for conventional OWTS in the City of Rancho Cucamonga can consist of leach lines, horizontal seepage pits and vertical seepage pits. Dispersal systems for alternative OWTS can also include subsurface drip dispersal systems. See the chapters on leach line, horizontal seepage pit, vertical seepage pit and subsurface drip dispersal systems for more specifics on sizing and design criteria for those systems.

Setbacks

Setbacks in layout designs refer to the required spacing in distance from components of the OWTS and to structures, property lines, easements, watercourses, wells, or grading. Specific setback requirements will vary based on the type of system design and site conditions and are specified in the following table.

Table 4-1

System Component ⁸	Setback	Minimum Distance
Septic Tank	Structure	5 feet
Septic Tank	Property Line, including the street/public right-of-way	5 feet
Septic Tank	Water Well	100 feet
Septic Tank	Leach Lines	5 feet
Septic Tank	Seepage Pits	5 feet
Leach Lines	Structure	8 feet
Leach Lines	Property Line, including the street/public right of way	5 feet
Leach Lines	Water Well	100 feet ¹
Leach Lines	Leach Lines	10 feet center to center distance (see Table 3-1, Note 6)
Leach Lines	Seepage Pits	5 feet
Leach Lines	Water Mains (Public)	25 feet or 10 feet from edge of easement
Leach Lines	Drainage Course	50 feet from centerline or top of bank ⁷



System Component ⁸	Setback	Minimum Distance
Leach Lines	Flowing Stream/Creek	100 feet from edge of flow line or top of bank
Leach Lines	Pond or Lake	100 feet from high water line
Leach Lines	Water Supply Reservoir	200 to 400 feet from the high water line ²
Leach Lines	Aqueduct	5:1 setback to pipeline ³
Leach Lines	Road Easements / Right-of- Way	5 feet from edge of ultimate easement width ⁴
Leach Lines	Cut Slopes	5:1 setback from top of cut slope ⁵
Leach Lines	Private Utility Trenches	5 feet ⁶
Leach Lines	Ground Water	5 feet (vertical)
Seepage Pits	Structure	8 feet
Seepage Pits	Property Line, including the street/public right of way	8 feet
Seepage Pits	Water Well	150 feet ¹
Seepage Pits	Seepage Pits	12 feet from edge of excavation
Seepage Pits	Water Mains (Public)	25 feet or 10 feet from edge of easement
Seepage Pits	Drainage Course	50 feet from centerline or top of bank ⁷
Seepage Pits	Flowing Stream/Creek	100 feet from edge of flow line or top of bank
Seepage Pits	Pond or Lake	100 feet from spillway elevation
Seepage Pits	Water Supply Reservoir	200 to 400 feet from the high water line ²
Seepage Pits	Aqueduct	5:1 setback to pipeline ³
Seepage Pits	Road Easements / Right-of- Way	8 feet from edge of ultimate easement width ⁴
Seepage Pits	Cut Slopes	5:1 setback from top of cut slope ⁵
Seepage Pits	Private Utility Trenches	5 feet ⁶



System Component ⁸	Setback	Minimum Distance
Seepage Pits	Ground Water	10 feet (vertical)

- 1. The minimum setback required to a public water well is 150 feet and increases to 200 feet where the depth of the dispersal system exceeds 10 feet in depth. The minimum setback may be increased if site conditions show the minimum setback is insufficient to protect groundwater supplies.
- 2. Where the dispersal system is within 1200 feet of surface water intake point, the setback shall be 400 feet. Where the dispersal system is greater than 1200 feet of the surface water intake point, the setback shall be 200 feet.
- 3. Maximum setback of 100 feet. A reduction in setback to 50 feet may be considered with engineering to demonstrate no risk of sewage moving laterally to pipeline trench.
- 4. The setback may increase if the 5:1 setback to a road cut is greater than the minimum setback.
- 5. This maximum 100 foot setback would also be applied to the top of an eroded bank or natural slope in excess of 60%. A reduction in setback to 50 feet may be considered with engineering to demonstrate no risk of sewage surfacing on the face of the bank or slope.
- 6. For trenches less than 2 feet in depth, a 5:1 setback based on the trench depth can be used.
- 7. Setback increases to a 5:1 setback if drainage is greater than 10 foot in depth.
- 8. Refer to <u>Table 3-1</u> for other references.

Grading Plan Review

Upon approval of a layout by the City of Rancho Cucamonga's Building and Safety Services Department, the City staff will indicate on the layout approval form whether a field check of completed grading is required prior to issuance of the OWTS permit. The City of Rancho Cucamonga Building and Safety Services grading approval is not the same as the Planning Department's land use agency grading approval

Major and minor grading plans will be reviewed by the City of Rancho Cucamonga Building and Safety Services prior to grading to determine impacts to the approved OWTS and adjacent properties. After completion of the grading, the City of Rancho Cucamonga Building and Safety Services must be contacted to arrange for a field check, unless the field check of completed grading is waived on the layout approval.



Building Plan Review

The City of Rancho Cucamonga Building and Safety Services recommends that you obtain approval of your OWTS prior to expending funds for a final set of architectural plans for your home or structure. Plans for a new or second dwelling must be submitted to the Planning Services Department for processing and approval. Upon submittal of the plans, the owner/agent shall meet staff at the City of Rancho Cucamonga Building and Safety Services counter for a verification of bedrooms and plot plan concurrence with the approved layout. Bedrooms are used to determine the potential occupancy of a dwelling and therefore the potential amount of wastewater that will be generated.

Guidelines for Determining the Number of Bedrooms

- 1. Once the living room, dining room, family room, kitchen, bathrooms, and utility rooms have been established, all other rooms shall be considered as potential sleeping rooms. Dens, libraries, studies, weight rooms, sewing rooms, workshops, etc., shall be determined as bedrooms if they do not conform to the criteria listed below.
- 2. All other habitable rooms totaling at least seventy (70) square feet in size are to be considered bedrooms suitable for sleeping purposes, regardless of whether or not they contain closets or have access to a bathroom.
- 3. Rooms that open to a living room, dining room, family room, kitchen, or entry way, and have a single, un-obstructive opening (no doors) with a minimum 50% opening of the total wall space (minimum 6' wide) with archways or other acceptable means shall not be considered as bedrooms, due to the lack of personal privacy presented by the opening.
- 4. Rooms that can only be accessed through another bedroom are to be considered part of that bedroom, such as master suite and not an additional bedroom.
- 5. In the case of an ambiguous situation, where it is not clear as to whether or not a room is a bedroom, the plans may be re-reviewed on a case-by-case basis.
- 6. Any cases, which will require the relocation or modification of doorways, are to be reviewed and approved by the Planning Department and Building and Safety Services to address any structural considerations such as load bearing walls. This is to be done prior to approval or sign-off by the City of Rancho Cucamonga Building and Safety Services.

Potable Water Supply

The City of Rancho Cucamonga Building and Safety Services will require proof of a potable water supply that will serve the proposed development. A public water supply should be confirmed with proof of a service availability letter from the Cucamonga Valley Water District (CVWD), or a water bill showing the property is served by a local water agency. The use of any new domestic water well will require proof of potability and be subject to reviews and approvals by all agencies involved. A copy of the Well Laboratory Report that indicates the absence of



bacteria and nitrate contamination of less than 10 mg/l of Nitrate-N or 45 mg/l of nitrate will be necessary for proof of potability of a private well. The date of the test cannot be more than one year old. If a valid test does not exist, the well must be sampled by client's consultant for bacteriological and nitrate levels. Hand-dug water wells will not be accepted as a potable water supply.

OWTS Permit Issuance

When all applicable items above have been completed to the satisfaction of the City of Rancho Cucamonga Building and Safety Services, an OWTS installation permit can be issued to the owner/agent or to a contractor with the required license(s) from the City of Rancho Cucamonga Building and Safety Services. The permit is valid for 180 days with the option of obtaining one 180-day extension and allows for the inspection of the completed OWTS installation by the City of Rancho Cucamonga Building and Safety Services staff prior to backfilling any portion of the installation.

In order to make the OWTS permit processing as smooth and efficient as possible, it is recommended that the applicant maintain a record of all paperwork and project control numbers obtained from each Department.





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CHAPTER 5

Wastewater Treatment Systems

This Chapter is to be used for determining groundwater levels when siting and designing onsite wastewater treatment systems (OWTS) with the purpose to:

- Protect the groundwater quality by ensuring proper treatment of the sewage effluent prior to its entering into the groundwater.
- Protect the public health from failing OWTS caused by high groundwater.
- Provide a methodology for the evaluation of potential building sites using OWTS with regards to maintaining minimum groundwater separation requirements with the use of an OWTS.

The SWRCB requires that at least a five-foot separation be maintained between the bottom of a conventional OWTS disposal system and the highest anticipated groundwater level for leach fields and 10 feet for seepage pits. For OWTS with supplemental treatment, the required separation can be reduced to no less than two feet. This reduction is allowed due to the level of pretreatment provided by the supplemental treatment.

Groundwater typically fluctuates seasonally depending on local geology and rainfall amounts. In certain areas dependent on imported water and OWTS, Chino Basin Water Master has observed rising groundwater levels. Groundwater levels fall in response to drought and well extraction, and rise in response to rainfall and in some cases, increased irrigation, agriculture and residential development.

OWTS failures due to high groundwater result in sewage effluent backing up into homes and surfacing on the ground creating public health hazards, and can contribute to the contamination of potable groundwater resources.

Procedure for Groundwater Determination for Discretionary Projects

Subdivisions, parcel maps, boundary adjustments, certificates of compliance and percolation tests are all projects that may require the City of Rancho Cucamonga Building and Safety Services to certify that each lot can support an OWTS that will not violate the RWQCB mandates. To meet this requirement, test borings and/or piezometers for monitoring groundwater in conformance with this policy may need to be installed. Maps showing the location of the borings and their logs shall be submitted to the City of Rancho Cucamonga Building and Safety Services. The applicant, project engineer, or geologist must determine the actual and potential high groundwater levels in the area of the proposed OWTS at the time of submittal for review by



the Building and Safety Services, or may use the San Bernardino County web based program Stormwater Facility Mapping Tool.

The qualified professional, must support their expressed conclusion that it is unlikely that seeps or springs would develop as a results of the OWTS and the high historic groundwater elevation will not encroach upon the minimum separation required between the bottom of the proposed OWTS and the highest anticipated groundwater level.

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

Existing Lot OWTS Design Review

- 1. If this site review reveals any evidence of groundwater changes, including but not limited to; plant growth, ponding water, or OWTS failures in the area, additional groundwater test borings may be required. The City of Rancho Cucamonga Building and Safety Services staff will specify the depth and the locations of the additional test borings in consultation with the qualified professional in charge of the project.
- 2. When groundwater is observed in the borings and the City of Rancho Cucamonga Building and Safety Services has reason to believe that groundwater could rise to an unacceptable level during the course of a normal rainfall season, monitoring may be required to determine that groundwater will not rise to an elevation that will not provide the minimum separation required from the bottom of the proposed OWTS. Monitoring, if required, must be conducted during the course of an above average annual rainfall year and/or when full groundwater recharge has occurred.
- 3. When groundwater is not observed in the boring but there is evidence of past high groundwater levels, such as documentation of groundwater rise on adjacent properties, monitoring may be required.
- 4. If there is a dry boring, there is not a known history of rising groundwater and there is no evidence of groundwater changes, including but not limited to; plant growth, ponding water, or OWTS failures in the area the project will be able to move forward.
- 5. The qualified professional conducting the groundwater study must support their express conclusion it is unlikely that seeps or springs would develop as a result of the OWTS and the anticipated high groundwater elevation will not encroach upon the minimum separation required to the bottom of the proposed OWTS. The supporting data shall include, but not be limited to, data on the sites topography, soils, geology, basin studies, hydro-geologic studies, and groundwater-monitoring data from the on-site observation wells through an above normal rainfall year.



Testing Procedures for Groundwater

- 1. Test borings in the area of an OWTS shall extend to a minimum of 15 feet unless refusal is reached. Deeper depths may be required depending on site-specific conditions as determined by the City of Rancho Cucamonga Building and Safety Services or the project qualified professional. Site-specific conditions may include, but not be limited to; the proposed depth of the system, local geology, soil types encountered, elevation and terrain, features on site, evidence and/or knowledge of historic ground water levels in the area, and the anticipated fluctuation of the groundwater table in times of normal to above normal annual rainfall.
- 2. Test borings in the area of a vertical seepage pit or horizontal seepage pit system shall extend to at least 10 feet deeper than the bottom of the proposed pit(s).
- 3. Since groundwater does not always immediately flow into a test boring, the City of Rancho Cucamonga Building and Safety Services requires a minimum of 72 hours pass before an accurate groundwater measurement is taken. The qualified professional and/or the property owner maintain full responsibility for protecting the public from any hazards related to the test borings. It is recommended that all test borings that encounter groundwater be converted to observation wells so the groundwater conditions can be monitored over time.
- 4. If the qualified professional does not wish to complete the test borings as observation wells, they can cover the test boring, place safeguards around the borings to prevent unauthorized access and make an appointment for the City of Rancho Cucamonga Building and Safety Services staff to observe the boring at least 72-hours after the boring has been completed.
- 5. During periods of below normal average rainfall, or after periods of drought where there has not yet been sufficient ground water recharge, the absence of groundwater in test borings in areas where groundwater is suspect may not mean that approval to issue a septic tank permit can be granted. It may be necessary for the City of Rancho Cucamonga Building and Safety Services and the qualified professional to monitor the test borings for a sufficient period of time to determine where groundwater will rise to during normal to above normal rainfall.





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CHAPTER 6

Percolation Test Procedure

This Chapter is to be used to establish clear direction and methodology for percolation testing in the City of Rancho Cucamonga. The objective is to determine the area necessary to properly treat and maintain sewage underground; to size the OWTS with adequate infiltration surface area based on an expected hydraulic conductivity of the soil and the rate of loading; and to provide for a system intended to allow for a long-term expectation of satisfactory performance.

Percolation testing is required for new developments of two (2) or more units for OWTS (i.e. two or more lots). For a (one) custom single family residential house, the project proponent may use the procedure listed in <u>Chapter 9 - Design Criteria for Replacement of Existing Private Sewage Disposal Systems</u>, Table 9-1.

All percolation testing for dispersal systems except vertical seepage pits in the City of Rancho Cucamonga shall be conducted through the use of the following procedures. The test shall be performed by or under the direct supervision of a California registered professional engineer, geologist. Any deviation shall be authorized only after receiving written approval by the City of Rancho Cucamonga Building and Safety Services. For testing requirements for horizontal and vertical seepage pits and subsurface drip systems, see the Chapters in this LAMP covering those types of dispersal systems.

Note: Grading or clearing of brush for the purposes of completing a percolation test may require approval from Planning Services Department and requires the implementation of wind and storm water erosion best management practices.

Test Holes

Number of Test Holes

- 1. A minimum of four test holes is required when percolation rates are less than 60 minutes per inch (mpi).
- 2. A minimum of six test holes is required when the average percolation rate is more than 60 mpi.
- 3. Additional test holes may be necessary on a site specific basis for reasons that include, but are not limited to the following:
 - a. Unacceptable or failed tests.
 - b. Areas of the disposal field requiring defined limits for exclusion.
 - c. The disposal system is located out of a concentrated area.
 - d. Soil conditions are variable or inconsistent.

Depth of Testing

1. Test holes shall be representative of the dispersal system installation depth.



- 2. Conditions which may require testing deeper than leach line depth:
 - a. Shallow consolidated rock or impervious soil layers.
 - b. Slope exceeds 25% (4:1).
 - c. Other factors as might be determined by sound geotechnical engineering practices.

Soil Classification

- 1. All test holes and deep borings shall have soil types described according to the American Society for Testing and Materials (ASTM) Soil Classification System (Unified).
- 2. All borings are to be reported, including any, which encountered groundwater or refusal. Comments about consolidation and friable characteristics are encouraged.

Location of Test Holes

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

Identification of Test Holes

- 1. Staked and flagged so the test holes can be located.
- 2. Identified with:
 - a. A test hole number or letter
 - b. The depth of the test boring
 - c. Lot/parcel number or letter if associated with a subdivision or lot line adjustment.

Drilling of Borings for Test Holes

- 1. Diameter of each test hole shall be a minimum of 6 inches.
- 2. If a backhoe excavation is used, a test hole at 12–14 inches in depth shall be excavated into the bottom of the trench.

Preparation of Test Holes

- 1. The sides and bottom of the holes shall be scarified so as to remove the areas that became smeared by the auger or other tool used to develop the hole.
- 2. All loose material should be removed from the hole.

Presoaking the Test Holes

Procedure

- 1. Carefully fill the test hole with 12-14 inches of clear water.
- 2. Maintain 12-14 inches of clear water for a minimum of four (4) hours. After four hours, allow the water column to drop overnight. (Testing must be done within 15-30 hours after the initial four-hour presoak).



- 3. Overnight Option: If clay soils are present, it is recommended to maintain the 12-14 inch water overnight. A siphon can be used to maintain the supply at a constant level.
- 4. In highly permeable sandy soils with no clay and/or silt, the presoak procedure may be modified. If, after filling the hole twice with 12-14 inches of clear water, the water seeps completely away in less than 30 minutes, proceed immediately to Case 2, Item 3 and refill to 6 inches above the pea gravel. If the test is done the following day, a presoak will be necessary for at least an hour in order to reestablish a wetted boundary.

Saturation and Swelling

- 1. Saturation means that the void spaces between soil particles are full of water. This can be accomplished in a short period of time.
- 2. Swelling is caused by the intrusion of water into the individual soil particles are full of water. This is a slow process, especially in clay-type soil and is the reason for requiring a prolonged soaking.

Use of Inserts

- 1. If sidewalls are not stable or sloughing results in changing depth, the test hole may be abandoned or retested after means are taken to shore up the sides. The holes shall be re-cleaned prior to resuming the test.
- 2. Options for shoring or maintaining test hole stability:
 - a. Hardware cloth (1/8 inch grid)
 - b. Perforated pipe or containers
 - c. Gravel pack (NOTE: A correction factor is necessary if a gravel pack is used. Show all calculations on the test report. See <u>Chapter 6 Appendix I</u>)

Determination of Percolation Rates

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

- Case 1 Water remains overnight in the test hole following the four-hour presoak. (Unless an overnight siphon is used.)
- Case 2 Soil with a fast percolation rate is encountered where two columns of 12-14 inches of water percolates in less than 30 minutes for each column during the presoak.
- Case 3 No water remains in the test hole 15-30 hours after the four-hour presoak.



Case 1 Procedure

- 1. Adjust depth of water to 6 inches in the hole.
- 2. Take two (2) readings at thirty (30) minute intervals and report percolation rate as the slower of the two readings.

<u>NOTE</u>: When a minimum amount of water remains due to a damaged hole or silting, the hole may be cleaned out and tested under Case 3, starting with the presoak.

Case 2 Procedure

- 1. Begin test 15-30 hours after presoak.
- 2. Fill the hole twice with 12-14 inches of water. Observe to see if each column of water seeps away in less than 30 minutes. If so, proceed with the percolation test. If not, go to Case 3.
- 3. Refill hole to 6 inches above the bottom.
- 4. Measure from a fixed reference point at ten (10) minute intervals over a period of one (1) hour to the nearest 1/16th inch. Add water at each 10-minute time interval.
- 5. Continue 10 minute readings as long as necessary to obtain a "stabilized" rate with the last 2 rate readings not varying more than 1/16th inch or for a duration of four (4) hours. The last water level drop will be considered in the percolation rate.

Case 3 Procedure

- 1. Begin test 15-30 hours after presoak.
- 2. Clean out the silt and mud and add 2 inches of 3/8 inch pea gravel.
- 3. Adjust water depth to 6 inch above the pea gravel buffer and measure from a fixed reference point at 30 minute intervals to the nearest 1/16th inch. NOTE: It is not necessary to record data points for the first hour as this is an adjustment period and a reestablishment of a wetted boundary.
- 4. Refill the hole as necessary between readings to maintain a 6-inch column of water over the pea gravel. If a fall of 1 inch or less is recorded, the test can continue without refilling until the next 30 minute reading interval.
- 5. Continue recording readings at 30 minute intervals for a minimum of four (4) hours.
- 6. The last water level drop is used to calculate the percolation rate.



Calculations and Measurements

Calculation Example

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

30 minutes \div 3/4 inch = 40 minutes per inch (mpi)

Measurement Principles

- 1. The time interval for readings are to reflect the actual times and are to be maintained as near as possible to the intervals outlined for the test. (10 or 30 minutes).
- 2. Measurements to the nearest 1/16th inch should be adjusted to the slowest rate, e.g., a reading observed between 3/8 inch and 5/16 inch (80 mpi and 96 mpi) would be reported as 96 mpi.
- 3. Measurements on an engineering scale (tenths of an inch) should follow the same principle, e.g., a reading observed between 0.4 inch and 0.3 inch (75 mpi and 100 mpi) would be reported as 100 mpi.

Measurements, Special Considerations

- 1. Measurement from a fixed reference point shall be from a platform that is stable and represents the center of the test hole.
- 2. Percometer devices are encouraged and required when the depth of a test hole is greater than 60 inch in depth. Accurate measurement is vital and in cases of testing deeper than 60 inch, the report shall include a description of the measurement method and how the borings were cleaned out and prepared for testing.
- 3. Correction Factors
- a. Void factor for gravel pack (See Chapter 6 Appendix I)

Reports

- 1. All test data and required information shall be submitted on approved City of Rancho Cucamonga Building and Safety Services forms with appended data or information as needed. A minimum of three copies is required.
- 2. Reports shall be signed with an original signature and seal by the consultant who either performed or supervised the testing.
- 3. All percolation testing to be done by a civil engineer, geologist registered in the State of California.
- 4. The percolation test is only one critical factor in siting an OWTS. Site considerations may require special evaluation by a qualified professional to technically address issues such as high groundwater, steep slope, nitrate impacts, cumulative impacts, (mounding, and horizontal transmissibility).



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



Appendix I

Adjustment Factor for Gravel Packed Percolation Test Holes

Calculations

- A_H X-Section Area of Test Hole, $A_H = .25 \pi D_H^2$
- A_P X-Section Area of Pipe, $A_P = .25 \pi D_P^2$
- A_G X-Section Area of Gravel Pack, $A_G = A_H$ A_P
- V_D Drainable Voids in Gravel Pack = n (A_G)*
- V Total Voids = $A_P + n (A_G) = A_P + n (A_H A_P)$
- A_F Adjustment Factor, AF:

$$A_F = \underline{A_H}$$

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

$$A_{F} = \frac{.25 \pi D_{H}^{2}}{.25 \pi D_{P}^{2} + n (.25 \pi D_{H}^{2} - .25 \pi D_{P}^{2})}$$

$$A_{F} = \frac{D_{H}^{2}}{D_{P}^{2} + n (D_{H}^{2} - D_{P}^{2})}$$

Where:
$$mpi = minutes per inch$$

 $n = void ratio$

* A test should be run on the actual rock used to establish the Void Ratio (n).

Application
Adjusted Percolation Rate = mpi x A_F

Typical Values

For n = 0.35



Pipe Diameter	Hole Diameter	Adjustment Factor
4"	6"	1.57
4"	8"	1.95
4"	10"	2.20
4"	12"	2.37

NOTE: If the infiltration rate in the percolation study is provided in minutes per inch for clear water to drop in a column the soils engineer shall provide a percolation recommendation of required gallons per 100 square feet, including an appropriate percolation factor of safety.

Appendix II

Standard and Requirements for Design and Installation of OWTS in Soils with Poor Percolation Rates

(i.e. The Red Hill Area And The Skyline Drive Area)

In soils having percolation rates in excess of 60 mpi, the following criteria shall apply:

- 1. Percolation tests shall be conducted at a minimum of six (6) different locations on the site within the proposed area of the subsurface sewage disposal field.
- 2. There shall be a minimum of ten (10) feet of soil above any impervious formation such as rock, clay, adobe and/or water table. Fractured rock and consolidated granites will not be considered as soil. Deep testing can be required to ensure uniform conditions exist below the disposal field.



CHAPTER 7

Septic Tanks

All conventional OWTS require the use of a septic tank to allow for the removal of solids in the wastewater prior to being discharged to the dispersal field. Alternative OWTS also require a septic tank unless a settling chamber is a component of the treatment unit. This Chapter will provide the minimum design specifications and requirements for septic tanks.

- 1. Septic tanks must be certified by the International Association of Plumbing and Mechanical Officials (IAPMO).
- 2. The tank shall be watertight and possess two chambers.
- 3. Septic tanks shall be certified by the manufacturer to allow for burial without being water filled to allow for routine maintenance or to be used as a holding tank as needed.
- 4. Septic tanks shall be installed per the manufacturer's instructions.
- 5. The bottom of the excavation for the tank shall extend into native or compacted soils to eliminate potential settling issues.
- 6. Septic tank location must take into account maintenance and pumping requirements including vehicle access; and distance and elevation lift to pumper truck.
- 7. All tanks must have a capped tee or a 90 degree elbow fitting on the inlet to prevent gas exchange between the tank and the house plumbing. Inlet tees must extend at least 14 inches below the liquid level.
- 8. Outlet tees must be uncapped and must extend at least 12 inches below the liquid level.
- 9. The outlet elevation shall be between 2 and 6 inches lower than the inlet elevation to ensure proper fall without a significant loss of volume.
- 10. Fall between the outlet of the septic tank and the dispersal field shall be continuous with a minimum fall that that ensures the outlet pipe is 4 inches higher than the top of the seepage pit system or 4 inches above the top of the leach rock or other components used in the dispersal system on a level system, or a distribution box if multiple seepage pits or leach lines are constructed.
- 11. Septic tanks with greater than 6 inches of cover must have risers to within 6 inches of finished grade. Risers and lids that are at or above grade must be watertight and lockable or require tools to be opened.



- 12. Septic tank risers must have a current IAPMO certification to use. Concrete risers and lids must be constructed of Type V concrete or be protected from corrosion from sewer gases. The interior diameter of the riser shall be a minimum of eighteen (18) inches.
- 13. Effluent filters must be IAPMO approved if they are to be installed as part of the outlet tee.
- 14. Septic tanks installed in areas of vehicular traffic must be certified to withstand the proposed loads or have an engineered traffic slab installed to accommodate the proposed loads.
- 15. Minimum tank size is 1000 gallons for residential and 750 gallons for non-residential structures..
- 16. Septic tanks shall be sized according to anticipated wastewater flows from the structure(s). The following standard sizes will shall apply:
 - a. 1-3 bedroom single family dwelling (0-450 GPD)
 b. 4 bedroom single family dwelling (451-600 GPD)
 1000 gallons
 1200 gallons
 - c. 5-6 bedroom single family dwelling (601-900GPD) 1500 gallons
 - d. Flows greater than 900 GPD must utilize the following formula to determine minimum tank sizing: 1125 gallons + (.75)(Flow in GPD).
- 17. The permitted plan set shall contain a note requiring the septic tank to be filled with water, without leakage, at the time of the first inspection.



CHAPTER 8

Leach Line Systems

Leach lines systems are the primary means of effluent dispersal for the majority of older OWTS within the City of Rancho Cucamonga and this Chapter will establish procedures for the design and construction of leach line dispersal systems. The procedures are specific for leach lines, and do not apply to other types of dispersal systems. For leach lines on slopes exceeding 25% (4:1) slope, refer to the Steep Slope section of this Chapter. For existing OWTS systems using leach line systems see Vertical Seepage Pit Systems Table 9-1 for sizing requirements.

Percolation Test and Design Procedures

Percolation testing shall be performed in accordance with the City of Rancho Cucamonga Building and Safety Services percolation test procedures found in Chapter 3 of this LAMP. Deep borings, backhoe excavations, and percolation tests are used to demonstrate that the dispersal site is located in an area of uniform soil, and that no conditions exist which could adversely affect the performance of the system or result in groundwater degradation.

- 1. Leach line systems are limited to soils with percolation rates of 120 minutes per inch or less. Percolation rates in excess of 120 minutes per inch are unsuitable for the installation of an OWTS dispersal system.
- 2. At least four percolation test holes at each leach field location should be provided to represent soil types at the depth of the proposed leach lines.
- 3. At least one deep boring should extend to a depth of at least 15 feet or to impermeable material but in no case shall there be less than 5 foot of unsaturated, permeable soil below the bottom of the leach line trench. For areas of suspected high groundwater, deep borings are recommended to be 20'-25' to help determine gradients during varying rainfall periods. See CHAPTER 2 for more information on groundwater separation requirements.
- 4. Backhoe excavations may be required to demonstrate uniformity of soil throughout the leach field area(s).
- 5. Leach line dispersal systems are limited to slopes of 25 % (4:1) or less unless the requirements under the section entitled <u>Leach Lines on Steep Slopes</u> found later in this chapter are met.

Soil Cover Requirements

- 1. The maximum soil cover allowed over the top of the infiltrative surface is 48 inches, measured from the top of the leach rock/chamber/etc. to the ground surface.
- 2. The minimum cover required over the top of the infiltrative surface is 12 inches.



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

Dimensions

- 1. Leach lines are to be installed according to the qualified professional's specifications for location, length, width, and depth.
- 2. Leach lines are to be spaced at least 10 feet apart, measured center to center.
- 3. Leach lines shall be installed with a width of no less than 12 inches and no more than 36 inches. Regardless of trench width or materials used, dispersal systems using leach lines shall be designed using not less than 3 square feet of infiltrative area per linear foot of trench as the infiltrative surface. No reduction in sizing is allowed for the use of chambers (see Chapter 10).
- 4. The minimum length of leach trench for a new OWTS using leach lines as the dispersal system shall be 200 feet regardless of the projected wastewater flows.
- 5. A 100% reserve area shall be required for all leach line systems. Properties that previously were required to maintain areas of 200% or 300% reserve shall now have a 100% reserve area requirement in place of the previous requirement.

Materials and Construction Considerations

- 1. All piping and materials used in leach line systems including gravel-less/chamber systems must have IAPMO approval and must be approved by City of Rancho Cucamonga Building and Safety Services prior to installation.
- 2. Leach lines that utilize gravel shall be filled with clean, washed leach line rock to a point at least 4 inches above the top of a 4 inch perforated pipe and shall have a minimum of 12 inches of gravel below the pipe. The rock shall be graded at 1 to 1.5 inches in size and shall be covered with straw, untreated building paper or a geotextile fabric prior to backfill to prevent the infiltration of soil into the rock.
- 3. Where multiple leach lines are proposed on sloping ground, a distribution box must be used to connect the leach lines.
- 4. Leach lines shall **NOT** be placed under impermeable surfaces. Leach lines that are later covered by impermeable surfaces may not be considered as viable for purposes of determining primary and reserve area requirements.
- 5. Leach line trenches shall be installed with the trench bottom and materials used being level to within 2 inches per 100 feet.



Leach Lines on Steep Slopes

The following requirements must be met for the installation of leach line trenches on slopes exceeding 25% (4:1) without necessitating the grading of terraces. The design parameters are applicable only to slopes exceeding 25% (4:1) and are not intended to be used in any other situation.

- 1. The maximum slope allowed for leach line trenches is 40% (2-1/2:1 slope).
- 2. All leach lines on steep slopes shall be installed in 5 foot deep trenches with 12 inches of leach rock below the leach pipe or with approved chambers or other gravel-less system.
- 3. The design of disposal systems on steep slopes requires the experience and expertise to address conditions relative to soil, slope stability, and subsurface conditions which require professional judgment and technical knowledge. Designs for steep slope systems will only be approved when submitted by a qualified professional licensed in the State of California.
- 4. Testing must provide data representative of the entire disposal area and demonstrate that conditions are uniform below the entire disposal area. The minimum testing required is:
 - a. Six percolation tests at a depth equal to the proposed trench depth.
 - b. Two percolation tests five feet below the proposed trench depth.
 - c. Percolation testing must show rates of 120 minutes per inch or less.
 - d. At least two soil profile borings demonstrating uniform conditions throughout the disposal area to a depth of 10 feet below the proposed trench depth.
- 5. Design reports must include the following:
 - a. Cross section(s) hillside soil profile(s).
 - b. Detailed boring logs of all test holes and borings.
 - c. Scaled layouts and profiled designs based on accurate topography.
 - d. Any grading proposed on the site in the disposal area.
 - e. A slope stability report or statement from a qualified professional.
- 6. Any grading, proposed to create a stable work area for trench installation, may be subject to review for conflict with Building and Safety Services Department (B&S). It is strongly recommended that contact be made with B&S before any grading occurs.

Sizing

1. Residential leach line systems shall be sized based on the chart located at the end of this policy which shows the length of leach line as a function of percolation rate and the number of bedrooms for a single-family dwelling.



2. Non-residential leach line systems shall be calculated by a qualified professional using expected peak wastewater flows and safety/surge factor of 2 unless a reduction is allowed by the City of Rancho Cucamonga Building and Safety Services Department.

Table 8-1

LEACH RATE	I LIN	E TRI	ENCH	LENC	GTH (1	feet) B	AS	ED ON	PERCO	OLAT	ION T	EST		
Perc Rate	Num	ber of	Bedro	ooms				Perc Rate	Num	ber of	Bedro	oms		
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6
1	200	200	240	270	280	300		31	280	350	420	480	535	595
2	200	200	240	270	280	300		32	280	355	430	480	535	595
3	200	200	240	270	280	300		33	290	360	430	490	545	605
4	200	220	260	290	300	310		34	290	360	440	490	545	605
5	200	240	290	320	320	340		35	290	365	440	500	555	615
6	200	250	300	340	350	360		36	300	370	440	500	555	615
7	210	260	310	350	370	380		37	300	370	450	500	555	615
8	210	265	320	360	390	400		38	300	375	450	510	565	625
9	220	270	320	360	400	410		39	300	380	460	510	565	625
10	220	275	330	370	410	420		40	300	380	460	520	575	635
11	220	280	340	380	420	430		41	310	385	460	520	575	635
12	230	285	340	380	430	440		42	310	390	470	530	585	645
13	230	290	350	390	430	450		43	310	390	470	530	585	645
14	235	295	350	400	440	460		44	310	395	480	540	595	655
15	240	300	360	400	450	470		45	320	400	480	540	595	655
16	240	300	360	410	450	490		46	320	400	480	540	595	655
17	240	305	370	410	460	500		47	320	405	490	550	605	665





LEACH LINE TRENCH LENGTH (feet) BASED ON PERCOLATION TEST RATE

Perc Rate	Num	iber of	f Bedr	ooms			Perc Rate	Num	ber of	Bedro	oms		
MPI	1	2	3	4	5	6	MPI	1	2	3	4	5	6
18	250	310	370	420	460	510	48	330	410	490	550	605	665
19	250	310	380	420	470	520	49	330	410	500	560	615	675
20	250	315	380	430	470	520	50	330	415	500	560	615	675
21	260	320	380	430	480	530	51	340	420	500	560	615	675
22	260	320	390	440	480	530	52	340	420	510	570	625	685
23	260	325	390	440	490	550	53	340	425	510	580	635	695
24	260	330	400	450	500	560	54	340	430	520	580	635	695
25	260	330	400	450	500	560	55	340	430	520	580	635	695
26	270	335	400	450	510	570	56	350	435	520	590	645	705
27	270	340	410	460	515	575	57	350	440	530	590	645	705
28	270	340	410	460	515	575	58	350	440	530	600	655	715
29	270	345	420	470	525	585	59	350	445	540	600	655	715
30	280	350	420	470	525	585	60	360	450	540	610	665	725



Table 8-2

LEAC	CH LI	NE TI	RENC	H LE	NGTI	H BAS	EI	ON PI	ERCO	LATIO	N TES	T RAT	E	
Perc Rate	Num	ber o	f Bedi	coms				Perc Rate	Numl	ber of B	Bedroor	ns		
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6
61	370	460	550	620	690	740		91	680	770	860	930	980	1020
62	380	470	560	630	680	720		92	695	785	875	945	995	1035
63	390	480	570	640	690	730		93	710	800	890	960	1010	1050
64	400	490	580	650	700	740		94	725	815	905	975	1025	1065
65	420	500	580	660	710	750		95	740	830	920	990	1040	1080
66	420	510	600	670	720	760		96	755	845	935	1005	1055	1095
67	430	520	610	680	730	770		97	770	860	950	1020	1070	1110
68	440	530	620	690	740	780		98	785	875	965	1035	1085	1125
69	450	540	630	700	750	790		99	800	890	980	1050	1100	1140
70	460	550	640	710	760	800		100	815	905	995	1065	1115	1155
71	470	560	650	720	770	810		101	830	920	1010	1080	1130	1170
72	480	570	660	730	780	820		102	845	935	1025	1095	1145	1185
73	490	580	670	740	790	830		103	860	950	1040	1110	1160	1200
74	500	590	680	750	800	840		104	875	965	1055	1125	1175	1215
75	510	600	690	760	810	850		105	890	980	1070	1140	1190	1230
76	520	610	700	770	820	860		106	905	995	1085	1155	1205	1245
77	530	620	710	780	830	870		107	920	1010	1100	1170	1220	1260
78	540	630	720	790	840	880		108	935	1025	1115	1185	1230	1270
79	550	640	730	800	850	890		109	950	1040	1130	1200	1250	1290
80	560	650	740	810	860	900		110	965	1055	1145	1215	1265	1305



LEAC	CH LI	NE TI	RENC	CH LE	NGTI	H BASI	EL	ON P	ERCOI	LATIO	N TES	T RAT	E	
Perc Rate	Num	iber o	f Bedi	ooms				Perc Rate	Numb	oer of B	Bedroor	ns		
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6
81	570	660	750	820	870	910		111	980	1070	1160	1230	1280	1320
82	580	670	760	830	880	920		112	995	1085	1175	1245	1295	1335
83	590	680	770	840	890	930		113	1010	1100	1190	1260	1310	1350
84	600	690	780	850	900	940		114	1025	1115	1205	1275	1325	1365
85	610	700	790	860	910	950		115	1040	1130	1220	1290	1340	1380
86	620	710	800	870	920	960		116	1055	1145	1235	1305	1355	1395
87	630	720	810	880	930	970		117	1070	1160	1250	1320	1370	1410
88	640	730	820	890	940	980		118	1085	1175	1265	1335	1385	1425
89	650	740	830	900	950	990		119	1100	1190	1280	1350	1390	1440
90	665	755	845	915	965	1005		120	1120	1210	1300	1370	1420	1460

Where: mpi = minutes per inch

Conversion Factor:

Example: 1 inch of drop \div 10 minutes \times 60 minutes per hour = 6 inches/hour

For the calculation substitute the bold number in the equation above for the bold number from the table.





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CHAPTER 9

Vertical Seepage Pit Systems

Vertical seepage pits are a type of dispersal system allowed in majority of areas of the City of Rancho Cucamonga with specific requirements on their use. This Chapter will provide the requirements to allow for the use of vertical seepage pits as well as the procedures for their design and construction.

Locations Allowed

- 1. Existing Lots Any lot previously approved for the use of a vertical seepage pit must meet all current requirements found in this LAMP to be considered for development based on the use of a vertical seepage pit. In addition, a (one) new custom single family house may use the sizing criteria for existing lots. See Table 9-1 for sizing.
- 2. New Lots (2 or more OWTS units, i.e. 2 or more lots) Per the recommendation of a qualified professional soils Engineer and designed by a professional engineer. See Table 9-2 for sizing.

Percolation Test Procedures

All vertical seepage pits for new construction, for 2 or more lots, will require percolation testing by a qualified professional certified to perform percolation tests in City of Rancho Cucamonga. A waiver of testing can be considered where adequate information exists as to soil types, depth and permeability. Percolation testing for vertical seepage pits shall be completed per the following guidelines.

- 1. A 12 to 48 inch diameter test hole shall be excavated to a depth of at least 10 feet deeper than the proposed installation depth.
- 2. A minimum 10 foot separation between the bottom of the vertical seepage pit and the anticipated high groundwater level is required.
- 3. Boring logs shall be recorded and included with all test reports indicating soil strata depths and types and visual classification according to the unified soil classification system along with any groundwater encountered.
- 4. The overdrill must be checked for the presence of groundwater a minimum of 24 hours after the completion of the test boring to allow time for groundwater to stabilize in the hole.
- 5. After the groundwater reading is recorded, the test hole shall be backfilled to a depth 10 feet above the bottom of the test hole or the groundwater level whichever is shallower.



- 6. The seepage pit shall be filled with water to the cap depth and a continuous pre-soak shall be maintained at the proposed cap level for a minimum 8-hour period. In highly permeable soils when cap levels cannot be maintained during pre-soak, the test shall be conducted at a depth no higher than the pre-soak level which was attained. Document the pre-soak attempt with gallons of water used. In no case shall less than 5,000 gallons of water be used within a 1 hour period in the attempted pre-soak when the cap level cannot be maintained. The depth of the test shall be noted on the boring log and in no case shall the sidewall of permeable soil below the cap level be less than ten (10) feet.
- 7. Upon completion of the pre-soak period, fill the pit to cap level and determine uniformity of soil by measuring the falling head. Distance to the water level shall be measured at 15 minute intervals, or more frequently if needed, until the drop stops or the pit empties. A graph of the drop in water level shall be attached to all proposals submitted by the qualified professional. If non-uniform rates persist, the soil will not be considered uniform and the tests discontinued as they will not be approved by City of Rancho Cucamonga Building and Safety Services.
- 8. If the procedure in Item no. 4 demonstrates uniform soil, proceed with a two-hour static head or falling head capacity test.
 - a. Static Head The pit shall be filled with water to the cap depth and the water column shall be maintained at that level for two hours. The amount of water added to maintain this level must be documented. The 24-hour capacity is determined by multiplying by 12. Adjustment to a four foot diameter pit is made if a lesser size test hole is used.
 - b. Falling Head The pit shall be filled with water to the cap depth and the column of water shall be allowed to drop for a two hour period. The distance dropped shall be measured and the amount of water absorbed determined. This amount is multiplied by 12 to determine the 24-hour capacity. Adjustment to a four foot diameter pit is made if a lesser size test hole is used.
- 9. The minimum capacity for a new OWTS using vertical seepage pits as the dispersal system shall be 5 times the volume of the required septic tank or 5000 gallons per day whichever is greater. All individual vertical seepage pit shall have a minimum capacity of 1,667 gallons per day.
- 10. Each pit must meet these minimum criteria to be acceptable. The qualified professional may include safety factors as he feels the situation warrants.
- 11. It shall be the responsibility of the qualified professional to maintain all test holes or pits in a safe manner prior to backfill or capping to prevent a hazard or accident.



Dimensions and Construction Requirements

- 1. Vertical seepage pits shall be installed according to the qualified professional's specifications for location, depth and cap depth.
- 2. The pit excavation shall be five (5), six (6) or seven (7) feet in diameter. Pit excavations greater than 7-feet in diameter require prior approval by the Building Official.
- 3. The sidewall depth below the inlet shall not be less than 14 feet.
- 4. The minimum depth to the top of the infiltrative surface allowed is 2 feet. This depth is also known as the cap depth. There is no maximum cap depth but documentation must be provided to justify any cap depth greater than 5 feet.
- 5. The maximum slope allowed for the use of vertical seepage pits is 40 percent (2-1/2:1 slope). Slopes that exceed 25% (4:1) will require additional engineering and design detail as required to address the risk of effluent surfacing on the slope recognizable as sewage as well as slope stability issues. Slopes that exceed 25% (4:1) will, in most cases, require a terrace design or grading to allow for drilling access. Any grading shall be in accordance with any permit requirements for brushing, clearing, and grading from any other agency.
- 6. All pits must be filled with clean washed leach line rock to the cap depth. The rock shall be graded at 1 to 1.5 inches in size and shall be covered with straw, untreated building paper or a geotextile fabric prior to backfill to prevent the infiltration of soil into the rock.
- 7. A 4 inch Schedule 40 pipe shall be installed from the ground surface to the bottom of each seepage pit for clean-out, pumping and verification of the total pit depth. The pipe shall have perforations from the cap depth to the bottom of the pit and be of solid construction from the cap depth to the ground surface. A screw fit cap must be placed on top of the riser to allow access.
- 8. Where more than one vertical seepage pit is proposed for the primary or reserve system, a distribution box must be used to connect the pits. Chaining or lining the seepage pits together such that the overflow from an upstream pit flows to a downstream pit shall not be permitted.



Design Criteria for Replacement of Existing Private Sewage Disposal Systems

Check Soil Type Map for Minimum Depth of Pits

Table 9-1

Septic Tank Capacity (Gallons)	Minimum Disposal Leach Field (Area Req'd)	3ft A.P.* @ 12" Wide Bottom Below Leach Line (A.P. x Length)	5ft A.P.* @ 24" Wide Bottom Below Leach Line (A.P. x Length)	7ft A.P.* @ 36" Wide Bottom Below Leach Line (A.P. x Length)	Min. 41	Seepage Pi with ft Max. (Liner ameter x De Notes: 3, 4,	oft. Dia.					
			at 60 sq. ft./100 gal otes: 1, 2, 3, & 6)	l .	Pit Design 60 sq. ft./100 gal							
1000	600	<i>(2)</i> 3′ x 100′	(4) 5′ x 55′	5′ x 39′	6' x 32'	7′ x 28′						
1200	720	<i>(3)</i> 3′ x 80′	(4) 5′ x 66′	(4) 7′ x 52′	5' x 46'	6' x 38'	7' x 33'					
1500	900	<i>(3)</i> 3′ x 100′	<i>(3)</i> 5′ x 82′	<i>(3)</i> 7′ × 70′	5′ x 58′	6' x 48'	7′ x 41′					
			at 90 sq. ft./100 gal otes: 1, 2, 3, & 6)		90	Pit Design sq. ft./100						
1000	900	<i>(3)</i> 3′ x 100′	<i>(2)</i> 5′ x 100′	(3) 7′ x 64′	5' x 58'	6' x 48'	7′ x 41′					
1200	1080	(4) 3′ x 90′	<i>(3)</i> 5′ x 72′	<i>(3)</i> 7′ × 78′	5' x 69' 6' x 58' 7' x 50							
1500	1350	<i>(5)</i> 3′ x 90′	<i>(3)</i> 5′ x 90′	<i>(2)</i> 7′ x 100′	5′ x 86′	6' x 72'	7′ x 62′					

Notes: *Absorption Perimeter

- 1. Other variations may be allowed to width and depth so as to achieve the required leach area. Chapter 8
- 2. Trenches shall not have less than 600 sq. ft. of infiltrative area. Chapter 8
- 3. All deviations from this handout will require a percolation test with a designed septic system by a licensed Civil Engineer based on percolation test(s) per Chapter 6 Percolation Test Procedure.
- 4. **Depth of the seepage pit** shall be measured from the bottom of the pit to the invert of the distribution pipe. Chapter 9
- 5. Multiple seepage pits may be used. If this is the case, the required depth from the table above can be divided equally among the numbers of seepage pits. In no cases the depth of seepage pits can be less than the "minimum depth". Chapter 9
- 6. See <u>Chapter 8</u> Leach Line Systems and <u>Chapter 9</u> Vertical Seepage Pit Systems for design and construction requirements.



Typical Seepage Pit Layout Diagram

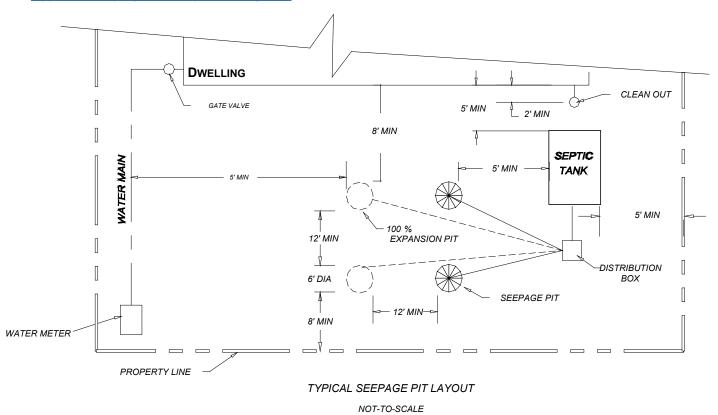


Figure 9-1



Design Criteria for New Private Sewage Disposal Systems

5-foot diameter pits

Table 9-2

SE	EEPA	GE PI	T DEF	PTH (f	eet) E	BASE	ONI	PERCO	DLAT	ION T	EST F	RATE		
Perc Rate		Num	ber of	Bedr	ooms			Perc Rate		Num	ber of	Bedro	ooms	
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6
1	17	17	17	17	18	19		31	18	22	27	31	34	38
2	17	17	17	17	18	19		32	18	23	27	31	34	38
3	17	17	17	17	18	19		33	18	23	27	31	35	39
4	17	17	17	18	19	20		34	18	23	28	31	35	39
5	17	17	18	20	20	22		35	18	23	28	32	35	39
6	17	17	19	22	22	23		36	19	24	28	32	35	39
7	17	17	20	22	24	24		37	19	24	29	32	35	39
8	17	17	20	23	25	25		38	19	24	29	32	36	40
9	17	17	20	23	25	26		39	19	24	29	32	36	40
10	17	18	21	24	26	27		40	19	24	29	33	37	40
11	17	18	22	24	27	27		41	20	25	29	33	37	40
12	17	18	22	24	27	28		42	20	25	30	34	37	41
13	17	18	22	25	27	29		43	20	25	30	34	37	41
14	17	19	22	25	28	29		44	20	25	31	34	38	42
15	17	19	23	25	29	30		45	20	25	31	34	38	42
16	17	19	23	26	29	31		46	20	25	31	34	38	42
17	17	19	24	26	29	32		47	20	26	31	35	39	42
18	17	20	24	27	29	32		48	21	26	31	35	39	42
19	17	20	24	27	30	33		49	21	26	32	36	39	43
20	17	20	24	27	30	33		50	21	26	32	36	39	43
21	17	20	24	27	31	34		51	22	27	32	36	39	43
22	17	20	25	28	31	34		52	22	27	32	36	40	44
23	17	21	25	28	31	35		53	22	27	32	37	40	44
24	17	21	25	29	32	36		54	22	27	33	37	40	44
25	17	21	25	29	32	36		55	22	27	33	37	40	44
26	17	21	25	29	32	36		56	22	28	33	38	41	45
27	17	22	26	29	33	37		57	22	28	34	38	41	45
28	17	22	26	29	33	37		58	22	28	34	38	42	46
29	17	22	27	30	33	37		59	22	28	34	38	42	46
30	18	22	27	30	33	37		60	23	29	34	39	42	46



SE	EPA	GE PI	T DEP	TH (f	eet) B	ASEC	ONI	PERCO	DLAT	ON T	EST F	RATE		
Perc Rate	Number of Redrooms Number of Redrooms													
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6

	SEE	PAGE	PIT [DEPTH	H (feet	t) BAS	SED O	N PEF	RCOL	OITA	N TES	TRA	TE	
Perc Rate		Num	ber of	Bedr	ooms			Perc Rate		Num	ber of	Bedr	ooms	
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6
61	24	29	35	39	44	47		91	43	49	55	59	62	65
62	24	30	36	40	43	46		92	44	50	56	60	63	66
63	25	31	36	41	44	46		93	45	51	57	61	64	67
64	25	31	37	41	45	47		94	46	52	58	62	65	68
65	27	32	37	42	45	48		95	47	53	59	63	66	69
66	27	32	38	43	46	48		96	48	54	60	64	67	70
67	27	33	39	43	46	49		97	49	55	61	65	68	71
68	28	34	39	44	47	50		98	50	56	61	66	69	72
69	29	34	40	45	48	50		99	51	57	62	67	70	73
70	29	35	41	45	48	51		100	52	58	63	68	71	74
71	30	36	41	46	49	52		101	53	59	64	69	72	75
72	31	36	42	46	50	52		102	54	60	65	70	73	75
73	31	37	43	47	50	53		103	55	61	66	71	74	76
74	32	38	43	48	51	54		104	56	61	67	72	75	77
75	32	38	44	48	52	54		105	57	62	68	73	76	78
76	33	39	45	49	52	55		106	58	63	69	74	77	79
77	34	39	45	50	53	55		107	59	64	70	75	78	80
78	34	40	46	50	54	56		108	60	65	71	75	78	81
79	35	41	46	51	54	57		109	61	66	72	76	80	82
80	36	41	47	52	55	57		110	61	67	73	77	81	83
81	36	42	48	52	55	58		111	62	68	74	78	82	84
82	37	43	48	53	56	59		112	63	69	75	79	82	85
83	38	43	49	54	57	59		113	64	70	76	80	83	86
84	38	44	50	54	57	60		114	65	71	77	81	84	87
85	39	45	50	55	58	61		115	66	72	78	82	85	88
86	39	45	51	55	59	61		116	67	73	79	83	86	89
87	40	46	52	56	59	62		117	68	74	80	84	87	90
88	41	46	52	57	60	62		118	69	75	81	85	88	91
89	41	47	53	57	61	63		119	70	76	82	86	89	92



SE	EPA	GE PI	T DEF	TH (f	eet) B	ASEC	ONI	PERCO	DLAT	ON T	EST F	RATE		
Perc Rate		Num	ber of	Bedro	oms			Perc Rate		Num	ber of	Bedro	oms	
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6
90	42	48	54	58	61	64		120	71	77	83	87	90	93

Where: mpi = minutes per inch

Conversion Factor:

Example: 1 inch of drop \div 10 minutes \times 60 minutes per hour = 6 inches/hour

For the calculation substitute the bold number in the equation above for the bold number from the table.



6-foot diameter pits

Table 9-3

SE	EPA	GE PI	T DEF	PTH (f	eet) E	BASE	ON	PERC	DLAT	ION T	EST F	RATE		
Perc Rate		Num	ber of	Bedr	ooms			Perc Rate		Num	ber of	Bedr	ooms	
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6
1	17	17	17	17	17	17		31	17	19	22	25	28	32
2	17	17	17	17	17	17		32	17	19	23	25	28	32
3	17	17	17	17	17	17		33	17	19	23	26	29	32
4	17	17	17	17	17	17		34	17	19	23	26	29	32
5	17	17	17	17	17	18		35	17	19	23	27	29	33
6	17	17	17	18	19	19		36	17	20	23	27	29	33
7	17	17	17	19	20	20		37	17	20	24	27	29	33
8	17	17	17	19	21	21		38	17	20	24	27	30	33
9	17	17	17	19	21	22		39	17	20	24	27	30	33
10	17	17	18	20	22	22		40	17	20	24	28	31	34
11	17	17	18	20	22	23		41	17	20	24	28	31	34
12	17	17	18	20	23	23		42	17	21	25	28	31	34
13	17	17	19	21	23	24		43	17	21	25	28	31	34
14	17	17	19	21	23	24		44	17	21	25	29	32	35
15	17	17	19	21	24	25		45	17	21	25	29	32	35
16	17	17	19	22	24	26		46	17	21	25	29	32	35
17	17	17	20	22	24	27		47	17	21	26	29	32	35
18	17	17	20	22	24	27		48	18	22	26	29	32	35
19	17	17	20	22	25	28		49	18	22	27	30	33	36
20	17	17	20	23	25	28		50	18	22	27	30	33	36
21	17	17	20	23	25	28		51	18	22	27	30	33	36
22	17	17	21	23	25	28		52	18	22	27	30	33	36
23	17	17	21	23	26	29		53	18	23	27	31	34	37
24	17	18	21	24	27	30		54	18	23	28	31	34	37
25	17	18	21	24	27	30		55	18	23	28	31	34	37
26	17	18	21	24	27	30		56	19	23	28	31	34	37
27	17	18	22	24	27	31		57	19	23	28	31	34	37
28	17	18	22	24	27	31		58	19	23	28	32	35	38
29	17	18	22	25	28	31		59	19	24	29	32	35	38
30	17	19	22	25	28	31		60	19	24	29	32	35	38



	SEE	PAGE	PIT [DEPTH	H (feet	t) BAS	SED O	N PEF	RCOL	ATION	N TES	T RA	TE	
Perc Rate				Bedro	•	,		Perc Rate				Bedr		
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6
61	20	24	29	33	37	39		91	36	41	46	49	52	54
62	20	25	30	33	36	38		92	37	42	46	50	53	55
63	21	25	30	34	37	39		93	38	42	47	51	54	56
64	21	26	31	35	37	39		94	38	43	48	52	54	57
65	22	27	31	35	38	40		95	39	44	49	53	55	57
66	22	27	32	36	38	40		96	40	45	50	53	56	58
67	23	28	32	36	39	41		97	41	46	50	54	57	59
68	23	28	33	37	39	41		98	42	46	51	55	58	60
69	24	29	33	37	40	42		99	42	47	52	56	58	61
70	24	29	34	38	40	42		100	43	48	53	57	59	61
71	25	30	35	38	41	43		101	44	49	54	57	60	62
72	25	30	35	39	41	44		102	45	50	54	58	61	63
73	26	31	36	39	42	44		103	46	50	55	59	62	64
74	27	31	36	40	42	45		104	46	51	56	60	62	64
75	27	32	37	40	43	45		105	47	52	57	61	63	65
76	28	32	37	41	44	46		106	48	53	58	61	64	66
77	28	33	38	41	44	46		107	49	54	58	62	65	67
78	29	33	38	42	45	47		108	50	54	59	63	65	67
79	29	34	39	42	45	47		109	50	55	60	64	66	68
80	30	35	39	43	46	48		110	51	56	61	64	67	69
81	30	35	40	44	46	48		111	52	57	62	65	68	70
82	31	36	40	44	47	49		112	53	58	62	66	69	71
83	31	36	41	45	47	49		113	54	58	63	67	70	72
84	32	37	41	45	48	50		114	54	59	64	68	70	72
85	32	37	42	46	48	50		115	55	60	65	68	71	73
86	33	38	42	46	49	51		116	56	61	66	69	72	74
87	33	38	43	47	49	51		117	57	62	66	70	73	75
88	34	39	44	47	50	52		118	58	62	67	71	74	76
89	35	39	44	48	50	53		119	58	63	68	72	74	76
90	35	40	45	49	51	53		120	59	64	69	73	75	77



7-foot diameter pits

Table 9-4

SEEPAGE PIT DEPTH (feet) BASED ON PERCOLATION TEST RATE														
Perc Rate	Number of Bedrooms							Perc Rate	Number of Bedrooms					
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6
1	17	17	17	17	17	17		31	17	17	19	22	24	27
2	17	17	17	17	17	17		32	17	17	20	22	24	27
3	17	17	17	17	17	17		33	17	17	20	22	25	28
4	17	17	17	17	17	17		34	17	17	20	22	25	28
5	17	17	17	17	17	17		35	17	17	20	23	25	28
6	17	17	17	17	17	17		36	17	17	20	23	25	28
7	17	17	17	17	17	17		37	17	17	20	23	25	28
8	17	17	17	17	18	18		38	17	17	20	23	26	28
9	17	17	17	17	18	19		39	17	17	21	23	26	28
10	17	17	17	17	19	19		40	17	17	21	24	26	29
11	17	17	17	17	19	20		41	17	18	21	24	26	29
12	17	17	17	17	20	20		42	17	18	21	24	27	29
13	17	17	17	18	20	20		43	17	18	21	24	27	29
14	17	17	17	18	20	21		44	17	18	22	25	27	30
15	17	17	17	18	20	21		45	17	18	22	25	27	30
16	17	17	17	19	20	22		46	17	18	22	25	27	30
17	17	17	17	19	21	23		47	17	18	22	25	28	30
18	17	17	17	19	21	23		48	17	19	22	25	28	30
19	17	17	17	19	21	24		49	17	19	23	25	28	31
20	17	17	17	20	21	24		50	17	19	23	25	28	31
21	17	17	17	20	22	24		51	17	19	23	25	28	31
22	17	17	18	20	22	24		52	17	19	23	26	28	31
23	17	17	18	20	22	25		53	17	19	23	26	29	32
24	17	17	18	20	23	25		54	17	20	24	26	29	32
25	17	17	18	20	23	25		55	17	20	24	26	29	32
26	17	17	18	20	23	26		56	17	20	24	27	29	32
27	17	17	19	21	23	26		57	17	20	24	27	29	32
28	17	17	19	21	23	26		58	17	20	24	27	30	33
29	17	17	19	21	24	27		59	17	20	25	27	30	33
30	17	17	19	21	24	27		60	17	20	25	28	30	33



SEEPAGE PIT DEPTH (feet) BASED ON PERCOLATION TEST RATE														
Perc Rate	Number of Bedrooms							Perc Rate	Number of Bedrooms					
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6
61	17	21	25	28	31	34		91	31	35	39	42	45	46
62	17	21	25	29	31	33		92	32	36	40	43	45	47
63	18	22	26	29	31	33		93	32	36	40	44	46	48
64	18	22	26	30	32	34		94	33	37	41	44	47	48
65	19	23	26	30	32	34		95	34	38	42	45	47	49
66	19	23	27	30	33	35		96	34	38	43	46	48	50
67	20	24	28	31	33	35		97	35	39	43	46	49	51
68	20	24	28	31	34	35		98	36	40	44	47	49	51
69	20	25	29	32	34	36		99	36	40	45	48	50	52
70	21	25	29	32	35	36		100	37	41	45	48	51	53
71	21	25	30	33	35	37		101	38	42	46	49	51	53
72	22	26	30	33	35	37		102	38	43	47	50	52	54
73	22	26	30	34	36	38		103	39	43	47	51	53	55
74	23	27	31	34	36	38		104	40	44	48	51	53	55
75	23	27	31	35	37	39		105	40	45	49	52	54	56
76	24	28	32	35	37	39		106	41	45	49	53	55	57
77	24	28	32	35	38	40		107	42	46	50	53	56	57
78	25	29	33	36	38	40		108	43	47	51	54	56	58
79	25	29	33	36	39	40		109	43	47	51	55	57	59
80	25	30	34	37	39	41		110	44	48	52	55	58	59
81	26	30	34	37	40	41		111	45	49	53	56	58	60
82	26	30	35	38	40	42		112	45	49	53	57	59	61
83	27	31	35	38	40	42		113	46	50	54	57	60	61
84	27	31	35	39	41	43		114	47	51	55	58	60	62
85	28	32	36	39	41	43		115	47	51	56	59	61	63
86	28	32	36	40	42	44		116	48	52	56	59	62	63
87	29	33	37	40	42	44		117	49	53	57	60	62	64
88	29	33	37	40	43	45		118	49	53	58	61	63	65
89	30	34	38	41	43	45		119	50	54	58	61	63	66
90	30	34	38	42	44	46		120	51	55	59	62	65	66

Where: mpi = minutes per inch



Conversion Factor:

Example: 1 inch of drop \div 10 minutes \times 60 minutes per hour = 6 inches/hour

For the calculation substitute the bold number in the equation above for the bold number from the table.





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CHAPTER 10

Horizontal Seepage Pit Systems

Horizontal seepage pits are a type of dispersal system may be used throughout the City of Rancho Cucamonga if specific soil and site conditions exist. The use of the horizontal seepage pit is generally only considered where adequate area does not exist for a leach line system. This Chapter will provide the procedures for the design and construction of horizontal seepage pits. The procedures are specific for horizontal seepage pits and do not apply to vertical seepage pits.

Percolation Test Procedures

Percolation tests are to be performed in accordance with the test procedures found in <u>Chapter 6 - Percolation Test Procedure</u> of this LAMP. Deep borings, backhoe excavations, and percolation tests are used to demonstrate that the dispersal field is located in an area of uniform soil with excellent permeability, and that no conditions exist which could adversely affect the performance of the system or result in groundwater degradation.

- 1. The average percolation rates shall not exceed 30 minutes per inch in any portion of the horizontal seepage pit. Individual rates exceeding 30 minutes per inch may be considered with additional soil testing.
- 2. At least 4 percolation test holes at each pit location should be provided to represent soil types within the infiltrative surface area of the seepage pit. This profile should represent the entire sidewall depth of the pit.
- 3. At least 1 deep boring should extend to a depth of at least 10 feet below the bottom of the seepage pit, or to impermeable material. In no case shall less than 5 feet of unsaturated permeable soil exist below the bottom of the seepage pit.
- 4. Backhoe excavations may be required to demonstrate uniformity of soil throughout the seepage pit. This would be necessary when the pit is proposed in an area of variable soil conditions.
- 5. Any percolation tests for horizontal seepage pits, which were approved based on testing prior to approval of this LAMP, will require additional percolation testing unless the previous testing meets current requirements.
 - Dimensions and Construction Requirements
- 1. Horizontal seepage pits are to be installed according to the qualified professional's specifications for location, length, width, and depth.
- 2. Horizontal seepage pits are to be spaced 20 feet apart measured edge to edge.
- 3. Primary and reserve horizontal seepage pits cannot be combined in one common pit.



- 4. The pit excavation must be at least 4 feet in width, but not greater than 6 feet in width.
- 5. The top of the infiltrative surface shall be at least 2 feet below the natural grade but no more than 5 feet. This depth is also known as the cap depth. Additional soil can be placed over the top of the installed horizontal seepage pit at the discretion of the qualified professional.
- 6. The sidewall depth below the cap shall be at least 6 feet but cannot exceed 7 feet.
- 7. The pit excavations may arc or bend under the following conditions:
 - a. The maximum deflection cannot exceed a total of 45 degrees in any direction without increasing the pit length to compensate for loss of sidewall area.
 - b. Bends or arcs totaling greater than 45 degrees may be accepted on a case-by-case basis. A correction factor will be required, increasing the total length, due to sidewall loss.
 - c. U-shaped and H-shaped bends will not be accepted.
- 8. The maximum slope for the use of horizontal seepage pits is 25% (4:1). Exceptions to this slope limit may be considered up to 50% (2:1), on a case-by-case basis, where the soil and slope are uniform, extending 100 feet beyond the seepage pit. Additional testing, and design detail shall be required to address the risk of effluent surfacing on the slope recognizable as sewage as well as slope stability issues. Slopes that exceed 25% (4:1) will, in most cases, require a terrace design. Any grading to create terraces should be in accordance with any permit requirements for brushing, clearing, and grading from any other agency.
- 9. The use of concrete pit liners is allowed. If used, the concrete pit liners shall meet the testing standards established by the International Association of Plumbing and Mechanical Officials (IAPMO).
- 10. All pits must be filled with clean leach line rock to the cap depth of the horizontal pit liner. The rock should be graded at 1 to 1.5 inches in size and shall be covered with straw, untreated building paper or a geotextile fabric prior to backfill to prevent the infiltration of soil into the rock.
- 11. A manifold system constructed of 4 inch loop of Schedule 40 perforated pipe shall be installed in the pit to allow for distribution of the effluent throughout the entire pit. The manifold shall be placed 1 foot from the sidewall of the horizontal seepage pit and shall run the length and width of the pit in a rectangular pattern.
- 12. Where more than one horizontal seepage pit is proposed for the primary or reserve system, a distribution box must be used to connect the pits.

- 13. A hybrid system combining a horizontal seepage pit for the primary or reserve design, and leach lines for the other system is allowed. However, a combination of the two types of systems, used for a single primary or reserve design, will not be considered. The system design identified as the most difficult installation shall be installed as the primary system. This is to be based on access, grading, or other obstacles to install the system once the house is constructed.
- 14. The California Occupational Health and Safety Act (COHSA) requires shoring for excavations exceeding 5 feet when persons will be working in them. All work done installing horizontal seepage pits must comply with COHSA for the purpose of construction and inspection.

Calculations

The calculations for sizing a horizontal seepage pit are done to provide an equivalent amount of sidewall area in the seepage pit as found in a standard 3 foot deep leach line trench using the same percolation rate.

Seepage pit length = $3L_L - 2wd$ 2d

Where: 3 = sq. ft. of absorptive sidewall area per lineal foot of 3 foot deep leach line trench

L_L = leach line length as a function of percolation rate

w = seepage pit width

d = seepage pit sidewall depth below cap

Example: A percolation test yields a 15 minutes per inch average rate and a 3-bedroom house is proposed. The corresponding leach line footage for 15 min/inch is 360 linear feet. The seepage pit will have a 6 foot sidewall depth and a 4 foot width.

Length of horizontal seepage pit = 3(360 ft) - 2(4 ft x 6 ft)2 x 6 ft

$$= 1080 \text{ ft2} - 48 \text{ ft2}$$
12 ft

= 86 ft





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CHAPTER 11

Alternative Treatment Systems and Sewage Holding Tanks.

Note: Alternative Treatment Systems and Sewage Holding Tanks may only be used with prior approval of the Building and Safety Services Director, prior to submittal of plans for permitting purposes.

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CHAPTER 11 – ATS 98



CHAPTER 12

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 <u>Clean Water Act</u>, <u>Section 303(d)</u>. 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) <u>OWTS Policy</u>, 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.

Note: As of the adoption of this LAMP there are no impaired water bodies within the incorporated limits of the City of Rancho Cucamonga.

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 <u>OWTS Policy</u>. The water bodies listed have been specifically identified per the <u>303(d) list</u>, 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 12-1

Name	Region	Impairment	TMDL Completion Date
Mill Creek Reach 1	Santa Ana	Pathogens	2015
Mill Creek Reach 2	Santa Ana	Pathogens	2015

Total Maximum Daily Load (TMDL)

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).

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 Table 12-1 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.

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 <u>OWTS Located Near Water Bodies Impaired for Nitrogen</u> and <u>OWTS Located Near Water Bodies</u>
 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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CHAPTER 13

Corrective Action

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

Corrective Action Requirements

- 1. Building and Safety Services or other designated City departments will complete an investigation within 24 hours to determine the validity of the complaint or other notification of a failing OWTS.
- 2. Any OWTS that is found to be failing shall have a notice of violation issued to the property owner requiring action to eliminate the immediate health hazard through pumping of the septic tank by a licensed sewage hauler or elimination of wastewater flows to the failing OWTS. The notice of violation will also require a repair to be completed to the OWTS as needed within a reasonable time frame.
- 3. The proposed repair shall be evaluated by Building and Safety Services to ensure it meets the minimum design requirements of this LAMP or is in substantial conformance to the greatest extent practicable.
- 4. Groundwater separation requirements to the bottom of the dispersal system and the highest anticipated groundwater level for repairs shall be as follows:
 - a. 5 foot for conventional OWTS
 - b. 2 foot for alternative OWTS with supplemental treatment
 - c. Less than 2 foot separation cannot be allowed through this LAMP and will require a waste discharge permit through the RWQCB.
- 5. The repair shall be completed under permit and inspection by Building and Safety Services.
- 6. Failure to complete the required corrective action within the time frames given will result in additional enforcement action which may include condemnation of the structure for immediate health hazards.

Substandard Systems

All OWTS within the City of Rancho Cucamonga that do not meet minimum design requirements of this LAMP shall be deemed substandard. Sites with substandard OWTS shall be prohibited from having future additions or modifications to the property that would potentially increase wastewater flow to the OWTS or decrease the amount of usable area available for the OWTS.



CHAPTER 14

LAMP Scope of Coverage

There are areas of wastewater treatment which are not under the City'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 City's role and the scope of coverage provided by the Local Agency Management Program (LAMP) in the monitoring of OWTS within the CIty of Rancho Cucamonga'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

Building and Safety Services may conduct an onsite inspection of percolation testing for new OWTS containing any lot which is:

- Located in the foothill areas, this includes any area adjacent to National Forest boundaries, or
- Less than 1.5 acres, and is not served by a permitted water system, or a local water agency.
- Located:
 - On a slope greater than 20% (5:1),
 - 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 Building and Safety Services Department must complete an onsite inspection for percolation testing when the Qualified Professional submitting the report has:

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

Building and Safety Services 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.

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

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



dispersal system shall be no less than 200 feet from the high water mark of the reservoir, lake or flowing water body.

- 2. For replacement OWTS that do not meet the horizontal separation requirements in Item 1 above, the replacement OWTS shall meet the horizontal separation to the greatest extent practicable. In such case, the replacement OWTS shall utilize supplement treatment and other mitigation measures, unless the permitting authority finds that there is no indication that the previous system is adversely affecting the public water source, and there is limited potential that the replacement system could impact the water source based on topography, soil depth, soil texture, and groundwater separation.
- 3. For new OWTS, installed on parcels of record existing before May 13, 2013 which is the effective date of the State's OWTS Policy, that cannot meet the horizontal separation requirements above, the OWTS shall meet the horizontal separation to the greatest extent practicable and shall utilize supplemental treatment for pathogens as specified in Section 10.8 of the State's OWTS Policy and any other mitigation measures prescribed by Building and Safety Services

Sewage Holding Tanks

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

- Maintain an operating permit with Building and Safety Services and
- Be inspected annually.

Note: Refer to Sewage Holding Tanks for more information.

Alternative Treatment Systems

Owners of alternative treatment systems located within the City 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 Building and Safety Services discretion when all four quarterly wastewater samples show that the system is meeting the supplemental treatment requirements. Refer to <u>Alternative Onsite Treatment Systems</u> for more information.

Variances

On a case by case basis, Building and Safety Services may establish alternative OWTS siting and operational requirements where it is determined by Building and Safety Services the alternate requirements will provide a similar level of protection. The details of action granting a variance shall be recorded and entered in the files of the Department of Building and Safety. 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. Building and Safety Services Department may require a "Will or Will Not Serve" letter CVWD 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 the Building and Safety Services Department:
 - 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 30% incline without a slope stability report approved by a Qualified Professional. Refer to Natural Ground Slope for more information regarding natural ground slope requirements.

Leaching Areas

As referenced in the current adopted California Plumbing Code, Appendix H – Private Sewage Disposal Systems – Section H 301.1 Leaching Chambers that comply with IAPMO PS 63 and bundled expanded polystyrene synthetic aggregate units that comply with IAPMO IGC 276 shall be sized using the required area calculated using Table H 201.1(3) with a 0.70 multiplier.

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 depth 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 Cover Requirements for more information.

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.

Class V Injection Wells

United States Environmental Protection Agency (USEPA) requirements apply to underground injections control systems for OWTS. Subsurface disposal systems including leach fields and seepage pits shall comply with USEPA Underground Injection Control requirements when classified as a Class V injection well. Subsurface disposal systems with at least one of the following characteristics are classified as Class V wells:

- i. The system has the capacity to serve 20 or more persons per day.
- ii. The system receives wastewater other than domestic wastewater such as that generated by manufacturing, chemical processing, industrial fluid disposal, automotive repair, or recycling.
- **iii.** The system receives sewage containing biological agents (such as wastewater from recreational vehicles or portable toilets).

Disposal systems that are classified as Class V wells must be registered with USEPA either by completing the online form at: https://www.epa.gov/uic/forms/underground-injection-wells-registration, or by completing and submitting Form 7520-16: Inventory of Injection Wells. Form 7520-16 is available at: https://www3.epa.gov/region9/water/groundwater/uic-pdfs/7520-16.pdf.

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:



Table 14-1

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).

Table 14-2

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	200 feet from the high water mark.
Less than 2,500 feet from the intake point,	

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.



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 Building and Safety Services 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 the LAMP, which are unable to meet the horizontal setback requirements, must:

- Meet the separation requirements to the greatest extent practicable,
- Use other mitigation measures, if necessary, as determined by the permitting authority.

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

Site Assessment

Prior to approving the use of an OWTS, a site evaluation by the Building and Safety Services Department may be required to:

- Ensure the proper system design, and the existing and proposed disposal locations for seepage 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 or the City of Rancho Cucamonga. When City 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 Outreach and Education

Reference and educational materials for owners of OWTS can be found on the City of Rancho Cucamonga, Building and Safety Services Department web site. These educational documents provide information for owners regarding how to locate, operate, and maintain their OWTS.

Local Watershed Management

The City of Rancho Cucamonga has one local watershed management agency which manage the watershed located within the City of Rancho Cucamonga boundaries. This agency is the Chino Basin Watermaster. Building and Safety Services notifies them 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 Chino Basin Watermaster.

Chino Basin Watermaster

The Chino Basin Watermaster is a consensus bases 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).



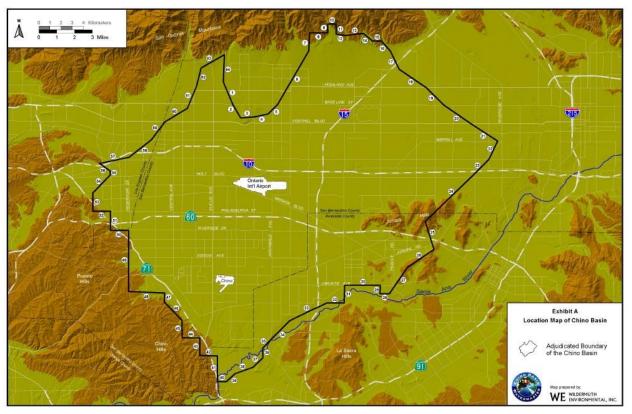


Figure 14-1 Chino Water Basin Map





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CHAPTER 15

Septage Management

Septage is the partially treated waste from an OWTS. It generally consists of all the wastes that are disposed of through a structure's plumbing system that neither drain out into the soil nor are converted to gases by the bacteria in the tank. In the septic tank where primary treatment takes place the waste separates into three distinct layers; the upper scum layer, the middle clarified layer and the lower sludge layer.

Over time the scum and sludge layers accumulates to the point where the biologically active clarified area is minimized. When this occurs the tank should to be pumped. The liquid waste pumped from the tank is referred to as septage. Septage is essentially sewage and like sewage must disposed of in a manner that protects public health.

The City of Rancho Cucamonga currently does not request pumping information or collect septage pumping data from qualified waste haulers.

Once removed from the tank by a registered pumper, septage must be transported to a dispersal facility that operates under the authority of a permit by the Santa Ana Regional Water Quality Control Board.

The San Bernardino County Division of Environmental Health regulates the transportation and disposal of sanitary liquid waste within San Bernardino County.

Septage pumpers are required per §33.0859 (d) of San Bernardino County Code to provide each customer for whom the permittee has provided pumper services for sanitary waste removal, with a receipt/and or bill for services performed. This receipt/bill shall include the following information:

- 1. Number of compartments pumped.
- 2. Estimated gallonage or volume of sanitary wastes removed.
- 3. Intended location to which the sanitary wastes are to be discharged.
- 4. Estimated disposal charges to be incurred upon disposal of said sanitary wastes.

Septage pumpers dispose of their liquid waste at the nearest sewage treatment plant, RP1 in the City of Ontario operated by the Inland Empire Utilities Agency (IEUA). IEUA keeps records from each waste hauler of the above information along with location within the City of Rancho Cucamonga where the septage was pumped from.

Per §33.0860 of San Bernardino County Code, no sanitary wastes, including wash or rinse water used to clean the interior of the liquid waste hauler's vehicle tank or any portable toilet, shall be disposed of at any location which is not approved by San Bernardino County Department of

Environmental Health Services (DEHS) and which does not meet either or both, as applicable, of the following conditions:

- A. The current unrevoked waste discharge requirements for the treatment and/or disposal of liquid wastes from the appropriate California Regional Water Quality Control Board. (Refers to municipal waste water treatment plants).
- B. A current, unrevoked solid waste disposal site permit, sanctioning the disposal of septic or other liquid wastes from the California Integrated Waste Management Board. (Applies to permitted landfills with septage receiving ponds).

No sanitary waste pumped by a pumper truck is allowed to be stored in a sewage holding tank within the City of Rancho Cucamonga prior to final disposal at an approved location, without prior approval from the City of Rancho Cucamonga Building and Safety Services Department and the Planning Department. The use of a sewage holding tank requires approval from the City of Rancho Cucamonga Planning Department as well as the application for a sewage holding tank permit from the City of Rancho Cucamonga.



CHAPTER 16

Data Collection/Reporting/Notifications

As a condition of Building and Safety Services oversight of OWTS within the City of Rancho Cucamonga, Building and Safety Services has certain responsibilities related to data collection and reporting to the Santa Ana Regional Water Quality Control Boards (RWQCB) and in some instances, the Division of Drinking Water (DDW), as well as the owners of water systems. This Chapter will detail the data that must be collected and the procedure for reporting to RWQCB and notifications to owners of water systems and SWRCB.

Reporting Requirements and Data Collection

As a condition to having oversight of the Onsite Wastewater Treatment Systems (OWTS) within the City of Rancho Cucamonga, the City 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 City 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 incorporated areas of the City, 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 reports provided by the Inland Empire Utilities Agency (IEUA) regarding the liquid waste haulers including those who pumped septage in the City, the location from where the septage was pumped and the volume of septage pumped along with a report from IEUA regarding the available septage capacity of the IEUA sewage treatment facilities.

OWTS Water Quality Assessment Program (WQAP)

In addition, the City of Rancho Cucamonga must maintain a water quality assessment program to determine the general operation status of OWTS and to evaluate the impact of OWTS discharges, and assess the extent to which groundwater and local surface water quality may be



adversely impacted. The assessment program will include monitoring and analysis of water quality data, review of complaints, failures and OWTS inspections. The water quality data can be obtained from the flowing sources:

- a. Review of public system sampling reports done by the local agency or another municipality responsible for the public system.
- b. Water quality testing reports done at the time of new well development if those are reported.
- c. Data contained in the California Water Quality Assessment Database.
- d. Groundwater data collected as part of the Groundwater Ambient Monitoring and Assessment Program and available in the Geotracker Database.
- e. Any other sampling data deemed relevant or necessary for the protection of ground/surface water supplies.

The Salt and Nutrient Management Plan for Region 8 is now incorporated into its Basin Plan. The Basin Plan specifies surface and groundwater quality objectives for Total Dissolved Solids (TDS) and Nitrates (N) and identifies those groundwater basins that have no TDS assimilative capacity. Discharges to those groundwater management zones must not exceed water quality objectives. The OWTS impact and compliance with those objectives will be included in the City of Rancho Cucamonga's 5 year evaluation of OWTS impacts to groundwater and local surface water.

In January 2017 the State Water Resources Control Board shared with the City of Rancho Cucamonga a Wildermuth Environmental Inc. (WEI) report dated July 16, 2016 prepared for the Cucamonga Valley Water District regarding "Draft Groundwater Model report, Addendum No. 2 – Projected Nitrate Concentrations Changes with Nitrate Removal Projects." This report indicates that onsite waste water treatment systems could be a source of Nitrates within the ground water basin. The City of Rancho Cucamonga will coordinate and work with the Cucamonga Valley Water District (CVWD) to reduce the source of nitrates from onsite wastewater treatment systems. To reduce the nitrates in the ground water the standards of this LAMP document will be adhered to for the permitting of onsite wastewater treatment systems (septic systems).

A summary of the data and a report of the City's activities and findings shall be submitted on an annual basis on or before February 1st. An evaluation of the monitoring program and an assessment of whether water quality is being impacted by OWTS shall be submitted every 5 years.



LAMP Assessment

Every five years an assessment will be completed to evaluate the LAMP and determine whether OWTS within the City 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 City, the City will compile and review:

- Septic tank pumper disposal reports provided by the Inland Empire Utilities Agency (IEUA),
- 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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APPENDIX A - ENLARGED MAPS

The following maps are larger size maps of Figures 1.2 through 1.6.





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Figure 1.2 Septic Systems

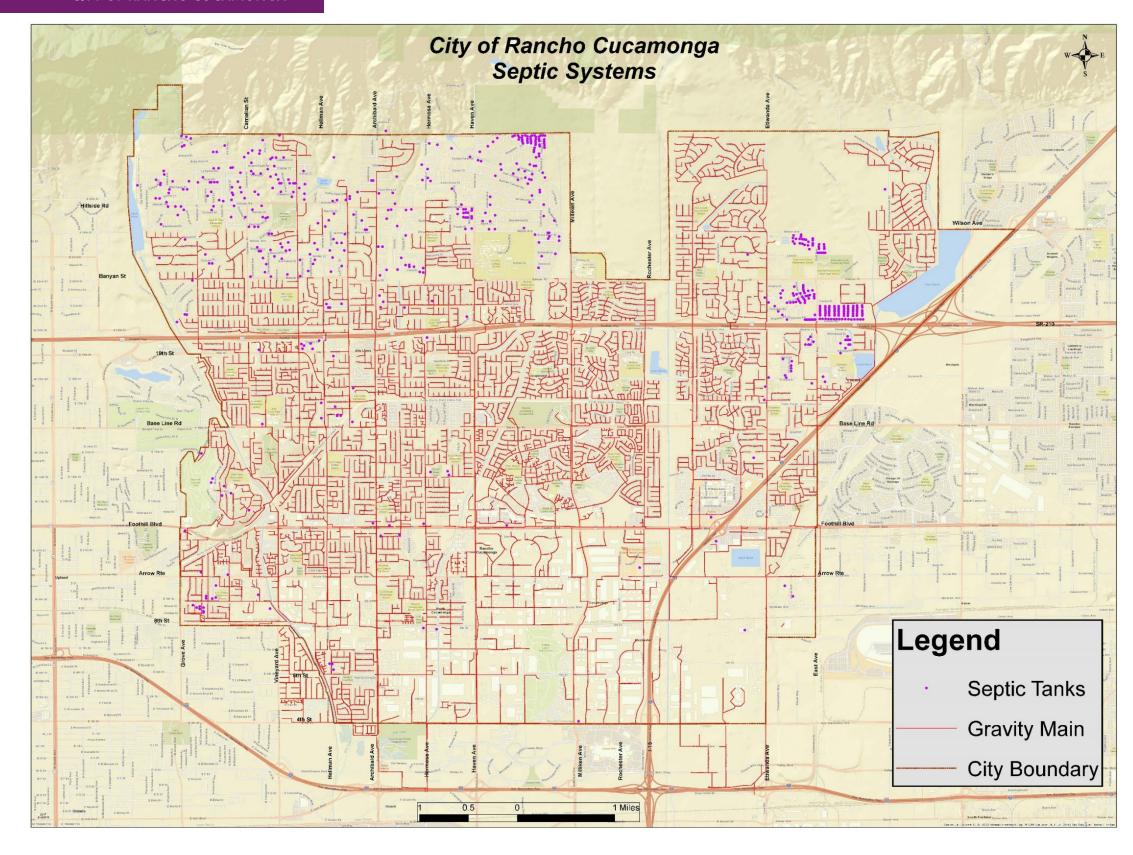




Figure 1.3 General Septic Areas

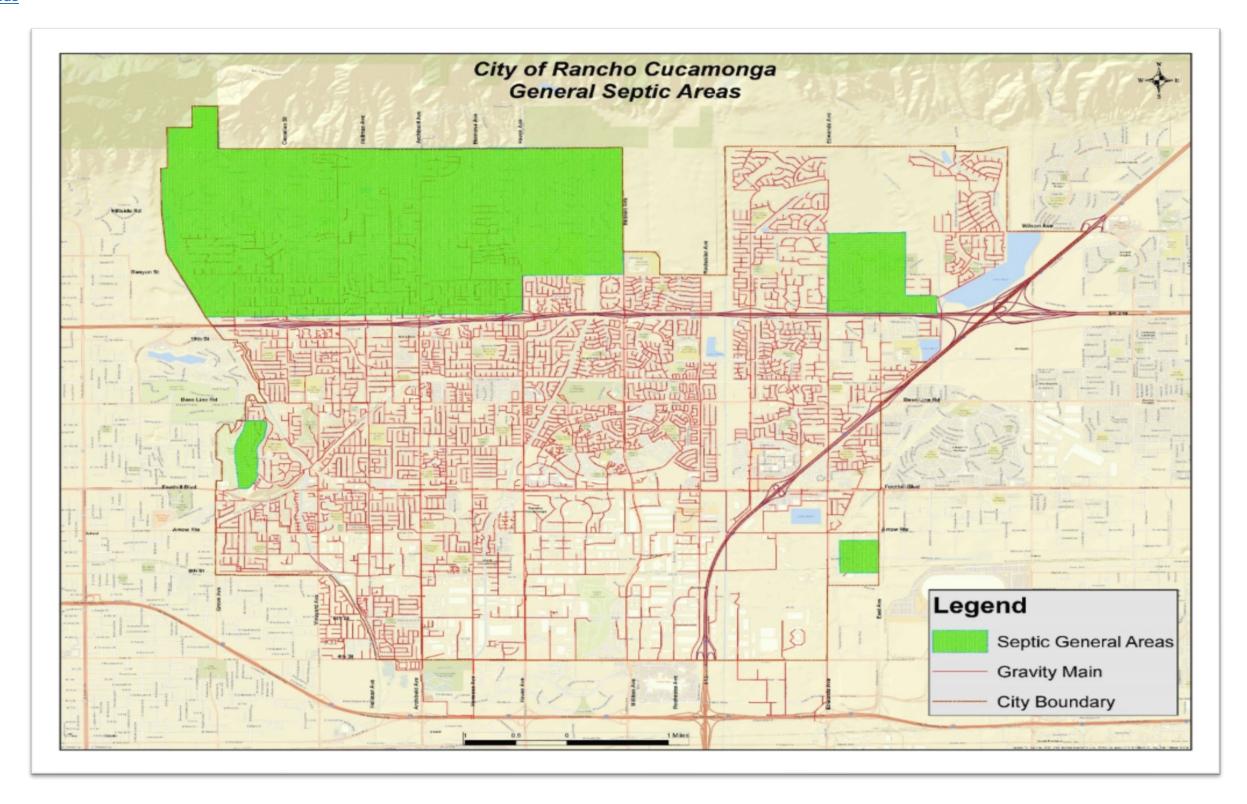
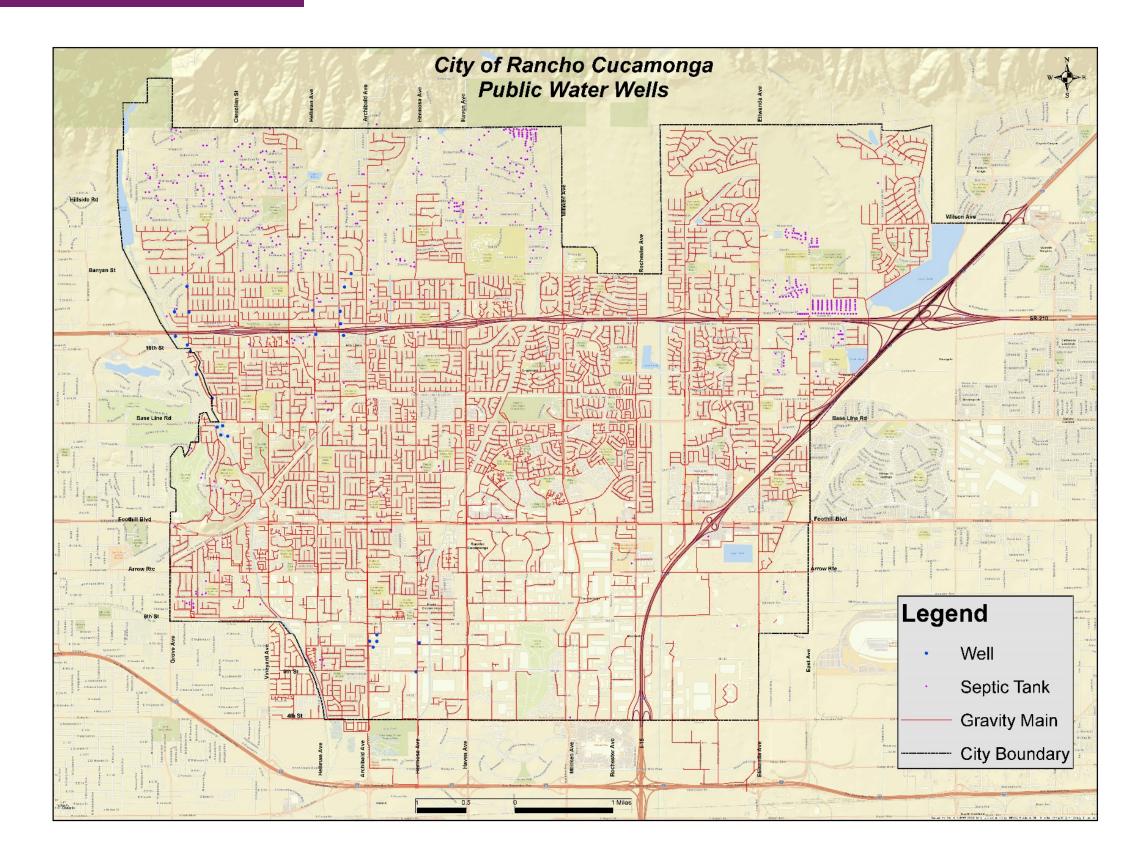




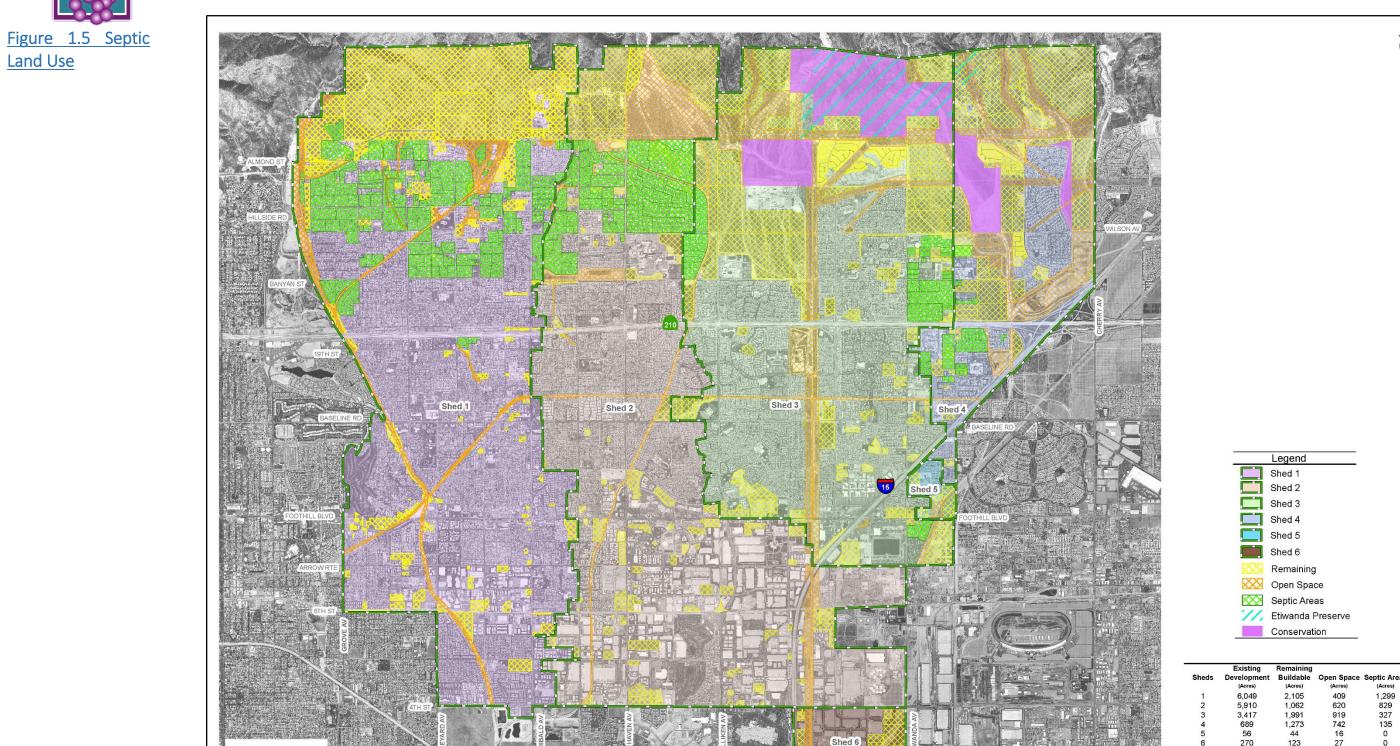
Figure 1.4 Public Water Wells



Cucamonga Valley Water District



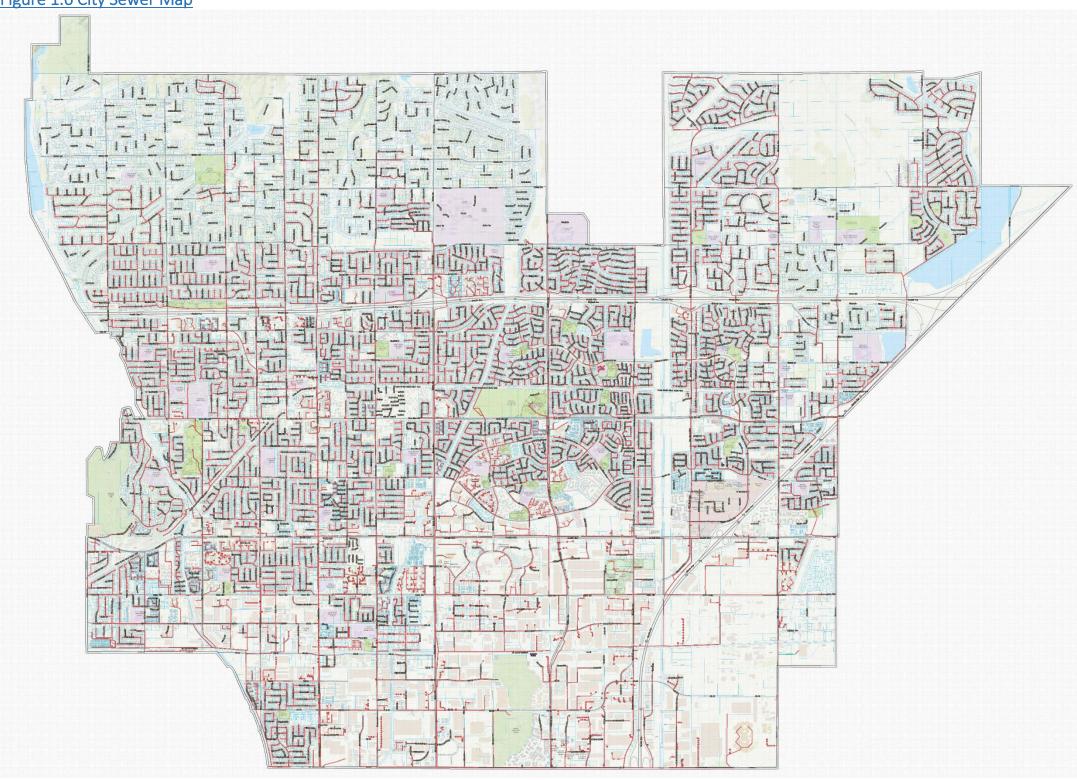
Land Use



Sewer Sheds / Potential Development May 2007



Figure 1.6 City Sewer Map





APPENDIX B – RWQCB LAMP APPROVAL

The following page is the Resolution from the State Water Resources Control Board approving the City of Rancho Cucamonga Local Agency Management Program.





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APPENDIX C – CITY OF RANCHO CUCAMONGA ADOPTING ORDINANCE

Ordinance No. 936 adopts the amended Chapter 19.28 in its entirety in the Rancho Cucamonga Development Code regarding the Local Agency Management Program for Onsite Wastewater Treatment Systems (LAMP OWTS) with an effective date of September 17, 2018.

The following pages are City of Rancho Cucamonga Ordinance No. 911 adopting the Local Agency Management Program for Onsite Wastewater Treatment Systems (LAMP OWTS) with an effective date of August 21, 2017.

ORDINANCE NO. 936

ORDINANCE OF THE CITY COUNCIL OF THE CITY OF RANCHO CUCAMONGA, CALIFORNIA, AMENDING TITLE 19, ARTICLE 28 OF THE RANCHO CUCAMONGA MUNICIPAL CODE RELATING TO ONSITE WASTEWATER TREATMENT SYSTEMS

A. Recitals.

- 1. Assembly Bill 885, enacted in 2000 by the State legislature and codified in section 13290 through 13291.7 of the Water Code, directed the State Water Resources Control Board (SWRCB) to develop regulations or standards for onsite wastewater treatment systems (OWTS), to be implemented by qualified local agencies. The SWRCB issued those regulations in 2012 as its "Water Quality Control Policy for Siting, Design, Operation and Maintenance of Onsite Wastewater Treatment Systems" (OWTS Policy). The OWTS Policy allows local agencies to approve alternative OWTS, based on a local ordinance, after approval of a Local Agency Management Program (LAMP) by the Regional Water Quality Control Board (RWQCB).
- 2. In coordination with the Santa Ana RWQCB, the City has developed a city-wide Tier 2 LAMP addressing the required elements of the OWTS Policy.
- 3. On June 16, 2017, the RWQCB held a public hearing and adopted the citywide Tier 2 LAMP by Resolution R8-2017-0012.
- 4. Following RWQCB approval of the city-wide Tier 2 LAMP, the City has prepared this ordinance in order to implement the LAMP.
 - 5. All legal prerequisites to the adoption of this Ordinance have occurred.
- 6. The purpose of this amended Ordinance is for clarifying errors and omissions.

B. Ordinance.

NOW, THEREFORE, the City Council hereby ordains as follows:

SECTION 1. The City Council finds that the facts set forth in the Recitals, Part A, of this Ordinance are true and correct.

SECTION 2. Chapter 19.28, Onsite Wastewater Treatment Systems, is hereby added to the Rancho Cucamonga Municipal Code to read as follows:

"Chapter 19.28

Section 19.28.010 Purpose

Section 19.28.020 Definitions

Section 19.28.030 City not responsible for damage.

Section 19.28.040 Public sewer; connection to.

Section 19.28.050 Onsite wastewater treatment systems; when used.

Section 19.28.060 Onsite wastewater treatment systems subject to Santa Ana Regional Water Quality Control Board waste discharge requirements; City permit required; fee.

Section 19.28.070 General Prohibitions, Violations.

Section 19.28.080 General onsite wastewater treatment systems applicability standards; OWTS permit required.

Section 19.28.090 OWTS permit application requirements.

Section 19.28.100 OWTS permit fees.

Section 19.28.110 Refusal to issue building permit.

Section 19.28.120 Refusal to issue certification of occupancy.

Section 19.28.130 State contractor's license required for installation or repair; registration fee.

Section 19.28.140 Construction inspections.

Section 19.28.150 Siting Standards.

Section 19.28.160 Groundwater and Percolation Testing Requirements.

Section 19.28.170 Septic Tank Requirements.

Section 19.28.180 Leach Line System Requirements.

Section 19.28.190 Vertical Seepage Pit System Requirements

Section 19.28.200 Horizontal Seepage Pit Systems.

Section 19.28.210 Alternative onsite wastewater treatment systems; Use of alternative systems.

Section 19.28.220 Alternate onsite wastewater treatment systems siting and operational requirements; Variances permissible.

Section 19.28.230 Sewer wells; cesspools; seepage pits.

Section 19.28.240 Holding tanks; portable toilets.

Section 19.28.250 OWTS located in proximity to impaired water bodies.

Section 19.28.260 OWTS failures; Corrective actions required.

Section 19.28.270 Substandard systems.

Section 19.28.280 Abandoned onsite wastewater treatment systems.

Section 19.28.290 Abatement.

Section 19.28.300 Notice of violation.

Section 19.28.310 Appeal from denial, revocation or suspension.

ONSITE WASTEWATER TREATMENT SYSTEMS

19.28.010 Purpose.

The purpose of this chapter is to establish standards for the approval, installation, and operation of onsite wastewater treatment systems (OWTS) within the City of Rancho Cucamonga, consistent with the appropriate California Regional Water Quality Control Board (RWQCB) standards and basin plans. The standards are adopted to prevent the creation of health hazards and nuisance conditions and to protect surface and groundwater quality. The City has prepared a Local Agency Management Program (LAMP) for OWTS permitting and regulation throughout the City, and that program has been approved the California Regional Water Quality Control Board for the Santa Ana Region.

19.28.020 Definitions.

As used in this chapter, the following terms and phrases have the following meaning:

Above Ground Dispersal System means a covered sand bed elevated above original ground surface with an effluent leach field located in the sand bed.

Accessory Structures mean a subordinate habitable building which is incidental and not attached to the main building or use on the same lot. If an accessory building is attached to the main building or if the roof is a continuation of the main building roof, the accessory building shall be considered an addition to the main building. Includes habitable structures

with sanitary sewer plumbing facilities regardless of whether a Building Permit is required, including, but not limited to, barns, guesthouses, second dwelling units, garages, storage buildings/sheds, and pool (swimming) houses/bathrooms.

Basin Plan (or Water Quality Control Plan) means 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 means the rock, usually solid, which underlies soil or other unconsolidated, surficial material.

Building Official means the Building Official for the City of Rancho Cucamonga is the Building and Safety Services Director and is the officer or other designated authority charged with the administration and enforcement of the current adopted California Building Code, or a duly authorized representative.

California Environmental Data Exchange Network (CEDEN) means a central location to find and share information about California's water bodies, including streams, lakes, rivers, and coastal oceans.

CCR means California Code of Regulation (CCR, Cal. Code Regs.) is the codification of the general and permanent rules and regulations (sometimes called administrative law) announced in the California Regulatory Notice Register by California state agencies.

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

Clay is used to describe a soil particle, or type of soil texture: (i) As a soil: Particle — clay consists of individual rock or mineral particles having diameters of <0.002 millimeters (mm); (ii) As a 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 mean rock fragments measuring 76 mm (3 inches) or larger, using the USDA soil classification systems.

Director means the Director of the Rancho Cucamonga Building and Safety Services Department.

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

Domestic Well means a groundwater well that provides water for human consumption and is not regulated by the SWRCB.

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

Electronic Deliverable Format (EDF) means 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 means an OWTS that was constructed, operating, and issued a permit prior to the effective date of the LAMP.

Grease Interceptor means 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 means water below the land surface that is at, or above, atmospheric pressure.

High Strength Wastewater means Wastewater, prior to septic tank or other form of OWTS treatment component, having: (i) A 30-day average concentration of Biochemical Oxygen Demand (BOD) greater than 300 milligrams per liter (mg/L), and/or (ii) Total Suspended Solids (TSS) greater than 330 mg/L, and/or (iii) A Fats, Oil, and Grease (FOG) concentration greater than 100mg/L.

Impaired Water Bodies/303(d) List means 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 the United States Environmental Protection Agency (EPA).

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

Mottling means a soil condition that: (i) Results from oxidizing or reducing minerals due to soil moisture changes from saturated to unsaturated over time, and/or (ii) 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/or (iii) May indicate historic seasonal high ground water levels.

Mound System means 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 means a not for profit, non-governmental organization which develops health and safety standards, and performs product certification.

New Development means 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: (i) Approval, or conditional approval, of a tentative parcel or tract map by the City of Rancho Cucamonga, and/or (ii) A conditional use permit, and/or (iii) Approval, or conditional approval, from the City of Rancho Cucamonga Planning Department, and/or Building and Safety Services Department.

New OWTS means an OWTS permitted after the effective date of this LAMP.

Notice of Condition means a site specific document that is provided to the customer by Building and Safety Services. It is the owner's responsibility to ensure the document is recorded with the County Recorder's office.

OWTS means onsite wastewater treatment systems that use subsurface disposal, including: individual; community collection and disposal; and alternative collection and disposal systems. This is also referred to as a Private Sewage Disposal System in the current adopted California Plumbing Code and may also be referred to in general vernacular by the public as a "septic system". The definition of OWTS does not include "graywater" systems pursuant to California Health and Safety Code, Section 17922.12.

Percolation Test means a method of testing water absorption of the soil by using clean water to determine the dispersal system design.

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

Projected Flows mean 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 means 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: (i) Collection, treatment storage, and distribution facilities under control of the operator of the system that are used primarily in connection with the system; (ii) Collection or pretreatment storage facilities not under the control of the operator that are used primarily in connection with the system; (iii) 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 means a ground water well serving a public water system.

Qualified Professional means 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: (i) Professional Civil Engineers; (ii) Certified Engineering Geologists; (iii) Registered Environmental Health Specialists (REHSs); (iv) Registered Geologists; and (v) Geotechnical Engineers.

Replacement OWTS means 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) means 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 means a soil particle or type of soil texture. As a: (i) Soil particle—and consists of individual rock, or mineral particles, having diameters ranging from 0.05 to 2.0mm; and (ii) 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, Outside Perimeter means a drilled or dug excavation five (5) to seven (7) feet in diameter with a liner. It is also gravel filled (between the liner and the soil) and receives effluent discharge for dispersal from a septic tank or other OWTS treatment unit.

Seepage Pit Cap means a cover placed on the top of the seepage pit liner.

Septage means septic tank sludge, in particular the partially treated sludge stored in a septic tank or (less commonly) in a pit latrine. It is one type of fecal sludge. Septage is a by-product from the pretreatment of household wastewater in a septic tank where it accumulates over time.

Septic Tank means a watertight, covered, receptacle designed for primary treatment of wastewater and constructed to: (i) Receive wastewater discharged from a building; (ii) Separate settleable and floating solids from liquid; (iii) Digest organic matter using anaerobic bacterial action; (iv) Store digested solids, and/or (v) Clarify wastewater for further treatment with final subsurface discharge.

Service Provider means a person capable of operating, monitoring and maintaining an OWTS in accordance with this chapter.

Silt means a soil particle or type of soil texture. As a: (i) Soil particle — Silt consists of individual rock, or mineral particles, having diameters ranging from 0.05 to 0.002mm; (ii) 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 means 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 means an assessment of the characteristics of the site, sufficient to determine its suitability for an OWTS that meets the requirements of this LAMP.

Soil means the naturally occurring body of porous mineral and organic materials on the land surface, which is composed of: (i) Unconsolidated

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

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

State Water Resources Control Board (SWRCB) means the five member State Water Board, which develops statewide water protection plans and establishes water quality standards.

Supplemental Treatment means 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.

Structure means a new separate stand-alone building which is separate from the main structure and does not have a common roof line with the main structure and which requires a plumbing permit.

Surface Water Ambient Monitoring Program (SWAMP) means 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 means the ability to automatically measure and transmit OWTS data by wire, radio, or other means.

Total Coliform means a group of bacteria consisting of several genera belonging to the family Enterobacteriaceae, which includes Escherichia coli (E. coli) bacteria.

Tract means the development of more than one (1) lot or parcel, and/or more than one (1) structure discharging sewage wastes.

USDA means the United States Department of Agriculture which provides leadership regarding food, agriculture, natural resources, and related issues.

Waste Discharge Requirement means a permit issued for operation and discharge of waste pursuant to California Water Code Section 13260.

19.28.030 City not responsible for damage.

The city is not liable or responsible for damage resulting from the defective construction of any OWTS as herein provided, nor will the city or any official

or employee thereof be liable or responsible by reason of any inspection authorized hereunder.

19.28.040 Public sewer; connection to.

- A. Every property where there is proposed a residence, place of business, or other building or place which people occupy, or where persons congregate, reside, or are employed, and which abuts a street or alley located within an established sewer service district and outside such districts where required by the RWQCB, or which property line is within 200 feet of an approved available sanitary sewer, must be connected to the sanitary sewer in the most direct manner possible, provided a right-of-way and any necessary approval from the sewer service provider is first obtained.
- B. On property where an OWTS exists, and where such property abuts a street or alley located within an established sewer service district and outside such districts where required by the RWQCB, or which property line is within 200 feet of an approved available sanitary sewer, connection to the available sanitary sewer will be required at the time of system failure or when the building is remodeled, increased in square footage or altered in a manner as to change uninhabitable space into habitable space provided any necessary approval from the appropriate sewer authority is first obtained.
- C. The 200 foot connection requirement in subsections A and B above shall increase by 100 feet for each additional dwelling unit for any development in excess of a single family dwelling. For example, a 10 unit development will be required to connect to an available sanitary sewer if the sanitary sewer is within 1,100 feet $[200 + (9 \times 100 \text{ feet}) = 1,100 \text{ feet}]$ of the proposed development.

19.28.050 Onsite wastewater treatment systems; when used.

- A. Every residence, place of business, or other building, or place where persons congregate, reside, or are employed, and which cannot be connected to a sanitary sewer, must be provided with a water flush toilet connected to an approved OWTS.
- B. Every building, structure, or appurtenance that contains one or more waste producing fixtures such as toilets, sinks, showers or bathtubs, clothes washing machines, dish washing machines, animal wash pads, floor drains or other fixture or fittings intended to drain organic or inorganic waste material must be connected to an approved OWTS that meets the requirements of this chapter.
- C. Subject to local zoning restrictions and planning approval, multiple buildings on the same parcel, such as a main house and detached

living unit or two or more agricultural housing units, may be served by a common OWTS located on that parcel, provided the OWTS is determined to have sufficient treatment and dispersal capacity for the expected wastewater flow from all buildings or facilities connected to the OWTS.

- 19.28.060 Onsite wastewater treatment systems subject to Santa Ana Regional Water Quality Control Board waste discharge requirements; City permit required; fee.
- A. Review and approval by the Santa Ana Regional Water Quality Control Board is required for OWTS in cases where: (a) the peak wastewater flow handled by the OWTS is more than 10,000 gallons per day; (b) the OWTS is a categorized as a community system, which serves multiple discharges under separate ownership; (c) OWTS receiving high strength wastewater, unless the waste stream: (i) is from a commercial food service facility with BOD less than 900 mg/L and (ii) has a properly functioning oil/grease interceptor; (d) wastewater treatment plants of any kind or size; or (e) the Santa Ana Regional Water Quality Control Board has otherwise determined that their review and approval is necessary and appropriate for water quality protection. OWTS that are subject to the requirements and approval of the Santa Ana Regional Water Quality Control Board are also required to obtain approval of the Director in accordance with the following:
 - 1. The proposed system must be designed to accommodate the waste discharge consistent with the requirements of the Santa Ana Regional Water Quality Control Board.
 - 2. The Director will require engineered sewerage plans to be submitted by a registered civil engineer or a registered environmental health specialist with experience in OWTS design before issuing a permit.
 - A registered civil engineer, professional geologist or a registered environmental health specialist will be required to inspect the construction of the OWTS and, upon completion, to submit a letter of certification to the Director verifying the proper installation and operation of the OWTS;
 - 4. Site evaluations, plan submittals, design and construction details, inspection, and operation and maintenance shall be consistent with guidelines and procedures prescribed by this chapter.
 - 5. The applicant must obtain a permit(s) from the Director and pay a permit fee(s) in an amount established by resolution of the city council. Obtaining a land use permit of approval is not a substitute for an

OWTS permit issued by the Building and Safety Services Department, nor does it guarantee issuance of an OWTS permit.

19.28.070 General Prohibitions, Violations.

- A. No person may construct, add to, repair, alter or maintain any OWTS, sewer pipes or conduits, or any other conduits for the treatment or discharge of sewage, impure waters, or any matter or substance offensive, injurious, or dangerous to health so as to cause any of the following to occur:
 - 1. Sewage, impure waters, or any matter or substance offensive, injurious, or dangerous to health to empty, flow, seep, or drain onto the surface of any land.
 - 2. Sewage, impure waters, or any matter or substance offensive, injurious, or dangerous to health to empty, flow, seep, drain into, or affect any well, spring, stream, river, lake, or other waters.
 - 3. Result in any condition which, in the opinion of the director, is unsafe or dangerous, or creates a nuisance.
- B. A violation of this section is hereby declared a public nuisance.
- 19.28.080 General onsite wastewater treatment systems applicability standards; OWTS permit required.

When a community sanitary sewer is not available and the property improvement will generate wastewater, the property owner must obtain an OWTS Permit from the City of Rancho Cucamonga Building and Safety Services Department. Any person, association, partnership or corporation desiring an OWTS Permit shall make an application to the City of Rancho Cucamonga Building and Safety Services Department on a form provided by the City. In addition to any requirements outlined in this chapter 19.28, a lot will be deemed to support onsite wastewater disposal if the OWTS permit applicant demonstrates the following:

- A. Soils are conducive to onsite wastewater disposal;
- B. A sanitary sewer is not available within 200 feet of the lot; an additional 100 feet shall be added per each dwelling unit proposed thereafter;
- C. Enough area is available to install an OWTS that meets property setbacks. For new construction, 100% expansion area must be available;

- D. OWTS will not impact ground or surface water quality;
- E. OWTS is appropriately sized to serve the intended land use; and
- F. For new industrial or commercial development projects utilizing septic tank-subsurface disposal systems, the wastewater flow for each one-half acre gross area of land may not exceed that from a three-bedroom, two-bathroom single family-dwelling unit. For determining compliance with this criterion, a flow rate of 300 gallons per day shall be considered as the flow equivalent to that from a three-bedroom, two-bedroom single-family dwelling unit. Exemptions will not be granted for industrial or commercial parcels less than gross one-half acre in size.

19.28.090 OWTS permit application requirements.

The OWTS permit application shall be submitted on a form provided by the City. In accordance with the requirements of the OWTS permit application, the OWTS permit applicant must prepare and submit the following supplemental documents: (i) a percolation test, (ii) a proposed layout design, (iii) a grading plan, (iv) a building plan, (v) access to a potable water supply, (vi) and all preliminary plans required for all necessary grading and building permits. These supplemental documents shall be prepared as follows:

- A. Percolation Test Required. A percolation test is required when grading or other soil disturbance has occurred in the proposed OWTS location or if the applicant desires not to use the City's standard percolation rates. The applicant shall submit a percolation test report and design as performed by a registered civil engineer, registered geologist licensed by the State of California Board of Professional Engineers. All percolation testing shall be performed in accordance with Section 9.28.160.
- B. Layout Design Required. With percolation test data and other data in hand, the applicant must develop and submit a Layout Design for the proposed building project and specific OWTS, for review by the City of Rancho Cucamonga Building and Safety Services Department. All OWTS layout design proposals shall demonstrate a one hundred (100%) percent reserve area for the active OWTS. The Layout Design must take percolation test data into account. In some cases, additional testing will include depth to groundwater measurements during a normal average rainfall year.

In the alternative, the applicant may use the depth to ground water value used by the County of San Bernardino Stormwater Facility Mapping Tool. In some cases, the City of Rancho Cucamonga

Building and Safety may conclude that a conventional or alternative OWTS cannot be safely used on the lot. Due to the potential for delays or disapproval, City of Rancho Cucamonga Building and Safety recommends that applicants submit a Layout Design and obtain an approval before incurring costs for detailed building plans and architectural fees. The approved Layout Design will state whether a field check of completed grading by the City of Rancho Cucamonga Building and Safety Services is required. The Layout Design Approval shall expire after one year from the date of issuance.

- 1. A layout design drawing of the proposed building construction and OWTS is required. This drawing should be prepared using standard engineer's scale on 8.5" x 11" or 11" x 17" minimum size paper. The basis for the OWTS design will be from percolation testing data and/or conditions of approval from a recorded subdivision map, parcel map, boundary adjustment, or certificate of compliance. The size of the OWTS is a function of the anticipated peak sewage flow based on the number of bedrooms, dwellings or use, and the percolation rate of the soil on the site.
- 2. The layout design must include the property drawn to the following minimum scales: (i) Single Family Home or Small Commercial Properties 1 inch = 30 feet; (ii) Parcel Map, Subdivisions, Large Commercial Properties 1 inch = 40 feet and must also 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.
- 3. The proposed dwelling or development site 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, if approved by the Planning Department and Building and Safety Services Department.
- 4. The Layout Design shall contain the following information: (i) Site Address; (ii) Owner's Name, mailing address, and phone number; Consultant's/Contractor's name, mailing address, and phone number; (iii) Type of proposed construction residential vs. commercial); (iv) Number of existing or proposed bedrooms; (v) Purpose of project (e.g. new

dwelling, new structure, guesthouse, an addition, etc.); (vi) Specify scope of work; (vii) Vicinity Map, Scale, North arrow, Thomas Bros. Map coordinates; Property Lines and lot dimensions; (viii) Percent slope and direction of fall; (ix) Proposed OWTS design detail; (x) All known, recorded easements on or within 20 feet of lot boundaries (open-space, utility, road, waterline, etc.); (xi) Source of potable water; Location of all public waterlines on or within 20 feet of property; (xii) Location of all wells on or within 200 feet of property; and (xiii) Any soils testing information, such as deep boring or percolation test, plotted on the design.

5. In preparing a layout design, the following setback requirements shall establish minimum spacing requirements from a component to the OWTS and to structures, property lines, easements, watercourses, wells, or grading:

Table 19.28.090.B.3. OWTS Setback Requirements.

System Component	Setback	Minimum Distance
Septic Tank	Structure	5 feet
Septic Tank	Property Line, including the street/public right-of-way	5 feet
Septic Tank	Water Well	100 feet
Septic Tank	Leach Lines	5 feet
Septic Tank	Seepage Pits	5 feet
Leach Lines	Structure	8 feet
Leach Lines	Property Line, including the street/public right-of-way	5 feet
Leach Lines	Water Well	100 ¹ feet
Leach Lines	Leach Lines	10 feet center to center distance (See Table 19.28.090.B.3, Note 6)
Leach Lines	Seepage Pits	5 feet
Leach Lines	Water Mains (Public)	25 feet or 10 feet from the edge of easement

Leach Lines	Drainage Course	50 feet from centerline or top of bank ⁷
Leach Lines	Flowing Stream/Creek	100 feet from spillway elevation
Leach Lines	Pond or Lake	100 feet from the high water line
Leach Lines	Water Supply Reservoir	200 to 400 feet from the high water line ²
Leach Lines	Aqueduct	5:1 setback to pipeline ³
Leach Lines	Road Easements/ Right-of- way	5 feet from the edge of ultimate easement width ⁴
Leach Lines	Cut Slopes	5:1 setback from top of cut slope ⁵
Leach Lines	Private Utility Trenches	5 ⁶ feet
Leach Lines	Ground Water	5 (vertical) feet
Seepage Pits	Structure	8 feet
Seepage Pits	Property Line, including the street/public right-of-way	8 feet
Seepage Pits	Water Well	150 ¹ feet
Seepage Pits	Seepage Pits	12 feet from edge of excavation
Seepage Pits	Water Mains (Public)	25 feet or 10 feet from edge of easement
Seepage Pits	Drainage Course	50 feet from centerline or top of bank ⁷
Seepage Pits	Flowing Stream/Creek	100 feet from edge of flow line or top of bank
Seepage Pits	Pond or Lake	100 feet from the spillway elevation

Seepage Pits	Water Supply Reservoir	200 to 400 feet from the high water line ²
Seepage Pits	Aqueduct	5:1 setback to pipeline ³
Seepage Pits	Road Easements/ Right-of- way	8 feet from edge of ultimate easement width ⁴
Seepage Pits	Cut Slopes	5:1 set back from top of cut slope ⁵
Seepage Pits	Private Utility Trenches	5 ⁶ feet
Seepage Pits	Groundwater	10 feet (vertical)

Notes:

- 1. The minimum setback required to a public water well is 150 feet and increases to 200 feet where the depth of the dispersal system exceeds 10 feet in depth. The minimum setback may be increased if site conditions show the minimum setback is insufficient to protect groundwater supplies.
- 2. Where the dispersal system is within 1200 feet of surface water intake point, the setback shall be 400 feet. Where the dispersal system is greater than 1200 feet of the surface water intake point, the setback shall be 200 feet.
- 3. Maximum setback of 100 feet. A reduction in setback to 50 feet may be considered with engineering to demonstrate no risk of sewage moving laterally to pipeline trench.
- 4. The setback may increase if the 5:1 setback to a road cut is greater than the minimum setback.
- 5. This maximum 100-foot setback would also be applied to the top of an eroded bank or natural slope in excess of 60%. A reduction in setback to 50 feet may be considered with engineering to demonstrate no risk of sewage surfacing on the face of the bank or slope.
- 6. For trenches less than 2 feet in depth, a 5:1 setback based on the trench depth can be used.
- 7. Setback increases to a 5:1 setback if drainage is greater than 10 foot in depth.

- 8. Refer to 19.28.090 "Siting Requirements" for other references.
- C. Grading Plan Review. Following Layout Design Review, a Grading Plan Review may be required by the Building and Safety Services Department as a condition of approval of the OWTS Layout Design. A field check may also be required upon completion of grading.
- D. Building Plan Review. Plans for a new or second dwellings must be submitted to the Planning Services Department for processing and approval. Upon submittal of the plans, the owner/agent shall meet with staff at the City of Rancho Cucamonga Building and Safety Services counter for a verification of bedrooms and plot plan concurrence with the approved layout. Bedrooms are used to determine the potential occupancy of a dwelling and therefore the potential amount of wastewater that will be generated.

Guidelines for Determining the Number of Bedrooms:

- 1. Once the living room, dining room, family room, kitchen, bathrooms, and utility rooms have been established, all other rooms shall be considered as potential sleeping rooms. Dens, libraries, studies, weight rooms, sewing rooms, workshops, etc., shall be determined as bedrooms if they do not conform to the criteria listed below.
- 2. All other habitable rooms totaling at least seventy (70) square feet in size are to be considered bedrooms suitable for sleeping purposes, regardless of whether or not they contain closets or have direct access to a bathroom.
- 3. Rooms that open to a living room, dining room, family room, kitchen, or entry way, and have a single, un-obstructive opening (no doors) with a minimum 50% opening of the total wall space (minimum 6' wide) with archways or other acceptable means shall not be considered as bedrooms, due to the lack of personal privacy presented by the opening.
- 4. Rooms that can only be accessed through another bedroom are to be considered part of that bedroom, such as master suite and not an additional bedroom.
- 5. Any cases, which will require the relocation or modification of doorways, are to be reviewed and approved by the Planning Department and Building and Safety Services to address any structural considerations such as load bearing walls. This is to be done prior to approval or sign-off by the City of Rancho Cucamonga Building and Safety Services.

- E. Proof of Potable Water Supply Required. The applicant must demonstrate the proposed development's access to a potable water supply. A public water supply should be confirmed with proof of a service availability letter from the Cucamonga Valley Water District (CVWD), or a water bill showing the property is served by a local water agency. The use of any new domestic water well will require proof of potability and be subject to reviews and approvals by all agencies involved. A copy of the Well Laboratory Report that indicates the absence of bacteria and nitrate contamination of less than 10 mg/1 of Nitrate-N or 45 mg/1 of nitrate will be necessary for proof of potability of a private well. The date of the test cannot be more than one year old. If a valid test does not exist, the well must be sampled by client's consultant for bacteriological and nitrate levels. Hand-dug water wells will not be accepted as a potable water supply.
- F. The applicant shall submit all preliminary plans and applications to the Planning Services Department for review prior to obtaining all necessary grading and building permits.
- G. An OWTS installation permit will be valid for one hundred eighty (180) days, which period shall commence at the date of issuance. Upon the expiration of the initial one hundred eighty (180) day period, the property owner or contractor may request an extension of an additional one hundred eighty (180) day period.
- H. Once the OWTS installation permit has been obtained, the OWTS may be installed. The OWTS shall be inspected by the city Building and Safety Services Department before the system may be backfilled. If inspection is satisfactory, the city shall approve a final OWTS permit. Any change in the OWTS plans after the issuance of a permit must first be approved by the Director. Failure to obtain approval from the Director will invalidate the permit.
- I. The approval or permit cannot be transferred. Failure to obtain an OWTS permit from the Department of Building and Safety Services is a violation of this chapter. The Director may revoke a permit or approval issued pursuant to this chapter in case of any false statement, or misrepresentation of fact in the application or on the plans on which the permit or approval was based.

19.28.100 OWTS permit fees.

Permit fees for OWTS subject to this chapter and all related fees will be an amount established by resolution of the City Council.

19.28.110 Refusal to issue building permit.

No building permit may be issued for any building requiring a sewage disposal system that is not to be connected to an approved sanitary sewer unless the applicant has received an OWTS permit.

19.28.120 Refusal to issue certification of occupancy.

- A. No certification of occupancy may be issued for any building that is not connected to an approved sanitary sewer unless the applicant has received an OWTS permit.
- B. No person may occupy or otherwise use any premises or building that has not been connected to an approved sanitary sewer or approved OWTS.

19.28.130 State contractor's license required for installation or repair; registration fee.

- A. No person may install, construct, alter, enlarge, reconstruct, replace, improve, recondition or repair an OWTS pursuant to this chapter unless: the person possesses a general engineering contractor's license (class A) as defined in section 7056 of the Business and Professions Code, or a Class C-42 sanitation system contractor's license or Class C-36 plumbing contractor's license from the Contractors State License Board of the State of California.
- B. The property owner may construct or repair an OWTS on his/her own property, which system serves or will serve the building on the property that is neither being offered for sale nor intended to be so offered, provided:
 - 1. Persons hired by the owner to do the subject work must comply with section 19.28.080(a); or
 - 2. Persons hired by the owner must be hired as employees of the owner and the owner must provide workman's compensation insurance, as required by law; and
 - 3. An OWTS permit is first obtained.

19.28.140 Construction inspections.

A stamped copy of the building plans for the approved OWTS must be kept available at the jobsite during system installation and until the system passes final inspection by the Director of Building and Safety Services. Inspections of each new installation must be made to ensure compliance with all the requirements of this Code. Requests for inspection must be made at least one business day in advance of the commencement of work. In the event the Director of Building and Safety Services determines there

has been an improper installation, a stop-work order may be posted on the jobsite. Before any further work is done on a posted system, clearance from the Director of Building and Safety Services must be obtained.

19.28.150 Siting Standards.

A. Setback Requirements. The following table provides the minimum requirements for the installation of OWTS for either new or existing structures.

Table 19.28.150.A. Setback Requirements.

Minimum Setback Required From (feet)	Septic Tank	Disposal Field	Seepage Pit
Non-Public Water Supply Well ^{1 & 8}	100 ⁸	100 ²	150 ²
Public Water Supply Well ¹	100	150 ²	200
Buildings or Structures ³	5	8	8
Property line, including Street Right of Way Line	5	5	8
Streams and other flowing bodies of water ⁹	100	100	150
Drainage Course	50	50	50
Lakes, ponds, and other surface water bodies ¹⁰	200	200	200
Large Trees ⁴	10		10
Seepage pits, Outside Perimeter	5	5	12
Disposal field, on Center	5	10 ⁶	5
Onsite domestic water lines (building service line)	5	5	5
Public Domestic Water Lines	25	25	25
Distribution Box	n/a	5	5
Ground surface on sloping ground	n/a	15	15
Groundwater ⁵	5	5 ⁷	10

Notes:

- 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. If the dispersal system does not exceed 10 feet in depth, then the horizontal sanitary setback will be 150 feet. If the dispersal system exceeds 10 feet in depth, then the horizontal sanitary setback will be 200 feet. If the dispersal system exceeds 20 feet in depth, then the horizontal sanitary setback will be 600 feet.
- 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 Alternate Treatment System and Sewage Holding Tank (Chapter 11), this minimum separation may be reduced to 2 feet with approval under the Advanced Protection Management Program (APMP) (refer to Chapter 12: Tier 3 Advanced Protection Management Program for Impaired Areas 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.

- B. On sites with natural slopes of 25% or greater, the siting and design of the leaching system shall be performed in accordance with recommendations prepared by a licensed professional geotechnical engineer.
- C. Criteria specified in Table 19.28.150.A, above must be met within the area of the proposed system and within the 100% expansion area for the proposed system. Depth of earth cover required over the dispersal field is twelve (12") 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.
- D. OWTS located near public water systems shall be subject to increased setback requirements, such as OWTS located with 1200 feet of a surface water intake.
- E. Density and minimum lot size requirements. All new development requires a minimum lot size of one-half acre (21,780 square feet), average gross, per dwelling unit, including accessory structures, is required for all new developments, which do not have access to a public sewer as required under 19.28.040 of this chapter. The public street area adjacent to the net lot area may count towards the minimum one-half acre gross lot size for OWTS.

For new development for industrial or commercial properties, 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, a flow rate of 300 gallons per day will be considered equivalent to a single-family dwelling unit. This flow rate shall be prorated for commercial or industrial developments with lots smaller than one-half acre, or the equivalent of 20 fixture units.

F. Minimum Lot Size Exemptions.

- 1. The minimum lot size requirements do not apply to existing properties with OWTS which were installed prior to the effective date of this chapter.
- 2. New development occurring upon single family residences with existing septic systems that will accommodate additional wastewater flows, caused by additional installations such as rooms, bathrooms or accessory structures. A septic certification may be required to verify the septic tank and disposal field capacity to accept additional wastewater flows.
- 3. Tracts, parcels, and/or commercial/industrial developments which received land use approval from the City of Rancho

Cucamonga prior to August 21, 2017 are exempt from the minimum lot size requirements and shall not be less than one-half acre per this chapter for the use of septic tank subsurface disposal systems.

4. New lots, which are smaller than one-half acre, may be formed by combining through a lot merger 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 that 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 Building and Safety Services and the Santa Ana Regional Water Quality Control Board.

19.28.160 Groundwater and Percolation Testing Requirements.

A. Groundwater Testing Procedures.

- 1. Test borings in the area of an OWTS shall extend to a minimum of 15 feet unless refusal is reached. Deeper depths may be required depending on site-specific conditions as determined by the City of Rancho Cucamonga Building and Safety Services or the project qualified professional. Site-specific conditions may include, but not be limited to; the proposed depth of the system, local geology, soil types encountered, elevation and terrain, features on site, evidence and/or knowledge of historic ground water levels in the area, and the anticipated fluctuation of the groundwater table in times of normal to above normal annual rainfall.
- 2. Test borings in the area of a vertical seepage pit or horizontal seepage pit system shall extend to at least 10 feet deeper than the bottom of the proposed pit(s).
- 3. Since groundwater does not always immediately flow into a test boring, the City of Rancho Cucamonga Building and Safety Services requires a minimum of 72 hours pass before an accurate groundwater measurement is taken. The qualified professional and/or the property owner maintain full responsibility for protecting the public from any hazards related to the test borings. It is recommended that all test

borings that encounter groundwater be converted to observation wells so the groundwater conditions can be monitored over time.

- 4. If the qualified professional does not wish to complete the test borings as observation wells, they can cover the test boring, place safeguards around the borings to prevent unauthorized access and make an appointment for the City of Rancho Cucamonga Building and Safety Services staff to observe the boring at least 72-hours after the boring has been completed.
- 5. During periods of below normal average rainfall, or after periods of drought where there has not yet been sufficient ground water recharge, the absence of groundwater in test borings in areas where groundwater is suspect may not mean that approval to issue a septic tank permit can be granted. It may be necessary for the City of Rancho Cucamonga Building and Safety Services and the qualified professional to monitor the test borings for a sufficient period of time to determine where groundwater will rise to during normal to above normal rainfall.

B. Percolation Testing Procedure.

All percolation testing for dispersal systems except vertical seepage pits in the City of Rancho Cucamonga shall be conducted through the use of the following procedures. The test shall be performed by or under the direct supervision of a California registered professional engineer or geologist. Any deviation shall be authorized only after receiving written approval by the City of Rancho Cucamonga Building and Safety Services. Percolation testing shall be required for all new OWTS for non-residential development and for residential development comprising more than one dwelling unit, where a percolation report has not previously been completed. A one-lot custom single family home may use the city's currently adopted California Plumbing Code, Appendix H – Private Sewage Disposal Systems, Section H 3.0 - Area of Disposal Fields and Seepage Pits, and the included Table H 2.1(2) – Design Criteria of Five Typical Soils for the design of the seepage pit or the leech field.

1. Test Holes. A minimum of four test holes is required when percolation rates are less than 60 minutes per inch (mpi). A minimum of six test holes is required when the average percolation rate is more than 60 mpi. Additional test holes may be necessary on a site specific basis for reasons that include, but are not limited to the following: (i) Unacceptable or failed tests; (ii) Areas of the disposal field requiring defined limits for

exclusion; (iii) The disposal system is located out of a concentrated area; and (iv) Soil conditions are variable or inconsistent. All test holes shall be representative of the dispersal system installation depth. If the proposed development site has any of the following characteristics, test holes must be extended below the proposed dispersal system installation depth: (i) Shallow or consolidated rock or impervious soil layers; (ii) slopes exceeding twenty-five (25%) percent; or (iii) other factors as might be determined by sound geotechnical engineering practices.

- 2. There shall be a minimum of ten (10) feet of soil above any imperious formation such as rock, clay, adobe, and/or water table. Fractured rock and consolidated granites will not be considered as soil. Deep testing may be required to ensure uniform conditions exist below the disposal field.
- 3. Depending upon the scope of grading for a project, the Planning Department may require a conceptual grading plan and Building and Safety Services may require a grading plan. If a grading plan is required it should be included with the percolation report submittal. A grading plan helps Building and Safety Services 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 the Building and Safety Services Department.
- 4. Percolation testing shall be conducted by, and all accompanying reports prepared by a Qualified Professional.
- 5. Prior to reviewing a percolation test, Building and Safety Service may require a site evaluation during percolation testing to ensure proper system design, and evaluate site location to ensure that the system will be in compliance. For soil to be considered uniform, test results must fall with twenty-five (25%) percent of the mean percolation rate. Determining the number of percolation tests required will be based on soil conditions and project type.
- 6. For areas which are primarily Sandy Loam or Sandy Clay, a field design of 60 square feet per 100 gallons.
- 7. For areas which are primarily Clay wither considerable sand or gravel, a field design of 90 square feet per 100 gallons.

- 8. Percolation rates in excess of 120 minutes per inch shall be deemed conclusive evidence that the soil is impermeable is not suitable for an OWTS.
- C. Percolation Testing Reports. All testing data and required result information shall be submitted to City of Rancho Cucamonga Building and Safety Services on forms approved by the city. A minimum of three copies is required. All reports shall be signed with an original signature and seal by the consultant who either performed or supervised the testing. All percolation testing is to be performed by a licensed civil engineer or geologist registered in the State of California.

19.28.170 Septic Tank Requirements.

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

B. Septic Tank Requirements:

- 1. Septic tanks must be certified by the International Association of Plumbing and Mechanical Officials (IAPMO).
- 2. The tank shall be watertight and possess two chambers.
- 3. Septic tanks shall be certified by the manufacturer to allow for burial without being water filled to allow for routine maintenance or to be used as a holding tank as needed.
- 4. Septic tanks shall be installed per the manufacturer's instructions.
- 5. The bottom of the excavation for the tank shall extend into native or compacted soils to eliminate potential settling issues.
- 6. Septic tank location must take into account maintenance and pumping requirements including vehicle access; and distance and elevation lift to pumper truck.
- 7. All tanks must have a capped tee or a 90 degree elbow fitting on the inlet to prevent gas exchange between the tank and the house plumbing. Inlet tees must extend at least 14 inches below the liquid level.

- 8. Outlet tees must be uncapped and must extend at least 12 inches below the liquid level.
- 9. The outlet elevation shall be between 2 and 6 inches lower than the inlet elevation to ensure proper fall without a significant loss of volume.
- 10. Fall between the outlet of the septic tank and the dispersal field shall be continuous with a minimum fall that that ensures the outlet pipe is 4 inches higher than the top of the seepage pit system or 4 inches above the top of the leach rock or other components used in the dispersal system on a level system, or a distribution box if multiple seepage pits or leach lines are constructed.
- 11. Septic tanks with greater than 6 inches of cover must have risers to within 6 inches of finished grade. Risers and lids that are at or above grade must be watertight and lockable or require tools to be opened.
- 12. Septic tank risers must have a current IAPMO certification prior to use. Concrete risers and lids must be constructed of Type V concrete or be protected from corrosion from sewer gases. The interior diameter of the riser shall be a minimum of eighteen (18) inches.
- 13. Effluent filters must be IAPMO approved if they are to be installed as part of the outlet tee.
- 14. Septic tanks installed in areas of vehicular traffic must be certified to withstand the proposed loads or have an engineered traffic slab installed to accommodate the proposed loads.
- 15. Minimum tank size is 1000 gallons for residential and 750 gallons for non-residential structures.
- 16. Septic tanks shall be sized according to anticipated wastewater flows from the structure(s). The following standard sizes shall apply: (i) 1-3 bedroom single family dwelling (0-450 GPD) 1000 gallons; (ii) 4 bedroom single family dwelling (450-600 GPD) 1200 gallons; (iii) 5-6 bedroom single family dwelling (601-900 GPD) 1500 gallons; and (iv) Flows greater than 900 GPD must utilize the following formula to determine minimum tank sizing: 1125 gallons + (.75)(Flow in GPD).

17. The permitted plan set shall contain a note requiring the septic tank to be filled with water, without leakage, at the time of the first inspection.

19.28.180 Leach Line System Requirements.

- A. Leach line systems are limited to soils with percolation rates of 120 minutes per inch or less. Percolation rates in excess of 120 minutes per inch are unsuitable for the installation of an OWTS dispersal system.
 - 1. At least four percolation test holes at each leach field location should be provided to represent soil types at the depth of the proposed leach lines. At least one deep boring should extend to a depth of at least 15 feet or to impermeable material but in no case shall there be less than 5 foot of unsaturated, permeable soil below the bottom of the leach line trench. For areas of suspected high groundwater, deep borings are recommended to be 20'-25' to help determine gradients during varying rainfall periods.
 - 2. Backhoe excavations may be required to demonstrate uniformity of soil throughout the leach field area(s). Leach line dispersal systems are limited to slopes of 25 percent (4:1) or less.
- B. Soil Cover Requirements. The maximum soil cover allowed over the top of the infiltrative surface is 48 inches, measured from the top of the leach rock chamber/etc. to the ground surface. The minimum cover required over the top of the infiltrative surface is 12 inches. Soil cover requirements must also conform to those allowed by the manufacturer of any gravel-less/chamber design.
- C. Leach Line Dimensions. Leach lines are to be installed according to the qualified professional's specifications for location, length, width, and depth. Leach lines are to be spaced at least 10 feet apart, measured center to center. Leach lines shall be installed with a width of no less than 12 inches and no more than 36 inches. Regardless of trench width or materials used, dispersal systems using leach lines shall be designed using not less than 3 square feet of infiltrative area per linear foot of trench as the infiltrative surface. No reduction in sizing is allowed for the use of chambers. The minimum length of leach trench for a new OWTS using leach lines as the dispersal system shall be 200 feet regardless of the projected wastewater flows. A 100% reserve area shall be required for all leach line systems. Properties that previously were required to maintain areas

- of 200% or 300% reserve shall now have a 100% reserve area requirement in place of the previous requirement.
- D. Materials and Construction Considerations. Leach lines shall not be placed under impermeable surfaces. Leach lines that are later covered by impermeable surfaces may not be considered as viable for purposes of determining primary and reserve area requirements. All piping and materials used in leach line systems including gravelless/chamber systems must have IAPMO approval and must be approved by City of Rancho Cucamonga Building and Safety Services prior to installation. Leach lines that utilize gravel shall be filled with clean, washed leach line rock to a point at least 4 inches above the top of a 4-inch perforated pipe and shall have a minimum of 12 inches of gravel below the pipe. The rock shall be graded at 1 to 1.5 inches in size and shall be covered with straw, untreated building paper or a geotextile fabric prior to backfill to prevent the infiltration of soil into the rock. Where multiple leach lines are proposed on sloping ground, a distribution box must be used to connect the leach lines. Leach line trenches shall be installed with the trench bottom and materials used being level to within 2 inches per 100 feet.
- E. Leach Lines on Steep Slopes. The following requirements must be met for the installation of leach line trenches on slopes exceeding 25 percent (4:1) without necessitating the grading of terraces.
 - 1. The maximum slope allowed for leach line trenches is 40 percent (2-1/2:1 slope).
 - 2. All leach lines on steep slopes shall be installed in 5 foot deep trenches with 12 inches of leach rock below the leach pipe or with approved chambers or other gravel-less system.
 - 3. The design of disposal systems on steep slopes requires the experience and expertise to address conditions relative to soil, slope stability, and subsurface conditions which require professional judgment and technical knowledge. Designs for steep slope systems will only be approved when submitted by a qualified professional licensed in the State of California.
 - 4. Testing must provide data representative of the entire disposal area and demonstrate that conditions are uniform below the entire disposal area. The minimum testing required is: (i) Six percolation tests at a depth equal to the proposed trench depth; (ii) Two percolation tests five feet below the proposed trench depth; (iii) Percolation testing must show rates of 120 minutes per inch or less; and (iv) At least two soil

- profile borings demonstrating uniform conditions throughout the disposal area to a depth of 10 feet below the proposed trench depth.
- 5. Design reports must include the following: (i) Cross section(s) hillside soil profile(s); (ii) Detailed boring logs of all test holes and borings; (iii) Scaled layouts and profiled designs based on accurate topography; (iv) Any grading proposed on the site in the disposal area; (v) A slope stability report or statement from a qualified professional; (vi) Any grading, proposed to create a stable work area for trench installation, may be subject to review for conflict with Building and Safety Services Department.
- F. Leach Line System Length.

Table 19.28.180. Leach Line System Length Requirements.

Perc Rate	Num	nber o	f Bedr	ooms			Perc Rate	Num	Number of Bedrooms						
MPI	1	2	3	4	5	6	MPI	1	2	3	4	5	6		
1	200	200	240	270	280	300	31	280	350	420	480	535	595		
2	200	200	240	270	280	300	32	280	355	430	480	535	595		
3	200	200	240	270	280	300	33	290	360	430	490	545	605		
4	200	220	260	290	300	310	34	290	360	440	490	545	605		
5	200	240	290	320	320	340	35	290	365	440	500	555	615		
6	200	250	300	340	350	360	36	300	370	440	500	555	615		
7	210	260	310	350	370	380	37	300	370	450	500	555	615		
8	210	265	320	360	390	400	38	300	375	450	510	565	625		
9	220	270	320	360	400	410	39	300	380	460	510	565	625		
10	220	275	330	370	410	420	40	300	380	460	520	575	635		
11	220	280	340	380	420	430	41	310	385	460	520	575	635		
12	230	285	340	380	430	440	42	310	390	470	530	585	645		

LEACH RATE	LINE	TRE	NCH	LENG	TH (fe	eet) B	AS	ED ON	PERC	OLAT	ION T	EST		
Perc Rate	Num	iber o	f Bedr	ooms				Perc Rate	Num	ber of	Bedr	ooms		
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6
13	230	290	350	390	430	450		43	310	390	470	530	585	645
14	235	295	350	400	440	460		44	310	395	480	540	595	655
15	240	300	360	400	450	470		45	320	400	480	540	595	655
16	240	300	360	410	450	490		46	320	400	480	540	595	655
17	240	305	370	410	460	500		47	320	405	490	550	605	665
18	250	310	370	420	460	510		48	330	410	490	550	605	665
19	250	310	380	420	470	520		49	330	410	500	560	615	675
20	250	315	380	430	470	520		50	330	415	500	560	615	675
21	260	320	380	430	480	530		51	340	420	500	560	615	675
22	260	320	390	440	480	530		52	340	420	510	570	625	685
23	260	325	390	440	490	550		53	340	425	510	580	635	695
24	260	330	400	450	500	560		54	340	430	520	580	635	695
25	260	330	400	450	500	560		55	340	430	520	580	635	695
26	270	335	400	450	510	570		56	350	435	520	590	645	705
27	270	340	410	460	515	575		57	350	440	530	590	645	705
28	270	340	410	460	515	575		58	350	440	530	600	655	715
29	270	345	420	470	525	585		59	350	445	540	600	655	715
30	280	350	420	470	525	585		60	360	450	540	610	665	725

Perc Rate	Num	ber o	f Bed	rooms	•			Perc Rate	Numb	er of E	edroo	ms		
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6
61	370	460	550	620	690	740		91	680	770	860	930	980	1020
62	380	470	560	630	680	720		92	695	785	875	945	995	1035
63	390	480	570	640	690	730		93	710	800	890	960	1010	1050
64	400	490	580	650	700	740		94	725	815	905	975	1025	1065
65	420	500	580	660	710	750		95	740	830	920	990	1040	1080
66	420	510	600	670	720	760		96	755	845	935	1005	1055	1095
67	430	520	610	680	730	770		97	770	860	950	1020	1070	1110
68	440	530	620	690	740	780		98	785	875	965	1035	1085	1125
69	450	540	630	700	750	790		99	800	890	980	1050	1100	1140
70	460	550	640	710	760	800		100	815	905	995	1065	1115	1155
71	470	560	650	720	770	810		101	830	920	1010	1080	1130	1170
72	480	570	660	730	780	820		102	845	935	1025	1095	1145	118
73	490	580	670	740	790	830		103	860	950	1040	1110	1160	1200
74	500	590	680	750	800	840		104	875	965	1055	1125	1175	121
75	510	600	690	760	810	850		105	890	980	1070	1140	1190	1230
76	520	610	700	770	820	860		106	905	995	1085	1155	1205	124
77	530	620	710	780	830	870		107	920	1010	1100	1170	1220	1260
78	540	630	720	790	840	880		108	935	1025	1115	1185	1230	1270
79	550	640	730	800	850	890		109	950	1040	1130	1200	1250	1290
80	560	650	740	810	860	900		110	965	1055	1145	1215	1265	130
81	570	660	750	820	870	910		111	980	1070	1160	1230	1280	1320
82	580	670	760	830	880	920	\dagger	112	995	1085	1175	1245	1295	133
83	590	680	770	840	890	930		113	1010	1100	1190	1260	1310	135

LEAC	H LIN	E TRI	ENCH	LENG	GTH E	BASED	0	N PER	COLAT	ION TE	ST RA	TE		
Perc Rate	Num	ber o	f Bed	room	S			Perc Rate	Numb	per of E	Bedroo	ms		-
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6
84	600	690	780	850	900	940		114	1025	1115	1205	1275	1325	1365
85	610	700	790	860	910	950		115	1040	1130	1220	1290	1340	1380
86	620	710	800	870	920	960		116	1055	1145	1235	1305	1355	1395
87	630	720	810	880	930	970		117	1070	1160	1250	1320	1370	1410
88	640	730	820	890	940	980		118	1085	1175	1265	1335	1385	1425
89	650	740	830	900	950	990		119	1100	1190	1280	1350	1390	1440
90	665	755	845	915	965	1005		120	1120	1210	1300	1370	1420	1460

Note: MPI means minutes per inch. Conversion Factor example. (1 inch of drop/# Perc Rate) x 60 minutes per hour = 6 inches/hour.

19.28.190 Vertical Seepage Pit System Requirements.

A. Permitted Locations.

- 1. Any lot previously approved for the use of a vertical seepage pit must meet all current requirements found in this section to be considered for development based on the use of a vertical seepage pit. A new custom single family house may use the sizing criteria for existing lots.
- 2. New lots containing two or more OWTS units, upon the recommendation and design by a qualified professional soils engineer.
- B. Percolation Test Procedures for Vertical Seepage Pit Systems. All vertical seepage pits for new construction, or for 2 or more lots, will require percolation testing by a qualified professional certified to perform percolation tests in City of Rancho Cucamonga. A waiver of testing can be considered where adequate information exists as to soil types, depth and permeability. Percolation testing for vertical seepage pits shall be completed per the following guidelines:
 - A 12 to 48 inch diameter test hole shall be excavated to a depth of at least 10 feet deeper than the proposed installation depth.

- A minimum 10 foot separation between the bottom of the vertical seepage pit and the anticipated high groundwater level is required.
- 3. Boring logs shall be recorded and included with all test reports indicating soil strata depths and types and visual classification according to the unified soil classification system along with any groundwater encountered.
- 4. The overdrill must be checked for the presence of groundwater a minimum of 24 hours after the completion of the test boring to allow time for groundwater to stabilize in the hole.
- 5. After the groundwater reading is recorded, the test hole shall be backfilled to a depth 10 feet above the bottom of the test hole or the groundwater level whichever is shallower.
- 6. The pit shall be filled with water to the cap depth and a continuous pre-soak shall be maintained at the proposed cap level for a minimum 8-hour period. In highly permeable soils when cap levels cannot be maintained during pre-soak, the test shall be conducted at a depth no higher than the pre-soak level which was attained. Document the pre-soak attempt with gallons of water used. In no case shall less than 5,000 gallons of water be used within a 1 hour period in the attempted pre-soak when the cap level cannot be maintained. The depth of the test shall be noted on the boring log and in no case shall the sidewall of permeable soil below the cap level be less than ten foot.
- 7. Upon completion of the pre-soak period, fill the pit to cap level and determine uniformity of soil by measuring the falling head. Distance to the water level shall be measured at 15 minute intervals, or more frequently if needed, until the drop stops or the pit empties. A graph of the drop in water level shall be attached to all proposals submitted by the qualified professional. If non-uniform rates persist, the soil will not be considered uniform and the tests discontinued as they will not be approved by City of Rancho Cucamonga Building and Safety Services.
- 8. If the procedure in Item no. 4 demonstrates uniform soil, proceed with a two-hour static head or falling head capacity test: (i) Static Head the pit shall be filled with water to the cap depth and the water column shall be maintained at that level for two hours. The amount of water added to maintain

this level must be documented. The 24-hour capacity is determined by multiplying by 12. Adjustment to a four foot diameter pit is made if a lesser size test hole is used; (ii) Falling Head — the pit shall be filled with water to the cap depth and the column of water shall be allowed to drop for a two hour period. The distance dropped shall be measured and the amount of water absorbed determined. This amount is multiplied by 12 to determine the 24-hour capacity. Adjustment to a four foot diameter pit is made if a lesser size test hole is used.

- 9. The minimum capacity for a new OWTS using vertical seepage pits as the dispersal system shall be 5 times the volume of the required septic tank or 5000 gallons per day whichever is greater. All individual vertical seepage pit shall have a minimum capacity of 1,667 gallons per day.
- 10. Each pit must meet these minimum criteria to be acceptable. The qualified professional may include safety factors as he feels the situation warrants.
- 11. It shall be the responsibility of the qualified professional to maintain all test holes or pits in a safe manner prior to backfill or capping to prevent a hazard or accident.
- C. Dimensions and Construction Requirements.
 - 1. Vertical seepage pits shall be installed according to the qualified profession's specifications for location, depth, and cap depth.
 - 2. The pit excavation shall be five (5), six (6) or seven (7) feet in diameter. Pit excavations greater than 7-feet in diameter require prior approval by the Building Official.
 - 3. The sidewall depth below the inlet shall not be less than 14 feet.
 - 4. The minimum depth to the top of the infiltrative surface allowed is 2 feet. This depth is also known as the cap depth. There is no maximum cap depth but documentation must be provided to justify any cap depth greater than 5 feet.
 - 5. The maximum slope allowed for the use of vertical seepage pits is 40 percent (2-1/2:1 slope). Slopes that exceed 25% (4:1) will require additional engineering and design detail as required to address the risk of effluent surfacing on the slope recognizable as sewage as well as slope stability issues.

- Slopes that exceed 25% (4:1) will, in most cases, require a terrace design or grading to allow for drilling access. Any grading shall be in accordance with any permit requirements for brushing, clearing, and grading from any other agency.
- 6. All pits must be filled with clean washed leach line rock to the cap depth. The rock shall be graded at 1 to 1.5 inches in size and shall be covered with straw, untreated building paper or a geotextile fabric prior to backfill to prevent the infiltration of soil into the rock.
- 7. A 4 inch Schedule 40 pipe shall be installed from the ground surface to the bottom of each seepage pit for clean-out, pumping and verification of the total pit depth. The pipe shall have perforations from the cap depth to the bottom of the pit and be of solid construction from the cap depth to the ground surface. A screw fit cap must be placed on top of the riser to allow access.
- 8. Where more than one vertical seepage pit is proposed for the primary or reserve system, a distribution box must be used to connect the pits. Chaining or lining the seepage pits together such that the overflow from an upstream pit flows to a downstream pit shall not be permitted.
- D. Design Criteria for Replacement of Existing Private Sewage Disposal Systems.

Table 19.28.190.D Design Criteria for Replacement of Existing Private Sewage Disposal Systems.

Septic Tank Capacity (Gallons)	Minimum Disposal Leach Field (Area Req'd) Required	12"	5 Ft A.P.* @ 24" Wide Bottom Below Leach Line (A.P. x Length)	7 Ft A.P.* @ 36" Wide Bottom Below Leach Line (A.P. x Length)	Min. 4F Di	a. Liner eter x D	k. 6Ft. epth)
	Field Des	sign at 60 Squa notes:	gallons (See	Pit design at 60 Square Feet / 100 gallons			
1,000	600	(2) 3' x 100'	(4) 5' x 55'	(2) 7' x 100' or (1) 7' x 200'	5' x 39'	6' x 32'	7' x 28'
1,200	720	(3) 3' x 80'	(4) 5' x 66'	(4) 7' x 52'	5' x 46'	6' x 38'	7' x 33'

1,500	900	(3) 3' x 100'	(3) 5' x 82'	(3) 7' x 70'	5' x 58'	6' x 48'	7' x 41'
	Field Des	sign at 90 Squa notes:	are Feet / 100 1, 2, 3 & 6)	gallons (See	Pit desig Feet /	n at 90 100 gal	
1,000	900	(3) 3' x 100'	(2) 5' x 100'	(3) 7' x 64'	5' x 58'	6' x 48'	7' x 41'
1,200	1,080	(4) 3' x 90'	(3) 5' x 72'	(3) 7' x 78'	5' x 69'	6' x 58'	7' x 50'
1,500	1,350	(5) 3' x 90'	(3) 5' x 90'	(2) 7' x 100'	5' x 86'	6' x 72'	7' x 62'

Notes: *Absorption Perimeter

- 1. Other variations may be allowed to width and depth so as to achieve the required leach area. Chapter 8.
- 2. Trenches shall not have less than 600 sq. ft of infiltrative area. Chapter 8.
- 3. All deviations from this handout will require a percolation test with a designed septic system by a licensed Civil Engineer.
- 4. Depth of the seepage pit shall be measured from the bottom of the pit to the invert of the distribution pipe. Chapter 9.
- 5. Multiple seepage pits may be used. If this is the case, the required depth from the table above can be divided equally among the numbers of seepage pits. In no cases the depth of seepage pits can be less than the "minimum depth". Chapter 9.
- E. Design Criteria for New Private Sewage Disposal Systems.
 - 1. Five-Foot Diameter Pits:

SE	EPAG	E PIT [DEPTH	(feet)	BASE	D ON P	ERCO	LATION	N TES	T RATI	=			
Perc Rate	Number of Redrooms							Perc Rate	Number of Redrooms					
MPI	MPI 1 2 3 4 5 6							MPI	1	2	3	4	5	6
1	17	17	17	17	18	19		31	18	22	27	31	34	38
2	17	17	17	17	18	19		32	18	23	27	31	34	38
3	17	17	17	17	18	19		33	18	23	27	31	35	39
4	17	17	17	18	19	20		34	18	23	28	31	35	39
5	17	17	18	20	20	22		35	18	23	28	32	35	39

SE	EPAG	E PIT [DEPTH	(feet)	BASEI	D ON P	ERCO	LATION	N TEST	RATE				
Perc Rate		Nur	nber o	f Bedr	ooms			Perc Rate		Nun	nber of	Bedro	ooms	
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6
6	17	17	19	22	22	23		36	19	24	28	32	35	39
7	17	17	20	22	24	24		37	19	24	29	32	35	39
8	17	17	20	23	25	25		38	19	24	29	32	36	40
9	17	17	20	23	25	26		39	19	24	29	32	36	40
10	17	18	21	24	26	27		40	19	24	29	33	37	40
11	17	18	22	24	27	27		41	20	25	29	33	37	40
12	17	18	22	24	27	28		42	20	25	30	34	37	41
13	17	18	22	25	27	29		43	20	25	30	34	37	41
14	17	19	22	25	28	29		44	20	25	31	34	38	42
15	17	19	23	25	29	30		45	20	25	31	34	38	42
16	17	19	23	26	29	31		46	20	25	31	34	38	42
17	17	19	24	26	29	32		47	20	26	31	35,	39	42
18	17	20	24	27	29	32		48	21	26	31	35	39	42
19	17	20	24	27	30	33		49	21	26	32	36	39	43
20	17	20	24	27	30	33		50	21	26	32	36	39	43
21	17	20	24	27	31	34		51	22	27	32	36	39	43
22	17	20	25	28	31	34		52	22	27	32	36	40	44
23	17	21	25	28	31	35		53	22	27	32	37	40	44
24	17	21	25	29	32	36		54	22	27	33	37	40	44
25	17	21	25	29	32	36		55	22	27	33	37	40	44
26	17	21	25	29	32	36		56	22	28	33	38	41	45
27	17	22	26	29	33	37		57	22	28	34	38	41	45
28	17	22	26	29	33	37		58	22	28	34	38	42	46
29	17	22	27	30	33	37		59	22	28	34	38	42	46
30	18	22	27	30	33	37		60	23	29	34	39	42	46

	;	SEEPA	GE PI	T DEP	TH (fee	et) BAS	ED ON	N PERC	OLAT	ION TE	STR	ATE		
Perc Rate		Nur	nber o	f Bedr	ooms			Perc Rate		Nun	nber of	Bedro	ooms	
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6
61	24	29	35	39	44	47		91	43	49	55	59	62	65
62	24	30	36	40	43	46		92	44	50	56	60	63	66
63	25	31	36	41	44	46		93	45	51	57	61	64	67
64	25	31	37	41	45	47		94	46	52	58	62	65	68
65	27	32	37	42	45	48		95	47	53	59	63	66	69
66	27	32	38	43	46	48		96	48	54	60	64	67	70
67	27	33	39	43	46	49		97	49	55	61	65	68	71

	;	SEEPA	GE PI	T DEP	TH (fee	et) BAS	ED OI	N PERC	OLAT	ION TE	ST RA	ATE		
Perc Rate		Nur	nber o	f Bedr	ooms			Perc Rate		Nun	nber of	Bedro	ooms	
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6
68	28	34	39	44	47	50		98	50	56	61	66	69	72
69	29	34	40	45	48	50		99	51	57	62	67	70	73
70	29	35	41	45	48	51		100	52	58	63	68	71	74
71	30	36	41	46	49	52		101	53	59	64	69	72	75
72	31	36	42	46	50	52		102	54	60	65	70	73	75
73	31	37	43	47	50	53		103	55	61	66	71	74	76
74	32	38	43	48	51	54		104	56	61	67	72	75	77
75	32	38	44	48	52	54		105	57	62	68	73	76	78
76	33	39	45	49	52	55		106	58	63	69	74	77	79
77	34	39	45	50	53	55		107	59	64	70	75	78	80
78	34	40	46	50	54	56		108	60	65	71	75	78	81
79	35	41	46	51	54	57		109	61	66	72	76	80	82
80	36	41	47	52	55	57		110	61	67	73	77	81	83
81	36	42	48	52	55	58		111	62	68	74	78	82	84
82	37	43	48	53	56	59		112	63	69	75	79	82	85
83	38	43	49	54	57	59		113	64	70	76	80	83	86
84	38	44	50	54	57	60		114	65	71	77	81	84	87
85	39	45	50	55	58	61	-	115	66	72	78	82	85	88
86	39	45	51	55	59	61		116	67	73	79	83	86	89
87	40	46	52	56	59	62		117	68	74	80	84	87	90
88	41	46	52	57	60	62		118	69	75	81	85	88	91
89	41	47	53	57	61	63		119	70	76	82	86	89	92
90	42	48	54	58	61	64		120	71	77	83	87	90	93

Where: mpi = minutes per inch

Conversion Factor:

Example: (1 inch of drop / X MPI) x 60 minutes per hour = 6 inches/hour

2. Six-Foot Diameter Pits:

SE	EPAG	E PIT I	DEPTH	(feet)	BASE	D ON PE	RCOLATIO	N TES	TRAT	E			
Perc Rate	Number of Bedrooms Perc Rate Number of Bedrooms												
MPI	1	2	3	4	5	6						6	
1	17	17	17	17	17	17	31	17	19	22	25	28	32
2	17	17	17	17	17	17	32	17	19	23	25	28	32

SE	EPAGI	E PIT D	EPTH	(feet)	BASEI	ON P	ERCO	LATIO	N TES	T RATE				
Perc Rate		Nun	nber o	f Bedro	ooms			Perc Rate		Nun	nber of	f Bedro	ooms	
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6
3	17	17	17	17	17	17		33	17	19	23	26	29	32
4	17	17	17	17	17	17		34	17	19	23	26	29	32
5	17	17	17	17	17	18		35	17	19	23	27	29	33
6	17	17	17	18	19	19		36	17	20	23	27	29	33
7	17	17	17	19	20	20		37	17	20	24	27	29	33
8	17	17	17	19	21	21		38	17	20	24	27	30	33
9	17	17	17	19	21	22		39	17	20	24	27	30	33
10	17	17	18	20	22	22		40	17	20	24	28	31	34
11	17	17	18	20	22	23		41	17	20	24	28	31	34
12	17	17	18	20	23	23		42	17	21	25	28	31	34
13	17	17	19	21	23	24		43	17	21	25	28	31	34
14	17	17	19	21	23	24		44	17	21	25	29	32	35
15	17	17	19	21	24	25		45	17	21	25	29	32	35
16	17	17	19	22	24	26		46	17	21	25	29	32	35
17	17	17	20	22	24	27		47	17	21	26	29	32	35
18	17	17	20	22	24	27		48	18	22	26	29	32	35
19	17	17	20	22	25	28		49	18	22	27	30	33	36
20	17	17	20	23	25	28		50	18	22	27	30	33	36
21	17	17	20	23	25	28		51	18	22	27	30	33	36
22	17	17	21	23	25	28		52	18	22	27	30	33	36
23	17	17	21	23	26	29		53	18	23	27	31	34	37
24	17	18	21	24	27	30		54	18	23	28	31	34	37
25	17	18	21	24	27	30		55	18	23	28	31	34	37
26	17	18	21	24	27	30		56	19	23	28	31	34	37
27	17	18	22	24	27	31		57	19	23	28	31	34	37_
28	17	18	22	24	27	31		58	19	23	28	32	35	38
29	17	18	22	25	28	31		59	19	24	29	32	35	38
30	17	19	22	25	28	31		60	19	24	29	32	35	38

		SEEP	AGE P	T DEP	TH (fe	et) BAS	ED ON PE	RC	OLAT	ION T	EST R	ATE		
Perc Rate		Num	ber of	Bedro	oms		Pe Ra			Nur	nber o	f Bedr	ooms	
MPI	1	2	3	4	5	6	М	PI	1	2	3	4	5	6
61	20	24	29	33	37	39	9	1	36	41	46	49	52	54
62	20	25	30	33	36	38	9:	2	37	42	46	50	53	55
63	21	25	30	34	37	39	9:	3	38	42	47	51	54	56
64	21	26	31	35	37	39	9.	4	38	43	48	52	54	57

		SEEP#	AGE PI	T DEP	TH (fe	et) BAS	SED OI	N PERC	OLAT	ION TE	EST R	ATE		
Perc Rate		Numl	ber of	Bedro	oms			Perc Rate		Nun	nber o	f Bedr	ooms	*
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6
65	22	27	31	35	38	40		95	39	44	49	53	55	57
66	22	27	32	36	38	40		96	40	45	50	53	56	58
67	23	28	32	36	39	41		97	41	46	50	54	57	59
68	23	28	33	37	39	41		98	42	46	51	55	58	60
69	24	29	33	37	40	42		99	42	47	52	56	58	61
70	24	29	34	38	40	42		100	43	48	53	57	59	61
71	25	30	35	38	41	43		101	44	49	54	57	60	62
72	25	30	35	39	41	44		102	45	50	54	58	61	63
73	26	31	36	39	42	44		103	46	50	55	59	62	64
74	27	31	36	40	42	45		104	46	51	56	60	62	64
75	27	32	37	40	43	45		105	47	52	57	61	63	65
76	28	32	37	41	44	46		106	48	53	58	61	64	66
77	28	33	38	41	44	46		107	49	54	58	62	65	67
78	29	33	38	42	45	47		108	50	54	59	63	65	67
79	29	34	39	42	45	47		109	50	55	60	64	66	68
80	30	35	39	43	46	48		110	51	56	61	64	67	69
81	30	35	40	44	46	48		111	52	57	62	65	68	70
82	31	36	40	44	47	49		112	53	58	62	66	69	71
83	31	36	41	45	47	49		113	54	58	63	67	70	72
84	32	37	41	45	48	50		114	54	59	64	68	70	72
85	32	37	42	46	48	50		115	55	60	65	68	71	73
86	33	38	42	46	49	51		116	56	61	66	69	72	74
87	33	38	43	47	49	51		117	57	62	66	70	73	75
88	34	39	44	47	50	52		118	58	62	67	71	74	76
89	35	39	44	48	50	53		119	58	63	68	72	74	76
90	35	40	45	49	51	53		120	59	64	69	73	75	77

3. Seven-Foot Diameter Pits:

=1		SEE	PAGE	PIT D	EPTH ((feet) B	ASED	ON PE	RCOL	ATION	TEST	RATE		
Perc Rate		Nui	mber o	f Bedr	ooms			Perc Rate		Nur	nber o	f Bedr	ooms	
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6
1	17	17	17	17	17	17		31	17	17	19	22	24	27
2	17	17	17	17	17	17		32	17	17	20	22	24	27
3	17	17	17	17	17	17		33	17	17	20	22	25	28
4	17	17	17	17	17	17		34	17	17	20	22	25	28

_		QEE	DAGE	DIT DE		feet) R	ASED	ON PE	RCOL.	ATION	TEST	RATE		
Perc Rate				f Bedro		ieet) b	ASED	Perc Rate	TOOL:			f Bedr	ooms	
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6
5	17	17	17	17	17	17		35	17	17	20	23	25	28
6	17	17	17	17	17	17		36	17	17	20	23	25	28
7	17	17	17	17	17	17		37	17	17	20	23	25	28
8	17	17	17	17	18	18		38	17	17	20	23	26	28
9	17	17	17	17	18	19		39	17	17	21	23	26	28
10	17	17	17	17	19	19		40	17	17	21	24	26	29
11	17	17	17	17	19	20		41	17	18	21	24	26	29
12	17	17	17	17	20	20		42	17	18	21	24	27	29
13	17	17	17	18	20	20		43	17	18	21	24	27	29
14	17	17	17	18	20	21		44	17	18	22	25	27	30
15	17	17	17	18	20	21		45	17	18	22	25	27	30
16	17	17	17	19	20	22		46	17	18	22	25	27	30
17	17	17	17	19	21	23		47	17	18	22	25	28	30
18	17	17	17	19	21	23		48	17	19	22	25	28	30
19	17	17	17	19	21	24		49	17	19	23	25	28	31
20	17	17	17	20	21	24		50	17	19	23	25	28	31
21	17	17	17	20	22	24		51	17	19	23	25	28	31
22	17	17	18	20	22	24		52	17	19	23	26	28	31
23	17	17	18	20	22	25		53	17	19	23	26	29	32
24	17	17	18	20	23	25		54	17	20	24	26	29	32
25	17	17	18	20	23	25		55	17	20	24	26	29	32
26	17	17	18	20	23	26		56	17	20	24	27	29	32
27	17	17	19	21	23	26		57	17	20	24	27	29	32
28	17	17	19	21	23	26		58	17	20	24	27	30	33
29	17	17	19	21	24	27		59	17	20	25	27	30	33
30	17	17	19	21	24	27		60	17	20	25	28	30	33

	(SEEPA	GE PI	T DEP	TH (fee	et) BAS	ED O	N PERC	OLAT	ION TE	EST RA	ATE		
Perc Rate	.22	Nur	nber o	f Bedr	ooms			Perc Rate		Nun	nber o	f Bedr	ooms	
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6
61	17	21	25	28	31	34		91	31	35	39	42	45	46
62	17	21	25	29	31	33		92	32	36	40	43	45	47
63	18	22	26	29	31	33		93	32	36	40	44	46	48
64	18	22	26	30	32	34		94	33	37	41	44	47	48
65	19	23	26	30	32	34		95	34	38	42	45	47	49
66	19	23	27	30	33	35		96	34	38	43	46	48	50

		SEEPA	GE PI	T DEP	TH (fee	et) BAS	SED OI	N PERC	OLAT	ION TE	ST R	ATE		
Perc Rate		Nur	nber o	f Bedr	ooms	•		Perc Rate		Nun	nber o	f Bedr	ooms	
MPI	1	2	3	4	5	6		MPI	1	2	3	4	5	6
67	20	24	28	31	33	35		97	35	39	43	46	49	51
68	20	24	28	31	34	35		98	36	40	44	47	49	51
69	20	25	29	32	34	36		99	36	40	45	48	50	52
70	21	25	29	32	35	36		100	37	41	45	48	51	53
71	21	25	30	33	35	37		101	38	42	46	49	51	53
72	22	26	30	33	35	37		102	38	43	47	50	52	54
73	22	26	30	34	36	38		103	39	43	47	51	53	55
74	23	27	31	34	36	38		104	40	44	48	51	53	55
75	23	27	31	35	37	39		105	40	45	49	52	54	56
76	24	28	32	35	37	39		106	41	45	49	53	55	57
77	24	28	32	35	38	40		107	42	46	50	53	56	57
78	25	29	33	36	38	40		108	43	47	51	54	56	58
79	25	29	33	36	39	40		109	43	47	51	55	57	59
80	25	30	34	37	39	41		110	44	48	52	55	58	59
81	26	30	34	37	40	41		111	45	49	53	56	58	60
82	26	30	35	38	40	42		112	45	49	53	57	59	61
83	27	31	35	38	40	42		113	46	50	54	57	60	61
84	27	31	35	39	41	43		114	47	51	55	58	60	62
85	28	32	36	39	41	43		115	47	51	56	59	61	63
86	28	32	36	40	42	44		116	48	52	56	59	62	63
87	29	33	37	40	42	44		117	49	53	57	60	62	64
88	29	33	37	40	43	45		118	49	53	58	61	63	65
89	30	34	38	41	43	45		119	50	54	58	61	63	66
90	30	34	38	42	44	46		120	51	55	59	62	65	66

19.28.200 Horizontal Seepage Pit Systems.

The use of the horizontal seepage pit systems is permitted only where adequate area does not exist for a leach line system. All horizontal seepage pit systems shall comply with the design and construction requirements provided in this section.

A. Percolation Test Procedures for Horizontal Seepage Pit Systems. All percolation tests shall be performed in accordance with the test procedures found in 19.28.160 (Groundwater and Percolation Testing Requirements). In addition to the requirements of Section 19.28.160, percolation tests for horizontal seepage pits must also comply with the following additional requirements:

- 1. The average percolation rates shall not exceed 30 minutes per inch in any portion of the horizontal seepage pit. Individual rates exceeding 30 minutes per inch may be considered with additional soil testing.
- 2. At least 4 percolation test holes at each pit location should be provided to represent soil types within the infiltrative surface area of the seepage pit. This profile should represent the entire sidewall depth of the pit.
- 3. At least 1 deep boring should extend to a depth of at least 10 feet below the bottom of the seepage pit, or to impermeable material. In no case shall less than 5 feet of unsaturated permeable soil exist below the bottom of the seepage pit.
- Backhoe excavations may be required to demonstrate uniformity of soil throughout the seepage pit. This would be necessary when the pit is proposed in an area of variable soil conditions.
- 5. Any percolation tests for horizontal seepage pits, which were approved based on testing prior to the effective date of this section, will require additional percolation testing unless the previous testing meets current requirements.
- B. Dimensions and Construction Requirements.
 - 1. Horizontal seepage pits are to be installed according to the qualified professional's specifications for location, length, width, and depth.
 - 2. Horizontal seepage pits must be spaced 20 feet apart measured edge to edge.
 - 3. Primary and reserve horizontal seepage pits cannot be combined in one common pit.
 - 4. The pit excavation must be at least 4 feet in width, but not greater than 6 feet in width.
 - 5. The top of the infiltrative surface shall be at least 2 feet below the natural grade but no more than 5 feet. This depth is also known as the cap depth. Additional soil can be placed over the top of the installed horizontal seepage pit at the discretion of the qualified professional.
 - 6. The sidewall depth below the cap shall be at least 6 feet but cannot exceed 7 feet.

- 7. The pit excavations may arc or bend under the following conditions: (i) The maximum deflection cannot exceed a total of 45 degrees in any direction without increasing the pit length to compensate for loss of sidewall area; (ii) Bends or arcs totaling greater than 45 degrees may be accepted on a case-by-case basis. A correction factor will be required, increasing the total length, due to sidewall loss; and (iii) U-shaped and H-shaped bends will not be accepted.
- 8. The maximum slope for the use of horizontal seepage pits is 25% (4:1). Exceptions to this slope limit may be considered up to 50% (2:1), on a case-by-case basis, where the soil and slope are uniform, extending 100 feet beyond the seepage pit. Additional testing, and design detail shall be required to address the risk of effluent surfacing on the slope recognizable as sewage as well as slope stability issues. Slopes that exceed 25% (4:1) will, in most cases, require a terrace design. Any grading to create terraces should be in accordance with any permit requirements for brushing, clearing, and grading from any other agency.
- 9. The use of concrete pit liners is allowed. If used, the concrete pit liners shall meet the testing standards established by the International Association of Plumbing and Mechanical Officials (IAPMO).
- 10. All pits must be filled with clean leach line rock to the cap depth of the horizontal pit liner. The rock should be graded at 1 to 1.5 inches in size and shall be covered with straw, untreated building paper or a geotextile fabric prior to backfill to prevent the infiltration of soil into the rock.
- 11. A manifold system constructed of 4 inch loop of Schedule 40 perforated pipe shall be installed in the pit to allow for distribution of the effluent throughout the entire pit. The manifold shall be placed 1 foot from the sidewall of the horizontal seepage pit and shall run the length and width of the pit in a rectangular pattern.
- 12. Where more than one horizontal seepage pit is proposed for the primary or reserve system, a distribution box must be used to connect the pits.
- 13. A hybrid system combining a horizontal seepage pit for the primary or reserve design, and leach lines for the other system is allowed. However, a combination of the two types of systems, used for a single primary or reserve design, will not

be considered. The system design identified as the most difficult installation shall be installed as the primary system. This is to be based on access, grading, or other obstacles to install the system once the house is constructed.

- 14. The California Occupational Health and Safety Act (COHSA) requires shoring for excavations exceeding 5 feet when persons will be working in them. All work done installing horizontal seepage pits must comply with COHSA for the purpose of construction and inspection.
- C. Horizontal Seepage Pit Sizing Calculations. The calculations for sizing a horizontal seepage pit are done to provide an equivalent amount of sidewall area in the seepage pit as found in a standard 3 foot deep leach line trench using the same percolation rate.

Seepage Pit Length = (3LL - 2wd)/2d

Where: 3 = sq. ft. of absorptive sidewall area per lineal foot of

3 foot deep leach line trench

LL = leach line length as a function of percolation rate

w = seepage pit width

d = seepage pit sidewall depth below cap

19.28.210 Alternative onsite wastewater treatment systems; Use of alternative systems.

Alternative onsite wastewater treatment systems and sewage holding tanks may only be used with prior approval of the Director of Building and Safety Services prior to submittal of plans for permitting purposes. Owners of alternative treatment systems located within the City must:

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

19.28.220 Alternate onsite wastewater treatment systems siting and operational requirements; Variances permissible.

A. Property owners may apply to Building and Safety Services to establish alternative OWTS siting and operational requirements where it is determined by Building and Safety Services that

alternative requirements will provide equivalent level of environmental protection.

- B. Variances will not be granted in the following circumstances:
 - 1. Where the proposed OWTS presents a substantial likelihood of discharging sewage, impure waters, or any matter or substance offensive, injurious, or dangerous to health so as to cause any of the following to occur:
 - i. Sewage, impure waters, or any matter or substance offensive, injurious, or dangerous to health to empty, flow, seep, or drain onto the surface of any land.
 - ii. Sewage, impure waters, or any matter or substance offensive, injurious, or dangerous to health to empty, flow, seep, drain into, or affect any well, spring, stream, river, lake, or other waters.
 - iii. Result in any condition which is unsafe, dangerous, or creates a nuisance.
 - 2. 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.
 - 3. Sewer availability. Variances will not be granted for any OWTS where there is a public sewer available. Building and Safety Services Department may require a "Will or Will Not Serve" letter Cucamonga Valley Water District 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: (i) Parcel number for the property where the OWTS is being proposed; (ii) Distance to the nearest available sewer line; and (iii) Whether or not the sewering entity will provide service to the parcel. The "Will or Will Not Serve" letter must be completed and signed by the appropriate official representing the sewering entity and be filed with the Building and Safety Services Department prior to submittal of the percolation report/plot plan, or upon request once the percolation report/plot plan has been submitted.
 - 4. 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.

- 5. Ground Slope. Variances will not be granted for slopes greater than a 30% incline without a slope stability report approved by a Qualified Professional. Refer to Natural Ground Slope for more information regarding natural ground slope requirements.
- 6. Leaching Areas. As referenced in the current adopted California Plumbing Code, Appendix H —Private Sewage Disposal Systems Section H 301.1 Leaching Chambers that comply with IAPMO PS 63 and bundled expanded polystyrene synthetic aggregate units that comply with IAPMO IGC 276 shall be sized using the required area calculated using Table H 201.1(3) with a 0.70 multiplier.
- 7. Supplemental Treatment. OWTS utilizing supplemental treatment require periodic monitoring or inspections. No variances will be granted for supplemental treatments that are unable to meet this requirement.
- 8. Depth to Groundwater. No variance will be granted for OWTS with a depth from the bottom of the dispersal system to groundwater less than 5 feet. The exception to this will be for seepage pits which shall have a separation no less than 10 feet.
- 9. 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.
- 10. Class V Injection Wells. United States Environmental Protection Agency (USEPA) requirements apply to underground injections control systems for OWTS. Subsurface disposal systems including leach fields and seepage pits shall comply with USEPA Underground Injection Control requirements when classified as a Class V injection well. Subsurface disposal systems with at least one of the following characteristics are classified as Class V wells: (i) The system has the capacity to serve 20 or more persons per day; (ii) The system receives wastewater other than domestic wastewater such as that generated by manufacturing, chemical processing, industrial fluid disposal, automotive

repair, or recycling; or (iii) The system receives sewage containing biological agents (such as wastewater from recreational vehicles or portable toilets). Disposal systems that are classified as Class V wells must be registered with USEPA.

19.28.230 Sewer wells; cesspools; seepage pits.

Except those permitted pursuant to a valid OWTS permit issued in conformance with the requirements of this chapter, all sewer wells, cesspools, seepage pits, and similar excavations are hereby declared a public nuisance and are prohibited.

19.28.240 Holding tanks.

- A. All holding tanks are hereby declared a public nuisance and are prohibited. Exception to this prohibition may be granted by the Director of Building and Safety Services:
 - 1. If it is necessary to use a holding tank to abate a nuisance or health hazard caused by a failing OWTS; or
 - 2. For a publicly-owned nonresidential facility necessary for the public health, safety or welfare, where installation of an OWTS is not feasible and a holding tank is determined by the Director of Building and Safety Services to provide the safest and most acceptable method of sewage disposal.
- B. Where exceptions are granted and holding tank(s) approved, an operating permit issued by the director will be required, which will provide for approval of the tank pumper, maintenance schedule, tank/sewage level monitoring, and reporting requirements.

19.28.250 OWTS failures; Corrective actions required.

- A. All OWTS failures resulting in effluent surfacing, wastewater surface discharge, or wastewater back-up into plumbing fixtures, shall be reported immediately to Building and Safety Services, upon discovery.
- B. Building and Safety Services or other designated City departments will complete an investigation within 24 hours to determine the validity of the complaint or other notification of a failing OWTS.
- C. Any OWTS that is found to be failing shall have a notice of violation issued to the property owner requiring action to eliminate the immediate health hazard through pumping of the septic tank by a licensed sewage hauler or elimination of wastewater flows to the

- failing OWTS. The notice of violation will also require a repair to be completed to the OWTS as needed within a reasonable time frame.
- D. The proposed repair shall be evaluated by Building and Safety Services to ensure it meets the minimum design requirements of this chapter or is in substantial conformance to the greatest extent practicable.
- E. Groundwater separation requirements to the bottom of the dispersal system and the highest anticipated groundwater level for repairs shall be as follows: (i) 5 foot for conventional OWTS; (ii) 2 foot for alternative OWTS with supplemental treatment; and (iii) Less than 2 foot separation cannot be allowed through this LAMP and will require a waste discharge permit through the RWQCB.
- F. The repair shall be completed under permit and inspection by Building and Safety Services.
- G. Failure to complete the required corrective action within the time frames given will result in additional enforcement action which may include condemnation of the structure for immediate health hazards.

19.28.260 Substandard systems.

All OWTS within the City of Rancho Cucamonga that do not meet the minimum design requirements of this Chapter shall be deemed substandard. Sites with substandard OWTS shall be prohibited from having future additions or modifications to the property that would potentially increase wastewater flow to the OWTS or decrease the amount of usable area available for the OWTS.

19.28.270 Abandoned onsite wastewater treatment systems.

- A. All abandoned OWTS shall be disposed of in accordance with this section. An OWTS Abandonment Permit must be obtained prior to the removal or disposal of any abandoned OWTS. For the purposes of this section, an OWTS shall be considered abandoned if it has been out of service for more than three consecutive months.
- B. Every OWTS that has been abandoned or has been discontinued from further use or to which no waste or waste discharge pipe from a plumbing fixture is connected must have all remaining sewage removed from, and disposed of by a qualified waste hauler and transported to a dispersal facility that operates in compliance with valid permit issued by a Regional Water Quality Control Board.

- C. Upon removal of all remaining sewage, the tank top and bottom must be crushed, backfilled and compacted with material approved by the director or be removed and disposed of in an approved manner.
- D. Completion of the above-described work shall require that the property owner obtain a septic tank abandonment permit from the director.

19.28.280 Abatement.

To the extent possible, failing OWTS must be brought into compliance with this Code. In case of any failure, malfunction or breakdown of any OWTS, if not corrected within a time designated by the Director, the Director may order or cause corrections to be made and bill the property owner for the costs and may place a lien on the property for the abatement costs. The Director may also order the premises to be vacated if no safe manner of abatement is possible.

19.28.290 Notice of violation.

The Director may provide a notice of intent to record a notice of violation to the owner of property upon which a failing or substandard OWTS exists. Notice will be provided to the property owner by mail at the address shown on the latest assessment roll or at any other address of the owner known to the director. The notice will also be posted on the property. The notice will state that within 15 days of the date of the notice, the property owner may request a meeting with the Director to present evidence that a violation does not exist.

If, within 15 days of the date of the notice, the property owner does not request a meeting and the violation has not been corrected, or if, after considering the evidence presented by the property owner at the meeting, the Director determines that a code violation in fact exists, the Director may record a notice of violation in the office of the County Recorder. Upon recording the notice, the Director will notify the owner of the action. The notice is to inform all parties that no improvements, including building additions, can be approved while the failing or substandard OWTS continues in operation.

At the request of any affected property owner and upon full payment of any fees established by resolution of the city council for recovery of associated enforcement costs and payment of any fee for the recordation of the notice of violation, the Director will issue a notice of expungement of violation upon proof to the director that the noticed violation has been remedied. The notice of expungement may be recorded by the property owner at his or her expense.

PASSED, APPROVED, AND ADOPTED this 15th day of August, 2018.

			A	Jum Mille	luf
ATTEST:			Ľ. ∪er	mis Michael, M	ayor
Janice C. Reynolds, Ci	Reynol ty Clerk	ds		/	
STATE OF CALIFORN	IIA)			
COUNTY OF SAN BEI	RNARDINO) ss			
CITY OF RANCHO CU	CAMONGA)			
I, JANIO California, do hereby co the City Council of the passed at a Regular M 15 th day of August 2018	ertify that the City of Ranc leeting of the	foregoing Ord ho Cucamong	inance was intro a held on the 1	oduced at a Re st day of Augus	t 2018, and was
AYES:	Alexander,	Kennedy, Mich	nael, Spagnolo,	Williams	
NOES:	None				
ABSENT:	None				
ABSTAINED:	None				

Executed this 16th day of August 2018, at Rancho Cucamonga, California.

Janice C. Reynolds, City Clerk

19.28.300 Appeal from denial, revocation or suspension.

- A. Any person aggrieved by any decision of the Director with respect to the issuance or refusal to issue a OWTS permit may, within ten days of the date of the decision, appeal the decision to the city manager, or his or her designee, by filing a written notice of appeal with the city manager.
- B. The city manager, or his or her designee, shall thereupon fix a time and place for hearing such appeal within 30 days of the date of said decision. The aggrieved party shall be given notice of the time and place of the hearing by serving the notice personally or by depositing it in the United States Post Office in the city, certified mail, addressed to the aggrieved party at his or her last known address.
- C. The city manager, or his or her designee, shall have the authority to determine all questions raised on such appeal during the hearing. No such determination shall conflict with any substantive provision of this chapter.
- D. Following such hearing, the city manager, or his or her designee, may reverse, modify, or affirm the decision of the director with respect to the issuance or refusal to issue a license. The city manager shall render a decision within a reasonable period of time not to exceed 60 days of the conclusion of the hearing. The decision of the city manager, or his or her designee, shall be final.

SECTION 3. The City Council declares that, should any provision, section, paragraph, sentence, or word of this Ordinance be rendered or declared invalid by any final court action in a court of competent jurisdiction, or by reason of any preemptive legislation, the remaining provisions, sections, paragraphs, sentences, and words of this Ordinance shall remain in full force and effect.

SECTION 4. The City Clerk shall certify as to the adoption of this Ordinance.





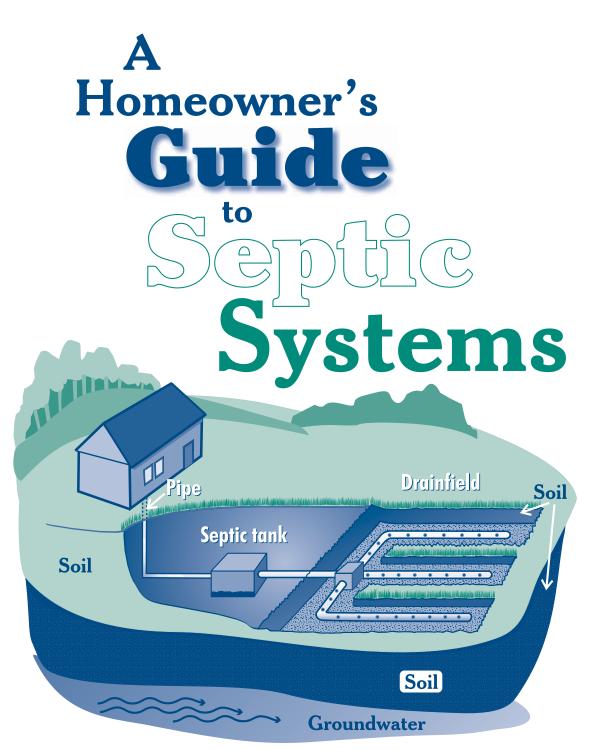
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CITY OF RANCHO CUCAMONGA



APPENDIX D - HOMEOWNER'S GUIDE





What's Inside

Your septic system is your responsibilty .	•	•	•	1
How does it work?				1
Why should I maintain my septic system?				4
How do I maintain my septic system?				5
What can make my system fail?				9
For more information				13

Your Septic System is your responsibility!

Did you know that as a homeowner you're responsible for maintaining your septic system? Did you know that maintaining your septic system protects your investment in your home? Did you know that you should periodically inspect your system and pump out your septic tank?

If properly designed, constructed and maintained, your septic system can provide long-term, effective treatment of household wastewater. If your septic system isn't maintained, you might need to replace it, costing you thousands of dollars. A malfunctioning system can contaminate groundwater that might be a source of drinking water. And if you sell your home, your septic system must be in good working order.

op Four Things You Can Do to Protect Your Septic System

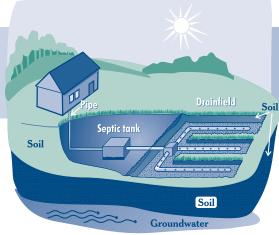
- 1. Inspect your system
 (every 3 years) and pump
 your tank as necessary
 (generally every 3 to 5
 years).
- 2. Use water efficiently.
- 3. Don't dispose of household hazardous wastes in sinks or toilets.
- 4. Care for your drainfield.

This guide will help you care for your septic system. It will help you understand how your system works and what steps you can take as a homeowner to ensure your system will work properly. To help you learn more, consult the resources listed at the back of this booklet. A helpful checklist is also included at the end of the booklet to help you keep track of your septic system maintenance.

How does it work?

Components

A typical septic system has four main components: a pipe from the home, a septic tank, a drainfield, and the soil. Microbes in the soil digest or remove most contaminants from wastewater before it eventually reaches groundwater.



Typical onsite wastewater treatment system

eptic system ali<u>ases:</u>

- On-lot system
- Onsite system
- Individual sewage disposal system
- Onsite sewage disposal system
- Onsite wastewater treatment system

Pipe from the home

All of your household wastewater exits your home through a pipe to the septic tank.

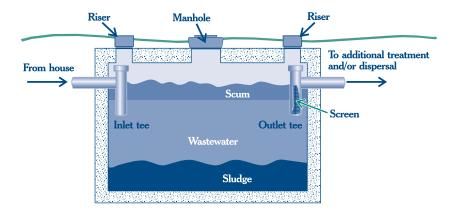
Septic tank

The septic tank is a buried, watertight container typically made of concrete, fiberglass, or polyethylene. It holds the wastewater long enough to allow solids to settle out (forming sludge) and oil and grease to float to the surface (as scum). It also allows partial decomposition of the solid materials. Compartments and a T-shaped outlet in the

septic tank prevent the sludge and scum from leaving the tank and traveling into the drainfield area. Screens are also recommended to keep solids from entering the drainfield.

Newer tanks generally have risers with lids at the ground surface to allow easy location, inspection, and pumping of the tank.

Typical single-compartment septic tank with ground-level inspection risers and screen

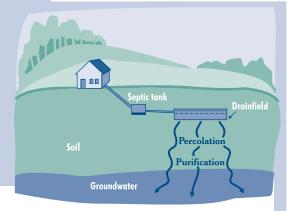


To prevent buildup, sludge and floating scum need to be removed through periodic pumping of the septic tank. Regular inspections and pumping as necessary (generally every 3 to 5 years) are the best and cheapest way to keep your septic system in good working order.

inding Your System

Your septic tank, drainfield, and reserve drainfield

should be clearly designated on the "as-built" drawing for your home. (An "as-built" drawing is a line drawing that accurately portrays the buildings on your property and is usually filed in your local land records.) You might also see lids or manhole covers for your septic tank. Older tanks are often hard to find because there are no visible parts. An inspector/pumper can help you locate your septic system if your septic tank has no risers.



Drainfield

The wastewater exits the septic tank and is discharged into the drainfield for further treatment by the soil. The partially treated wastewater is pushed along into the drainfield for further treatment every time new wastewater enters the tank.

If the drainfield is overloaded with too much liquid, it will flood, causing sewage to flow to the ground surface or create backups in plumbing fixtures and prevent treatment of all wastewater.

A reserve drainfield, required by many states, is an area on your property suitable for a new drainfield system if your current drainfield fails. Treat this area with the same care as your septic system.

Soil

Septic tank wastewater flows to the drainfield, where it percolates into the soil, which provides final treatment by removing harmful bacteria, viruses, and nutrients. Suitable soil is necessary for successful wastewater treatment.

Alternative systems

Because many areas don't have soils suitable for typical septic systems, you might have or need an alternative system. You might also have or need an alternative system if there are too many typical septic systems in one area or the systems are too close to groundwater or surface waters. Alternative septic

systems use new technology to improve treatment processes and might need special care and maintenance. Some alternative systems use sand, peat, or plastic media instead of soil to promote wastewater treatment. Other systems might use wetlands, lagoons, aerators, or disinfection devices. Float switches, pumps, and other electrical or mechanical components are often used in alternative systems. Alternative systems should be inspected annually. Check with your local health department or installer for more information on operation and maintenance needs if you have or need an alternative system.

Wy should I maintain my septic system?

When septic systems are properly designed, constructed, and maintained, they effectively reduce or eliminate most human health or environmental threats posed by pollutants in household wastewater. However, they require regular maintenance or they can fail. Septic systems need to be monitored to ensure that they work properly throughout their service lives.

Saving money

A key reason to maintain your septic system is to save money! Failing septic systems are expensive to repair or replace, and poor maintenance is often the culprit. Having your septic system inspected regularly (at least every 3 years) is a bargain when you consider the cost of replacing the entire system. Your system will need pumping (generally every 3 to 5 years), depending on how many people live in the house and the size of the system. An unusable septic system or one in disrepair will lower your property value and could pose a legal liability.

Protecting health and the environment

Other good reasons for safe treatment of sewage include preventing the spread of infection and disease and protecting water resources. Typical pollutants in household wastewater are nitrogen, phosphorus, and diseasecausing bacteria and viruses. If a septic system is working properly, it will effectively remove most of these pollutants.

With one-fourth of U.S. homes using septic systems, more than 4 billion gallons of wastewater per day is dispersed below the ground's surface. Inadequately treated sewage from septic systems can be a cause of ground-water contamination. It poses a significant threat to drinking water and human health because it can contaminate drinking water wells and cause diseases and infections in people and animals. Improperly treated sewage that contaminates nearby surface waters also increases the chance of swimmers contracting a variety of infectious diseases. These range from eye and ear infections to acute gastrointestinal illness and diseases like hepatitis.

How do I maintain my septic system?

Inspect and pump frequently

You should have your septic system inspected at least every 3 years by a professional and your tank pumped as recommended by the inspector (generally every 3 to 5 years). Systems with electrical float switches, pumps, or mechanical components need to be inspected more often. Your service provider should inspect for leaks and look at the scum and sludge layers in your septic tank. If the bottom of the scum layer is within 6 inches of the bottom of the outlet tee or the top of the sludge layer is within 12 inches of the outlet tee, your tank needs to be pumped. Remember to note the sludge and scum levels determined by your service provider in your operation and maintenance records. This information will help you decide how often pumping is necessary. (See the checklist included at the end of the booklet.)

hat Does an Inspection Include?

- · Locating the system.
- Uncovering access holes.
- Flushing the toilets.
- Checking for signs of backup.
- Measuring scum and sludge layers.
- · Identifying any leaks.
- Inspecting mechanical components.
- Pumping the tank if necessary.

Four major factors influence the frequency of pumping: the number of people in your household, the amount of wastewater generated (based on the number of people in the household and the amount of water used), the volume of solids in the wastewater (for example, using a garbage disposal increases the amount of solids), and septic tank size.

Some makers of septic tank additives claim that their products break down the sludge in septic tanks so the tanks never need to be pumped. Not everyone agrees on the effectiveness of additives. In fact, septic tanks already contain the microbes they need for effective treatment. Periodic pumping is a much better way to ensure that septic systems work properly and provide many years of service. Regardless, every septic tank requires periodic pumping.

In the service report, the pumper should note any repairs completed and whether the tank is in good condition. If the pumper recommends additional repairs he or she can't perform, hire someone to make the repairs as soon as possible.

Use water efficiently

Average indoor water use in the typical single-family home is almost 70 gallons per person per day. Leaky toilets can waste as much as 200 gallons each day. The more water a household conserves, the less water enters the septic system. Efficient water use can improve the operation of the septic system and reduce the risk of failure.

High-efficiency toilets

Toilet use accounts for 25 to 30 percent of household water use. Do you know how many gallons of water your toilet uses to empty the bowl? Most older homes have toilets with 3.5- to 5-gallon reservoirs, while newer high-efficiency toilets use 1.6 gallons of water or less per flush. If you have problems with your septic system being flooded with household water, consider reducing the volume of water in the toilet tank if you don't have a high-efficiency model. Plastic containers (such as ½-gallon plastic milk jugs) can be filled with small rocks and placed in a toilet tank to reduce the



amount of water used per flush. (Be sure that the plastic containers do not interfere with the flushing mechanisms or the flow of water.) You'll save about ½ gallon of water per flush! You might also consider replacing your existing toilet with a high-efficiency model to achieve even more water savings.

Faucet aerators and highefficiency showerheads

Faucet aerators help reduce water use and the volume of water entering your septic system. High-efficiency showerheads or shower flow restrictors also reduce water use.

Water fixtures

Check to make sure your toilet's reservoir isn't leaking into the bowl. Add five drops of liquid food coloring to the reservoir before bed. If the dye is in the bowl the next morning, the reservoir is leaking and repairs are needed.

A small drip from a faucet adds many gallons of unnecessary water to your system every day. To see how much a leak adds to your water usage, place a cup under the drip for 10 minutes. Multiply the amount of water in the cup by 144 (the number of minutes in 24 hours, divided by 10). This is the total amount of clean water traveling to your septic system each day from that little leak.

Use Water Efficiently!

- · Install high-efficiency showerheads
- Fill the bathtub with only as much water as you need
- Turn off faucets while shaving or brushing your teeth
- Run the dishwasher and clothes washer only when they're full
- Use toilets to flush sanitary waste only (not kitty litter, diapers, or other trash)
- Make sure all faucets are completely turned off when not in use
- Maintain your plumbing to eliminate leaks
- Install aerators in the faucets in your kitchen and bathroom
- Replace old dishwashers, toilets, and clothes washers with new, high-efficiency models.

For more information on water conservation, please visit www.epa.gov/owm/water-efficiency/index.htm



Watch your drains

What goes down the drain can have a major impact on how well your septic system works.

Waste disposal

What shouldn't you flush down your toilet? Dental floss, feminine hygiene products, condoms, diapers, cotton swabs, cigarette butts, coffee grounds, cat litter, paper towels, and other kitchen and bathroom items that can clog and potentially damage septic system components if they become trapped. Flushing household chemicals, gasoline, oil, pesticides, antifreeze, and paint can stress or destroy the biological treatment taking place in the system or might contaminate surface waters and groundwater. If your septic tank pumper is concerned about quickly accumulating scum layers, reduce the flow of floatable materials like fats, oils, and grease into your tank or be prepared to pay for more frequent inspections and pumping.

Washing machines

By selecting the proper load size, you'll reduce water waste. Washing small loads of laundry on the large-load cycle wastes precious water and energy. If you can't select load size, run only full loads of laundry.

Doing all the household laundry in one day might seem like a time-saver, but it could be harmful to your septic system. Doing load after load does not allow your septic tank time to adequately treat wastes. You could be flooding your drainfield without allowing sufficient recovery time. Try to spread water usage throughout the week. A new Energy Star clothes washer uses 35 percent less energy and 50 percent less water than a standard model.

Care for your drainfield

Your drainfield is an important part of your septic system. Here are a few things you should do to maintain it:

- Plant only grass over and near your septic system. Roots from nearby trees or shrubs might clog and damage the drainfield.
- Don't drive or park vehicles on any part of your septic system. Doing so can compact the soil in your drainfield or damage the pipes, tank, or other septic system components.
- Keep roof drains, basement sump pump drains, and other rainwater or surface water drainage systems away from the drainfield. Flooding the drainfield with excessive water slows down or stops treatment processes and can cause plumbing fixtures to back up.

What can make my system fail?

If the amount of wastewater entering the system is more than the system can handle, the wastewater backs up into the house or yard and creates a health hazard.

You can suspect a system failure not only when a foul odor is emitted but also when partially treated wastewater flows up to the ground surface. By the time you can smell or see a problem, however, the damage might already be done.

By limiting your water use, you can reduce the amount of wastewater your system must treat. When you have your system inspected and pumped as needed, you reduce the chance of system failure.

A system installed in unsuitable soils can also fail. Other failure risks include tanks that are inaccessible for maintenance, drainfields that are paved or parked on, and tree roots or defective components that interfere with the treatment process.

Failure symptoms

The most obvious septic system failures are easy to spot. Check for pooling water or muddy soil around your septic system or in your basement. Notice whether your toilet or sink backs up when you flush or do laundry. You might also notice strips of bright green grass over the drainfield. Septic systems also fail when partially treated wastewater comes into contact with groundwater. This type of failure is not easy to detect, but it can result in the pollution of wells, nearby streams, or other bodies of water. Check with a

Stop, look, and smell!

septic system professional and the local health department if you suspect such a failure, and remember to have your septic system inspected by a professional at least every 3 years.

Failure causes

Household toxics

Does someone in your house use the utility sink to clean out paint rollers or flush toxic cleaners? Oil-based paints, solvents, and large volumes of toxic cleaners should not enter your septic system. Even latex paint cleanup waste should be minimized. Squeeze all excess paint and stain from brushes and rollers on several layers of newspaper before rinsing. Leftover paints and wood stains should be taken to your local household hazardous waste collection center. Remember that your septic system contains a living collection of organisms that digest and treat waste.

Household cleaners

For the most part, your septic system's bacteria should recover quickly after small amounts of household cleaning products have entered the system. Of course, some cleaning products are less toxic to your system than others. Labels can help key you into the potential toxicity of various products. The word "Danger" or "Poison" on a label indicates that the product is highly hazardous. "Warning" tells you the product is moderately hazardous. "Caution" means the product is slightly hazardous. ("Nontoxic" and "Septic Safe"

Bleach

are terms created by advertisers to sell products.) Regardless of the type of product, use it only in the amounts shown on the label instructions and minimize the amount discharged into your septic system.



Hot tubs

Hot tubs are a great way to relax.

Unfortunately, your septic system was not designed to handle large quantities of water from your hot tub. Emptying hot tub water into your septic system stirs

the solids in the tank and pushes them out into the drainfield, causing it to clog and fail. Draining your hot tub into a septic system or over the drainfield can overload the system. Instead, drain cooled hot tub water onto turf or landscaped areas well away from the septic tank and drainfield, and in accordance with local regulations. Use the same caution when draining your swimming pool.

Water Purification Systems

Some freshwater purification systems, including water softeners, unnecessarily pump water into the septic system. This can contribute hundreds of gallons of water to the septic tank, causing agitation of solids and excess flow to the drainfield. Check with your licensed plumbing professional about alternative routing for such freshwater treatment systems.

Garbage disposals

Eliminating the use of a garbage disposal can reduce the amount of grease and solids entering the septic tank and possibly clogging the drainfield. A garbage disposal grinds up kitchen scraps, suspends them in water, and sends the mixture to the septic tank. Once in the septic tank, some of the materials are broken down by bacterial action, but most of the grindings have to be pumped out of the tank. Using a garbage disposal frequently can significantly increase the accumulation of sludge and scum in your septic tank, resulting in the need for more frequent pumping.



Improper design or installation

Some soils provide excellent wastewater treatment; others don't. For this reason, the design of the drainfield of a septic system is based on the results of soil analysis. Homeowners and system designers sometimes underestimate the significance of good soils or believe soils can handle any volume of wastewater applied to them. Many failures can be attributed to having an undersized drainfield or high seasonal groundwater table. Undersized septic tanks—another design failure—allow solids to clog the drainfield and result in system failure.

If a septic tank isn't watertight, water can leak into and out of the system. Usually, water from the environment leaking into the system causes hydraulic overloading, taxing the system beyond its capabilities and causing inadequate treatment and sometimes sewage to flow up to the ground surface. Water leaking out of the septic tank is a significant health hazard because the leaking wastewater has not yet been treated.

Even when systems are properly designed, failures due to poor installation practices can occur. If the drainfield is not properly leveled, wastewater can overload the system. Heavy equipment can damage the drainfield during installation which can lead to soil compaction and reduce the wastewater infiltration rate. And if surface drainage isn't diverted away from the field, it can flow into and saturate the drainfield.



Local Health Department

Name

Agency

Address

Address1

Phone and e-mail

EPA Onsite/Decentralized Management Homepage www.epa.gov/owm/onsite

EPA developed this Web site to provide tools for communities investigating and implementing onsite/decentralized management programs. The Web site contains fact sheets, program summaries, case studies, links to design and other manuals, and a list of state health department contacts that can put you in touch with your local health department.

National Small Flows Clearinghouse

www.nesc.wvu.edu

Funded by grants from EPA, the NSFC helps America's small communities and individuals solve their wastewater problems. Its activities include a Web site, online discussion groups, a toll-free assistance line (800-624-8301), informative publications, and a free quarterly newsletter and magazine.

Rural Community Assistance Program

www.rcap.org

RCAP is a resource for community leaders and others looking for technical assistance services and training related to rural drinking water supply and wastewater treatment needs, rural solid waste programs, housing, economic development, comprehensive community assessment and planning, and environmental regulations.

National Onsite Wastewater Recycling Association, Inc. www.nowra.org

NOWRA is a national professional organization to advance and promote the onsite wastewater industry. The association promotes the need for regular service and educates the public on the need for properly designed and maintained septic systems.

Septic Yellow Pages www.septicyellowpages.com

The Septic Yellow Pages provides listings by state for professional septic pumpers, installers, inspectors, and tank manufacturers throughout the United States. This Web site is designed to answer simple septic system questions and put homeowners in contact with local septic system professionals.

National Association of Wastewater Transporters www.nawt.org

NAWT offers a forum for the wastewater industry to exchange ideas and concerns. The NAWT Web site lists state associations and local inspectors and pumpers.



EPA-832-B-02-005 December 2002

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Septic System Dos and Don'ts

(adapted from National Small Flows Clearinghouse)

Dos

- Check with the local regulatory agency or inspector/pumper if you have a garbage disposal unit to make sure that your septic system can handle this additional waste.
- Check with your local health department before using additives. Commercial septic tank
 additives do not eliminate the need for periodic pumping and can be harmful to the system.
- Use water efficiently to avoid overloading the septic system. Be sure to repair leaky faucets or toilets. Use high-efficiency fixtures.
- Use commercial bathroom cleaners and laundry detergents in moderation. Many people prefer to clean their toilets, sinks, showers, and tubs with a mild detergent or baking soda.
- Check with your local regulatory agency or inspector/pumper before allowing water softener backwash to enter your septic tank.
- Keep records of repairs, pumpings, inspections, permits issued, and other system maintenance activities.
- Learn the location of your septic system. Keep a sketch of it with your maintenance record for service visits.
- Have your septic system inspected at least every 3 years and pumped periodically (generally every 3 to 5 years) by a licensed inspector/contractor.
- Plant only grass over and near your septic system. Roots from nearby trees or shrubs might clog and damage the drainfield.

Don'ts

- Your septic system is not a trash can. Don't put dental floss, feminine hygiene products, condoms, diapers, cotton swabs, cigarette butts, coffee grounds, cat litter, paper towels, latex paint, pesticides, or other hazardous chemicals into your system.
- Don't use caustic drain openers for a clogged drain. Instead, use boiling water or a drain snake to open clogs.
- Don't drive or park vehicles on any part of your septic system. Doing so can compact the soil in your drainfield or damage the pipes, tank, or other septic system components.

Homeowner Septic System Checklist

Septic System Description Contact your local authority if you don't have this information.
Date system installed
Installer
Phone
Tank sizegallons
Capacitybedrooms
Type conventional
alternative (type)
For more information about Clean Water septic systems, contact:
Name
Agency
Phone and e-mail
U.S. Environmental Protection Agency www.epa.gov/owm/onsite/

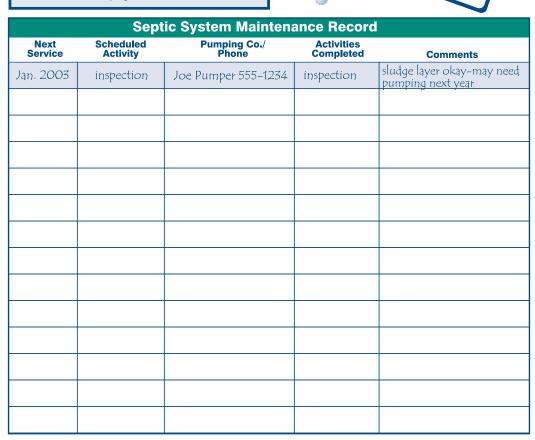
Things to keep in mind:

- ✓ Inspect your system (every 1 to 3 years) and pump your tank (as necessary, generally every 3 to 5 years).
- ✓ Use water efficiently.
- ✓ Don't dispose of household hazardous wastes in sinks and toilets.
- ✓ Plant only grass over and near your septic system. Roots from nearby trees or shrubs might clog and damage the drainfield.

Don't drive or park vehicles on any part of your septic system. Doing so can compact the soil in your drainfield or damage the pipes, tank, or Cloggers Glapers, Cat litter, Cigarette other septic system filters, coffee grounds, components. grease, feminine hygiene products, etc. Killers

household chemicals, gasoline, oil, pesticides, antifreeze, paint, etc.









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APPENDIX E – LAMP COMPLETENESS CHECKLIST

APPENDIX E				
LAMP Completeness Checklist				
	GENERAI	L REQUIREMENTS FO	OR LAMPS	
OWTS Policy Section	OWTS Policy Section Summary	Relevant LAMP Section	Legal Authority/ Code Section	
3.3	Annual Reporting	Chapter 16 NA		
3.3.1	Complaints	Chapter 16	NA	
3.3.2	OWTS Cleaning	Chapter 16	NA	
3.3.3	Permits for New and Chapter 16 NA OWTS		NA	
3.4	Permanent Records	Chapter 16	NA	
3.5	Notifications to Municipal Water Suppliers	Not Specifically Addressed	NA	
9			Appendix H, current adopted California Plumbing Code	
9.1	Considerations for LAMPs ———			
9.1.1	Degree of vulnerability due to local hydrogeology	Not Specifically Addressed	Appendix H, current adopted California Plumbing Code	



LAMP Completeness Checklist

OWTS Policy Section	OWTS Policy Section Summary	Relevant LAMP Section	Legal Authority/ Code Section
9.1.2	High quality waters and other environmental conditions requiring enhanced protection	Not specifically addressed but generally covered in Chapter 3	Appendix H, current adopted California Plumbing Code
9.1.3	Shallow soils requiring non- standard dispersal systems	Chapter 11	Appendix H, current adopted California Plumbing Code
9.1.4	High domestic well usage areas	Not specifically addressed	Setbacks specified in CPC (2010), Table K-1, & Sec 9.3.3 of the OWTS Policy apply.
9.1.5	Fractured bedrock	Not specifically addressed	NA
9.1.6	Poorly drained soils	Chapters 2, 8, 9 and 10	Appendix H, current adopted California Plumbing Code and Chapters 8, 9, and 10 of the LAMP
9.1.7	Vulnerable surface water	Not specifically addressed	Sec 7.0 OWTS Policy
9.1.8	Impaired water bodies	Chapter 12	Sec 10.0 OWTS Policy (Tier 3)



LAMP Completeness Checklist

OWTS Policy Section	OWTS Policy Section Summary	Relevant LAMP Section	Legal Authority/ Code Section
9.1.9	High OWTS density areas	Chapter 1	Appendix H, current adopted California Plumbing Code and the City of Rancho Cucamonga Development Code
9.1.10	Limits to parcel size	Chapters 1 and 3	City of Rancho Cucamonga Development Code and the City's General Plan
9.1.11	areas with OWTS that predate adopted standards	Chapter 1	Appendix H, current adopted California Plumbing Code and the City of Rancho Cucamonga Development Code
9.1.12	areas with OWTS either within prescriptive, Tier 1 setbacks, or within setbacks that a Local Agency finds appropriate	Chapter 1	NA
9.2	Scope of Coverage:	Chapter 14	NA
9.2.1	Installation and Inspection Permits	Chapter 4	Appendix H, current adopted California Plumbing Code



LAMP Completeness Checklist

OWTS Policy Section	OWTS Policy Section Summary	Relevant LAMP Section	Legal Authority/ Code Section
9.2.2	Special Provision Areas and Requirements near Impaired Water Bodies	Chapter 12	NA
9.2.3	LAMP Variance Procedures	Chapters 4, 5 and 14	NA
9.2.4	Qualifications for Persons who Work on OWTS	Chapter 2	NA
9.2.5	Education and Outreach for OWTS Owners	Chapter 14	NA
9.2.6	Septage Disposal	Chapter 15 & Chapter 16	NA
9.2.7	Maintenance Districts and Zones	NA	NA
9.2.8	Regional Salt and Nutrient Management Plans	Chapter 16	WQAP
9.2.9	Watershed Management Groups	Not Addressed	NA



LAMP Completeness Checklist

OWTS Policy Section	OWTS Policy Section Summary	Relevant LAMP Section	Legal Authority/ Code Section
9.2.10	Proximity of Collection Systems to New or Replacement OWTS	Chapter 1	Appendix H, current adopted California Plumbing Code
9.2.11	Public Water System Notification prior to permitting OWTS Installation or Repairs	May be included in future revisions	NA
9.2.12	Policies for Dispersal Areas within Setbacks of Public Wells and Surface Water Intakes	Sec V, pg. 37, para 2, Sec VI, pg. 40, para 5, Sec VII, pg.47, para 2	Appendix H, current adopted California Plumbing Code
9.2.13	Cesspool Discontinuance and Phase-Out	Chapter 14, Cesspool Elimination	Appendix H, and Sections 713.0 and 714.0, current adopted California Plumbing Code
9.3	Minimum Local Agency Management Responsibilities:	Chapters 14 and 16	NA



LAMP Completeness Checklist

OWTS Policy Section	OWTS Policy Section Summary	Relevant LAMP Section	Legal Authority/ Code Section
9.3.1	Permit Records, OWTS with Variances	Chapters 14 and 16	NA
9.3.2	Water Quality Assessment Program:	Chapter 16	NA
9.3.2.1	Domestic Well Sampling	May be included in future revisions.	NA
9.3.2.2	Domestic Well Sampling, Routine Real Estate Transfer Related	May be included in future revisions	NA
9.3.2.3	Water Quality of Public Water Systems	Chapter 16	NA
9.3.2.4	Domestic Well Sampling, New Well Development	May be included in future revisions.	NA
9.3.2.5	Beach Water Quality Sampling, H&S Code §115885	NA	NA
9.3.2.6	Receiving Water Sampling	May be included in future revisions.	NA



LAMP Completeness Checklist

OWTS Policy Section	OWTS Policy Section Summary	Relevant LAMP Section	Legal Authority/ Code Section
	Related to NPDES Permits		
9.3.2.7	Data contained in California Water Quality Assessment Database	May be included in future revisions.	NA
9.3.2.8	Groundwater Sampling Related to Waste Discharge Requirements	May be included in future revisions.	NA
9.3.2.9	Groundwater Sampling Related to GAMA Program	May be included in future revisions.	NA
9.3.3	Annual Status Reports Covering 9.3.1- 9.3.2	Chapter 16	NA
9.4	Not Allowed or Authorized in LAMP:	Chapter 14	NA
9.4.1	Cesspools	Chapter 14	Appendix H, and Sections 713.0 and 714.0, current



LAMP Completeness Checklist

OWTS Policy Section	OWTS Policy Section Summary	Relevant LAMP Section	Legal Authority/ Code Section
			adopted California Plumbing Code
9.4.2	Projected Flow>10,000 gpd	Chapter 14	NA
9.4.3	Effluent Discharger Above Post- Installation Ground Surface	Chapter 14	NA
9.4.4	Installation on Slopes >30% without Registered Professional's Report	Chapters 1, 8, 9, 10 and 14	NA
9.4.5	Decreased Leaching Area for IAPMO- Certified Dispersal System with Multiplier < 0.70	Chapter 14	NA
9.4.6	Supplemental Treatments without Monitoring and Inspection	Chapter 11	NA



LAMP Completeness Checklist

OWTS Policy Section	OWTS Policy Section Summary	Relevant LAMP Section	Legal Authority/ Code Section
9.4.7	Significant Wastes from RV Holding Tanks	Chapter 14	NA
9.4.8	Encroachment Above Groundwater	Chapters 2, 4, 8, 9 and 10	Sec 8.1.5 OWTS Policy, Table 2
9.4.9	Installations Near Existing Sewers	Chapter 1	Current adopted California Plumbing Code, Ch 7, Part II, Sec 713.4
9.4.10	Minimum Setbacks:	Chapter 3	NA
9.4.10.1	From Public Supply Wells, dispersal less than 10 feet	Chapter 3	NA
9.4.10.2	From Public Supply Wells, dispersal greater than 10 feet	Chapter 3	NA
9.4.10.3	From Public Supply Wells, Regarding Pathogens	Chapter 3	NA
9.4.10.4	From Public Surface Water Supplies	Chapter 3	NA



LAMP Completeness Checklist

OWTS Policy Section	OWTS Policy Section Summary	Relevant LAMP Section	Legal Authority/ Code Section
9.4.10.5	From Public Surface Water Supplies	Chapter 3	NA
9.4.11	Supplemental Treatments, Replacement OWTS That Do Not Meet Minimum Setback Requirements	Chapter 11	NA
9.4.12	Supplemental Treatments, New OWTS That Do Not Meet Minimum Setback Requirements	Chapter 11	NA
9.5	Technical Support of LAMP	Chapter 1 and 2	NA
9.6	Regional Water Quality Control Board Consideration of LAMP	Chapter 1	AB885



Legend:

AB885 State Assembly Bill 885 approved by the Governor of California on September

27, 2000

NA Not applicable

OWTS Onsite Wastewater Treatment System

LAMP Local Agency Management Program

WQAP Water Quality Assessment Program





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Appendix F

Prohibited Practices

Not Authorized by this LAMP

The following items are excerpted from the OWTS Policy dated June 19, 2012 issued by the State Water Resources Control Board, for Tier 2 LAMPs, legally restricting certain past practices related to the construction of OWTS (commonly referred to as septic systems in the City of Rancho Cucamonga).

9.4	The following are not allowed to be authorized in a Local Agency
0.4.1	Management Program:
9.4.1	Cesspools of any kind or size.
9.4.2	OWTS receiving a projected flow over 10,000 gallons per day.
9.4.3	OWTS that utilize any form of effluent disposal that discharges on or above the post installation ground surface such as sprinklers, exposed drip lines, free-surface wetlands, or a pond.
9.4.4	Slopes greater than 30 percent without a slope stability report approved by a registered professional.
9.4.5	Decreased leaching area for IAPMO certified dispersal systems using a multiplier less than 0.70.
9.4.6	OWTS utilizing supplemental treatment without requirements for periodic monitoring or inspections.
9.4.7	OWTS dedicated to receiving significant amounts of wastes dumped from RV holding tanks.
9.4.8	Separation of the bottom of dispersal system to groundwater less than two (2) feet, except for seepage pits, which shall not be less than 10 feet.
9.4.9	Installation of new or replacement OWTS where public sewer is available. The public sewer may be considered as not available when such public sewer or any building or exterior drainage facility connected thereto is located more than 200 feet from any proposed property line or exterior drainage facility on any lot or premises that abuts and is served by such public sewer. This provision does not apply to replacement OWTS where the connection fees and construction cost are greater than twice the total cost of the replacement OWTS and the local agency determines that the discharge from the OWTS will not affect groundwater or surface water to a degree that makes it unfit for drinking or other uses.
9.4.10	Except as provided for in sections 9.4.11 and 9.4.12, new or replacement OWTS with minimum horizontal setbacks less than any of the following:



9.4		The following are not allowed to be authorized in a Local Agency Management Program:
	9.4.10.1	150 feet from a public water well where the depth of the effluent dispersal system does not exceed 10 feet in depth.
	9.4.10.2	200 feet from a public water well where the depth of the effluent dispersal system exceeds 10 feet in depth.
	9.4.10.3	Where the effluent dispersal system is within 600 feet of a public water well and exceeds 20 feet in depth the horizontal setback required to achieve a two-year travel time for microbiological contaminants shall be evaluated. A qualified professional shall conduct this evaluation. However in no case shall the setback be less than 200 feet.
	9.4.10.4	Where the effluent dispersal system is within 1,200 feet from a public water systems' surface water intake point, within the catchment of the drainage, and located such that it may impact water quality at the intake point such as upstream of the intake point for flowing water bodies, the dispersal system shall be no less than 400 feet from the high water mark of the reservoir, lake or flowing water body.
	9.4.10.5	Where the effluent dispersal system is located more than 1,200 feet but less than 2,500 feet from a public water systems' surface water intake point, within the catchment area of the drainage, and located such that it may impact water quality at the intake point such as upstream of the intake point for flowing water bodies, the dispersal system shall be no less than 200 feet from the high water mark of the reservoir, lake or flowing water body.
9.4.11		For replacement OWTS that do not meet the above horizontal separation requirements, the replacement OWTS shall meet the horizontal separation to the greatest extent practicable. In such case, the replacement OWTS shall utilize supplemental treatment and other mitigation measures, unless the permitting authority finds that there is no indication that the previous system is adversely affecting the public water source, and there is limited potential that the replacement system could impact the water source based on topography, soil depth, soil texture, and groundwater separation.
9.4.12		For new OWTS, installed on parcels of record existing at the time of the effective date of this Policy, that cannot meet the above horizontal separation requirements, the OWTS shall meet the horizontal separation to the greatest extent practicable and shall utilize supplemental treatment for pathogens as specified in section 10.8 and any other mitigation measures prescribed by the permitting authority.



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