COUNTY OF SONOMA

LOCAL AGENCY MANAGEMENT PROGRAM

Version 8.0

06/04/2024

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Part A: General Information and Background

A 1 Introduction

In California, the authority for the regulation of Onsite Wastewater Treatment Systems (OWTS) belongs to the State Water Resources Control Board (SWRCB). The policies of the SWRCB are implemented locally through nine regional water quality control boards. Historically, each Regional Water Board developed "basin plans" that outlined water quality objectives in their respective jurisdictions as well as policies and programs to achieve those objectives.

General guidelines for the siting, design and construction of new OWTS were part of each basin plan. While the Regional Water Boards retain primacy over large and some specialized systems, direct regulatory authority for individual OWTS has been delegated to local agencies.

Originally in June 2012 and more recently in April 2023, the SWRCB adopted/re-adopted the Water Quality Control Policy for Siting, Design, Operation and Maintenance of Onsite Wastewater Treatment Systems, hereinafter referred to as the OWTS Policy. The Policy became effective in May 2013 and for the first time, established a statewide, risk-based tiered approach for the regulation and management of OWTS. The OWTS Policy has been published by the SWRCB and can be found on their website at

https://www.waterboards.ca.gov/water_issues/programs/owts/docs/adopted_owts_policy.pdf .

The SWRCB OWTS Policy provides a multi-tiered strategy for management of OWTS in California. The five tiers are:

Tier 0 – Existing OWTS

Tier 1 – Low Risk New or Replacement OWTS

Tier 2 – Local Agency OWTS Management Program

Tier 3 – Impaired Areas

Tier 4 – OWTS Requiring Corrective Action

Tier 0 of policy addresses existing systems and provided the systems are in compliance with the listed criteria these systems are covered by the waiver of waste discharge requirements built into the OWTS Policy.

Tier 1 establishes minimum standards for low risk new or replacement OWTS statewide.

Tier 2 allows customized management programs that address conditions specific to the local jurisdiction.

Tier 3 applies special, enhanced standards to OWTS located near a water body listed as impaired pursuant to Section 303(d) of the Clean Water Act.

Tier 4 applies to OWTS that require corrective action.

The OWTS Policy requires the submittal of an application to the appropriate Regional Water Board by May 21, 2016. Local agencies are required to provide written notification of its intent to regulate OWTS under the appropriate tier(s) and to provide decimation of programs to be implemented that meet the intent of the OWTS Policy. County staff have prepared the appropriate documents to apply under Tier 2 and Tier 3 of the OWTS Policy.

It is the intent of the Board of Supervisors to ensure that OWTS are constructed, modified, repaired, abandoned, operated, maintained, inspected and serviced in a manner that prevents environmental degradation and protects the health, safety and general welfare of the people of the County.

A 2 Regulation of OWTS and Sonoma County Requirements

The County of Sonoma Permit Sonoma (Permit Authority) is currently responsible for regulating OWTS throughout the unincorporated areas of the county. OWTS located within the incorporated areas of the county have been regulated by the County under agreements with each incorporated city. OWTS are used almost exclusively for properties located outside municipal sewer service boundaries.

Historically, the County has operated its OWTS program under the authority granted by two Regional Water Quality Control Boards (RWQCB): (1) the North Coast Region for those areas that drain to the Pacific Ocean; and (2) the San Francisco Bay Region for those areas that drain to San Pablo Bay. The North Coast RWQCB has assumed the primary responsibility for the review and approval of plans submitted by the County of Sonoma pursuant to the OWTS Policy.

The County has created this Local Area Management Program (LAMP) and is applying under Tier 2. A supplement to the Tier 2 LAMP is the County's local OWTS Manual. Over time the County has developed a series of policies for the regulation of OWTS at the local level. These regulations have been compiled into one document, the OWTS Manual. These policies and regulations have evolved over time and are tailored to the variety of local settings that exist in Sonoma County. Both Regional Water Boards are familiar with the County's set of policies and are generally in acceptance of the practices embodied in these policies. Most policies were carried forward into the OWTS Manual and in the process of compiling the OWTS Manual, some revisions of the policies were made.

Within Sonoma County, there are several water bodies that are listed as impaired under the federal Clean Water Act. OWTS that exist or that are proposed near these water bodies are

subject to Tier 3 of the OWTS Policy. Tier 3 of the OWTS Policy states that existing, new or replacement OWTS near impaired water bodies may be addressed by a Total Maximum Daily Load (TMDL) and its implementation plan or through special provisions contained in a LAMP or through the applicable specific requirements of Tier 3. Regardless of the option used, the provisions designed to address the impaired water bodies are known as an Advanced Protection Management Program (APMP).

The Russian River is listed as impaired under the federal Clean Water Act for pathogens. A revised TMDL for this water body is tentatively scheduled to be approved in the spring 2025.

Sonoma Creek is listed as impaired under the federal Clean Water Act for pathogens. A TMDL and implementation plan have been approved for this water body.

The Petaluma River is listed as impaired under the federal Clean Water Act for pathogens. A TMDL and implementation plan have been approved for this water body.

The County's OWTS Manual contains an APMPs for each of the three impaired water bodies. The APMP for the Russian River consists of Special Provisions, while the APMPs for the Petaluma River and Sonoma Creek rely on provisions contained in the respective TMDLs.

The County's LAMP along with the accompanying OWTS Manual present the County's program for compliance with the OWTS Policy and for the oversight of OWTS within the County of Sonoma.

A 3 Organization of this LAMP

The Sonoma County LAMP is intended for OWTS management approval under Tier 2, Tier 3 and Tier 4 of the SWRCB's OWTS Policy. As such, it is intended to allow the County to continue providing local oversight of OWTS that:

(a) are suited to the conditions in Sonoma County;

(b) meet or exceed the environmental protections of the "default" siting and design requirements for OWTS identified in Tier 1 of the OWTS Policy; and,

(c) ensure the best opportunity for coordinated and comprehensive management of OWTS public health and water quality in Sonoma County.

This LAMP is organized in two parts to present a comprehensive explanation of the various requirements, policies, procedures and measures used to regulate and oversee the use of OWTS in Sonoma County.

Part A: General Information and Background provides an overview of the County and the approach to comply with the SWRCB OWTS Policy in general.

Part B: SWRCB OWTS Policy Compliance Requirements is structured to demonstrate compliance with specific provisions contained in the SWRCB OWTS Policy, item by item as

they appear in the SWRCB OTWS Policy. Part B only presents provisions that are applicable to the County of Sonoma and does not include the SWRCB OWTS Policy in total. For example, Part B includes provisions pertaining to Local Agency Responsibilities and Duties (Section 3.0 of the OWTS Policy), Local Agency OWTS Management Program (Section 9.0 of the OWTS Policy), Impaired Areas (Section 10.0 of the OWTS Policy), and OWTS Requiring Corrective Action (Section 11.0 of the OWTS Policy), but does not include provisions that address SWRCB or Regional Water Board responsibilities.

In conjunction with the LAMP, the County is also submitting the County's OWTS Manual or technical standards in support of Tier 2 delegated authority. The OWTS Manual includes the technical standards, permitting forms and procedures, site evaluation requirements and methods, design details and guidelines related to new, repair and replacement OWTS for both Standard and Alternative Non-Standard OWTS, and operational permitting and monitoring requirements for Alternative OWTS. The OWTS Manual also contains three APMPs to address impaired water bodies within the County.

The OWTS Manual will be reviewed and updated from time-to-time, typically annually, to keep pace with new issues, policies, procedures, and technologies affecting the use and management of OWTS in Sonoma County. The OWTS Manual will be maintained by the Permit Authority.

A 4 Geographical Area

Sonoma County, the most northerly of the nine counties in the San Francisco Bay Region, is located along the Pacific coastline about forty miles north of San Francisco and the Golden Gate Bridge. The County is just over 1,500 square miles, making it the largest of the nine Bay Area counties.

Sonoma County is bordered by the Pacific Ocean on the west, Marin County and San Pablo Bay to the south, Solano, Napa and Lake Counties to the east, and Mendocino County to the north. The geographic configuration and topography of the North Bay area limits the transportation linkages to adjacent counties to a few routes. The U.S. Highway 101 Freeway is the major north/south route, connecting the County to San Francisco and Marin to the south and to Mendocino on the north. The east/west routes are Highways 128, 12 and 37.

Sonoma County's 1,500 square miles include a diverse mosaic of landforms, environments, and human settlements. The broad, flat Santa Rosa Plain, which lies between the Sonoma Mountains on the east and low coastal hills on the west, contains the cities of Santa Rosa, Rohnert Park, and Cotati. The sparsely settled western margin of the county, along the Pacific coastline, includes the redwood and mixed conifer forests of the Mendocino Highlands in the north and rolling oak studded hills, dairy lands, and coastal prairies in the south. The Mayacamas Range forms the eastern boundary of the county. Along with the Sonoma Mountain range, it encloses the Sonoma Valley or "Valley of the Moon," a scenic valley which extends from near Santa Rosa southeastward to the City of Sonoma and the marshlands of San Pablo Bay. In the north, the Mayacamas Range and Mendocino

Highlands enclose the farming regions of Alexander and Dry Creek Valleys. In the far northeast, the remote interior of the Mayacamas Range contains the Geysers geothermal steam field.

A 5 Geology, Soils and Water Resources

Geology

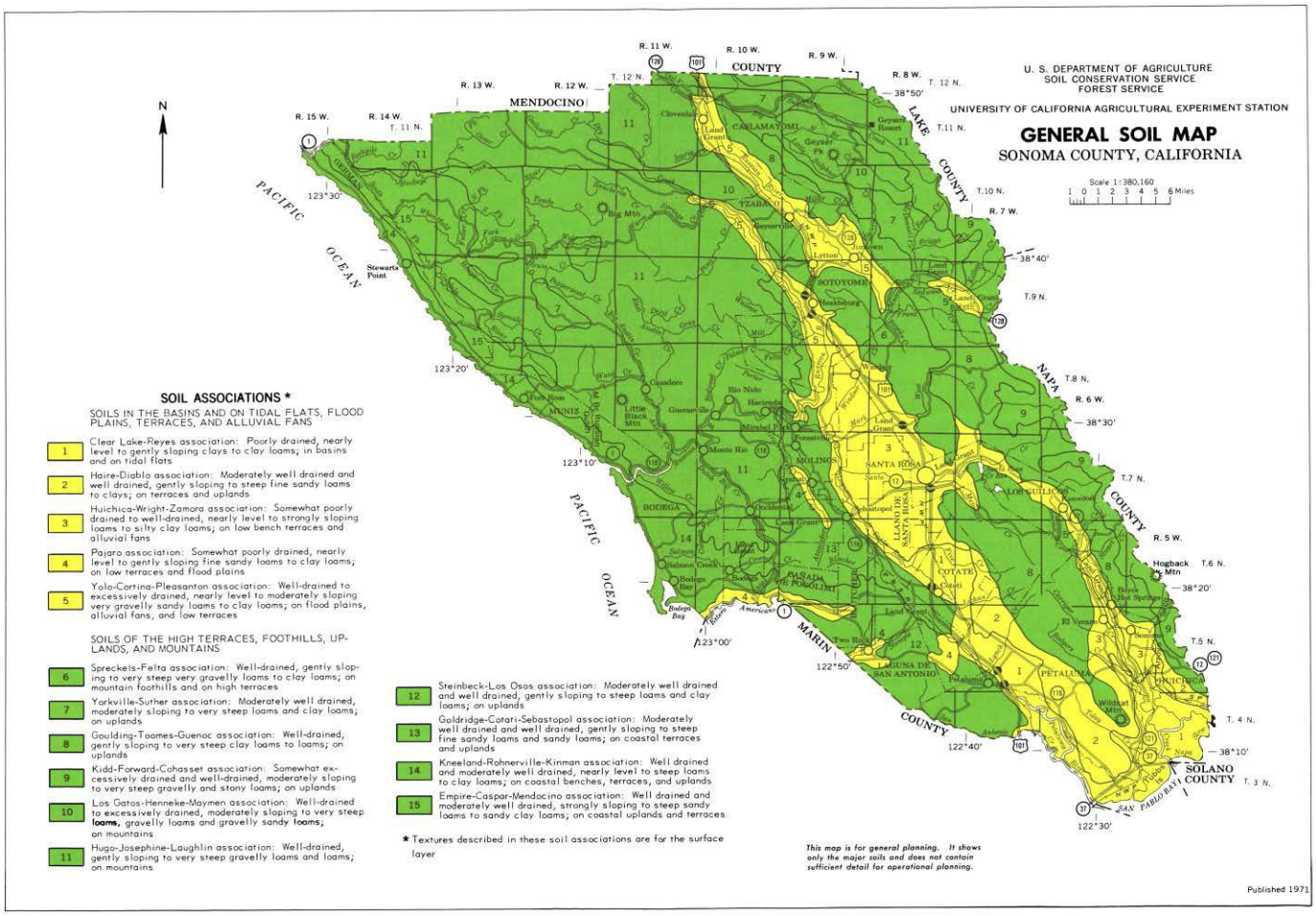
The topography in Sonoma County is varied, including several mountain ranges, distinctive valleys, and coastal terraces. The geology is quite complex and is continually evolving because of its location at an active plate margin. The county is bounded on the south by the San Pablo Bay and associated wetlands. The Cotati and Petaluma Valleys create the wide basin stretching from Santa Rosa to the Bay. Rolling hills and grasslands predominate here, as well as in Marin County to the south. The rugged Mayacamas and Sonoma Mountains geographically form the eastern boundary and physically separate Sonoma County from Lake and Napa Counties. The Sonoma Valley runs north-south between the Sonoma Mountains on the west and the taller Mayacamas Mountains to the east. The Geysers geothermal field, located in the northeastern Section of the county, extends into both Sonoma and Lake Counties. The Mendocino Highlands form a common geographic unit with Mendocino County to the north. The Alexander Valley runs from northwest to southeast, bounded on the east by the Mayacamas Mountains and on the west by the Coast Range. The Pacific Ocean forms the western county boundary, including an interesting assemblage of steep hills, marine terraces, beaches, and offshore sea stacks.

The geology of Sonoma County is a result of the past tectonic, volcanic, erosion, and sedimentation processes of the California Coast Range geomorphic province. Ongoing tectonic forces resulting from the collision of the North American Plate with the Pacific Plate, combined with more geologically recent volcanic activity, have resulted in mountain building and down warping of parallel valleys. The margin of the two tectonic plates is defined by the San Andreas Fault system: a broad zone of active, dormant, and inactive faults dominated by the San Andreas Fault which trends along the western margin of the county. This fault system results in the northwestern structural alignment that controls the overall orientation of the county's ridges and valleys. The land has been modified by more recent volcanic activity, evidenced by Mount St. Helena that dominates the northeastern part of the county. Erosion, sedimentation, and active faulting occurring in recent times have further modified Sonoma County's landscape to its current form.

Soils

The Sonoma County soils are divided into two main categories described below and as depicted in *Map 1 – General Soil Map for Sonoma County*.

Map 1 – General Soil Map of Sonoma County



The first is *Soils in the basins and tidal flats, flood plains, terraces and alluvial fans*. The second is *Soils in the high terraces, foothills, uplands, and mountains*.

The soils in the basins and tidal flats, flood plains, terraces and alluvial fans are level to steep and excessively drained to poorly drained. These soils consist of very gravelly sandy loams to clays. They formed in alluvium from sedimentary and volcanic material. The areas are mainly in the eastern part of the county. Elevation of these soils range from 2 feet below sea level to 1,200 feet above, and annual precipitation from 20 to 50 inches.

The soils in the high terraces, foothills, uplands, and mountains, are nearly level to excessively steep, and moderately well to excessively drained. These soils consist of gravelly, very gravelly, or stony loams to clay loams. They formed in material weathered from such rock as volcanic tuff, rhyolite, serpentine, sandstone, shale, and metamorphosed schist, as well as basic igneous rock. The areas are scattered throughout the county. Elevation of these soils ranges from 100 to 4,000 feet, and annual precipitation from 20 to 70 inches.

The five soil associations in basins and tidal flats, flood plains, terraces and alluvial fans describe below. These five make up 20 percent of the county.

1. Clear Lake-Reyes Association: Poorly drained, nearly level to gently sloping clays to clay loams; in basins and on tidal flats. This association occupies about 6% of the county.

2. Haire-Diable Association: Moderately well drained and well drained, gently sloping to steep fine sandy loams to clays; on terraces and uplands. This association occupies about 4% of the county.

3. Huichica-Wright-Zamora Association: Somewhat poorly drained to well drained, nearly level to strongly sloping loams to silty clay loams; on low bench terraces and alluvial fans. This association occupies about 6% of the county.

4. Pajarro Association: Somewhat poorly drained, nearly level to gently sloping fine sandy loams to clay loam; on low terraces and flood plains. This association occupies about 1% of the county.

5. Yolo-Cortina-Pleasanton Association: Well-drained to excessively drained, nearly level to moderately sloping very gravelly sandy loams to clay loams; on flood plains, alluvial fans, and low terraces. This association occupies about 3% of the county.

The ten soil associations in the high terraces, foothills, uplands, and mountains are described below. They make up 80 percent of the county.

1. Spreckels-Felta Association: Well-drained, gently sloping to very steep very gravelly loams to clay loams; on mountain foothills and on high terraces. This association occupies about 4% of the county.

2. Yorkville-Suther Association: Moderately well drained, moderately sloping to very steep loams and clay loams; on uplands. This association occupies about 8% of the county.

3. Goulding-Toomes-Guenoc Association: Well-drained, gently sloping to very steep clay loams; on uplands. This association occupies about 8% of the county.

4. Kidd-Forward-Cohasset Association: Somewhat excessively drained to well-drained, moderately sloping to very steep gravelly and stony loams; on uplands. This association occupies about 2% of the county.

5. Los Gatos-Henneke-Maymen Association: Well-drained to excessively drained, moderately sloping to very steep loams, gravelly loams, and gravelly sandy loams; on mountains. This association occupies about 7% of the county.

6. Hugo-Josephine-Laughlin Association: Well drained, gently sloping to very steep gravelly loam and loams; on mountains. This association occupies about 33% of the county.

7. Steinbeck-Los Osos Association: Moderately well drained and well drained, gently sloping to steep loams and clay loams; on uplands. This association occupies about 6% of the county.

8. Goldridge-Cotati-Sebastopol Association: Moderately well drained and well drained, gently sloping to steep fine sandy loams and sandy loams; on coastal terraces and uplands. This association occupies about 6% of the county.

9. Kneeland-Rohnerville-Kinman Association: Well drained and moderately well drained, nearly level to steep loams to clay loams; on coastal benches, terraces, and uplands. This association occupies about 3% of the county.

10. Empire-Casper-Mendocino Association: Well drained and moderately well drained, strongly sloping to steep sandy loams and sandy clay loams; on coastal uplands and terraces. This association occupies about 3% of the county.

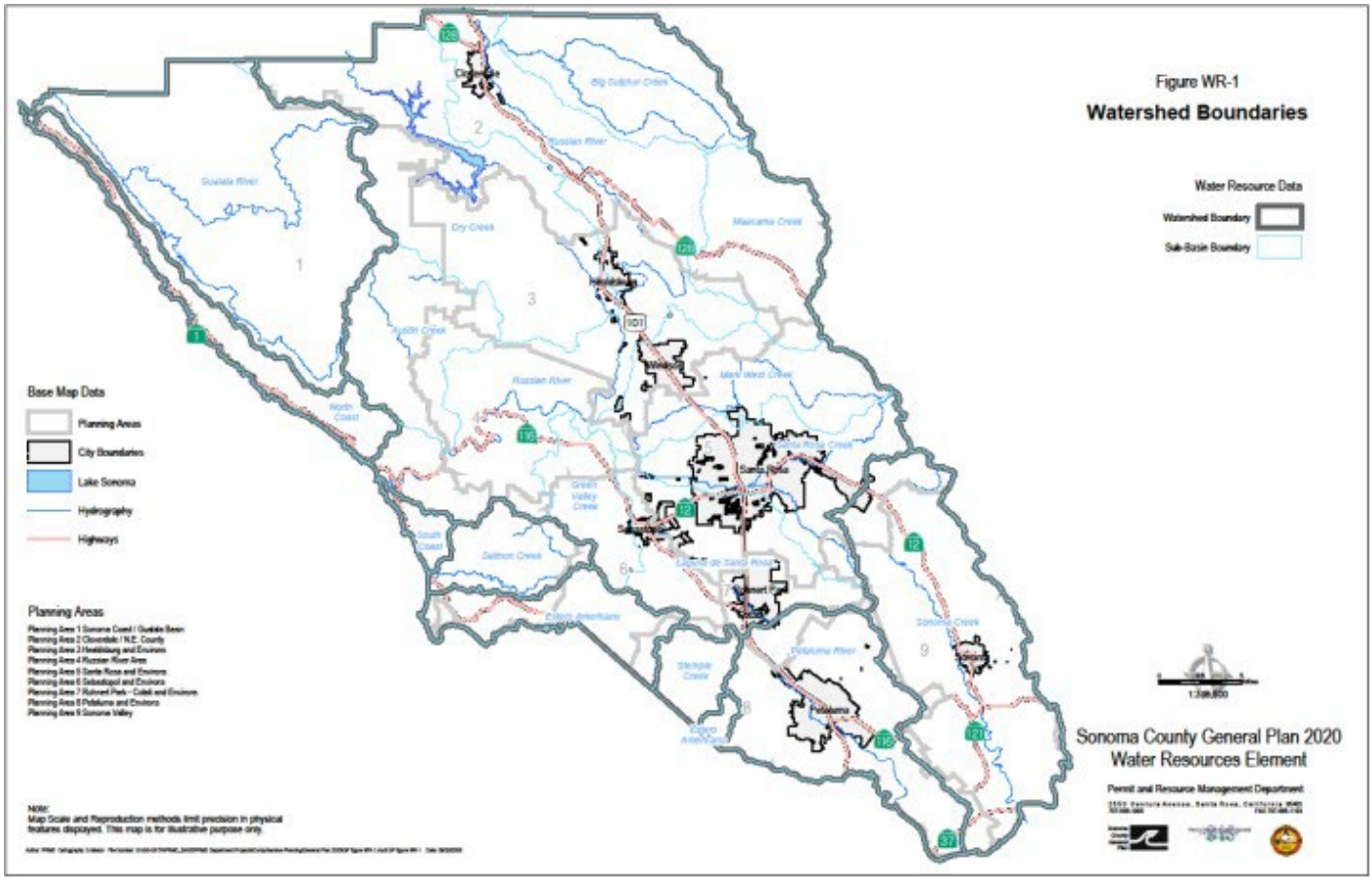
Surface Waters

Sonoma County contains four principal watersheds: Gualala-Salmon, Russian River, San Pablo Bay, and Tomales Drake Bay. The 2020 Sonoma County General plan identifies the following watersheds and watershed sub-basins. *Table 1 – Sonoma County Watershed Areas* and *Map 2 – Sonoma County Watershed Boundaries* present the land areas and locations for the major watersheds within the county.

Table 1 -- Sonoma County Watershed Areas 1

Watershed	Watershed sub-basin	Size (Square Miles)
Gualala River		**269**
Russian River	Big Sulphur Creek	80
	Maacama Creek	69
	Dry Creek	175
	Mark West Creek	83
	Laguna de Santa Rosa	89
	Green Valley and Atascadero Creeks	37
	Austin Creek	70
	Santa Rosa Creek	81
	Other sub watersheds	237
	Watershed total	**921**
Coastal	North Coast	49
	South Coast	9
	Salmon Creek	37
	Estero Americano	50
	Stemple Creek	22
	Watershed total	**167**
San Pablo Bay	Sonoma Creek	170
	Petaluma River	112
	Watershed total	**282**

Map 2 – Sonoma County Watershed Boundaries 1



In general, watersheds in the northern areas of the County (Gualala River, Austin Creek, Dry Creek, Big Sulphur Creek, and Maacama Creek) consist of mountainous, rugged terrain with little urban development. Land use in these upper watersheds is predominantly rural, with timber production and grazing being the primary uses.

Most of central Sonoma County is part of the Russian River watershed and ultimately drains west to the Pacific Ocean. This area has moderate topography and lies in the ancient alluvial floodplain of the Russian River. Much of the suburban and urban development of Sonoma County is located within these central sub-watersheds, including Healdsburg, Windsor, Santa Rosa, Sebastopol, Rohnert Park and Cotati.

The watersheds for the Petaluma River and Sonoma Creek in the southern portions of the county are tidally influenced. They have their headwaters on the steep grass and oak foothills of the Sonoma Mountains and Coast Range, pass through small valleys where the Petaluma and Sonoma urban areas are located, and open up to wide marshlands that interact with the San Pablo Bay. Land use in these sub basins is varied and includes agriculture and rural and urban residential use.

Many small watersheds in the Coastal Zone consist of streams that drain relatively small watersheds and flow a short distances from the first coastal ridgeline directly to the Pacific Ocean. These individual small coastal drainage basins are collectively referred to as the "Frontal Pacific Ocean watershed." Streams in these watersheds flow through areas of steep terrain and marine terraces. Coastal streams typically enter the ocean at small sandy beach inlets periodically along steep rocky coastal bluffs.

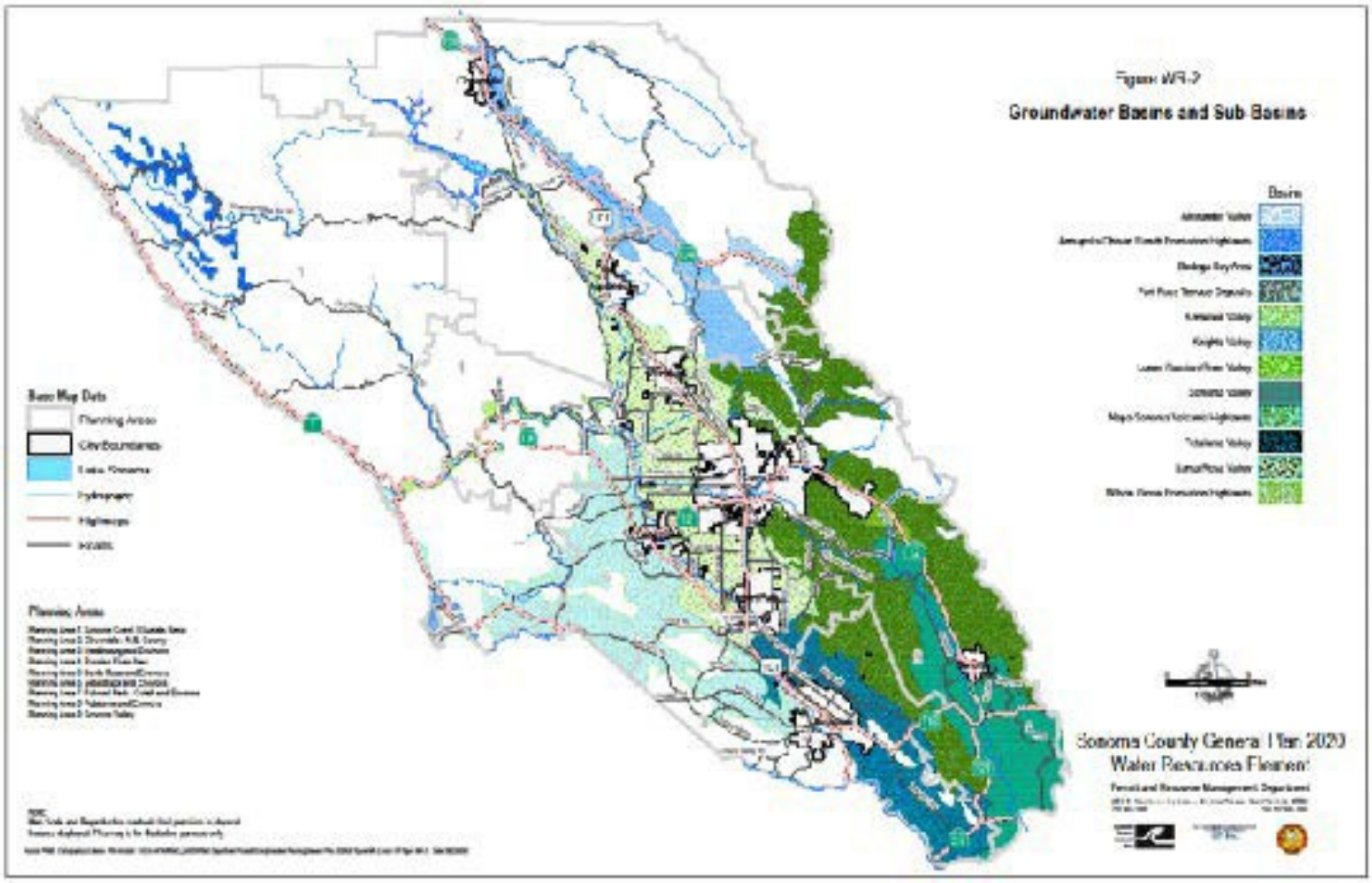
Groundwaters

The size of the nine identified groundwater basins in Sonoma County range from the Santa Rosa valley (158 square miles) to the Fort Ross Terrace Deposits (3.5 square miles). The 2020 Sonoma County General plan identifies the following groundwater basins. *Table 2 – Groundwater Basin Areas* and *Map 3 – Sonoma County Groundwater Basins* present the areas and locations of the major groundwater basin within the county.

Table 2-Groundwater Basin Areas 1

Groundwater Basin	Size (Square Miles)
Santa Rosa Valley	158
Sonoma Valley	70
Petaluma Valley	70
Napa-Sonoma Volcanics	65
Alexander Valley	47
Annapolis-Ohlson Ranch Formation	13.5
Kenwood Valley	8
Knights Valley	6
Fort Ross Terrace Deposits	3.5

Map 3 – Sonoma County Groundwater Basin 1



Groundwater is an important source of agricultural, industrial, and domestic water supply in Sonoma County. While the Russian River is the primary source of domestic water for the County's urban areas, most rural areas are served by groundwater. Groundwater resources are tapped by both municipal and private wells. However, not all groundwater in the County is of sufficient volume, has a reasonable rate of recharge, or is suitable for drinking water or other purposes.

Most of these groundwater basins are centered along major creek and river valleys in the central and southern portions of the county. Recharge of groundwater typically occurs along the major streams as well as their principal tributaries. The principal water bearing formations in Sonoma County groundwater basins are typically alluvium. While other geologic units can yield adequate amounts of water in some areas, much of the county may not have dependable groundwater supplies.

Poor groundwater quality can be the result of geologic conditions such as the highly mineralized water extracted from the Napa- Sonoma Volcanics or brackish water from the

Petaluma Formation. Also, some groundwater naturally contains dissolved elements such as arsenic, boron, selenium, mercury and/or radon (a gas formed by the natural breakdown of uranium in the soil).

A 6 Estimated OWTS Usage by Watershed

In 2015, Sonoma County initiated a project using Geographic Information System (GIS) analysis to begin the process of locating, characterizing and tracking the OWTS in the County. Since a comprehensive inventory of existing OWTS usage does not exist, estimates are based on a systematic GIS-based inventory to determine the development status (i.e., developed or vacant) of all parcels in the non-sewered areas of the county, which is taken as the best estimate of the current number of OWTS in the county. The GIS evaluation did not include the incorporated areas of Sonoma County, however, it is estimated the number of OWTS in these areas represent a very small fraction of the total.

The study estimates there are 55,304 parcels in the evaluated land area with roughly 37,000 developed parcels and 18,000 undeveloped parcels. We therefore conclude there are approximately 37,000 OWTS in operation in the unincorporated county. This information is segregated out by major watersheds. These figures are presented in *Table 3 – Parcel Development Status*.

Table 3 – Parcel Development Status

Watershed	Non-Sewered Acres / (Sq Mi)	Total Parcels	Developed Parcels	Vacant Parcels
Gualala-Salmon	202,174 / (316)	5,376	3,074	2,305
Russian River	584,902 / (914)	36,888	24,100	12,788
San Pablo Bay	176,847 / (276)	10,867	8,036	2,829
Tomales-Drake	44,036 / (69)	2,173	1,586	587
Total	**826,002 / (1,575)**	**55,304**	**36,798**	**18,506**

A 7 Summary of Water Quality Management Measures

The following summarizes how key site suitability, land use and development factors have been addressed in the OWTS requirements of Sonoma County's LAMP for protection of water quality.

- **Soil Conditions.** Soil suitability is the single most critical aspect of onsite wastewater treatment and dispersal. The soil provides the medium for the absorption and treatment of wastewater discharged through sub-surface dispersal systems. This is accomplished mainly through a combination of physical filtering, biological and chemical processes, and dilution. Protection of underlying groundwater relies on provision of an adequate depth of permeable soil below the dispersal field (zone of aeration) for absorption and treatment to occur. Sonoma County requires detailed site evaluation to document suitable soil characteristics and depth for each OWTS installation. The observed depth and percolation characteristics of the soil are used to select the appropriate location, sizing, and design of the OWTS to achieve proper effluent dispersal and groundwater protection.

- **Geologic Factors.** Geology is important to the suitability and performance of OWTS due to its influence on topography and landforms, the type and characteristics of soils that develop at the surface, the occurrence and movement of sub-surface water, and slope stability. Geologic factors are addressed for new OWTS based on information from basic site evaluations for all installations, including information of percentage of slope and proximity to potential unstable land masses.

- **Groundwater Conditions.** Groundwater conditions are of high importance for OWTS usage in Sonoma County due to the extensive reliance on local aquifers for both public and private water supplies. Site evaluation practices include requirements for documenting groundwater conditions, which include procedures for wet weather observations. Documentation of groundwater levels, in combination with soil permeability (percolation rate), provide the basis for selection of the appropriate OWTS design and maintenance of an appropriate vertical separation between the point of effluent dispersal and the water table for protection against pathogen impacts.

- **Areas with High Usage of Domestic Wells.** Domestic wells are used widely in Sonoma County in conjunction with rural development that also utilize OWTS. Measures to assure protection of existing and new domestic water supply wells from the effects of OWTS include minimum horizontal setback distances between OWTS and any well and the availability of alternative non-standard treatment and dispersal technologies to mitigate documented or potential impacts to groundwater in area of high domestic well usage.

- **Minimum Watercourse/Water Body Setback Requirements.** The primary measure of protection of surface water quality is the establishment of safe horizontal setback distances between OWTS and various water and landscape features.

- **Alternative Treatment and Dispersal Technologies.** The County's OWTS Manual includes alternative treatment and dispersal technologies and revised sizing

standards that provide flexibility options for system repairs and replacements. The use of alternative technologies, producing higher quality effluent, can compensate for reduced amount of soil absorption area where the repair system on an older non-conforming development site encroaches within the normal setback requirement. Also, alternative dispersal methods and revised sizing criteria can reduce the amount of encroachment into the setback area by making more portions of the property (e.g. shallow soils) potentially feasible for wastewater dispersal, while also reducing the overall amount of land area needed for the dispersal system.

- **Erosion Control Measures.** The County requires that erosion control measures be implemented in connection with the installation of OWTS under certain circumstances, based on the type and size of the system and the prevailing ground slope conditions.

- **Flood Protection Measures.** The County prohibits the installation of new OWTS within the F-1 floodway.

- **Enhanced Protection for Water Supply Watersheds.** In accordance with the requirements of the OWTS Policy, the County has increased the setback standards for any OWTS located in an area tributary to and within 1,200 feet and within 2,500 feet of a public water supply surface water intake. The provisions for identifying and notifying public water system owners of pending OWTS applications are discussed in Section 3.5 of this LAMP.

- **Impaired Surface Waters. Impaired Surface Waters.** Sonoma Creek is subject to a 2010 TMDL Implementation Plan, prior to the adoption of the OWTS Policy. The Russian River Watershed Pathogen TMDL APMP will be addressed as an addendum to this LAMP after the adoption of the Russian River Pathogen TMDL.

- **High Density OWTS, Parcel Size and Cumulative Impacts.** Consideration of OWTS density, parcel size and potential cumulative impact issues (e.g. hydraulic mounding, nitrate loading) are addressed in County Code that call for the completion of cumulative impact assessments for certain types of projects or locations.

- **Geographic Areas with Many Older Non-Conforming OWTS Installations and Setbacks.** Older, non-conforming OWTS are common in areas of the County. The highest concentration of these OWTS are located near the Russian River and its tributaries, where properties were originally developed for seasonal/recreational cabins and have converted over the years to year round residences. Many of the properties are very small (<1/2 acre in size), with OWTS constructed prior to modern codes. Some systems consist of cesspools, and repairs/replacements tend to be very challenging. Non-conformance with adopted setback requirements (e.g. from structures, water features, etc.) are also common. The availability of alternative treatment and dispersal system designs provide an opportunity for more effective upgrades and repairs for lots having limited area, soil limitations or other constraints for conventional OWTS.

Part B: SWRCB OWTS Policy Compliance Requirements

Part B presents and discusses the specific Sections of the SWRCB OWTS Policy that are applicable to Sonoma County. The OWTS Policy Sections are presented in numerical order and the Sections that are not applicable have been intentionally omitted. The reader will encounter gaps in the Section numbering as not all of the OWTS Policy Sections are applicable to the County.

1.0 Definitions

Please refer to OWTS Manual Section 3 for definitions.

2.0 OWTS Owner Responsibilities and Duties

A response from local agency is not required.

3.0 Local Agency Requirements and Responsibilities

The Sonoma County LAMP establishes the Tier 2 minimum requirements and responsibilities that provide an alternative from Tier 1 (Sections 7 and 8 of the OWTS Policy) to achieve the same policy purpose of protecting water quality and public health.

The Permit Authority shall submit a report to the NCRWQCB, with a copy to the SFBRWQCB, which includes the following information:

- Number and location of complaints, complaint investigations and outcomes
- Permits issued for septic tank pumper trucks, pursuant to Sonoma County Code Chapter 24, Article III (Cleaning Septic Tanks, etc.)
- Number, location, and description of permits issued for new and replacement OWTS with Tier indicated.

3.4 Permanent Records

All OWTS permit related records (Pre-Perc and Site Inspections, Wet Weather Groundwater Inspections, OWTS Plan Checks, New and Replacement Standard and Non-Standard OWTS Permits, Operational Permits for Non-Standard OWTS, Abatement and Voluntary Repair Permits, Findings Report Review, Office and Field Clearances for B-BLD Upgrade Permits, Septic Tank Replacement, Septic Tank Destruction, and Variance Requests) are maintained in the County's database. The Permit Authority shall make permanent records of all OWTS related permitting actions available within 10 working days upon written request for review by a RWQCB.

3.5 Public Water Supply Notification

The Permit Authority shall notify the owner of a public well or water intake and the State Water Board Division of Drinking Water by telephone, email, and/or site visit as soon as

practicable but no later than 72 hours, upon discovery of a failing OWTS within the allowable setbacks as follows:

- OWTS Section 7.5.6: 150 feet from a public water well where the depth of effluent dispersal field does not exceed 10 feet.
- OWTS Section 7.5.7: Within 1,200 feet from a public water system surface water intake if the failing system is 400 feet or less from the high water mark.
- OWTS Section 7.5.8: Within 2,500 feet from a public water system surface intake if the failing system is less than 200 feet from the high water mark.

Currently, there are 12 surface water intake public water supply systems and 410 well public water supply systems in Sonoma County. In addition, there are 61 state Small water Systems that are overseen by the County Department of Health Services, Environmental Health Division. It should be noted that some of the public water supply systems that are classified as wells rely on water supplies that are groundwater under the influence of surface water. At this time, the public well and public surface water intake locations are confidential and cannot be captured in the County GIS database. The State Water Resources Control Board (Division of Drinking Water Programs) is in the process of mapping service area boundaries of all public water supply systems, but not the actual locations of public wells and surface water intakes. Every effort will be made to notify public water systems of the location of a failing OWTS if it is determined to be within setback requirements.

4.0 Regional Water Board Functions and Duties

A response from local agency is not required.

5.0 State Water Board Functions and Duties

A response from local agency is not required.

6.0 Coverage for Properly Operating Existing OWTS

A response from local agency is not required.

7.0 Minimum Site Evaluation and Siting Standards

A response from local agency is not required.

8.0 OWTS Owner Responsibilities and Duties

A response from local agency is not required.

9.0 Tier 2-Local Agency OWTS Management Program

This Tier 2 LAMP establishes minimum standards that provide an alternative from Tier 1 (Sections 7 and 8 of the OWTS Policy) to achieve the same policy purpose of protecting water quality and public health.

9.1 Considerations for LAMP

- The issues enumerated in the following subsections 9.1.1-12 are intended to demonstrate the County's efforts to address potential water quality impacts in relation to OWTS distribution and the focus to address the water quality assessment program (9.3.2) requirements in areas with the specific characteristics and/or conditions listed in this section.

- Differing system design requirements are discussed in the accompanying OWTS Manual Section 9 (Criteria for Standard OWTS), 11 (Criteria for Commercial, Industrial, and Institutional OWTS), Section 12 (Non-Standard Experimental & Alternative OWTS Approval Process), and Section 13 (Non-Standard Experimental & Alternative OWTS Approval Standards).

- Differing siting controls such as system density and setback requirements. For the creation of new parcels, the Sonoma County Code Section 25-17 requires a minimum lot size of one and one half acres where an OWTS and a private water supply system are necessary or one acre where the OWTS is necessary but water is available from an approved public water system. In either case, there shall be sufficient area on the parcel to accommodate an OWTS for a typical three bedroom house plus an unencumbered 200% reserve replacement area.

- Setback requirements are discussed in the accompanying OWTS Manual Section 7 (Site Evaluation Methods and Investigation Requirements).

- Requirements for owners to enter monitoring and maintenance agreements. Discussion of this requirement is found in the accompanying OWTS Manual Section 14 (OWTS Operational Permit and Monitoring).

- Creation of onsite management district or zone. The Sea Ranch HOA and the Odd Fellows HOA are the only recognized onsite management districts in the county at this time. It is possible additional districts or zones may be created in the future.

9.1.1 Degree of vulnerability to pollution due to hydrogeological conditions within your jurisdiction

Soil and groundwater conditions are assessed for new, replacement, and repair OWTS during plan review and information obtained during these assessments is used to identify hydro-geologically vulnerable areas. In addition to the water quality assessment program monitoring discussed in further detail in Section 9.3.2, Permit Authority may occasionally sample Non-Standard OWTS performance wells for total coliform and fecal coliform bacteria and nitrates as indicators of the degree of treatment and function of Non-Standard OWTS. If evidence indicates a hydro-geologically vulnerable area, the LAMP will be updated based on the data collected during the five (5) years between LAMP assessment reports. OWTS Manual Chapter 14 (OWTS Operational Permit and Monitoring).

9.1.2 High Quality Waters and Other Environmental Concern

Minimum parcel sizes for new parcels are dictated by Sonoma County Code Section 25-17. The minimum lot size is one and one-half acres where an OWTS and an individual water supply system is necessary. The minimum lot size is one acre where an OWTS is necessary but water is available from an approved public water supply system.

Existing OWTS in geographic areas with existing higher densities that predate current code requirements are considered as Tier 0 and will remain as such until or unless a failure is documented, in which case the system will be considered as Tier 4 and repaired per the requirements of Tier 2 or Tier 3, as applicable. All OWTS within the geographic boundary of an APMP are by definition in Tier 3.

The primary measure for protection of surface water quality is the establishment of safe horizontal setback buffers between OWTS components (septic tanks and dispersal field) and various water and landscape features. They address setbacks to springs, perennially and intermittent flowing streams, ephemeral drainage ways, ocean, lakes, ponds, wetlands, vernal pools, cut banks natural bluffs and sharp changes in slope. OWTS Manual Table 7.2c Setback Requirements.

9.1.3 Shallow Soils

The Sonoma County OWTS Manual requires a Qualified Consultant perform site evaluations. If shallow soils are found, a Non-Standard Alternative OWTS shall be designed and installed in accordance with the OWTS Manual technical standards. These standards require a conventional OWTS to have a minimum of 12" of soil cover. If unable to provide a minimum of 12" of soil cover over a conventional OWTS dispersal field due to shallow soil depth and still provide 36" minimum suitable soil depth below trench bottom, a Non-Standards Alternative OWTS is required. OWTS Manual Sections 9 (Criteria for Standard OWTS), 12 (Non-Standard Experimental & Alternative OWTS Approval Process) and 13 (Non-Standard Experimental & Alternative OWTS Approval Standards).

9.1.4 High Domestic Well Usage

Domestic wells are used widely in Sonoma County in conjunction with rural development that also utilizes OWTS. Measures to assure protection of existing and new domestic water supply wells from the effects of OWTS include minimum horizontal setback distances between OWTS and any well and alternative treatment and dispersal technologies to mitigate documented or potential impacts to groundwater in areas of high domestic well usage. Sonoma County is in the process of GPS mapping all new well location sites. If a pattern of areas with high domestic well usage develops, consideration will be given to further study those areas relative potential pathogen transport toward receptor wells. Considerations shall include the incidence of OWTS failure (Abatement Repairs), potential for failure (Voluntary Repairs and Building Permit Upgrade Permits) and replacement OWTS. Water quality sampling of domestic wells currently is not required, except after development of a new well (not useful as wells are chlorinated during this phase) and typically during real estate transactions (not public record). Unless domestic well sampling is

mandated by the County Board of Supervisors through new legislation, a condition of a Use Permit, or is done on a voluntary basis, this is not an option available at this time.

9.1.5 Fractured Bedrock

The Sonoma County OWTS regulations and technical standards require a qualified professional (registered geologist, soil scientist, registered civil engineer or registered environmental health specialist) to perform site evaluations. A minimum of three (3) feet of acceptable soil between the dispersal area and the fractured bedrock is required for a conventional Standard OWTS and a minimum of two (2) feet of acceptable soil between the dispersal area and the fractured bedrock is required for the design of any Non-Standard Experimental or Alternative OWTS. If shallow soils are found due to fractured bedrock, a Non-Standard Alternative OWTS shall be designed and installed in accordance with the Sonoma County OWTS Manual regulations and technical standards. A pretreatment unit or above grade sand filter is equivalent to one foot of soil, is considered a Non-Standard OWTS and is subject to our Operational Permit program. OWTS Manual Sections 7 (Site Evaluation Methods and Investigation Requirements), 9 (Criteria for Standard OWTS), 12 (Non-Standard Experimental & Alternative OWTS Approval Process) and 13 (Non-Standard Experimental & Alternative OWTS Approval Standards).

9.1.6 Poorly Drained Soils

The Sonoma County OWTS regulations and technical standards require a qualified professional (registered geologist, soil scientist, registered civil engineer or registered environmental health specialist) to perform site evaluations. If poorly drained soils are found due to seasonal elevated groundwater, a Non-Standard Alternative OWTS shall be designed and installed in accordance with the Sonoma County OWTS Manual regulations and technical standards. A minimum of three (3) feet of acceptable soil between the dispersal area and depth to groundwater is required for a conventional Standard OWTS and a minimum of two (2) feet of acceptable soil between the dispersal area and the depth to groundwater is required for the design of any Non-Standard Experimental or Alternative OWTS. A pretreatment unit or above grade sand filter is equivalent to one foot of soil, is considered a Non-Standard OWTS and is subject to the Operational Permit program. OWTS Manual Sections 7 (Site Evaluation and Investigation Requirements), 9 (Criteria for Standard OWTS), 12 (Non-Standard Experimental & Alternative OWTS Approval Process) and 13 (Non-Standard Experimental & Alternative OWTS Approval Standards).

9.1.7 Vulnerable Surface Water

Sonoma County requires a 100-foot setback to any perennial or intermittent water course, lake or pond, 50 feet from ephemeral streams or waterbodies (as measured from the edge of the water course or water body), and a 200-foot setback to any surface water supply watershed reservoir and a 400-foot setback if the OWTS is located less than 1,200 feet to a public water system surface water intake. OWTS Manual Section 4.6.B.13, Section 7.2 (General Site Criteria) and Table 7.2c (Setback Requirements).

9.1.8 Impaired Water Bodies

Sonoma Creek is subject to a previously approved TMDL Implementation Plan, established prior to the adoption of the OWTS Policy. The Petaluma River is subject to an approved TMDL Implementation Plan. Identified water bodies listed as impaired under the Clean Water Act section 303(d) within the Russian River Watershed are subject to the OWTS Policy Tier 3. An Advance Protection Management Program (APMP) has been created for each of the three water bodies. The APMPs are in OWTS Manual Section 19 (OWTS Policy Tier 3, Total Maximum Daily Load and Advanced Protection Management Program).

9.1.9 OWTS Located in an Area of High Density OWTS

Nitrate has been identified as a chronic issue in several areas of Sonoma County. The west Petaluma area and the Canon Manor area of Cotati have exhibited elevated nitrate levels in groundwater. Canon Manor is subject to a mandatory sewer and water connection requirement.

Although the nitrate contamination issue in the west Petaluma area can be traced primarily to historical poultry farming practices, it is recognized that the density of housing, volume of discharge and depth of OWTS dispersal fields may contribute to the levels of nitrate found in groundwater. All lots in this designated west Petaluma area are subject to wet weather percolation testing, groundwater determinations and in most instances installation of an interceptor drain. In addition, 100 foot well seals are required. OWTS Manual Section 18 (Variance Prohibition and Special Standards Areas).

Areas of high density OWTS have been identified previously, either through County Variance Prohibition Areas presented in OWTS Manual Section 18 and/or in the Russian River TMDL implementation plan. (OWTS Manual Section 18).

Also, refer to Section 9.2.8 Regional Salt and Nutrient Management Plan.

9.1.10 Limits to Parcel Size

Minimum new parcel sizes are dictated by Sonoma County Code Section 25-17. Minimum lot size shall be one and one-half acres where individual OWTS and water supply systems are necessary, unless the size and shape of the site and surrounding parcels allow for a lesser lot size. Minimum lot size shall be one acre where individual OWTS are necessary but water is available from an approved public water system. There shall be sufficient area on the parcel to accommodate a private OWTS for a typical three (3) bedroom house plus unencumbered area to expand or replace the system by two hundred percent (200%). These parcel size restrictions do not exceed the allowable densities per subdivision of Tier 1, Section 7.8 of the OWTS Policy.

9.1.11 Areas with Multiple, Existing OWTS Predating Any Adopted Standards

Areas of high density OWTS have been identified previously, either through County

Variance Prohibition Areas presented in OWTS Manual Section 18 and/or in the Russian River TMDL implementation plan. (OWTS Manual Section 18).

Older, non-conforming OWTS are common in several areas of the County. The highest concentration of these OWTS is in those communities in the lower Russian River Watershed. These communities include Jenner, Cazadero, Monte Rio, Camp Meeker, Guerneville, Rio Nido, Summer Home Park, Hacienda, Mirabel, and Fitch Mountain near Healdsburg. Many of these properties were originally developed for seasonal/recreational cabins and have converted over the years to year- round residences. Many of the properties are very small (<1/2 acre in size), with OWTS constructed prior to the modern codes. Some systems consist of cesspools, and repairs/replacement systems tend to be very challenging. Non-conformance with adopted setback requirements (e.g. from structures, water features, cut banks and sharp changes in slope, etc.) are also common. OWTS Manual Sections 5 (OWTS Abatements, Abandonments and Repairs of Failing Systems) and Section 6 (Requirements for Approval of Building Permits).

9.1.12 Areas with Multiple, Existing OWTS Within Tier 1 Setbacks

Aside from those areas identified in the Sonoma Creek and Russian River Watershed Pathogens TMDL, there are no other significant areas in Sonoma County with known multiple, higher density developments with existing OWTS that are within the prescriptive setbacks set forth in Section 7.5 of the OWTS Policy. Those that may exist are limited and dispersed throughout the County. The County has identified several areas with a concentration of OWTS that are subject to Variance Prohibitions due to other factors, such as low permeable or extremely permeable soils, known elevated groundwater tables, poor surface and/or subsurface drainage and/or nitrate contamination. OWTS Manual Section 18 (Variance Prohibition and Special Standards Areas).

9.2 Scope of Coverage, Permitting, Site Evaluation, Design, and Construction

The Sonoma County LAMP covers the following types of OWTS: residential and commercial domestic wastewater systems producing flows of 10,000 gallons per day or less; and high strength domestic wastewater from commercial food service buildings that do not exceed 900 mg/L BOD. In addition, in collaboration and coordination with RWQCB requirements, Permit Authority provides local permitting, design review, installation, and when applicable monitoring oversight of winery process wastewater subsurface dispersal systems. The OWTS Manual provides regulations/guidelines for the local site evaluation conducted by a qualified professional, siting, design, construction monitoring and maintenance requirements. OWTS Manual Sections 4 (Criteria for all OWTS), 7 (Site Evaluation Methods and Investigation Requirements), 9 (Criteria for Standard OWTS), 11 (Criteria for Commercial, Industrial, and Institutional OWTS), 12 (Non-Standard Experimental & Alternative OWTS Approval Process), 13 (Non-Standard Experimental & Alternative OWTS Approval Standards), and 14 (OWTS Operational Permit and Monitoring).

9.2.1 Installation/Inspection Permits

Sonoma County requires an application and issuance of a valid permit to install, repair, replace, modify, destroy, or abandon any part of an OWTS. All new installations, including repairs, replacements and abandonments require a plan review, issued permit and construction inspection for final permit approval. Additionally, all new OWTS with supplemental treatment or an experimental OWTS require annual operating permits and routine inspections by either the County and/or a service provider. OWTS Manual Sections 4.9 (OWTS Applications), 4.10 (OWTS Construction Permits Required), 4.11 (OWTS Permit Implementation) and 14 (OWTS Operational Permit and Monitoring).

9.2.2 Special Provisions for OWTS near Impaired Water Bodies

In 2006, the San Francisco RWQCB and the State Water Resources Control Board adopted an amendment to the Water Quality Control Plan (Basin Plan for the San Francisco Bay region to establish a Sonoma Creek Watershed Pathogen Total Maximum Daily Load (TMDL) and Implementation Plan. The adopted TMDL designated Sonoma County, specifically the Permit and Resource Management Department (PRMD) as the responsible party for implementing actions related to OWTS and required a plan and implementation schedule be submitted to the RWQCB by January 2011. This plan was submitted on November 5, 2010.

In 2019, the San Francisco RWQCB and the State Water Resources Control Board adopted an amendment to the Water Quality Control Plan (Basin Plan for the San Francisco Bay region) to establish a Total Maximum Daily Load (TMDL) and Implementation Plan for Bacteria in the Petaluma River Watershed.

In 2019, the North Coast RWQCB and the State Water Resources Control Board proposed the adoption of an amendment to the Water Quality Control Plan (Basin Plan for the North Coast Region) to establish a Russian River Watershed Pathogen Total Maximum Daily Load (TMDL) and Implementation Plan. In 2024, the Russian River Watershed Pathogen TMDL was discontinued. The North Coast RWQCB indicates a revised TMDL will be considered in early 2025. The County anticipates the revised TMDL will rely on the State's OWTS Policy Tier 3 provisions due to the impaired reaches of Russian River and that Tier 3 addresses impaired water bodies.

The County has prepared APMPs to address each of the three impaired water bodies in OWTS Manual Section 19 (OWTS Policy Tier 3, Total Maximum Daily Load and Advanced Protection Management Program)

9.2.3 Variance Process

The LAMP recognizes that not all new, replacement and repair OWTS will be able to meet minimum required setbacks, soil depth, groundwater separation, and/or additional minimum requirements and has therefore provided for a process for the evaluation and approval of variance requests. The variance process will not authorize any of the prohibited items in Section 9.4 of the OWTS Policy. Revised OWTS Manual section 4.6 and 4.7 clarify this concern. OWTS Manual Section 4.6 (Prohibitions), 4.7 (Mitigations to Prohibitions) and 4.14.J; OWTS Manual Section 17 (Variance Requirements).

9.2.4 Educational, Training, Certification, and Licensing Requirements

The OWTS Manual provides minimum educational, training, certification, and/or licensing requirements that are required for OWTS Site Evaluators, Designers, Installers, Service Providers, Pumpers, and any other person relating to OWTS activities. Site evaluator requirements are limited to Registered Civil Engineer (RCE), Registered Environmental Health Specialist (REHS), or Registered Geologist (RG).

Designer requirements for commercial/institutional OWTS, Experimental or Alternate Non-Standard OWTS, and repair/replacement OWTS with limited site conditions, ability to maintain minimum regulatory setbacks, variance prohibition areas, sites with limited reserve replacement area, steep topography, and variance requirement are limited to RCE or REHS.

Installer requirements include CA C-42 (Sanitation System Contractor), C-36 (Plumbing Contractor), CA Class A (General Engineering Contractor), CA Class B (General Building Contractor) and Homeowners. Septic tank pumpers are required to be licensed and regulated by the Department of Health Services in accordance with Sonoma County Code 24-43-45. Service Providers include RCE, REHS or any person who is licensed as a

certified OWTS inspector or other equivalent license by passing a state or nationally accredited test.

OWTS Manual 4.4 (OWTS Designer by System Type), 6 (Requirements for Approval of Building Permits), 7.1 (Site Evaluations), 11 (Criteria for Commercial, Industrial, and Institutional OWTS), 12 (Non-Standard Experimental & Alternative OWTS Approval Process), 13 (Non-Standard Experimental & Alternative OWTS Approval Standards), 14 (OWTS Operational Permit and Monitoring).

9.2.5 Education and Outreach Program

The primary method of education and outreach is by direct interaction between Permit Authority staff and the public. Permit Authority staff routinely receives and responds to phone calls and office visits by private property owners, consultants, and contractors with questions about the regulations and/or the permit process. Documents, links, reports, frequently asked questions, etc., are available on the Permit Sonoma website. In addition, the Land Use Advisory Panel (LUAP) provides a forum for industry representatives (consultants, contractors, real estate community) to meet and discuss existing and proposed regulations and policy and procedure issues with Permit Authority staff. LUAP meets regularly with Permit Authority staff.

The LAMP provides for an education and outreach program including informational materials to inform OWTS owners of standard and non-standard systems about how to locate, operate and maintain their OWTS. In addition, the County hosts a yearly one-day educational outreach program to owners of non-standard OWTS.

9.2.6 Septage Volumes and Disposal Locations

Septage receiving facilities for septage generated from within Sonoma County are available at East Bay MUD in Oakland and to a lesser extent, the Laguna Subregional Wastewater Treatment Facility in Santa Rosa. The County of Sonoma Department of Health Services (DHS), Environmental Health and Safety (EH&S) section, is the responsible agency for licensing of septic tank pumpers and haulers. Each permittee must submit pumping reports to the DHS-EH&S by the 10th of each month. The report must list the previous month's pumping activities, including the date of the pumping event, name of the client, address of the pumping event, gallonage of septic tank pumped, disposal site, and disposal date.

9.2.7 On-Site Maintenance Districts or Zones

In 1987, the Sonoma County Board of Supervisors formed Zone 2 under the jurisdiction of County Service Area #41. In accord with a 1989 agreement with the county, the Sea Ranch Association operates the Zone subject to the control and supervision of Sonoma County PRMD. The Permit Authority is responsible for the pre-percolation site evaluation, percolation test and groundwater determination, issuance of OWTS permit and approval of final OWTS installation. The local Zone staff monitors the OWTS operation on a regular

schedule.

In addition, on October 26, 1998, Sonoma County adopted a Negative Declaration in support of the Odd Fellows Recreation Club Use Permit UPE 98-0126 for a community OWTS. Condition 16 of UPE 98-0126 requires the following: The community OWTS shall be operated, monitored, and in compliance as specified in the annual Operational Permit issued by the Well and Septic Section of the PRMD (OPR98-3072) and the Waste Discharge Requirements and Monitoring, Reporting and Notification Program of the North Coast RWQCB.

Should a proposal be submitted in the future for any onsite maintenance district and/or community type wastewater solution in a particular area, feasibility studies would have to include, as project alternatives, consideration of such formation in accordance with the provisions of California Health and Safety Code Sections 6950-6982.

9.2.8 Regional Salt and Nutrient Management Plans

The purpose of the Salt and Nutrient Management Plan (SNMP) is to promote local sustainable water sources and manage salts and nutrients to ensure water quality objectives are met and beneficial uses of groundwater are protected. Forty-seven (47) wells are currently monitored under the authority of the September 2013 Sonoma Valley SNMP Groundwater Monitoring Plan.

9.2.9 Coordination with Watershed Management Groups

The Watershed Advisor collaborates with landowners, watershed planning groups, and resource agencies to develop and implement scientifically sound watershed management plans and policies. In addition to local, state and federal agencies and organizations, partners include 5 Resource Conservation Districts, 4 Land Trusts, and 13 Watershed Groups. The Sonoma County General Plan Water Resources Element Objective WR-1.1 reads: “Work with the Regional Water Quality Control Boards (RWQCB) and interested parties in the development and implementation of RWQCB requirements.”

9.2.10 Evaluation of Proximity of Sewer Systems

The OWTS Manual provides procedures for evaluating the proximity of public sewer systems to new or replacement OWTS installations. Sewer district boundaries are mapped and if a property is close to a boundary, staff will consult with the district prior to the issuance of any permits. Parcels within a designated service area and where the public sewer is available will not be allowed or issued a new or replacement OWTS permit. (OWTS Manual Section 2 (Sewer Connection Required).

9.2.11 Public Water System Notification within Setbacks

The Permit Authority will coordinate with the California Department of Health Services and CAL EPA, Drinking Water Division, to identify all parcels having public water supply

systems. Permit Authority staff will notify the owner of a public water system prior to issuing an installation permit for any new, replacement, or repair OWTS in such cases that the OWTS is: within 1,200 feet of an intake point for a surface water treatment plant for drinking water, within the drainage area catchment in which the intake point is located, such that it may impact water quality at the intake point such as upstream of the intake point for a flowing water body, or within the 150 feet horizontal sanitary setback from a public well.

9.2.12 OWTS within Public Water System Setbacks

The LAMP outlines policies and procedures to be followed when a proposed OWTS dispersal area is within the horizontal sanitary setbacks of a public well or a surface water intake point. These policies and procedures establish best available technology and siting practices to mitigate the potential adverse impact to the public water source. OWTS Manual Section 4.6 (Prohibitions), 4.7 (Mitigations to Prohibitions), 13 (Non-Standard Experimental & Alternative OWTS Approval Standards) and Table 7.2c (Setback Requirements).

9.2.13 Cesspool Usage

Cesspools are not permitted in Sonoma County and any cesspool discovered shall be properly abandoned and a replacement OWTS installed as soon as practicable. Cesspools come to the attention of the local agency in response to complaints, abatement repair permit applications and/or in response to requests for building permit clearance requests.

The County created a cesspool conversion program under the State's OWTS Policy Tier 4 for voluntary removal of cesspools. OWTS Manual Sections 4.6 (Prohibitions), 5 (OWTS Abatements, Abandonments and Repairs of Failing Systems), 6 (Requirements for Approval of Building Permits), and 20 (State OWTS Policy Tier 4 – Corrective Action).

9.3 Local Agency Management Responsibilities

The following describe the provisions contained in the OWTS Manual and with the required minimum responsibilities set forth in the SWRCB OWTS Policy.

9.3.1 Variances

OWTS that are granted either a variance in conjunction with an issued permit are captured in the County's permitting database. Information on the number, location and description of permits can be queried in a report as needed for the required OWTS Policy 9.3.3 Annual Report. OWTS Manual Section 17 (Variance Requirements).

9.3.2 Water Quality Assessment Program

The GIS OWTS layer will be used to capture the location of OWTS for which a variance was granted and for which a repair was installed.

There are several ways in which failures are identified. In some instances, a property owner will work with a contractor who in turn works with the County on a replacement permit or a

repair permit.

In other instances, a complaint is received about a possible failing OWTS and the complaint is logged by the Permit Authority. Upon receipt of a complaint, an investigation is conducted. Based on the outcome of the investigation, either a replacement permit or a repair permit may be required.

Frequently an OWTS is upgraded by expansion, replacement, or relocation of an existing substandard OWTS because of a proposed major change to the existing structure. OWTS Manual Section 6 (Requirements for Approval of Building Permits).

All OWTS subject to the Operational Permit requirements are inspected either by a service provider or Permit Authority staff (or both). Inspection report key fields will be used to identify failing systems. In addition, authority for periodic sampling of performance wells is available. OWTS Manual Section 14 (OWTS Operational Permit and Monitoring).

Ideally, the State will make compilation of data from other sources (drinking water program, GeoTracker, GAMA, etc.) available in a useful format for local agencies to include in their LAMP as part of surveillance and water quality assessment activities.

The information required for this Section (9.3.2- 9.3.2.9) will be evaluated during the 5 years between LAMP assessment reports (Section 9.3.3). Any trends identified will be used to modify the LAMP if determined necessary for future program improvements and changes.

9.3.2.1 Domestic Well Sampling

Fecal coliform and nitrate testing is not required for the continued use of existing wells.

9.3.2.2 Real Estate Transfer Sampling

Information on well sampling for routine real estate transactions is not captured currently and there are no plans to require this in the future.

9.3.2.3 Public Water System Sampling

There are 410 public water supply systems that rely on wells and 12 public water systems that rely on surface water that are regulated by the CalEPA Drinking Water Branch. In addition, there are 61 State Small Water Systems that are overseen by the County Department of Health Services, Environmental Health Section. Results of monitoring of the raw water for nitrates and fecal coliform will be accessed and evaluated as a component of the water quality assessment program.

9.3.2.4 New Well Development Sampling

Fecal coliform and nitrate testing is not required prior to the development of new domestic wells.

9.3.2.5 Beach Water Quality Testing Data

Sonoma County Department of Health Services collects samples and tests for total coliform, fecal coliform, and enterococcus on a weekly basis between April 1 and October 31 at seven (7) ocean beaches. In addition, the Department of Health Services collects samples and tests for total coliform and fecal coliform on a weekly basis at nine (9) Russian River beaches.

9.3.2.6 NPDES Permit Receiving Water Sampling

The cooperative NPDES permit for the City of Santa Rosa, County of Sonoma, and Sonoma Water (formally the Sonoma County Water Agency) includes unincorporated areas near the cities of Santa Rosa, Healdsburg, Windsor, Sebastopol, Rohnert Park, and Cotati. Another NPDES municipal permit program has been established for the Petaluma and Sonoma areas in the south part of the County. The Permit Authority will continue to work with the Sonoma Public Infrastructure (formally the County Department of Transportation and Public Works) and Sonoma Water regarding overall water quality monitoring.

9.3.2.7 California Water Quality Assessment Database

The California Integrated Water Quality Assessment (CIWQA) database monitoring and sampling results for pathogens and nitrates is available for preparation of the Section 9.3.3 Five Year Water Quality Assessment Report. Available data generated at monitoring stations will be evaluated, to the extent possible, in relation to the proximity, type and density of OWTS, complaints, repair and replacement OWTS, variances, and soil types.

9.3.2.8 Waste Discharge Requirements Groundwater Sampling

This section references groundwater monitoring as part of WDRs. Available data generated at monitoring stations will be evaluated, to the extent possible, in relation to the proximity, type and density of OWTS, complaints, repair and replacement OWTS, variances, and soil types.

9.3.2.9 Groundwater Ambient Monitoring and Assessment Program

Data collected as part of the GAMA program will be included in the Section 9.3.3 Five Year Water Quality Assessment Report.

9.3.3 Annual Report

No later than February 1st of each year, County will submit to the NCRWQCB, with a copy to the SFBRWQCB, a report in tabular, spreadsheet form summarizing the status of the following items:

1. The number and location of complaints pertaining to OWTS and how the complaints were resolved; OWTS Manual Section 5.1 (Abatements).

2. Applications and registrations issued as part of the County septic tank cleaning registration (pumper truck) program pursuant to Section 117400 et.seq. of the California Health and Safety Code.

3. The number location, and description of permits issued for new and replacement OWTS and under which tier the permit was issued; OWTS Manual Sections 4 (Criteria for all OWTS) and 6 (Requirements for Approval of Building Permits).

4. Number, location, and description of permits issued for OWTS where a Variance Request is granted; OWTS Manual Section 17 (Variance Requirements).

5. Results of the Water Quality Assessment Program. Refer to Section 9.3.2.

Five Year Water Quality Assessment Report. Every five (5) years the annual report to the RWQCB will be accompanied by a Water Quality Assessment Evaluation Report that summarizes the information and findings from the County's Water Quality Assessment Program (9.3.2). The report will provide an assessment of any evidence of water quality impacts from OWTS along with any recommended changes to the LAMP to address the identified impacts.

The RWQCB is expecting to issue a guidance document on how this information should be gathered and organized for submittal. Upon receipt of such guidance, this Section of the LAMP will be updated to include specifics identified. Any water quality data generated by the County from monitoring activities will be submitted in an electronic format as required.

9.4 Prohibitions

The following describe the provisions contained in the OWTS Manual with the required prohibitions set forth in the SWRCB OWTS Policy. OWTS Manual Section 4.6 (Prohibitions) and 17 (Variance Requirements).

9.4.1 Cesspools

Cesspools are not permitted in Sonoma County and any cesspool discovered shall be properly abandoned and a repair or replacement system installed as soon as practicable. Sonoma County has created a cesspool conversion program which will encourage the voluntary conversion of cesspools to a septic system. OWTS Manual Section 4.6.B.2 (Prohibitions) and 20.C (State OWTS Policy Tier 4 – Corrective Action).

9.4.2 OWTS Over 10,000 GPD Capacity

If the volume of wastewater produced is 10,000 GPD or more, the method of treatment and dispersal must be approved by either the San Francisco Bay RWQCB or the North Coast RWQCB, as applicable. OWTS Manual Section 4.6.B.3 (Prohibitions)

9.4.3 OWTS with Surface Discharge

Surface discharge of wastewater from an OWTS is not authorized by definition (OWTS Policy). OWTS Manual section 4.6.B.4 prohibits effluent disposal on or above the ground surface.

9.4.4 OWTS on Steep Slopes

Installation of an OWTS on slopes greater than 30% without a slope stability report is prohibited (see OWTS Manual section 4.6.B.5). An assessment and report by a Registered Geologist shall be required to address slope stability, drainage and other geotechnical factors affecting the operation and/or impacts from the construction and use of the proposed OWTS.

9.4.5 Sizing Reductions for IAPMO Certified Dispersal Systems

The use of chamber designs for dispersal fields are subject to the sizing criteria in the OWTS Manual. No reduction in sizing of the dispersal field when using chamber systems will be approved. OWTS Manual Section 4.6.B.6.

9.4.6 Supplemental Treatment without Monitoring

OWTS with supplemental treatment without required self-monitoring and routine county inspection is not allowed. All OWTS with supplemental treatment are required to be enrolled in the Operational Permit program which includes annual permitting, monitoring, and inspection by either a service provider and/or the County. OWTS Manual Sections 4.6.B.7 and 14 (OWTS Operational Permit and Monitoring).

9.4.7 RV Holding Tanks

The OWTS Manual defines domestic wastewater to include only incidental RV holding tank dumping but does not include wastewater consisting of a significant portion of RV holding tank wastewater such as an RV dump station. OWTS Manual section 4.6.B.8.

9.4.8 Separation to Groundwater

The minimum amount of native soil allowed for installation of a Standard OWTS is three feet between the dispersal and the limiting layer including groundwater. The minimum amount of native soil allowed for installation of an OWTS with supplemental treatment or experimental OWTS is two feet between the dispersal and the limiting layer including groundwater.

The LAMP program does not allow dispersal pits unless there is a separation to groundwater of 10 feet or more. OWTS Manual section 4.6.B.9 and 10.

9.4.9 Installations Near Existing Sewer Systems

Connection to a public sewer is required for all new proposed lots, existing structure additions that propose to generate additional wastewater and/or repairs to existing OWTS

that do not meet the standards for new development if sewer is available. Sewer is considered available if within 200 feet (300 feet for some local sanitation districts) of the existing structure. OWTS Manual section 2.0 (Sewer Connection Required).

9.4.10 Public Water System Minimum Setbacks

Minimum setbacks as specified in OWTS Policy Sections 9.4.10.1 – 9.4.1.10.5 were re-written as prohibitions in OWTS Manual 4.6.B.13.

9.4.11 Public Water System Minimum Setbacks and Replacement OWTS

For replacement OWTS unable to meet the horizontal setback requirements of 9.4.10.1 – 9.4.10.5, the replacement dispersal field shall meet the setback requirements to the greatest extent practicable and shall incorporate supplemental pretreatment and other measures, as appropriate, unless there is no evidence of an existing or potential threat or impact to the public water source by the OWTS based on topography, soil depth and composition, and groundwater conditions. In no case shall a repair OWTS be installed any closer than the existing OWTS to a public water supply well or public surface water intake point. OWTS Manual 4.6.B.13.

9.4.12 Public Water System Minimum Setbacks and New OWTS

For new OWTS on parcels created prior to the effective date of the LAMP that are unable to meet the horizontal setback requirements of OWTS Policy 9.4.10.1 through 9.4.10.5, the new dispersal field shall meet the setback requirements to the greatest extent possible and shall utilize supplemental treatment. OWTS Manual 4.6.B.13.

9.5 Technical Support of LAMP

The LAMP including all technical documents includes adequate detail to support how all the criteria in this local program work to protect water quality and public health. OWTS Manual (All Sections).

9.6 RWQCB Review of LAMP Tier 2 Requirements

The RWQCB will generally consider past performance of local programs to protect water quality based on reviews of annual status and evaluation reports. Should deficiencies be identified, the County and the RWQCB will work together to make programmatic improvements. The *OWTS Manual* is primarily a reformatted version of existing County regulations and standards to comply with the OWTS Policy Tier 2 Local Area Management Program (LAMP) requirements. The purpose of this document is to allow continuing Permit Authority authorization for oversight of OWTS countywide.

The main changes include the following:

- The maximum daily flow volume of OWTS subject to County oversight, increased from 1,500 gallons per day (gpd) to 10,000 gpd. (Section 1.3)

- Reserve replacement areas. Language has been proposed clarifying the use of a vetted reserve replacement area does not require another replacement area. (Section 4.3)

- Easements. Clarifying language regarding abutting lots and easements. The intent is to allow easements on abutting lots and not allow easements to a parcel that is one or more parcels removed from the subject parcel. (Section 4.5)

- OWTS replacement under a repair permit. OWTS Manual v7.0 authorizes an OWTS repair permit to include up to 50% of a replacement system. The RWB denied the prior LAMP due to this provision. Staff have revised this provision to allow an OWTS repair permit to include up to 25% of a replacement system. (Section 4.10)

- Variances. Many variances are "tried and true" and were standardized in the current OWTS Manual Section 17 Table 1. These are proposed to be moved to the relative sections as exceptions. Others are presented in Section 4.16. This approach allows the "variance" to be accepted as part of the OWTS design versus requiring a separate "variance" application. (Section 4.16; Section 17)

- Percent Encumbrance and Reserve Areas. Proposed development can affect reserve replacement areas by building over the top of them. The proposal is to require a reserve replacement area(s) when the proposed development creates more than 50% land encumbrance. This can be satisfied by documenting an existing reserve area(s) or creating one. If the proposed development creates 50% or less percent encumbrance, the reserve replacement area(s) is/are required to be shown only if they exist. Development within an encumbered area (stream or well setback for example) does not add to the percent encumbrance. (Section 6.6)

- Shifting site evaluation work to designers. Site evaluations take three forms: soil depth and type, percolation rate, and groundwater elevations. The concept is to shift this work to solely design professionals, freeing up staff to focus on plan reviews. Revisions were needed to eliminate applications for site evaluations, to require the site evaluation information be submitted in the OWTS Design Report when the OWTS application is submitted, and clarification on how to document the site evaluation information. (Section 7)

- Stie Evaluation Area and Site Evaluation Radius. Each site evaluation location has an effective radius. Combining these areas creates a Site Evaluation Area where the OWTS can be located. The effective radii for each type of site evaluation are proposed to be 50 feet for soil evaluations, 50 feet for groundwater elevations, and 25 feet for percolation tests. (Section 7-13).

- Separation distances for Mound and At-Grade OWTS. OWTS need to be separated to ensure proper functionality and to protect the downslope soil for future use. The separation distances are frequently debated on a project-by-project basis due to not being in the standards. The concept is to create minimum setbacks that ensure proper functionality and reduces delays in the plan review process. For Mound OWTS the proposed setback allows abutting the toe of primary OWTS sand layer to the toe of the second or reserve OWTS sand layer. (Section 13.3) For At-Grade OWTS the proposed setback allows the abutting the toe of the primary OWTS fill layer to toe of the second or reserve OWTS fill layer. (Section 13.4) These systems have internal distances from the point of dispersal to edge of the sand toe (Mounds) and to the edge of fill (At-Grades) that allows for abutting of the external edges.

- Drip Systems. The current OWTS Manual provides for sub-surface drip OWTS. The revised manual proposes an "at-grade" drip system provide there is a minimum of 24 inches of good soil below and a minimum of six inches of cover soil. (Section 13.5)

- Operational Monitoring Program. The current OWTS Manual requires non-standard OWTS to be in the Operational Monitoring (OPR) Program. In 2023, the County revised this program to only require OWTS with a supplement treatment unit be placed in the OPR program. The proposed OWTS Manual catches up to this change. (Section 14)

- State OWTS Policy Tier 3. Section 19 has been added to address impaired water bodies, TMDLs and Advanced Protection Management Plans. (Section 19)

- State OWTS Policy Tier 4. Section 20 has been added to address OWTS that need corrective action. (Section 20)

- Cesspool Conversion. A subsection of Section 20 allows for the conversion of cesspools. Cesspools are prohibited by the RWB's and the State OWTS Policy. The County provides for a cesspool conversion that waives the typical site evaluation requirements to encourage removing cesspools from the landscape. As part of Section 20, a cesspool conversion does not authorize new or additional development or re-construction of existing structures. (Section 20).

- Waterless Toilets. In 2023, the County revised section Sonoma County Code section 26 to allow for non-flush toilets (waterless toilets). The proposed OWTS Manual catches up to this change. (Section 21)

- OWTS not authorized by the State's OWTS Policy. The proposed OWTS adds a section to provide direction if a OWTS does not meet the minimum standards of the OWTS Policy. (Section 22)

10.0 Advanced Protection Management Program

The State OWTS Policy Tier 3 requires that OWTS in impaired areas that are listed in the OWTS Policy Attachment 2, be subject to a higher standard than Tier 2. These standards are to be contained in an Advanced Protection Management Program (APMP). The OWTS Policy Tier 3 allows one of the following options:

- Provisions consistent with an approved TMDL Action Plan.
- Special provisions detailed in the LAMP.
- Standard provisions contained in OWTS Policy Tier 3, Section 10.

The County proposes to use the first option for the Petaluma River watershed and the Sonoma Creek watershed both of which have an approved TMDL Action Plan (OWTS Manual 19.3 and 19.4, respectively). The County proposes special provisions for the listed reaches in the Russian River watershed (OWTS Manual 19.2).

10.1 APMP Applicable Areas

The applicable area can be defined as either the land area covered by a TMDL implementation plan or defined in an approved LAMP. If not defined in either document, the applicable area shall be the land area within 600 linear feet from the natural or levied bank of the impaired water body per the OWTS Policy Attachment 2.

The County defines the Sonoma Creek land area as land that drains to Sonoma Creek and its tributaries. This land area is coincident with the land area defined in the Sonoma Creek Pathogen TMDL implementation plan. (OWTS Manual 19.4)

The APMP boundary in the Petaluma River TMDL implementation plan includes the following areas:

- The area within 200 linear feet from the top of the bank in the horizontal (map) direction on either side of the entire Petaluma River mainstem; or
- The area within 200 linear feet from the top of the bank in the horizontal (map) direction on either side of any National Hydrography Dataset medium resolution mapped stream in the Petaluma River watershed. (OWTS Manual 19.3)

The APMP boundary for the impaired reaches within the Russian River watershed will be consistent OWTS Policy Attachment 2 and OWTS Policy Tier 3. (OWTS Manual 19.2.)

10.2 APMP Requirements

The County has proposed three APMPs: one each for the Russian River impaired water bodies, the Petaluma River watershed, and the Sonoma Creek watershed. (OWTS Manual sections 19.2, 19.3 and 19.4, respectively.)

10.8 Supplemental Treatment and Performance Requirements

Section 10.8 references new and replacement supplemental treatment for nitrogen impaired

water bodies (Section 10.9) and supplemental treatment for pathogen impaired water bodies (Section 10.10). Section 10.9 contains performance standards for percent removal of total nitrogen. Section 10.10 contains performance standards for total suspended solids and fecal coliform bacteria concentrations. The county contains water bodies impaired for pathogens, nitrogen, and both.

The County has proposed special provisions for pathogen and nitrogen performance standards for OWTS within the Russian River impaired areas that use supplemental treatment. (OWTS Manual 19.2)

10.11 Supplemental Treatment Requirements for Pathogens and Nitrogen

The requirements for supplemental treatment are listed in section 19 of the OWTS Manual which are consistent with section 10.9 and section 10.10 of the OWTS Policy.

10.13 Ongoing Monitoring

Monitoring requirements consistent with OWTS Policy Section 10.13 are embodied in Section 20 of the OWTS Manual.

10.14 Inspections

Inspection and sampling requirements consistent with OWTS Policy Section 10.15 are embodied in Section 20 of the OWTS Manual.

11.0 Tier 4-OWTS Requiring Corrective Action

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

Any OWTS that has pooling effluent, discharges wastewater to the surface, or has wastewater backed up into plumbing fixtures, because its dispersal system is no longer adequately percolating the wastewater is deemed to be failing, no longer meeting its primary purpose to protect public health, and requires either a replacement or repair permit, and as such the dispersal system must be replaced, repaired, or modified so as to return to proper function and comply with Tier 2 or 3 as appropriate.

Any OWTS septic tank failure, such as a baffle failure or tank structural integrity failure such that either wastewater is exfiltrating or groundwater is infiltrating, is deemed to be failing, no longer meeting its primary purpose to protect public health, and requires major repair, and

as such shall require the septic tank be brought into compliance with the requirements of this LAMP per Tier 2 (Section 11.2 of OWTS Policy).

Any OWTS that has a failure of one of its components other than those covered by 11.1 and11.2 above, such as a distribution box or broken piping connection, shall have that component repaired so as to return the OWTS to a proper functioning condition and return to Tier 2 or 3 as applicable (Section 11.3).

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 to abate its impact (Section 11.4).

The Permit Authority may authorize new OWTS, replacement OWTS, or repairs that are in conformance with Tier 2 or 3, as applicable. If the owner of the OWTS is not able to comply with corrective action requirements of this Section, the RWQCB may authorize repairs that are in substantial conformance with Tier 3 or require the owner of the OWTS to submit a report of waste discharge for evaluation on a case-by-case basis. RWQCB's response to such reports of waste discharge may include, but is not limited to, enrollment in general waste discharge requirements, issuance of individual waste discharge requirements, or issuance of waiver of waste discharge requirements. (Section 11.5).

Owners of OWTS will address any corrective action requirement of Tier 4 as soon as is reasonably possible and must comply with the time schedule of any corrective action notice received from the Permit Authority or the RWQCB to retain coverage under this Policy (Section 11.6).

Failure to meet the requirements of Tier 4 constitutes a failure to meet the conditions of the waiver of waste discharge requirements contained in this Policy and is subject to further enforcement action (Section 11.7).