

From: Mike Podegracz  
Sent: 2/17/2017 10:09:10 AM  
To: Coony, Mike@Waterboards  
cc: Patrick Carroll  
Subject: Town of Apple Valley Draft LAMP

Good morning Mike:

Based on our conversations from a few weeks ago, I am forwarding an early revised draft of the Town of Apple Valley's LAMP. Included with this e-mail is the following:

Revised Draft LAMP. Please note that the Table of Contents has not been revised since this may change. Also, the document references figures that are not included (as we discussed). These figures will be provided with the formal resubmittal.  
Draft response letter. Please note that this is not on letterhead as it is a draft response. Also, the figures referenced are not included as discussed above.  
The Town of Apple Valley's Sewer Master Plan that is referenced in the draft response letter.

I realize that we discussed sending all three (Adelanto, Apple Valley and Hesperia) LAMPs to you at one time. However, I have only received approval from Apple Valley to forward these material to you. The other two cities are still reviewing the draft documents.

Please let me know if you have any questions. Thanks Mike.

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#### Attachments

TOAV Draft LAMP v(2).docx

TOAV RWQCB Response Attachment .docx

Town of Apple Valley Sewer Master Plan Update Final Report - 2013.pdf, found at:

<http://www.applevalley.org/home/showdocument?id=12547>

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# CHAPTER 1 INTRODUCTION

## LOCAL AGENCY MANAGEMENT PROGRAM

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 OWTS Policy established a statewide, risk-based tiered approach for regulation and management of OWTS installations and replacements. The tiers are summarized below:

### Tier 0– Existing OWTS

- Applies to properly functioning systems that do not need corrective action and are not near an impaired water body.
- Maximum flow rate is 10,000 gallons per day (gpd).

### Tier 1 – Low Risk New or Replacement OWTS

- Applies to all new or replacement OWTS that comply with conservative siting and design standards.
- Tier 1 applies when a LAMP has not been approved by the RWQCB
- Maximum flow rate is 3,500 gpd
- Maximum density, based on annual rainfall of less than 15-inches, is one dwelling unit per 2.5 acre.

### Tier 2 – LAMP for New or Replacement OWTS

- Applies to all new or replacement OWTS based on local conditions, siting and design standards as identified in the approved LAMP developed by the local agency and

approved by the RWQCB.

- Allows the Town to adopt standards that may differ from Tier 1 Standards
- Maximum flow rate is 10,000 gpd.

#### Tier 3 – Advanced Protection Management Program

- Applies to OWTS located near impaired water waterways or water bodies identified on the OWTS Policy Attachment 2.
- There are no impaired water bodies in the Town of Apple Valley
- Maximum flow rate is 10,000 gpd.

#### Tier 4 – OWTS Requiring Corrective Action

- Applies to failing systems

### **LAMP STANDARDS AND EXCEPTIONS**

The purpose of the LAMP is to allow the continued use of onsite wastewater treatment systems (OWTS) within the jurisdiction of the Town of Apple Valley (Town) as well as to expand the local program to permit and regulate alternative OWTS while protecting water quality and public health. The LAMP also applies to OWTS on federal, state, and tribal lands to the extent authorized by law or agreement. The LAMP is prepared to meet the requirements of the OWTS Policy for Tier 2 installations and replacements.

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 Town.

The 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 gpd.
- 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.

## **TOWN OF APPLE VALLEY GENERAL INFORMATION**

The Town of Apple Valley is located in the “high desert” of the County of San Bernardino, at an average elevation of 3,000 feet. The Town is one of four incorporated cities in the Victor Valley, covers approximately 78 square miles in its incorporated boundaries, and a sphere of influence encompassing approximately 200 square miles. The 2015 population is approximately 71,100. A boundary map of the Town is shown on Figure 1-1.

Approximately 30% of development in the Town is connected to sewer facilities. Wastewater is conveyed and treated at the Victor Valley Wastewater Reclamation Authority’s (VWRA) Regional Facility, which is located in the neighboring City of Victorville. VWRA is currently constructing a Sub-Regional Water Reclamation Facility that will initially capture and treat approximately 1.0 million gpd for reuse on parks, green belts, golf course, and other uses. ~~Figure 1-2 identifies those areas within the Town where sewer service is currently available, and all new development will be required to connect to the sewer system.~~ The remaining 70% of developed properties are served by OWTS. **Figure \_\_ identifies the following designations regarding the use of OWTS within the Town of Apple Valley:**

- **Areas where sewer service is currently available, and where all new development will be required to connect to the sewer system;**
- **Areas subdivided, or anticipated to be subdivided, prior to the effective date of the LAMP where development is currently utilizing OWTS and will be allowed to remain on OWTS; or are vacant properties that will be allowed to utilize OWTS as they develop until such time that a sewer system is installed to these properties. The Town’s Sewer Master Plan identifies the existing wastewater system, and outlines necessary system upgrades for future wastewater system planning and expansion;**
- **Areas that may be subdivided after the effective date of the LAMP with the corresponding maximum land use density designations, and where OWTS will be allowed.**

~~All areas on Figure 1-2 that are not highlighted either currently utilize OWTS and will be allowed to remain on OWTS; or are vacant properties that will be allowed to utilize OWTS as they~~

~~develop.~~ Based on the Town's General Plan and Sewer Master Plan growth projections, it is estimated that the Town will increase from its current 2017 population of 74,650 to a 2037 population of 91,900 based on a 1 percent annual growth factor. It is also estimated that approximately \_\_% of this growth will be served by the Town's sewer system with the remaining \_\_% served by OWTS. Development on OWTS is anticipated to occur uniformly throughout the Town in those areas identified on Figure \_\_ which will allow the use of OWTS. The use of OWTS for both existing and new development is subject to the requirements of this LAMP.

VVWRA owns and maintains a septage receiving facility that accepts all septage generated by OWTS within the Town boundaries. The septage receiving facilities have adequate capacity to receive deliveries from new OWTS.

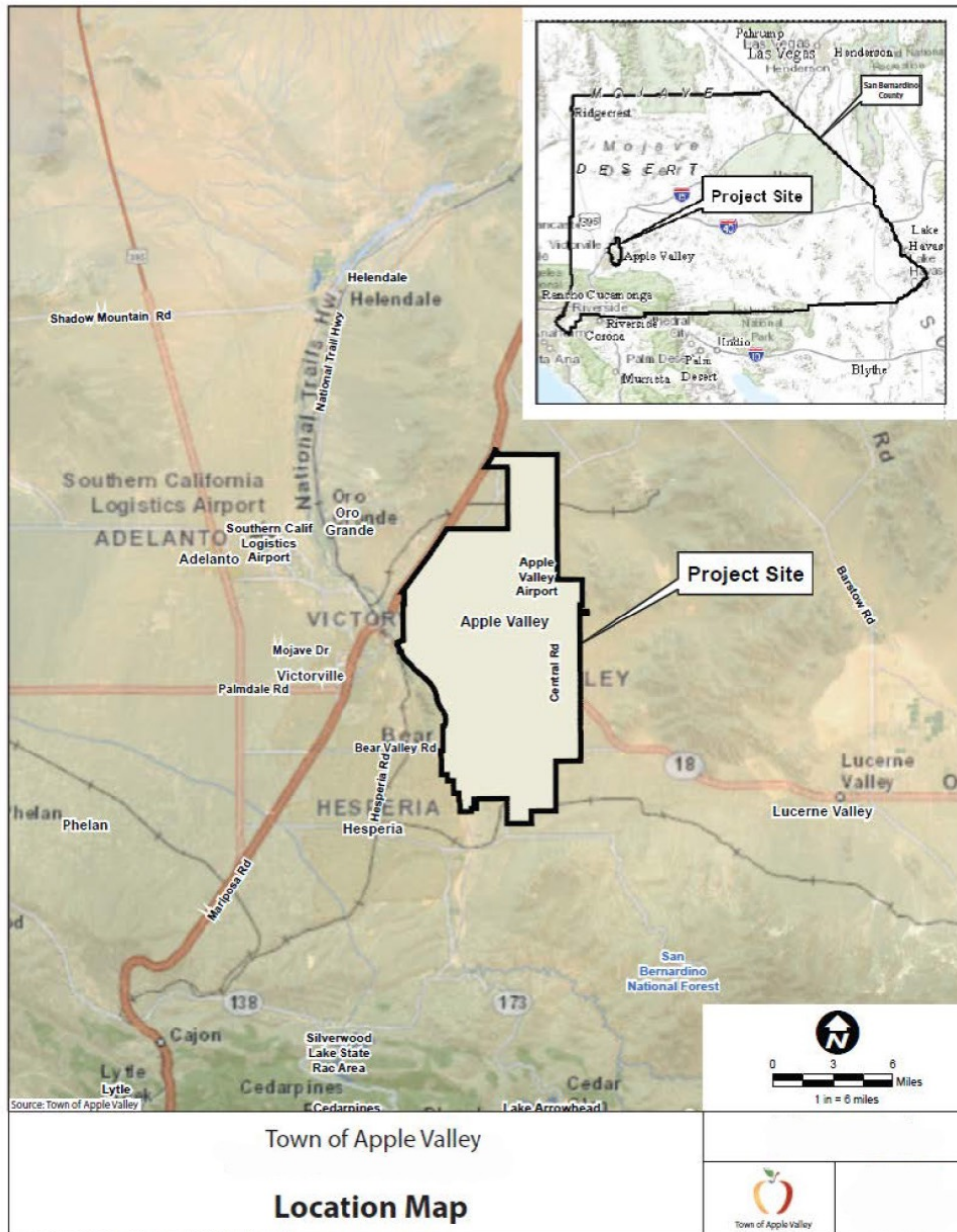
Geologically, the Town is generally bounded by the Turtle Mountains on the north, the Fairview Mountains and Granite Mountains on the east and the Ord Mountains on the south. The majority of the Town is situated on gently sloping alluvial fans ranging in elevation from approximately 3,400 feet near the base of the Fairview Mountains to the northeast and approximately 2,700 feet along the Mojave River to the west. Notable geologic formations within the Town include Bell Mountain at 3,897 feet and Catholic Hill at 3,645 feet. One of the most prominent features in the area is the Mojave River, a wide floodplain that generally defines the Town's western boundary.

The geological character of the Town and the surrounding region has been formed by its proximity to large active fault systems, including the Helendale Fault, San Andreas Fault, and the North Frontal Fault. The mountains are composed of rocks that have been sheared and intensely fractured under the strain of tectonic movement. The valley is formed by many generations of overlapping alluvial fans, the various ages of which coincide with the rise of the local mountains.

The Town overlies the Alto Sub-basin of the Mojave Groundwater Basin, a basin that was adjudicated in 1993 (City of Barstow et al, v. City of Adelanto et al, Riverside County Superior Court Case No. 208568). The Mojave Water Agency was appointed as Watermaster pursuant to the Court judgment. Groundwater depths as of April 2016 vary from approximately 15 feet below ground surface (BGS) along the Mojave River to approximately 250 BGS near the eastern Town boundary.



Figure 1-1: Location Map



# Town of Apple Valley

Public Services Wastewater Division

## Sewer Service Areas

April 27, 2016

- Town Boundary
- OWTS Area
- Sewered Areas

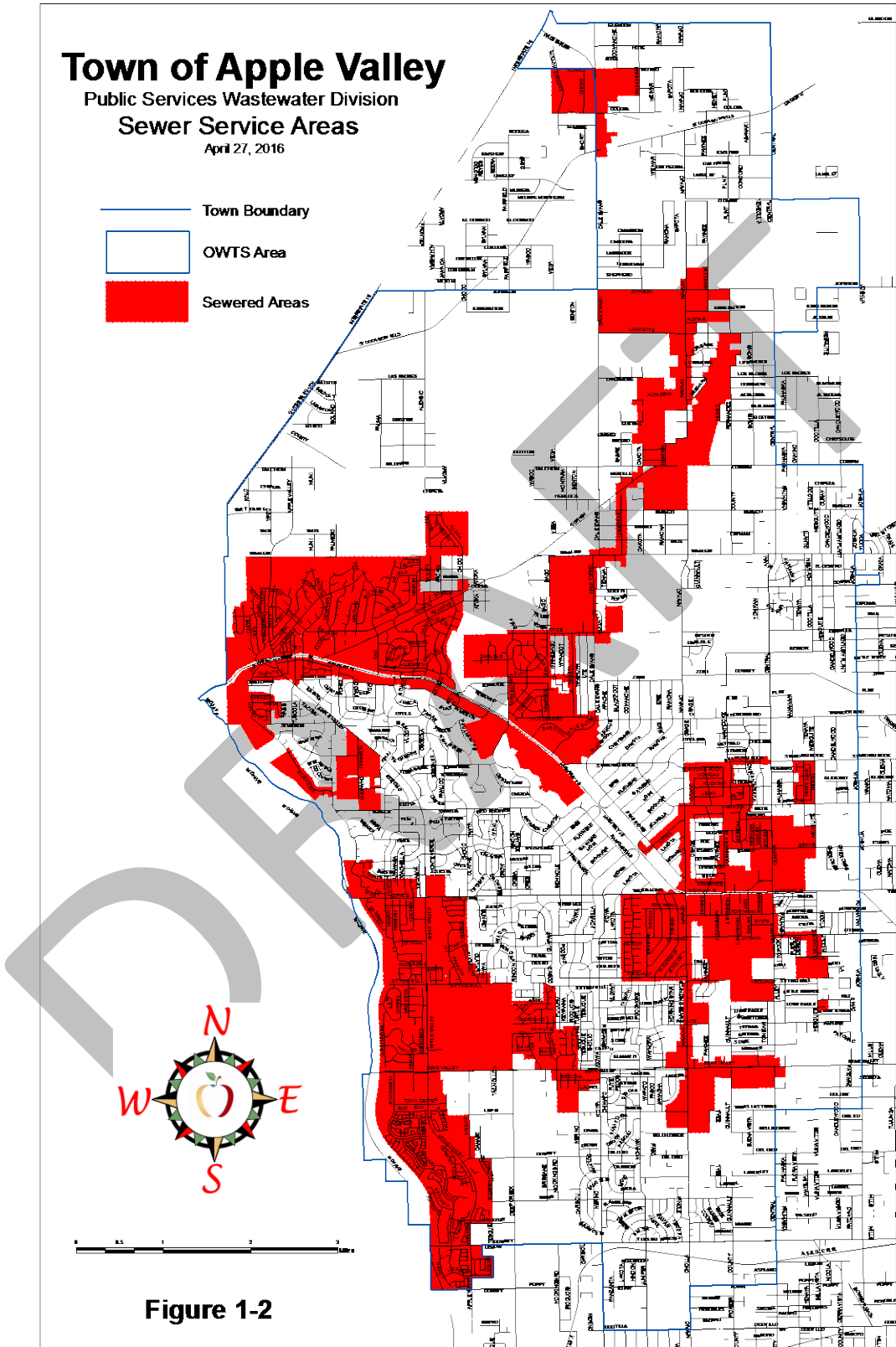


Figure 1-2

## CHAPTER 2 DEFINITIONS

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

**"Basin Plan"** means the same as "water quality control plan" as defined in Division 7 (commencing with Section 13000) of the Water Code. Basin Plans are adopted by each Regional Water Board, approved by the State Water Board and the Office of Administrative Law, and identify surface water and groundwater bodies within each Region's boundaries and establish, for each, its respective beneficial uses and water quality objectives. Copies are available from the Regional Water Boards, electronically at each Regional Water Boards website, or at the State Water Board's *Plans and Policies* web page ([http://www.waterboards.ca.gov/plans\\_policies/](http://www.waterboards.ca.gov/plans_policies/)).

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

**"Cap/Cap depth"** means the depth below the natural ground surface to the top of the horizontal or vertical seepage pit system where the infiltrative sidewall surface begins.

**"California Environmental Data Exchange Network" (CEDEN)** a central location to find and share information about California water bodies available at the State Water Boards website or <http://www.ceden.org/index.shtml>.

**"California Plumbing Code"** refers to the most current edition of the Code as adopted by the Town.

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

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

**“Cobbles”** means rock fragments 76 mm or larger using the USDA soil classification systems.

**“Cut/Slope”** means any slope greater than 60% or man-made contour that exposes the vertical soil profile. Cuts and slopes require a 5 foot horizontal setback for every 1 foot of vertical height to any dispersal system.

**“Dispersal system”** means a leach field, seepage pit, mound, subsurface drip field, or other type of system for final wastewater treatment and subsurface discharge.

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

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

**“Domestic well”** means a groundwater well that provides water for human consumption and is not regulated by the California Department of Public Health.

**“Earthen material”** means a substance composed of the earth’s crust (i.e. soil and rock).

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

**“Electronic deliverable format”** or **“EDF”** means the data standard adopted by the State Water Board for submittal of groundwater quality monitoring data to the State Water Board’s internet-accessible database system Geotracker (<http://geotracker.waterboards.ca.gov/>).

**“Existing OWTS”** means an OWTS that was constructed and operating prior to the effective date of this Policy, and OWTS for which a construction permit has been issued prior to the

effective date of the Policy.

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

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

**“Gross acre”** is defined as the area that encompasses the entire net lot area plus any underlying fee title within the adjacent right-of-ways, if any.

**“Groundwater”** means water below the land surface that is at or above atmospheric pressure.

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

**“International Association of Plumbing and Mechanical Officials”** or **“IAPMO”** is an association that assists individual jurisdictions to meet their specific needs by coordinating the development and adoption of codes regarding plumbing, mechanical, swimming pools and solar energy.

**“Impaired water bodies”** means those surface water bodies or segments thereof that are identified on a list approved first by the State Water Board and then approved by US EPA pursuant to Section 303(d) of the Federal Clean Water Act.

**“LAMP”**, or Local Agency Management Program, is the program for siting, design, operations and maintenance of OWTS, developed by the Town of Apple Valley, and approved by the Regional Water Quality Control Board.

**“Licensed Qualified Contractor,”** shall be a Licensed General Engineering Contractor (Class A), General Building Contractor (Class B), Sanitation System Contractor (Specialty Class C- 42), or Plumbing Contractor (Specialty Class C-36).

**“Local agency”** means any subdivision of state government that has responsibility for permitting the installation of and regulating OWTS within its jurisdictional boundaries; typically

a county, city, or special district.

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

**“Mottling”** means a soil condition that results from oxidizing or reducing minerals due to soil moisture changes from saturated to unsaturated over time, and is characterized by spots or blotches of different colors or shades of color (grays and reds), interspersed within the dominant color as described by the USDA soil classification system. This soil condition can be indicative of historic seasonal high groundwater levels, but the lack of this condition may not demonstrate the absence of groundwater.

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

**“New 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:

- Conditional approval, or approval, of a tentative parcel or tract map by City/Town/County Planning Commission; City or Town Council, or; County Board of Supervisors.
- A conditional use permit;
- Conditional approval or approval by the City/Town Building and Safety Department or Planning Department

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

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

**“Oil/grease interceptor” or “Grease interceptor”** means a passive interceptor that has a rate of flow exceeding 50 gallons-per-minute and that is located outside a building. Oil/grease

interceptors are used for separating and collecting oil and grease from wastewater.

**“One-Half Acre”** means the minimum lot size requirement, and describes and average gross area of land of one-half acre per dwelling unit. Included in the calculation of average lot size are areas set aside for streets, curbs, commons, greenbelts, and other easements.

**“Onsite wastewater treatment system(s)” (OWTS)** means individual disposal systems, community collection and disposal systems, and alternative collection and disposal systems that use subsurface disposal. The short form of the term may be singular or plural. OWTS do not include “gray water” systems pursuant to Health and Safety Code Section 17922.12.

**“OWTS Policy”** means this Policy for Siting, Design, Operation and Management of OWTS.

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

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

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

**“Pit-privy”** (also known as outhouse or pit-toilet) means self-contained waterless toilet used for disposal of non-water carried human waste; consists of a shelter built above a pit in the ground into which human waste falls.

**“Pollutant”** means any substance that alters water quality of the Waters of the State to a degree that it may potentially affect the beneficial uses of water, as listed in a Basin Plan.

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

**“Public water system”** is a water system regulated by the California Department of Public Health or a Local Primacy Agency pursuant to Chapter 12, Part 4, California Safe Drinking Water Act, Section 116275 (h) of the California Health and Safety Code.

**“Public water well”** is a ground water well serving a public water system. A spring which is not subject to the California Surface Water Treatment Rule (SWTR), CCR, Title 22, Sections 64650 through 64666 is a public well.

**“Qualified Professional”** means an individual who is licensed or certified by a State of California agency to design OWTS and practices as a professional for other associated reports, as allowed under their license or registration. Depending on the work to be performed and various licensing and registration requirements, this may include an individual who possesses a registered environmental health specialist certificate or is currently licensed as a professional engineer or professional geologist. For the purposes of performing site evaluations, Soil Scientists certified by the Soil Science Society of America are considered qualified professionals.

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

**“Regional Water Board”** is any of the Regional Water Quality Control Boards designated by Water Code Section 13200. Any reference to an action of the Regional Water Board in this Policy also refers to an action of its Executive Officer, including the conducting of public hearings, pursuant to any general or specific delegation under Water Code Section 13223. The Town of Apple Valley is governed by the South Lahontan Regional Water Quality Control Board located at 14440 Civic Drive, Suite 200, Victorville, CA 92392.

**“Repair”** is any action that modifies/replaces the existing dispersal system, replaces an existing septic tank, or modifies/replaces a major component of the onsite wastewater treatment system. Repairs require the issuance of a Permit by the Town of Apple Valley and must be inspected by Town staff.

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

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

**“Seepage Pit”** is a drilled or dug excavation which is three to six feet in diameter and gravel

filled. It receives effluent discharge for dispersal from a septic tank or other OWTS treatment unit.

**“Septic tank”** means a watertight, covered receptacle designed for primary treatment of wastewater and constructed to:

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

**“Silt”** means a soil particle; this term also refers to a type of soil texture. As a soil particle, silt consists of individual rock or mineral particles in soils having diameters ranging from between 0.002mm and 0.05mm. As a soil texture, silt is soil that is comprised as approximately 80 percent or more silt particles and not more than 12 percent clay particles using the USDA soil classification system.

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

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

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

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

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

**“State Water Board”** is the State Water Resources Control Board

**“STS”** is the acronym used in place of Onsite Wastewater Treatment System with Supplemental Treatment.

**“Substandard system”** means any existing OWTS that does not conform to the accepted requirements related to system sizing, setbacks, groundwater separation, or allowable cover.

**“Supplemental treatment”** means any OWTS or component of an OWTS, except a septic tank or dosing tank, that performs additional wastewater treatment so that the effluent meets a predetermined performance requirement prior to discharge of effluent into the dispersal field.

**“SWAMP”** means Surface Water Ambient Monitoring Program.

**“Telemetric”** means the ability to automatically measure and transmit OWTS data by wire, radio, or other means.

**“Total maximum daily load” or “TMDL”** is a pollution budget and includes a calculation of the maximum amount of a pollutant that can occur in a waterbody and allocates the necessary reductions to one or more pollutant sources. Section 303(d)(1) of the Clean Water Act requires every State to establish a TMDL for each impaired water body to address the pollutant(s) causing the impairment. In California, TMDLs are usually adopted as Basin Plan amendments and contain implementation plans detailing how water quality standards will be attained.

**“Town”** means Town of Apple Valley, California

**“USGS”** means the United States Geological Survey

**“Waste discharge requirement” or “WDR”** means an operation and discharge permit issued for the discharge of waste pursuant to Section 13260 of the California Water Code.

## **CHAPTER 3 OWTS SITE EVALUATION AND PERMITTING**

### **GENERAL**

This Chapter describes the review and permitting process for the installation of new and replacement OWTS. The document also summarizes key design criteria for these systems. OWTS discharge pollutants to groundwater, and therefore are regulated by the State Water Code. Water Code Section 13282, allows Regional Water Quality Control Boards (RWQCB) to authorize a local public agency to issue permits for and to regulate OWTS “to ensure that systems are adequately designed, located, sized, spaced, constructed and maintained.”

**Although the Water Code restricts the RWQCB from approving the manner or method of wastewater treatment system design, the RWQCB can offer suggestions in the design of systems as referred to the RWQCB from the Town. It should be noted, however, that Town staff will initiate any referral to the RWQCB, and not by the owner of the OWTS. Should a review of an OWTS be requested of the RWQCB for referral and recommendations, then this referral will be made by the Town’s Building Official.**

The goal of the OWTS program is to ensure that installed OWTS will last the life of the structure they serve, and not cause any public exposure to surfacing sewage or any contamination of groundwater or surface waters. Figure 1-2 in Chapter 1 identifies those areas in the Town where OWTS are allowed and where OWTS are prohibited and connection to the existing sewer system is required. It is important that property owners consult with the Town to determine the exact location of their property and whether or not OWTS are allowed.

### **EVALUATION AND PERMITTING PROCESS**

Obtaining an OWTS permit and obtaining land use approval are two separate processes. While they are coordinated to some extent, an OWTS permit or related approval is *never* a substitute for a required grading, land use or building permit. Similarly, no land use approval or permit (e.g., approval of a subdivision map or lot split or boundary adjustment, even after preliminary septic system review by the Town), is a substitute for an OWTS permit, or a guarantee that such a permit can be issued.

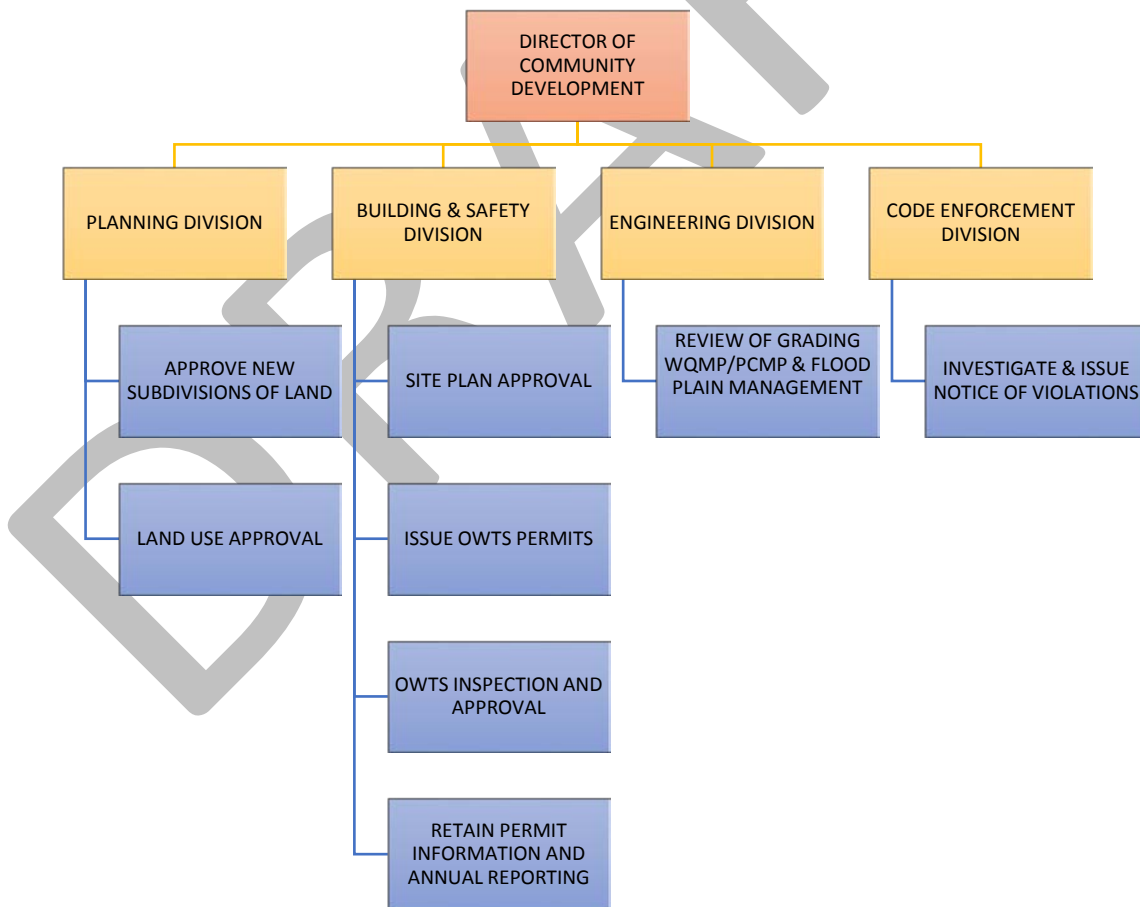
The Town’s Building and Safety Division is responsible for issuing permits for the installation of new OWTS, and the repair or replacement of existing OWTS. The Building and Safety Division will review all applications (including site and grading plans), determine percolation testing

requirements, conduct on-site inspections, and approve the design and installation. The Building and Safety Division will also be responsible to retain permit information, and provide the annual reporting to the RWQCB as detailed in Chapter 8 of the LAMP.

The Town’s Planning Division is responsible for the review and approval of all new subdivisions of land and the determination of whether the new lots created by land subdivision will be required to connect to sewer or can be served by OWTS.

The Town’s Code Enforcement Division is responsible for investigating complaints of overflowing or failing septic tanks, and ensuring that the property owner obtains the required permits from the Building and Safety Division for the necessary repairs or replacement of the failing system.

**The following Town Organization chart identifies the Town staffing involved in the review, approval and inspection of OWTS.**



## SYSTEM DESIGN CONSIDERATIONS

### General

The most common type of OWTS found within the Town consists of a septic tank which allows for the removal of solids in the wastewater prior to being discharged to a dispersal field which consist of vertical seepage pits. Leech line systems are approved on a case by case basis by the Town and can only be used if seepage pit installation is not feasible. In some applications where the disposal field is at a higher elevation than the building site, a pressure-system is used to deliver the sewage to a standard disposal field where it is distributed by gravity flow. All of these examples would be considered a conventional OWTS because no further sewage treatment is performed between the septic tank and the disposal field. In all cases, the sewage effluent is discharged below the ground surface and is digested by bacteria in unsaturated soil zones for treatment. These systems are designed to operate in all weather conditions with minimal maintenance, other than periodic septic tank pumping to remove sludge.

In addition to conventional OWTS, the Town allows the use of alternative OWTS with supplemental treatment. These systems are generally used for sites that cannot support a conventional OWTS due to soil depth conditions. Alternative OWTS use different methods of sewage treatment beyond what is provided by the septic tank to allow for a reduction in the amount of unsaturated soil below the dispersal system. All alternative OWTS must be certified by the National Sanitation Foundation or by an approved third party tester. Due to the complexity of these systems, ongoing maintenance contracts and annual operating permits are also required.

In addition to primary system design criteria, all OWTS designs (both new designs and additions to an existing structure) must show 100% reserve area for the active OWTS. The size and type of OWTS needed for a particular building project will be a function of the following factors:

- **Soil Permeability:** Permeability determines the degree to which soil can accept sewage discharge over a period of time. Permeability is measured by percolation rate, in minutes per inch (MPI), as identified in the California Plumbing Code Appendix H, Table H2.1(2).
- **Unsaturated Soil Interval:** The distance between the bottom of the OWTS dispersal field and the highest anticipated groundwater level or the shallowest impervious subsurface layer. All conventional OWTS will require a minimum depth of soil between the bottom of the dispersal field and anticipated level of groundwater, or bottom of dispersal field and impermeable material such as clay or bedrock. The minimum depth of soil is five (5)

feet for a leach line system and ten (10) feet for a vertical seepage pit.

- Peak Daily Flow: The anticipated peak sewage flow in gallons per day. In many cases, the number of bedrooms for a proposed home is used as an indicator of peak daily flow.
- Net Usable Land Area: The area available that meets all setback requirements to structures, easements, watercourses, or other geologic limiting factors for the design of an OWTS.

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

### **Maximum Flow and Land Use Density**

OWTS can be utilized for existing and new developments where the discharge is composed of domestic wastewater only (industrial waste discharges are prohibited), **and the wastewater flow does not exceed 500 gallons per acre per day as determined using Appendix H Table H2.1 in the California Plumbing Code; and for non-residential or mixed use occupancy, using Table 422.1 in the California Plumbing Code to determine occupant loads.** ~~and one of the following conditions apply:~~

**Land use density for single-family homes on individual lots utilizing OWTS shall be as follows:**

- Individual lots created by subdivision prior to June 16, 1988 shall have a minimum net area of 15,000 square feet.
- Individual lots created by subdivision after June 16, 1988 and prior to the effective date of the LAMP shall have a minimum net area of 18,000 square feet.
- Individual lots created by subdivision after the effective date of the LAMP shall have a minimum net area as identified on Figure \_\_\_\_.
- ~~The development consists of single family residences or multi family residences, the density does not exceed two equivalent dwelling units (EDU) per gross acre, and the wastewater flow does not exceed 500 gallons per acre per day day, as determined using Appendix H Table 2.1 in the California Plumbing Code.~~
- ~~The development consists only of a single family home on an individual lot which has a minimum net area of 15,000 square feet.~~
- ~~The development is non residential or mixed occupancy, the wastewater discharge does not exceed 500 gallons per acre per day, as determined using Appendix H Table H2.1(1) in the California Plumbing Code, and occupant loads as determined by Table 422.1 in the California Plumbing Code.~~

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

Existing single family residential developments that were approved prior to the effective date of the LAMP and utilize OWTS, but do not meet the minimum lot size area **as indicated above** (~~15,000 square feet~~), may continue to utilize OWTS. However, when the OWTS requires corrective action, as detailed in Chapter 6 of the LAMP, the Town will review the application to determine if a supplemental treatment system, as detailed in Chapter 5 of the LAMP, will be required to ensure protection of the groundwater basin. The minimum lot size requirement for new subdivisions does not preclude the prescription of more stringent lot size requirements in specific areas if it is determined necessary to protect water quality.

### **Setback Requirements**

Table 3-1 provides the minimum separation requirements for installation of new or replacement OWTS, measured in feet, and are largely derived from the California Plumbing Code. In some cases, changes have been made in order to adequately protect public health. If differences exist, the greater separation prevails unless otherwise approved by the Town.

For replacement OWTS and new OWTS installed on parcels of record existing at the effective date of the LAMP that do not meet the horizontal separation requirements in Table 3-1, the OWTS shall meet the horizontal separation to the greatest extent practicable. The Town may determine that supplemental treatment or other mitigation measures may be required in these cases due to potential adverse impact to the public water source. These cases will be determined on a case-by-case basis by the Town.

**Table 3-1 OWTS Separation Requirements**

<b>Minimum Setback Required From</b>	<b>Sentic Tank</b>	<b>Leach Field</b>	<b>Seepage Pit</b>
Non-Public Water Supply Well	100	100	150
Public Water Supply Well <sup>1</sup>	100	150	150
Buildings or Structures <sup>2</sup>	5	8	8
Property line adjoining private property	5	5	8
Streams and other flowing bodies of water <sup>3</sup>	100	100	150
Drainage courses <sup>4</sup>	50	50	50
Lakes, ponds, other surface water bodies <sup>5</sup>	200	200	200
Large Trees	10	--	10
Seepage pits	5	5	12
Disposal Field	5	4	5
On-site domestic water lines	5	5	5
Public domestic water lines	10	10	10
Distribution box	n/a	5	5
Ground surface on sloping ground	n/a	15	15
Groundwater	5	5	10

## PERMITTING

Prior to approving the use of OWTS, the Town's Building and Safety Division will review each application, and a site evaluation may be conducted, to:

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

The applicant must submit the following documents for review and approval by the Town's Building and Safety Division prior to installation of OWTS.

<sup>1</sup> The minimum setback required to a public water supply well shall be increased to 200 feet where 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 the groundwater basin.

<sup>2</sup> Includes porches and steps, whether covered or uncovered, breezeways, roofed porte cochères, roofed patios, carports, covered walks, covered driveways, and similar structures.

<sup>3</sup> As measured from the line which defines the limit of a 100-year flood.

<sup>4</sup> As measured from the edge of the channel or top slope.

<sup>5</sup> If the dispersal system is within 1,200 feet from a public water system surface water intact point, the setback shall be 400 feet.

## **Application**

An application is available on the Town's website or at the Building and Safety counter, and shall be completed by the applicant. The information required includes:

- Job location (site address, tract and lot number, or Assessor's Parcel Number);
- Owner and Applicant (if not the owner) address and phone number;
- Contractor address, phone number and State Contractor's license;
- Engineer's/Architect's address, phone number and State license;
- Type of proposed construction (residential vs. commercial);
- Purpose of project (new dwelling unit, addition, etc.);
- Number of existing or proposed bedrooms (residential)
- Number of plumbing fixture units as determined by the California Plumbing Code (not-residential);
- Estimate grading quantity.

## **Plot Plan**

A plot prepared on 8.5" by 11" sized paper showing the layout design of the proposed building and OWTS shall be provided using the standard engineer's scale of 1/2" equal to 20 feet. The information on the plot plan shall include:

- Owner's name and telephone number;
- Job site address, tract and lot number, or Assessor's Parcel Number;
- North arrow and scale;
- All existing and proposed structures;
- All drainage courses, significant vegetation and rock outcroppings;
- Property lines and dimensions;
- Elevations points of pad, floor, top of septic tank, top of seepage pit, etc.;
- Existing and/or proposed OWTS including 100% expansion area;
- Slopes greater than 25%;
- All setbacks and recorded easements on the property;
- Location of all wells on or within 150 of the property.

## **Grading Plan**

Depending of the degree of grading for the project, the Town may require a grading plan. If a grading plan is required, it shall be included with the application. The grading plan shall include topographic contours and identify proposed grading limits, contours and slopes.

### **Percolation Tests**

The Town's Building and Safety Division will determine if additional percolation tests are required after evaluation of the proposed project. This evaluation will include a review of the project application information and available testing or construction data. The Town may also require a site visit. If percolation tests are required, the tests will be conducted in accordance with the California Plumbing Code, Appendix H Section H 4.0 and the USEPA Onsite Wastewater and Treatment Disposal Design Manual. All testing and accompanying reports shall be prepared by a Qualified Professional.

### **Groundwater Depth**

The minimum separation between the bottom of a leach field and vertical seepage pit to the highest anticipated groundwater level is 5 feet and 10 feet, respectively. The Town maintains information on groundwater levels provided by the Mojave Water Agency and water purveyors from public, private and monitoring wells. The Town in some cases may require soil borings from the applicant if existing data does not adequately identify the highest anticipated groundwater depth in the vicinity of the proposed project. The Town's Building and Safety Division will determine if soil borings are necessary after their evaluation of the proposed project.

## **CHAPTER 4 OWTS DESIGN AND CONSTRUCTION**

### **GENERAL**

All conventional OWTS require the use of a septic tank for the removal of solids in the wastewater prior to being discharged to the dispersal field. Vertical seepage pit systems are the primary means of effluent dispersal. Leach line systems may be used on a case-by-case basis at the discretion of the Town. Cesspools are prohibited. This Chapter will provide the procedures for the design and construction of conventional OWTS.

A qualified professional shall design all new OWTS and modifications to existing OWTS where the treatment system will be replaced or expanded. OWTS shall be located, designed, and constructed in accordance with Town requirements; and shall also follow requirements of Appendix H of the California Plumbing Code to ensure that effluent does not surface at any time and to ensure that percolation of effluent will not adversely affect groundwater or surface waters.

OWTS shall be installed in accordance with the manufacturer's requirements. A Licensed General Engineering Contractor (Class A), General Building Contractor (Class B), Sanitation System Contractor (Specialty Class C- 42), or Plumbing Contractor (Specialty Class C-36) shall install all new and replacement OWTS. A property owner may also install their own OWTS if the plans and the installation are inspected and approved by the Town during installation.

**Although the Water Code restricts the RWQCB from approving the manner or method of wastewater treatment system design, the RWQCB can offer suggestions in the design of systems as referred to the RWQCB from the Town. It should be noted, however, that Town staff will initiate any referral to the RWQCB, and not by the owner of the OWTS. Should a review of an OWTS be requested of the RWQCB for referral and recommendations, then this referral will be made by the Town's Building Official.**

### **SEPTIC TANKS**

Construction and installation requirements for septic tanks are reviewed and approved by the Town's Building and Safety Division. The following requirements are the minimum design and construction standards for septic tanks:

1. Septic tanks must be certified by the International Association of Plumbing and

Mechanical Officials (IAPMO), or stamped and certified by a California registered civil engineer. Septic tanks shall comply with the standards contained in Appendix H Section H 5.0 of the California Plumbing Code.

2. Septic Tanks shall be watertight, properly vented, and made of durable and non-corrosive material.
3. Septic tanks shall possess two chambers. The first compartment must be equal to two-thirds ( $2/3$ ) of the total tank volume.
4. All tanks must have a capped tee or a 90-degree elbow fitting on the inlet to prevent gas exchange between the tank and house plumbing.
5. A 20-inch diameter (minimum) access opening shall be provided to each tank compartment, with one access opening located over the inlet and one access opening located over the outlet.
6. Septic tank risers shall be watertight, and extend from each access opening to a maximum of six (6) inches below the finished ground surface. At-grade access covers shall be secured. Risers must have a current IAPMO certification or must be reviewed and approved by the Town prior to use. Concrete risers and lids must be constructed of Type V concrete or be protected from corrosion from sewer gases. 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.
7. Septic tanks shall be designed to prevent solids in excess of three-sixteenths ( $3/16$ ) inch in diameter from passing to the dispersal system. Septic tanks that use a National Sanitation Foundation/American National Standard Institute (NSF/ANSI) Standard 46 certified septic tank filter at the final point of effluent discharge from the OWTS, and prior to the dispersal system shall be deemed in compliance with this requirement.
8. The bottom of the excavation for the tank shall extend into native or compacted soils to eliminate potential settling issues.
9. The minimum septic tank size for single-family residences shall be 750 gallons. The septic tank size shall be determined based on the number of bedrooms in each unit, as identified in the table below (design flows for a secondary unit on the same lot will be determined independently from the primary unit):

No. of Bedrooms	Design Wastewater Flow (GPD)	Septic Tank Capacity (GAL)
1-2	500	750
3	670	1,000
4	800	1,200
5-6	1,000	1,500

10. Septic tanks for multi-residential and non-residential development will be sized based on the estimated daily flow or number of fixture units, as determined by the California Plumbing Code, whichever is greater.

### **DISPERSAL SYSTEMS**

Dispersal systems shall consist of vertical seepage pit(s). Leach line systems may be used on a case-by-case basis at the discretion of the Town. Percolation tests will be required for new and replacement OWTS as determined by the Town during the site application approval process. If percolation tests are required, tests will be conducted in accordance with the California Plumbing Code, Appendix H Section H 4.0 and the USEPA Onsite Wastewater and Treatment Disposal Design Manual. All percolation tests must be performed by a qualified professional. The following requirements are the minimum design and construction standards for dispersal systems:

1. All dispersal systems shall have at least twelve (12) inches of soil cover.
2. The minimum depth of soil between the bottom of the dispersal field and anticipated level of groundwater, or bottom of dispersal field and impermeable material (such as clay or bedrock), shall be five (5) feet for leach line systems and ten (10) feet for vertical seepage pits.
3. All new dispersal systems shall have 100 percent replacement area that is equivalent, separate, and available for future use.
4. No dispersal system or replacement area shall be covered by an impermeable surface, such as paving, building, building foundation slabs, plastic sheeting, or any other material that prevents oxygen transfer to the soil.

5. The Maximum ground slope in dispersal areas shall be 25%.
6. Vertical seepage pits shall be installed according to the qualified professional's specification for location and depth, in accordance with the California Plumbing Code Appendix H Section H 7.0, and must include the following elements:
  - Pit excavation shall be four (4) foot in diameter with a minimum depth of twenty-five (25) feet.
  - Excavated voids behind the brick, block or concrete liner shall be filled with not have less than 6-inches of clean, 3/4-inch gravel or rock
7. The Town will only approve a leach line system if seepage pit drilling procedure was attempted and failed due to soil conditions. A Licensed General Engineering Contractor (Class A), Sanitation System Contractor (Specialty Class C- 42), or Plumbing Contractor (Specialty Class C-36) shall verify and submit a letter on a company letterhead indicating the reason why a seepage pit could not be installed and the soil conditions encountered. A site plan for leach line system shall also be submitted in accordance with Chapter 3.

If approved by the Town, leach lines shall be installed in accordance with the California Plumbing Code, and in accordance with the qualified professional's specifications for location, length, width and depth. The Leach line must also include the following:

- Leach lines are to be spaced at least ten (10) feet apart, measured center to center.
- Trench width shall be no less than eighteen (18) inches and no more than thirty (30) inches.
- When computing the absorption area of the leach line dispersal system, the maximum allowable infiltration area (as an infiltrative surface) per square foot of trench shall be as identified in the California Plumbing Code Appendix H Section H 3.0. Where leaching chambers are used, the maximum allowable decreased leaching area for IAMPO certified dispersal systems shall be computed by using a multiplier of 0.70.
- Leach lines 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 twelve (12) inches of gravel below the pipe. The rock shall be graded at 1 to 1.5 inches in size, and cover with straw, untreated building paper or geotextile fabric prior to backfill to prevent the infiltration of soil in the rock.

- The maximum depth from the ground surface to the bottom of the trench shall be ten (10) feet.

## **PUMP SYSTEMS**

A pump system will be considered as a hardship and may only be used when an adequate disposal area cannot be reached by gravity flow based upon site constraints. Approval of a pump system by the Town will be required during the site plan review process. The pump system shall be designed and constructed by qualified professionals and meet the minimum requirements of the California Plumbing Code.

## **SEWAGE HOLDING TANKS**

Sewage holding tanks will be considered as a hardship and may only be used when adequate disposal areas are not available on the property. Approval of sewage holding tanks by the Town will be required during the site plan review process. Documentation must be provided to the Town to show conventional or alternative wastewater treatment systems are not feasible.

Prior to final approval of a sewage holding tank, the property owner shall obtain a Sewage Holding Tank Permit from the Town; and provide the Town with a copy of a maintenance contract with a septic tank pumper. The contract will include a minimum of one (1) inspection of the sewage holding tank per month, service pumping as required, and all emergency services as necessary. In the event the contract is cancelled or property ownership changes, the septic tank pumper shall immediately notify the Town of the cancellation or ownership change.

Properties served by a sewage holding tank will be subject to an annual operating permit fee. When the property is sold, current owner must inform the new owner that a new Sewage Holding Tank Permit must be obtained.

At the time sewer collection lines become available for service to properties that use sewage holding tanks, the property owner will be required to connect to the sewage system, pay the connection fees and properly abandon the sewage holding tank within ninety (90) days of sewer collection system availability.

## CHAPTER 5 SUPPLEMENTAL TREATMENT SYSTEMS

### GENERAL

OWTS with supplemental treatment, also known as alternative OWTS, are OWTS that includes some type of advanced treatment in addition to the primary treatment of a septic tank used with a conventional OWTS. Supplemental Treatment Systems (STS) are used to overcome specific site constraints generally having to do with density constraints, high groundwater, impaired water quality, and/or the presence of bedrock. Examples include aerobic treatment units, sand or textile filters, and mound systems. This Chapter will provide the procedures for the design, construction, operation and maintenance of STS.

**Although the Water Code restricts the RWQCB from approving the manner or method of wastewater treatment system design, the RWQCB can offer suggestions in the design of systems as referred to the RWQCB from the Town. It should be noted, however, that Town staff will initiate any referral to the RWQCB, and not by the owner of the OWTS. Should a review of an OWTS be requested of the RWQCB for referral and recommendations, then this referral will be made by the Town's Building Official.**

### APPLICATION AND APPROVALS

Application for the use of a STS shall be submitted to the Town during the initial planning stages, **and shall conform to all requirements for system design and permitting as identified in Chapter 3 of the LAMP.** The system shall be designed by a Qualified Professional, and a detailed description of the system components and operation shall be submitted along with a plot plan signed by a Qualified Professional. ~~(plot plan requirements detailed in Chapter 3 of the LAMP). STS shall be approved by both the Town and RWQCB prior to the issuance of land use approval or grading permits.~~

### DESIGN CRITERIA

1. All supplemental treatment components of a STS must be certified by the National Sanitation Foundation (NSF) to meet the minimum requirements of NSF Standard 40 or must meet standards approved by the Town and the RWQCB. STS utilizing nitrogen reduction components shall achieve a minimum fifty (50) percent nitrogen reduction, when comparing the 30-day average influent concentration to the 30-day average effluent concentration.

2. Advanced or alternative OWTS components designed to perform disinfection shall provide sufficient pretreatment of the wastewater so that effluent from the supplemental treatment components does not exceed a 30-day average total suspended solids of thirty (30) milligrams per liter. Effluent shall further achieve an effluent fecal coliform bacteria concentration less than or equal to 200 Most Probable Number (MPN) per 100 milliliters.
3. Percolation testing, soil depth evaluations and groundwater elevation determinations shall be performed by a Qualified Professional. Percolation testing will be performed at the proposed installation depth of the dispersal field and shall follow the procedures in Chapter 3 of this LAMP.
4. Treated effluent from all STS shall be discharged to a subsurface dispersal system consisting of leach lines, seepage pits, or pressurized drip dispersal systems.
5. System sizing for dispersal systems that utilize leach lines or seepage pits shall be the same as those used for conventional OWTS.
6. Pressurized drip dispersal systems shall be designed and installed per the manufacturer's recommendations.
7. **A minimum 2-foot separation between the bottom of the dispersal system to the highest anticipated level to which groundwater could be expected to rise is required for STS.**
8. **A minimum of 2-foot of permeable soil must exist below the bottom of the STS dispersal system.**
9. The STS shall be equipped with a visual and audible alarm as well as a two-way telemetric alarm that alerts the owner, qualified service provider and Town of system malfunctions.

## **CONSTRUCTION REQUIREMENTS**

1. An STS must to be installed by a licensed qualified contractor certified to install the specific STS proposed and the system must be installed according to the qualified professional's specifications for location, components, size and depth.

2. **The natural soil cover over a drip dispersal system shall be at least 6 inches but no greater than 12 inches.**
3. **The area of the drip dispersal system shall be planted with appropriate vegetation to allow for uptake of nutrients from the wastewater.**
4. **inch (psi), a maximum operating pressure of 60 psi The drip dispersal system shall be designed and maintained to reduce orifice clogging and root intrusion.**
5. **Drip dispersal systems shall be designed to have a minimum operation pressure at the emitter head of 10 pounds per square, and a maximum discharge rate per emitter of 1.5 gallons per hour.**
6. **All drip systems shall incorporate an automatic mechanism for backwashing or flushing the drip lines and filters.**
7. **Septic tanks, pump chambers or other related components of an STS including risers shall undergo a water tightness test at the site of installation.**
8. During final installation, the Qualified Professional designer, representatives of the SLS manufacturer, the licensed qualified contractor, and representatives of the permitting agencies shall be present.
9. The setbacks required between STS and other components of the OWTS to structures, property lines, easements, watercourses, wells, or grading shall be as follows:
  - STS vault and/or structure – Same as Septic Tank as identified on Table 3-1 in Chapter 3.
  - Leach Line or Seepage Pit – as identified on Table 3-1 in Chapter 3.
  - Drip Dispersal Systems – Same as Leach line as identified on Table 3-1 in Chapter 3 with the exception that setback to structures and property lines can be reduced to two (2) feet.
10. All components of the STS shall be certified in writing by the Qualified Professional who designed the STS that the installation was completed per the approved design.

## OPERATION AND MAINTENANCE

1. All STS require an annual operating permit issued by the Town. The annual operating permit will define the monitoring and maintenance requirements as specified by the manufacturer and/or Qualified Professional who designed the system.
2. An operation and maintenance manual shall be provided by the manufacturer or Qualified Professional and include the Qualified Professional's name, address, telephone number, and business and professional license number. A copy shall be maintained at the site and shall be available to the property owner at all times.
3. All STS must be maintained by a Qualified Service Provider and approved by the manufacturer. The STS owner must also keep the maintenance contract on site throughout the life of the STS. A copy of the service provider contract shall be submitted to the Town by January 30<sup>th</sup> of each calendar year.
4. All STS are required to have quarterly inspections by the Qualified Service Provider to ensure proper operation and maintenance of the system. Copies of the inspection results shall be provided to the Town within thirty (30) days of the inspection being completed. The frequency of inspections may be reduced to bi-annual frequency at the Town's discretion if all four quarterly wastewater samples show the system meets the supplemental treatment requirements.
5. Effluent samples will be taken by a service provider and analyzed by a California Department of Public Health certified laboratory.
6. The drip dispersal system shall be flushed once every three (3) months for the first year of operation or until vegetation is established, whichever occurs first. Flushing shall occur every six (6) months thereafter.
7. The Qualified Service Provider shall be responsible for the following:
  - Assessing the STS to determine operational status.
  - Performing routine activities required to keep the system operational.
  - Responding to emergencies in a timely manner.
  - Collecting and recording information regarding operational status of treatment components and recommending timely maintenance, replacement, or pumping of various components as required.
  - Monitoring system performance through collection and analysis of

effluent samples when appropriate.

- Reporting system operational status/or system performance to the property owner and Town.
  - Serving as an informational resource for the property owner.
8. All failures, malfunctions, service requests, alarms, or other instances where an STS requires the attention of a qualified service provider shall be reported to the Town within 48 hours of the incident occurring.
9. **All monitoring and inspection information shall be submitted as indicated in this Chapter of the LAMP to the Town's Building & Safety Division. The Town's Building and Safety Division will collect and maintain all monitoring and inspection information from OWTS owners and Qualified Service Providers who operate and maintain STS.** Failure to maintain an annual operating permit or provide the required inspection results to the Town will result in enforcement action **by the Town's Code Enforcement Division** and may result in condemnation of the structure.

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## **CHAPTER 6**

### **ONSITE WASTEWATER TREATMENT SYSTEMS REQUIRING 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 be subject to corrective action to mitigate or remediate any risk to public health or contamination of the environment. As noted in Chapter 1, OWTS that require corrective action are categorized as Tier 4. These systems must continue to meet applicable requirements of the LAMP, pending completion of corrective action, as detailed below.

#### **CORRECTIVE ACTION REQUIREMENTS**

1. Any OWTS dispersal system that no longer percolates the wastewater and has pooling effluent, discharges wastewater to the surface, or has wastewater backed up into plumbing fixtures is deemed to be failing and no longer meets its primary purpose to protect public health. The failing dispersal system must be replaced, repaired, or modified so as to return to proper function and comply with the LAMP as soon as reasonably possible.
2. Any OWTS septic tank failure, such as a baffle failure or tank structural integrity failure, such that either wastewater is exfiltrating or groundwater is infiltrating, is deemed to be failing and no longer meets its primary purpose to protect public health. The failing OWTS will be subject to major repair until the septic tank to be brought into compliance with the requirements of the LAMP.
3. Any OWTS that has a failure of one of its components other than those covered by 1 and 2 above, such as a distribution box or broken piping connection, shall have the failing component repaired so as to return the OWTS to a proper functioning condition as required by the LAMP.
4. Any OWTS that has affected, or will affect, groundwater or surface water to a degree that makes it unfit for drinking or other uses, or is causing a human health or other public nuisance condition shall be modified or upgraded as soon as reasonably possible so as to abate its impact.

5. Upon submission of a complaint or other notification of a failing OWTS, the Town will complete an investigation within 24 hours to determine the validity of the complaint or notification.
6. The property owner of an OWTS that is found to be failing shall be issued a notice of violation requiring action to eliminate the immediate health hazard through pumping of the septic tank by a licensed sewage hauler or elimination of wastewater flows of 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.
7. The proposed repair shall be evaluated by the Town to ensure it meets the minimum design requirements of this LAMP or is in substantial conformance to the greatest extent practicable.
8. All repairs shall follow proper permitting procedures and inspections by the Town as detailed in Chapter 3.
9. 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 Town 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, unless the future additions or modifications are in accordance to the requirements of the LAMP.

## **CHAPTER 7**

### **LAMP SCOPE OF COVERAGE**

The Town's oversight of OWTS is limited to those systems as defined in this LAMP. Limitations for the use of OWTS include but are not limited to the amount and type of wastewater flows generated, types of systems, availability of public sewer and setbacks to public water supplies. The following will not be authorized by the Town and any such system or deviations can only be approved by the RWQCB.

1. Cesspools of any kind or size. If an existing cesspool is encountered by Town staff, the property owner will be required to replace the cesspool with an OWTS which meets the standards of the LAMP.
2. OWTS receiving a projected flow of over 10,000 gallons per day.
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.
4. Slopes greater than 25 percent without a slope stability report approved by a qualified professional.
5. Decreased leaching area for IAPMO certified chamber dispersal systems using a multiplier less than 0.70.
6. OWTS utilizing supplemental treatment without requirements for periodic monitoring or inspections.
7. OWTS dedicated to receiving significant amounts of wastes dumped from RV holding tanks.
8. Separation of the bottom of dispersal system to groundwater less than 2 feet, except for seepage pits, which shall not be less than 10 feet.
9. Installation of new or replacement OWTS where public sewer is available. Public sewer availability to a property is determined if the nearest property line is within 200 feet of a public sewer line or manhole. A waiver of the connection to sewer can be considered where such sewer is located more than 200 feet from the building or plumbing stub out,

where the connection fees and construction costs are greater than twice the total cost of the OWTS and where an OWTS can be installed that will meet the minimum requirements of this LAMP without groundwater or surface water to a degree that makes it unfit for drinking or other uses.

10. Except as provided for in Items 11 and 12 of this Chapter, 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. If location 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.
11. For replacement OWTS that do not meet the horizontal separation requirements in Item 10 above, the replacement OWTS shall meet the horizontal separation to the greatest extent practicable. The Town may require that the replacement OWTS utilize supplement treatment and other mitigation measures, unless it is determined by the Town that there is no indication that the previous system is adversely affecting the

public water source, or if there is limited potential that the replacement system could impact the water source based on topography, soil depth, soil texture, and groundwater separation.

12. For new OWTS that cannot meet the horizontal separation requirements in item 10 above and are installed on parcels of record existing before May 13, 2013, the effective date of the State's OWTS Policy, the OWTS shall meet the horizontal separation to the greatest extent practicable. The Town may require that the replacement OWTS utilize supplement treatment and other mitigation measures, unless it is determined by the Town that there is no indication that the systems in the vicinity of the new OWTS are adversely affecting the public water source, or if there is limited potential that the new system could impact the water source based on topography, soil depth, soil texture, and groundwater separation.

DRAFT

## **CHAPTER 8**

### **DATA COLLECTION, REPORTING AND PUBLIC EDUCATION**

As a condition of having oversight of OWTS within the Town of Apple Valley, the Town has certain responsibilities related to data collection and reporting to the Lahontan Regional Water Quality Control Board (RWQCB) as well as in some instances to the owners of water systems and the State Water Resources Control Board Division of Drinking Water (SWRCB). 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 TO RWQCB**

In an on-going basis, the Town's Building and Safety Division will collect the following data to be reported annually to Lahontan RWQCB, no later than February 1 of each calendar year.

1. The number and location of complaints pertaining to OWTS operation and maintenance, and identification of complaints investigated and how they were resolved.
2. The number, location and description of permits issued for new and replacement OWTS and under which Tier the permit was issued. Also included will be the design flow of the OWTS.
3. The number, location and description of permits issued for OWTS where a variance from the approved LAMP was granted.
4. The applications and registrations issued for sewage haulers as part of the local septic tank cleaning registration program.
5. The number, location and results of septic tank pumper inspection reports received.
6. Summary report posted on the Town's Water Quality Assessment Program.

#### **WATER QUALITY ASSESSMENT PROGRAM**

The Water Quality Assessment Program (WQAP) will be developed to determine the general operation status of OWTS, to evaluate the impact of OWTS discharges, and to assess the extent to which groundwater quality may be adversely impacted. The assessment program will include monitoring and analysis of water quality data, and a review of complaints, failures and OWTS inspections.

**The WQAP will be focused in areas determined to be “high risk” based on various specific elements. This may include areas with existing high density OWTS, areas that may be experiencing a high number of failing systems, areas with a shallow depth to groundwater, and areas where water quality data indicate a trend of increasing nitrate concentrations in ground water. The “high risk” areas that will be the focus of the WQAP are identified on Figure \_\_\_\_.**

Water quality data will be obtained through a partnership with Mojave Water Agency (MWA) utilizing a database that was developed by MWA for the preparation of the Mojave Salt and Nutrient Management Plan (SNMP).

The SNMP is the product of a collaborative effort between the RWQCB, Mojave Water Agency, Victor Valley Wastewater Reclamation Authority, and stakeholders in the MWA service area, including the Town of Apple Valley. The SNMP is a planning document to guide groundwater management and recycled water use in the Mojave River Basin and Morongo Basin. The plan was reviewed by both the Lahontan Water Board and the Colorado Water Board staff. On February 11, 2016, the Lahontan RWQCB accepted the Mojave Water Agency’s Mojave Salt and Nutrient Management Plan.

The purpose of the Mojave SNMP is twofold: 1) Maximize the use of State Water Project supply while promoting recycled water and storm water reliance, and 2) Attain water quality objectives and protection of beneficial uses through salt and nutrient management. The Mojave SNMP will assist in forecasting long-term water quality changes associated with the accumulation of salts (total dissolved solids or TDS) and nutrients (nitrates) within the groundwater basins.

Existing groundwater quality monitoring programs implemented across the SNMP Study Area were utilized to determine whether the concentrations of salts, nutrients, and other constituents of concern as identified in the SNMP are consistent with applicable water quality objectives on a subregional scale. The current MWA groundwater monitoring program includes groundwater quality data collected by MWA and the USGS through their cooperative water resources program and through the Drinking Water Program directed by the SWRCB. The SNMP Groundwater Quality Monitoring Program will include data collected from these programs. Available data from special/technical studies conducted in the SNMP Study Area pertinent to salts and nutrients will be included along with RWQCB Waste Discharge Requirement (WDR) site monitoring data and future USGS monitoring data.

The Water Quality Assessment Program will be developed, utilizing the SNMP model, to provide

a better understanding regarding the potential impacts of OWTS to the quality of the regional groundwater basin. Monitoring data will include levels of salts and nitrates, two constituents directly related to OWTS. In addition, other constituents that may not have a direct relation to OWTS, such as arsenic and chromium VI, may also be monitored.

The WQAP will include the following:

- Identification of existing groundwater monitoring locations used in the SNMP in relation to sensitive areas overlying the groundwater basin.
- Identification of new monitoring sites if additional monitoring locations are required due to a “gap” in data coverage **used in the SNMP. This analysis will be determined during refinement of the WQAP, and will focus on “high risk” areas as identified on Figure \_\_.**
- **Individual private residential well owners in non-sewered areas along the Mojave River and areas with high density OWTS will be identified and contacted to determine if they would be willing to participate in groundwater data collection that would be included in the WQAP.**
- **Water Agency’s well and water system sampling reports (the location of existing municipal water wells is identified on Figure \_\_).**
- Establishment of a benchmark of constituents at the monitoring sites.
- Annual review of the change in constituents, especially relating to nitrates and salts.
- Location and identification of OWTS complaints and failures in relation to the monitoring sites.

A summary report of the WQAP, which includes monitoring locations, groundwater quality analysis, and OWTS complaint and failure information will be provided to the RWQCB no later than February 1 of each calendar year. **Electronic mapping of existing and future OWTS, specifically in “high risk” areas, will be considered by the Town as funding allows.**

#### **WQAP AND LAMP ASSESSMENT**

**During the first year after the effective date of the LAMP, the Town will collaborate with affected stakeholders including, but not limited to, the cities of Adelanto, and Hesperia; the County of San Bernardino; the Victor Valley Wastewater Reclamation Authority; Mojave Water Agency; Liberty Utilities; Golden State Water Company; private water well owners; and others to refine the WQAP, and ensure that areas of “high risk” are effectively monitored to assess water quality impairment. Working with the Mojave Water Agency, data will be collected and analyzed utilizing MWA’s Groundwater Quality Monitoring Program. All**

**groundwater monitoring data generated for the WQAP will be submitted in a format for inclusion into Geotracker.**

**Within this first year, the Town will submit the final proposed WQAP to the RWQCB for review and approval. The Town will continue to collaborate with affected stakeholders, and every five years, the Town the WQAP will be evaluated to determine whether water quality is being impacted by OWTS, and whether any changes to the LAMP are necessary to address impacts from OWTS. This evaluation, and any proposed changes to the LAMP, will be submitted to RWQCB for review and approval. Any proposed change to the Town's LAMP must receive approval by the RWQCB prior to implementation.**

### **PUBLIC EDUCATION AND OUTREACH**

The objective of the Public Education and Outreach Program is to provide informational materials to educate OWTS owners on how to locate, operate and maintain their septic systems.

The Public Education Program promotes public awareness through many activities, including:

- Operation of a hotline for information and assistance for system failures;
- Distribution of procedures on how to maintain alternative onsite systems;
- Distribution of Homeowners Guide for Sewer System Failures;
- Participation in community or regional events and distributing educational brochures;
- Creation and hosting of a OWTS website page;
- Distribution of brochures, e-newsletters and articles in jurisdiction's media platforms;
- Providing a list of well monitoring programs available within the jurisdiction;
- Providing a list of OWTS restrictions in the jurisdiction;
- Providing a list of septage haulers within the jurisdiction.

In addition, the Public Education and Outreach Program will utilize EPA's Septic webpage at <https://www.epa.gov/septic> for additional resources. The SepticSmart Outreach Toolkit provides materials targeted at homeowners that can be downloaded from their website at:

<https://www.epa.gov/septic/septic-systems-outreach-toolkit>. The toolkit includes door hangers, postcards, a homeowner's guide, a homeowner's brochure, a list of Do's and Don'ts, mail insert templates and flyers to promote properly maintained septic systems.

EPA's SepticSmart Homeowner's website at <https://www.epa.gov/septic/septicsmart-homeowners> also provides resources to inform homeowners about how to properly care for septic systems. Resources cover topics such as:

- How your septic system works
- Why maintain your septic system
- How to care for your septic system
- What to do if your septic system fails

The Public Education and Outreach Program will provide necessary resources and information for OTWS owners to be informed, and to protect public health and water quality.

#### **NOTIFICATIONS TO OWNERS OF WATER SYSTEMS AND SWRCB**

The owner, or the SWRCB (if owner cannot be identified), of existing or proposed OWTS in close proximity to public water wells with potential to cause an impact on the water quality will be notified under the following conditions:

1. Upon identification of a OTWS that is within a horizontal sanitary setback to the public well, the water system owner will be allowed to provide comments to the Town before the Town requires owner to apply for a permit to install a new or replacement OWTS. Notification will be done electronically or in writing by the Town with a copy of the permit application that includes:
  - A topographical plot plan for the parcel showing the OWTS components, property boundaries, proposed structures, physical address, and name of property owner.
  - The estimated wastewater flows, intended use of proposed structure generating the wastewater, soil data, and estimated depth to seasonally saturated soils.
  - A notice that the public water system owner or SWRCB shall have 15 days from receipt of the permit application to provide recommendations and comments to the Town.

2. Upon discovery of a failing OWTS that is within 150 feet of a public water well. Notification will be done electronically or in writing and will include proposed corrective action that will be taken to mitigate the failure.

#### **ONSITE WASTEWATER TREATMENT SYSTEMS NEAR IMPAIRED WATER BODIES**

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

Currently, there are no impaired water bodies within the Town of Apple Valley's boundaries listed in Attachment 2 of the State's OWTS Policy. At such time as an impaired water body is listed, the Town will follow the applicable specific requirements found in Tier 3 of the State's OWTS Policy or develop and obtain approval from the RWQCB of its own Advanced Protection Management Program.

## **Town of Apple Valley Responses to Lahontan Water Board Comments (dated October 26, 2016) on the Town's Draft Local Area Management Program**

Note: Lahontan comments are repeated from the October 26, 2016 letter, and the Town's responses follow in **bold**.

- A. Water Quality Assessment Program (WQAP) – We recognize that the single most challenging issue for the Town and Water Board is implementing a meaningful, cost-effective, and adequate WQAP to satisfy OWTS Policy §9.3. The Town identifies the Salt and Nutrient Management Program (SNMP) for identification of existing groundwater data sources. However, the proposed program does not describe how the Town will select and use the data to meet OWTS Policy §9.3.2 requirements to assess the impact of OWTS on surface and groundwater.

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

- Be adaptive and modified over time in collaboration with affected stakeholders.

**The following paragraph has been added in Chapter 8 under WQAP and LAMP Assessment, “During the first year after the effective date of the LAMP, the Town will collaborate with affected stakeholders including, but not limited to, the cities of Adelanto, and Hesperia; the County of San Bernardino; the Victor Valley Wastewater Reclamation Authority; Mojave Water Agency; Liberty Utilities; Golden State Water Company; private water well owners; and others to refine the WQAP, and ensure that areas of “high risk” are effectively monitored to assess water quality impairment. Working with the Mojave Water Agency, data will be collected and analyzed utilizing MWA’s Groundwater Quality Monitoring Program. All groundwater monitoring data generated for the WQAP will be submitted in a format for inclusion into Geotracker.**

**Within this first year, the Town will submit the final proposed WQAP to the RWQCB for review and approval. The Town will continue to collaborate with affected stakeholders, and....”**

- Include specific elements for particular areas of high risk to water quality impairment such as high density OWTS, areas experiencing large numbers of failing systems, or areas where water quality data indicate trends of increasing nitrate concentrations in ground or surface waters. In Apple Valley, these areas may include the following:
  1. Remaining non-sewered areas along the Mojave River.
  2. Areas with existing or proposed OWTS discharges within municipal production well capture zones.

**The following is added in Chapter 8 under Water Quality Assessment Program, second paragraph “The WQAP will be focused in areas determined to be “high risk” based on various specific elements. This may include areas with existing high density OWTS, areas that may be experiencing a high number of failing systems, areas with a shallow depth to groundwater, and areas where water quality data indicate a trend of increasing nitrate concentrations in ground water. The “high risk” areas that will be the focus of the WQAP are identified on Figure \_\_\_\_.”**

- Identify individual owner residential wells in areas of high density OWTS willing to participate in regional groundwater data collection.

**The following is added in Chapter 8 under Water Quality Assessment Program, eighth paragraph, third bullet, “Individual private residential well owners in non-sewered areas along the Mojave River and areas with high density OWTS will be identified and contacted to determine if they would be willing to participate in groundwater data collection that would be included in the WQAP.”**

- Assess feasibility of extending municipal sewage collection systems.

**Please refer to the response under C2 below.**

- Assess locations near high density OWTS where future groundwater monitoring wells could be installed.

**This is addressed in Chapter 8 under Water Quality Assessment Program, in the eighth paragraph, second bullet point, which states, “Identification of new monitoring sites if additional monitoring locations are required due to a ‘gap’ in data coverage used in the SNMP. This analysis will be determined during refinement of the WQAP, and will focus on “high risk” areas as identified on Figure \_\_\_\_.**

- Assess water quality trends, especially with respect to nitrate concentrations.

**In Chapter 8 under Water Quality Assessment Program, the seventh paragraph states “The Water Quality Assessment Program will be developed, utilizing the SNMP model, to provide a better understanding regarding the potential impacts of OWTS to the quality of the regional groundwater basin. Monitoring data will include levels of salts and nitrates, two constituents directly related to OWTS. In addition, other constituents that may not have a direct relation to OWTS, such as arsenic and chromium VI, may also be monitored.”**

- Clarify procedures to exchange data with other agencies and improve collaboration between entities collecting data.

**The following paragraph as been added in Chapter 8 under WQAP and LAMP Assessment, “During the first year after the effective date of the LAMP, the Town will collaborate with affected stakeholders including, but not limited to, the cities of Adelanto, and Hesperia; the County of San Bernardino; the Victor Valley Wastewater Reclamation Authority; Mojave Water Agency; Liberty Utilities; Golden State Water Company; private water well owners; and others to refine the WQAP, and ensure that areas of “high risk” are effectively monitored to assess water quality impairment. Working with the Mojave Water Agency, data will be collected and analyzed utilizing MWA’s Groundwater Quality Monitoring Program. All groundwater monitoring data generated for the WQAP will be submitted in a format for inclusion into Geotracker.**

- Consider electronic mapping location of existing and new OWTS, focusing on areas with characteristics listed under OWTS Policy §9.1.

**Electronic mapping of existing and future OWTS, specifically in “high risk” areas, will be considered by the Town as funding allows. This statement as been added in Chapter 8 under Water Quality Assessment Program.**

- Identify existing domestic or municipal supply and monitoring wells (private and public) and prioritize wells that can be used to assess water quality associated with OWTS over time.

**Municipal water supply wells that can be used in the WQAP have been added to Figure \_\_\_\_.**

B. Performance Regulatory Program for supplemental treatment systems (STS) and non-conventional dispersal systems – please address the following items:

1. The Town defines STS in LAMP Chapter 2, and the definition is identical to the definition in the OWTS Policy. However, in LAMP Chapter 5, the Town states that pressurized drip dispersal systems are allowed. Please clarify whether pressurized drip dispersal systems are regulated in your performance regulatory program.

**The Town does not currently have a STS Performance Regulatory Program, and has not approved any STS to date. The Town's LAMP, when approved, will serve as the Performance Regulatory Program.**

2. Please list the types of STS and non-conventional dispersal systems that are within the scope of your STS performance regulatory program. Please include the maximum flow rate, design standards, and performance objectives for each type of system. This information could be placed in a LAMP design manual that is made part of the LAMP.

**The STS and non-conventional systems are as listed in Chapter 5 of the LAMP. The maximum flow rate, design standards, and performance objectives are as listed in Chapters 3, 4 and 5 of the LAMP.**

3. Please provide detailed requirements of your performance regulatory program. Please include the following items:

- a) The performance regulatory program effective date.

**As indicated above, the Town does not currently have a STS Performance Regulatory Program. Upon approval, the Town's LAMP will serve as this Program.**

- b) An organization chart for the Town showing the responsible individuals or departments for administering the program.

**An Organization Chart has been added in Chapter 3 under Evaluation and Permitting Process.**

- c) Program description, including:

- i. Permit application, review, approval, and renewal process.

**Permit application, review and approval are identified in Chapter 3. The renewal process is identified in Chapter 5 under Operation and Maintenance.**

- ii. OWTS owner service provider requirements.

**Service provider requirements are identified in Chapter 5 under Operation and Maintenance.**

- iii. Methods of specifying, receiving, and storing monitoring data from OWTS owners or OWTS service providers.

**Additional language is included in Chapter 5 under Operation and Maintenance, No. 9 to address this comment.**

- iv. OWTS inspection program, including your inspection form and the number of OWTS inspections each year.

**In Chapter 5, Operation and Maintenance, Number 4, the OWTS owner is required to have quarterly inspections by the Qualified Service Provider. The inspections will ensure proper operation and maintenance of the system. Number 7 in this same Section identifies the Qualified Service Provider responsibilities which include reporting the results of all inspections to the Town.**

- v. Enforcement program, including evaluation of monitoring data and inspection results, issuing corrective action notices, and assuring that OWTS owners complete necessary repairs.

**Enforcement action is identified in Chapter 5 under “Operation and Maintenance”, No. 9. Additional language has also been included.**

- 4. Please provide ordinance or other evidence of authorities that defines the procedures for administering the program, including enforcement.

**As indicated above, the Town does not currently have a STS Performance Regulatory Program. Upon approval, the Town’s LAMP will serve as this Program.**

C. OWTS Discharge Density – Generally, the Town proposes to continue with the past Memorandum (MOU) density standards, which include a minimum ½ acre lot size for individual residences and a maximum of 500 gallons per acre per day for non- residential or mix occupancy development (Chapter 3, Maximum Flow and Land Use Density). Please address the following comments:

- 1. It is generally understood that OWTS discharges pollute groundwater over time, primarily with respect to pathogens and nitrate, under various soil type, climatic, hydrogeological, and density conditions. We believe that in arid

regions with closed groundwater basins, high density OWTS discharges will have long-term adverse groundwater impacts. As such, in areas where the Town continues with ½ acre minimum lot size for development using OWTS, we request that the WQAP address these areas to verify that OWTS are not polluting groundwater quality.

**Regarding density, in Chapter 1, Town of Apple Valley General Information, the following language has been added:**

**“Figure \_\_ identifies the following designations regarding the use of OWTS within the Town of Apple Valley:**

- **Areas where sewer service is currently available, and where all new development will be required to connect to the sewer system;**
- **Areas subdivided, or anticipated to be subdivided, prior to the effective date of the LAMP where development is currently utilizing OWTS and will be allowed to remain on OWTS; or are vacant properties that will be allowed to utilize OWTS as they develop until such time that a sewer system is installed to these properties. The Town’s Sewer Master Plan identifies the existing wastewater system, and outlines necessary system upgrades for future wastewater system planning and expansion;**
- **Areas that may be subdivided after the effective date of the LAMP with the corresponding maximum land use density designations, and where OWTS will be allowed.”**

**Regarding water quality, please see the comment in C(4) below.**

2. Staff also encourages the Town to consider that certain areas of high density OWTS should be considered for municipal sewage collection and treatment systems, especially areas along the east side of the Town limits and Apple Valley Village Mobile Home Park (this mobile home park is outside Town limits yet still within the sphere of influence of the Town). The Town should endeavor to identify areas with high density OWTS and develop plans to connect these areas to municipal or regional sewage collection systems. Treatment alternatives should include both centralized and decentralized treatment.

**The Town completed a Sewer System Master Plan Update in August 2013. The Sewer Master Plan serves as a reference document for the Town’s existing wastewater system, and outlines necessary system upgrades for future wastewater system planning. The Master Plan provides a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system until buildout. The Master Plan**

**includes treatment of sewage at the Victor Valley Wastewater Reclamation Authority's (VWRA) Apple Valley Subregional Water Reclamation Facility located at Brewster Park (currently under construction), and; at the VWRA Regional Reclamation Facility located in the City of Victorville. A copy of the Town's Sewer System Master Plan Update is provided for reference.**

**As shown on Figure 10-1 of the Master Plan, sewer facilities are located and/or planned to serve "high risk" areas which include developments along the Mojave River; high density developments along the east and south sides of the Town limits; and, the Apple Valley Village Mobile Home Park (this would require an extension to Town facilities, and would occur after annexation to the Town of Apple Valley). The Town will continue to revise and update the Sewer System Master Plan as new development projects are proposed and developed.**

3. Please clarify LAMP section 3 (Maximum flow and Land Use Density), the second bullet regarding the 15,000 square feet limit. This implies that future lots may be subdivided down to 15,000 square feet with OWTS for sewage disposal. The Basin Plan previously allowed OWTS on lots of less than ½ acre, no smaller than 15,000 square feet net, when that lot was subdivided before June 16, 1988. However, the OWTS Policy supersedes the Basin Plan density requirements and no longer supports new OWTS discharges in new subdivisions on lot sizes smaller than 2 - 2.5 acres.

**Language in Section 3, Maximum Flow and Land Use Density, has been revised to address this comment. In addition, the LAMP clarifies the various densities that would be allowed utilizing OWTS, and includes the following language:**

**"Land use density for single-family homes on individual lots utilizing OWTS shall be as follows:**

- **Individual lots created by subdivision prior to June 16, 1988 shall have a minimum net area of 15,000 square feet.**
  - **Individual lots created by subdivision after June 16, 1988 and prior to the effective date of the LAMP shall have a minimum net area of 18,000 square feet.**
  - **Individual lots created by subdivision after the effective date of the LAMP shall have a minimum net area as identified on Figure \_\_\_\_."**
4. OWTS Policy §9.6 allows a regional water board, in reviewing a LAMP, to consider the past performance of the local agency program to adequately protect water quality. For density, you propose to continue with the MOU as a

past performance method. However, the MOU did not include findings that the density standards are protective of water quality. Therefore, please provide technical justification as to why the existing MOU density standards are protective of water quality.

**In regards to proposed density, this item has been clarified and revised as indicated in the response in Paragraphs C(1) and C(3) above.**

**In regards to past performance, water quality monitoring and testing has been performed throughout the Victor Valley area for many decades. Public and investor-owned water utilities have been collecting groundwater samples from the Alto Subregion of the Mojave Basin, and reporting to the State of California the concentration of various constituents, including levels of nitrates and TDS. Water agencies such as the City of Hesperia, City of Adelanto, City of Victorville, County of San Bernardino Special Districts CSA 64 and CSA 70J, Liberty Utilities, Golden State Water and various other agencies regularly draw samples from each of their water wells for testing and evaluation.**

**In general, water quality testing has indicated that nitrate levels have remained generally constant, with almost all monitoring sites indicating levels of nitrates well below the State MCL. The Mojave Salt and Nutrient Management Plan (SNMP) prepared by MWA, and accepted by the Lahontan RWQCB on February 11, 2016, included an analysis of salt and nutrient loading to the Mojave Basin. Included in this report were average existing TDS and Nitrate Concentrations by Subregion (SNMP Table ES-1), which is summarized below:**

<b>Alto Subregion (General Location)</b>	<b>Volume Weighted Average Existing TDS Concentration (mg/L)</b>	<b>Volume Weighted Average Existing Nitrate-NO<sub>3</sub> Concentration (mg/L)</b>
<b>Transition Zone – Regional (Adelanto)</b>	<b>529</b>	<b>3.9</b>
<b>Left Regional (Oak Hills and Hesperia)</b>	<b>310</b>	<b>0.9</b>
<b>Mid Regional (Hesperia)</b>	<b>153</b>	<b>3.5</b>
<b>Floodplain (Hesperia and Apple Valley)</b>	<b>177</b>	<b>3.3</b>
<b>Right Regional (Apple Valley)</b>	<b>579</b>	<b>7.5</b>

**As indicated in the table above, average levels of nitrate are well below the State MCL of 45 mg/L in all subregions of the Alto Basin. Three of**

**the subregions (Left Regional, Mid Regional and Floodplain) have average TDS concentrations below the Water Quality Objective of 500 mg/L; and the remaining two subregions are at the lower end of the basin assimilative capacity of 500 mg/L.**

**What the data demonstrates is that the local agencies past performance of permitting, monitoring, and enforcing OWTS installation and operations has helped to protect water quality. The SNMP modeled the impacts of regional growth with the increased use of imported water and recycled water, and continued use of OWTS. In Section 10: Conclusions of the SNMP report, the final sentence of the fifth bullet point states:**

**“The water quality changes will not unreasonably affect existing and anticipated beneficial uses, and the water quality changes are consistent with the maximum benefit to the people of the State of California.”**

**However, as part of the WQAP, the Town, in cooperation with other local agencies and MWA, will continue to monitor the “high risk” areas identified on Figure \_\_. These areas include the southeastern area of the Town that has experienced higher levels of nitrates (though still below the MCL) and TDS. The Town will continue to assess the impact of OWTS utilizing the data developed through the WQAP, and will take corrective action, if necessary, to address major changes to water quality as a result of OWTS.**

**Options such as extension of sewer lines to serve high density areas of OWTS (as identified in the Sewer Master Plan), establishment of an OWTS maintenance district, requirement for supplemental treatment, or other necessary measures will be evaluated and implemented to address major water quality changes resulting from the use of OWTS in areas of the Town.**

- D. Referrals to the Water Board – The LAMP does not discuss referrals of proposed OWTS to the Water Board for approval. Referrals may also include systems with STS and systems with dispersal systems other than leach fields or seepage pits. The referral process should be clearly identified in the LAMP and Town staff (not the discharger) should make the initial referral to the Water Board. A Town contact should be provided to which Water Board staff may direct questions.

In draft LAMP Chapter 5, the Town states that systems with a STS must be approved by both the Town and the Water Board. The City with an appropriate regulatory program can be the sole permitter of STS's. However, Water Code section 13360 restricts the Water Board from approving the manner or method of wastewater treatment system design of any kind. The Water Board can,

however, offer suggestions in the design of systems referred to the Water Board. Therefore, the Town needs to explain in the LAMP that the Water Board will review the design of referred systems and provide recommendations to the Town for their use in their approval of these systems.

**Language as been added in Chapter 3 and Chapter 4 under General to address this comment. In Chapter 5 under Application and Approvals this paragraph as been revised to address this comment. A Town contact is provided in these paragraphs which the Water Board staff may direct questions.**

- E. Items not allowed for authorization in a LAMP (OWTS Policy § 9.4) – Water Board has reviewed Chapter 8 of the draft LAMP and finds that it meets OWTS Policy §9.4 of items not allowed in a LAMP.

**Noted.**

- F. Future OWTS – The LAMP section 1 (Town of Apple Valley General Information), third paragraph, second sentence should be clarified. It states: “All areas on Figure 1-2 that are not highlighted either currently utilize OWTS and will be allowed to remain on OWTS; or are vacant properties that will be allowed to utilize OWTS as they develop.” Water Board staff believes there may be areas of future commercial development that will likely be connected to a sewer collection system that not highlighted, such as along Hwy 18 or Bear Valley Rd east of Central.

**Please refer to the response under C2 above.**