CALAVERAS COUNTY WATER DISTRICT

SEWER SYSTEM MANAGEMENT PLAN
JUNE 2, 2021
UPDATE

In accordance with
California State Water Resources Control Board
Order No. 2006-0003-DWQ and No. WQ 2013-0058-EXEC
General Waste Discharge Requirements for Sanitary Sewer Systems

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Adopted on June 9, 2021 by Board Action

LIST OF FIGURES

APPENDICES

REFERENCE DOCUMENTS

1. California Irrigation District Law (Water Code § 20500 et seq.)
2. Clean Water Act (33 U.S.C. § 1251 et seq.)
3. Porter Cologne Water Quality Act (Water Code § 13000 et seq.)
4. California Health & Safety Code § 25100 et seq.
5. Resource Conservation and Recovery Act of 1976 (42 U.S.C. § 6901 et seq.)
6. California Government Code §§ 54739, 54740
7. Calaveras County Water District: Ordinance No. 84-1, Rules and Regulations
8. California Occupational Safety and Health Administration: Pocked Guide for the Construction Industry
9. Calaveras County Water District: Design and Construction Standards (January 2009)
10. Calaveras County Water District: Overflow Emergency Response Plan (April 2019)
11. Association of California Water Agencies: Professional Development Program for Water Utility Employees, Traffic Control and Flagger
12. California Water Environment Association: SSO-WDR Simple Solution on Writing Detailed Reports

ASCE	American Society of Civil Engineers
ACWA	Association of California Water Agencies
BMP	Best Management Practice
CARB	California Air Quality Resources Board
ARB	California Air Resources Board
CASA	California Association of Sanitation Agencies
CAL OES	California Office of Emergency Services
CEHA	Calaveras County Environmental Health Agency
LAFCO	Calaveras County Local Agency Formation Commission
CCWD / District	Calaveras County Water District
WWS-RR	Calaveras County Water District Rules and Regulations Governing the Furnishing of Water and/or Wastewater Services
CVCWA	Central Valley Clean Water Association
CCTV	Closed Circuit Television
CIP	Capital Improvement Program
CMMS	Computerized Maintenance Management System
CMOM	Capacity, Management, Operations and Maintenance
RWQCB	Central Valley Regional Water Quality Control Board
CWEA	California Water Environment Association
ECS	Environmental Compliance Services
ERP	Emergency Response Plan
FOG	Fats, Oils, and Grease
FSE / FSEs	Food Service Establishments
General Order	General Waste Discharge Requirements for Sanitary Sewer Systems
GIS	Geographical Information System
GRD	Grease Removal Device
I/I	Inflow / Infiltration
IPP	Industrial Pretreatment and Pollution Prevention Program
JPIA	Joint Powers Insurance Authority
NPDES	National Pollution Discharge Elimination System
O&M	Operations and Maintenance

ORD84-1	Calaveras County Water District Ordinance No. 84-1
OES	State Office of Emergency Services
OERP	Overflow Emergency Response Plan
PM	Preventative Maintenance
PLSD	Private Lateral Sewer Discharge
R&R	Rehabilitation and Replacement
STEP	Septic Tank Effluent Pumping
SSMP	Sewer System Management Plan
SSO / SSOs	Sanitary Sewer Overflow or Overflows
SSS WDR	Combined General Waste Discharge Requirements for Sanitary Sewer Systems and Amended Monitoring and Reporting Program
SWRCB	State Water Resources Control Board
SCADA	Supervisory Control and Data Acquisition
WEF	Water Environment Federation
WDR / WDRs	Waste Discharge Requirements

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1. INTRODUCTION

This introductory section provides background information on the purpose and organization of this Sewer System Management Plan (SSMP) and provides a brief overview of the Calaveras County Water District (CCWD or District) service area and sewer system. This document has been prepared in compliance with the California State Water Resources Control Board (SWRCB) Statewide General Waste Discharge Requirement for Sanitary Sewer Systems, Order No. 2006-0003-DWQ, and the Amended Monitoring and Reporting Program, Order No. WQ 2013-0058-EXEC. The two combined Orders are referenced in this document as the ***SSS WDR***.

Collection systems are the last major component of the wastewater management system to be regulated. The ***SSS WDR*** applies to entities in California (also referred to as enrollees) that own or operate a sanitary sewer system greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility. As a qualifying entity, the District is required to submit a complete and updated Sewer System Management Plan every five years.

1.1. Document Organization

This SSMP is intended to meet the requirements of the ***SSS WDR*** and is organized into the following thirteen sections.

1. Introduction
2. Goals
3. Organization
4. Legal Authority
5. Operations and Maintenance Program
6. Design and Performance Provisions
7. Overflow Emergency Response Plan
8. Fats, Oils and Grease Control Program
9. System Evaluation and Capacity Assurance Plan
10. Monitoring, Measurements and Program Monitoring Measurements and Program Modifications
11. SSMP Program Audits
12. Communications Program
13. SSMP Completion and Certification

1.2. Calaveras County Water District Utility Services and Service Area

CCWD was formed in 1946 under the laws of the State as a public agency to provide water and sewer service to the residents of Calaveras County. The District is a non-profit governmental agency, also known as a "special district," governed by an elected five-member Board of Directors, administratively and fiscally independent from the Calaveras County government. The District's Certificate of Incorporation is provided as **Appendix A**.

The District is empowered to provide water and sewer services for any beneficial purpose within Calaveras County, and assumes responsibility for all of Calaveras County, except where served by other agencies. While the District accepts responsibility for all of Calaveras County, the District does not provide water and/or sewer services to all communities within the County. Large sections of rural area are served by private wells and/or septic tanks, or other small community water and/or wastewater systems. The District's service area encompasses approximately 663,000 acres within Calaveras County.

As a special district, CCWD provides sanitary sewer collection and treatment services to approximately 5,000 municipal customers throughout the County. The District operates twelve (12) wastewater treatment and disposal facilities and fourteen (14) sanitary sewer collection systems. Collection systems are divided into conventional gravity collection and Septic Tank Effluent Pumping (STEP) systems. The later system utilizes septic tanks located on the customer's property for pretreatment, and a network of small diameter pipelines to convey pumped septic tank gray water. A breakdown of the District's collection method in each geographical area is shown in Table 1.

The District's wastewater collection system contains approximately 100 miles of gravity pipelines, 230 miles of force mains, 1,700 manholes, 50 lift stations, 4,600 private sewer service laterals and 650 septic tanks. The majority of these septic treatment systems, approximately 600 septic systems, are maintained by the District work force.

Each District collection system is operated independently and includes a dedicated wastewater treatment facility. Therefore, the District is required to operate with thirteen (13) collection system permits and a similar number of treatment permits. Annual permit cost to the District are calculated by SWRCB on the basis of a total of twenty-seven (27) permits[1].

[1] Wastewater originating from the Six Mile Road system is treatment at the Angels Camp WWTF, and the Copper Cove, La Contenta, and Forest Meadows WWTF each have one additional permit.

Table 1-1: Collection Method by Service Area

Community / District Service Area	Type of Sanitary Sewer Collection[1]
Arnold	Gravity Collection
Copper Cove	Gravity Collection
Country Houses	Gravity Collection
Douglas Flat and Vallecito	Gravity Collection and STEP
Forest Meadows	Gravity Collection
Indian Rock Vineyards	STEP
La Contenta/Rancho Calaveras	Gravity Collection
Sequoia Woods/Mountain Retreat	Gravity Collection
Six Mile Road	STEP
Southworth	STEP
Wallace[2]	STEP
West Point	STEP
Wilseyville	Gravity Collection

Note:
1. Septic Tank Effluent Pumping (STEP)
2. Septic tank and pump systems maintained by the customer.

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2. GOALS

SSS WDR Requirement: The goal of the SSMP is to provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system. This will help reduce and prevent SSOs, as well as mitigate any SSOs that occur.

This component of the SSMP identifies goals that the District has established for the management, operation and maintenance of the sewer system and discusses the role of the SSMP in supporting those goals. The goals provide focus for District staff to continue high-quality work and implement improvements in the management of the District's wastewater collection system.

2.1. Mission and Vision Statements

Calaveras County Water District Mission Statement:

"Protect, enhance, and develop Calaveras County's water resources and watersheds to provide safe, reliable, and cost-effective services to our communities."

~~*"Our team is dedicated to protecting, enhancing, and developing our rich water resources to the highest beneficial use for Calaveras County, while maintaining cost-conscious, reliable service, and our quality of life, though responsible management."*~~

Calaveras County Water District Vision Statement:

"To be a trusted leader, to collaborate with our valued partners, and provide healthy, innovative, and resilient water resource solutions."

2.2. Goals

In support of the District's mission and vision statements, for the operation and maintenance of its sewer system, the District has developed the following goals.

1) Protect the health and safety of people and the environment;
2) Minimize number and impact of SSOs that occur;
3) Meet all applicable regulatory notification and reporting requirements;
4) Cost effectively minimize infiltration/inflow (I/I);
5) Implement regular, proactive maintenance of the system to remove roots, debris and fats oils and grease (FOG) in areas prone to blockages that may cause sewer backups and overflows.
6) Where feasible, provide overflow capacity at District lift stations, at a

minimum, where impact of overflow is judged to be significant.

7) Involve Operations staff in the strategic planning process for the collection system.

These goals are also adopted by the District's Operations Department in the annual sewer system Operations and Maintenance Program.

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3. ORGANIZATION

SSS WDR Requirements: The SSMP must identify each of the following items.

A. The name of the agency's responsible or authorized representative.

B. The names and telephone numbers of management, administrative, and maintenance positions with responsibility for implementing specific measures in the SSMP program. The SSMP must identify lines of authority through an organization chart or similar document with a narrative explanation.

C. The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable such as, County Health Officer, County Environmental Health Agency, Regional Water Board, and/or State Office of Emergency Services (OES).

This section of the SSMP identifies District staff responsible for implementing the SSMP, responding to an SSO event, and meeting the SSO reporting requirements. This section also includes the designation of the Authorized Representative to meet RWQCB requirements for completing and certifying spill reports.

3.1. District's Authorized Representative

The District is responsible for implementing and maintaining all components of this SSMP and is authorized to submit SSO reports to the appropriate government agencies. The Collections System Supervisor is the authorized representative for all wastewater collection system matters and is authorized to certify electronic spill reports submitted to the SWRCB. In the absence of the Collections System Supervisor, a responsible charge assignment is made by the Director of Operations, the Plant Operations Manager, or the Construction and Maintenance Manager.

3.2. Responsible Staff and Lines of Authority

Implementation, management, and updating of the SSMP involves staff from four District departments: Administration, Engineering, Operations and Public Information, as well as the District Board of Directors. The District organization for all departments is shown on **Figure 3-1**. The names and phone numbers of the parties involved in this chain of communication are shown in **Appendix B,** the Overflow Emergency Response Plan. Contact information concerning elected District Board Members is available at the District's website, http://ccwd.org. Positions within each department having SSMP responsibilities are highlighted

below. Descriptions of District positions and responsibilities related to the collection system are as follows:

- Board of Directors. Establishes District Policy.
- General Manager. Under administrative direction of the Board of Directors, oversees the operations and administrative affairs of the District, and represents the Board's policies and programs with employees, community organizations and the general public.
- District Engineer. Plans, organizes, directs and reviews the activities and operations of the Engineering Department for projects related to water and wastewater, coordinates assigned activities with other departments and outside agencies, and provides administrative support to the General Manager.
- Director of Operations. Plans, organizes, directs and reviews the activities and operations of the Operations Department for water and wastewater treatment, collection and distribution, and coordination of all environmental programs with the appropriate regulatory agency. Authorized to certify electronic spill reports submitted to the SWRCB.
- Plant Operations Manager. Organizes, directs and coordinates the activities of the Water and Wastewater Departments within the Operations Department for the operation and maintenance of treatment facilities, recycled water distribution facilities, and the operation of the District's laboratory. Coordinates regulatory activities with other departments and provides support to the Director of Operations. Authorized to certify electronic spill reports submitted to the SWRCB.
- Construction and Maintenance Manager. Plans, organizes, directs, and coordinates the activities of the water distribution crews, wastewater collections, construction crew, and meter readers within the Operations Department. Coordinates regulatory activities with other departments and provides support to the Director of Operations. Authorized to certify electronic spill reports submitted to the SWRB.
- Collection System Supervisor. Schedules, assigns and reviews the work of field crews in a variety of skilled and semi-skilled activities in general construction, repair, and maintenance of wastewater collection system facilities, and has primary responsibility for the operation of equipment. Responds to customer problems and complaints, SCADA and auto dialer alarms, and is authorized to certify electronic spill reports submitted to the SWRCB.
- Collection System Worker. Routinely monitors, maintains, adjusts, and cleans pumps, regulators, and lift stations to prevent spills, and ensure the smooth operation of the wastewater collection and

storage systems, and recycled water distribution. Responds to customer problems and complaints, SCADA and auto dialer alarms, and is authorized to certify electronic spill reports submitted to the SWRCB.

- Control, Communications, and Electrician Supervisor. Directs staff to ensure the maintenance, repair, inspection, modification, design, installation, and calibration of electrical systems, equipment, instrumentation and control systems. These electrical systems include all computerized controls, SCADA, and programmable logic controllers for District facilities. Plans system improvements, prepares budgets, and monitors expenditures for activities of electrical and communication/controls. Oversees, directs, and evaluates the work of the Electricians.
- Electrician. Maintains, repairs, inspects, installs, and calibrates instrumentation and control systems, including computerized controls, SCADA, variable frequency drives, solid-state starters, programmable logic controllers, process control systems, and other microprocessor-based electronic and electrical equipment for water and wastewater treatment. Maintains and repairs laboratory and chlorination equipment. Assists other employees in the operation and maintenance of instrumentation and control systems.
- Mechanic. Mechanics are skilled journey-level class workers who perform preventive and corrective maintenance and repair for medium to heavy equipment in a variety of craft areas, including water and wastewater treatment plant equipment, and water and wastewater pump and lift stations. In addition, mechanics perform a wide variety of work to ensure District facilities and premises are maintained in a safe and effective working condition. This class is distinguished from other maintenance classes by the necessary specialized knowledge of and skill in installing, maintaining and repairing a variety of stationary equipment, rolling stock, and water system control devices. The Mechanic Supervisor manages the Mechanics, assigns work, and provides technical assistance to the Mechanics.

3.3. SSO Reporting Chain of Communication

A flowchart depicting the process of responding to an SSO from the receipt of a complaint to reporting an SSO to the SWRCB is shown on **Figure 3-2**. The SSO reporting process is described in detail in the Overflow Emergency Response Plan, **Appendix B**, and summarized in Section 7.

3.4 2021 Audit Results

As part of the 2021 Audit, it was discovered that with the implementation of Mobile

MMS, the District has improved the procedure to guide customer service staff through receiving and responding to customer complaints . Customer Service staff now have the ability to open service requests within Mobile MMS and field crews receive instant notification of the request. Mobile MMS ensures adequate information is being recorded and used for the greatest District benefit. . With the upcoming introduction of Tyler Customer Service Software, customer service representatives will be able obtain up-to-date customer contact information. .

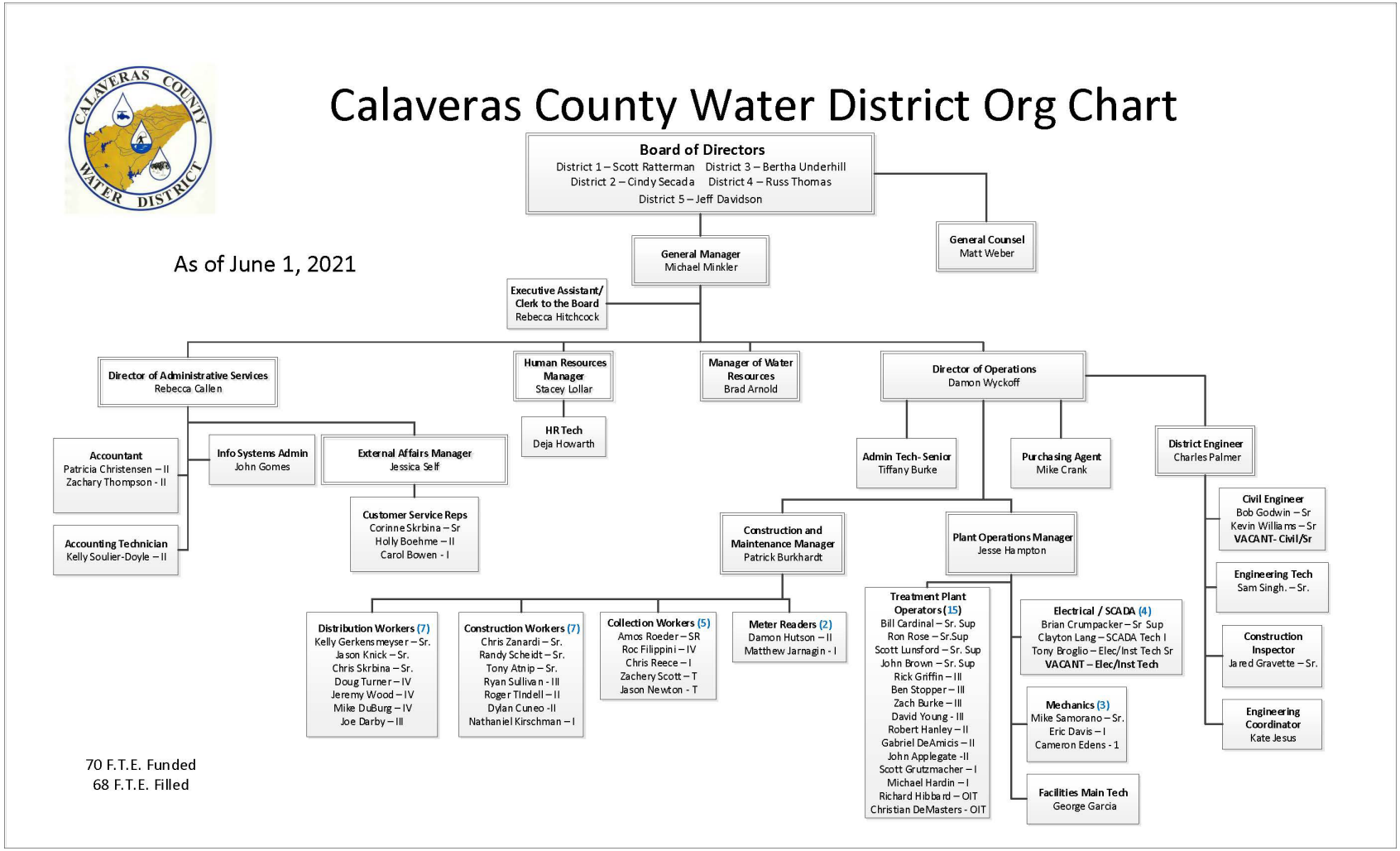

Figure 3-1: Calaveras County Water District Organization Chart

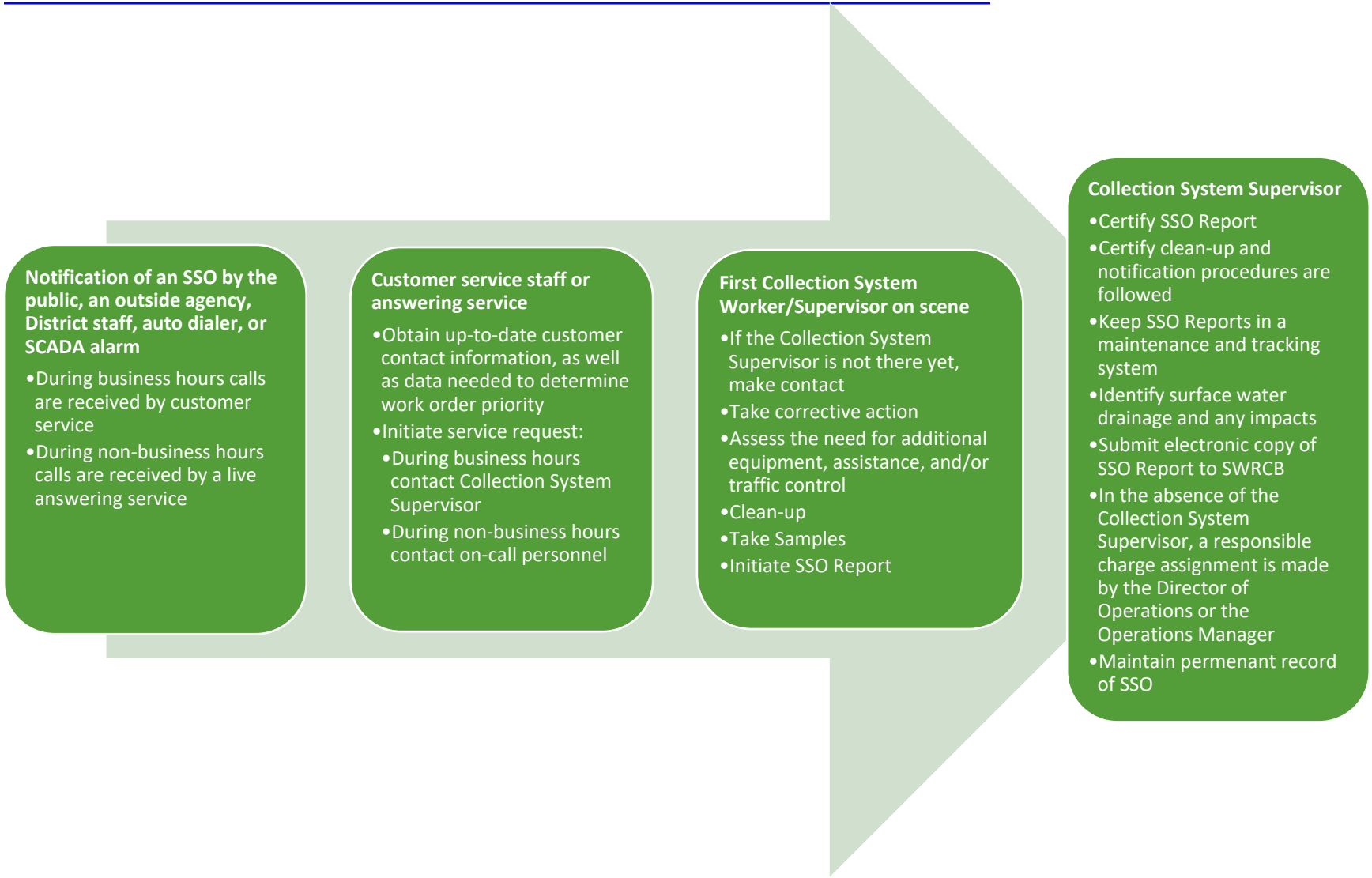

Figure 3-2. SSO Reporting Chain of Communication

4. LEGAL AUTHORITY

SSS WDR Requirement: Each enrollee must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:

A. Prevent illicit discharges into its sanitary sewer system, including Inflow/Infiltration from satellite wastewater collection systems and laterals, storm water, unauthorized debris, etc.

B. Require proper design and construction of sewers and connections.

C. Ensure access for maintenance, inspection and repairs to publicly owned portions of laterals.

D. Limit the discharge of fats, oils, and grease (FOG) and other debris that may cause blockages.

E. Enforce any violation of its sewer ordinances.

This component of the SSMP discusses the District's legal authority, including federal and state law as well as District Ordinances and District Rules and Regulations. The District derives its legal authority from, and is regulated by, federal and state law and their administrative agencies. In exercising the authority granted there under, the District has adopted Ordinances and Rules and Regulations setting forth the terms and conditions of service.

4.1. Federal and State Law

Federal and State Laws include but are not limited to:

- California Irrigation District Law (Water Code § 20500 et seq.) (Grant of authority to perform "all acts necessary" in its operation and control of its sewer disposal system).
- Federal Water Pollution Control Act, commonly known as the Clean Water Act (33U.S.C. § 1251 et seq.).
- California Porter Cologne Water Quality Act (California Water Code § 13000 et seq.).
- California Health & Safety Code § 25100 et seq.
- Resource Conservation and Recovery Act of 1976 (42 U.S.C. § 6901 et seq.).
- California Government Code §§ 54739, 54740 (grant of authority to regulate and/or prohibit the discharge of industrial waste into the District's collection system and treatment works).

4.2. Calaveras County Water District Ordinances and Rules and Regulations

Calaveras County Water District (District) was formed on August 30, 1946 as an independent special district (*Certificate of Incorporation of the Calaveras County Water District, September 6, 1946*). The District was formed to acquire water rights, construct water works and distribute and sell water. The first District board was elected on November 5, 1946.

The District's first sewer improvement district, Improvement District No. 8S, was created in 1970 (*Resolution No. 1269, October 7, 1970 and Resolution No 1278, November 4, 1970*) and the District further expanded its responsibilities to include the planning, collection, and treatment of wastewater for the entire County for communities not served by another agency (*Resolution No. 1392, March 1, 1972*). The geographical area served by the District for all current sewer services is approved by the Calaveras County Local Agency Formation Commission (LAFCO, **Appendix C**).

Sanitary sewer services are administered by the following Ordinances and Rules and Regulations.

- Ordinance No. 84-1: Calaveras County Water District Wastewater District Regulation Ordinance Regulating the Use, Installation and Maintenance, and Regulating Sewering of Wastewater Districts as Established by Calaveras County Water District (ORD84-1), provided as **Appendix D**.
- Calaveras County Water District Rules and Regulations Governing the Furnishing of Water and/or Wastewater Services (WWS-RR), provided as **Appendix E**.

The District possesses the necessary legal authority to meet its obligations under Section D, 13 (iii) (Legal Authority) of ***SSS WDR***.

4.2.1. Prevention of Illicit Discharges

Illicit discharges into the District's sanitary sewer system are strictly prohibited under *ORD84-1 Article VII. – Use of Public Sewers* in compliance with 40 CFR 35.2130.

4.2.2. Proper Design and Construction of Sewers and Connections

Sewers and connections must be properly designed and constructed in accordance with the current version of *Calaveras County Water District Sewer and Recycled Water Design & Construction Standard, ORD84-1 Article V – Building Sewers, Lateral Sewers, and Connections, ORD84-1 Article VI - Public Sewer Connection, and WWS-RR Section 17 - Maintenance and Testing of Sanitary Sewer Facilities.*

4.2.3. Lateral Maintenance Access

Access to sewer laterals owned or maintained by the District is ensured with land deed easements, public right-of-way, *ORD84-1 Article II, Section 14 District Right of Ingress and Egress, ORD84-1 Article II, Section 17.1 - Maintenance and Testing of Private Sanitary Sewer Facilities, ORD84-1 Article II, Section 17.3 - Testing Procedures for Existing Sanitary Sewer Facilities*.

4.2.4. Limit Discharge of FOG and Other Debris

The discharge of fats, oils, grease and other debris into the system that may cause blockages is limited under *ORD84-1 Article VII - Use of Public Sewers, ORD84-1 Article VII. – Section 7.3 Interceptors Required, and ORD84-1 Article VII – Section 7.4 Maintenance of Interceptors (Traps)*.

4.2.5. Enforcement Measures

The District is empowered to enforce any violation of its sewer requirements and seek legal redress under *ORD84-1 Article IX - Enforcement, ORD84-1 Article IX, Section 9.1 – Investigation Powers, ORD84-1 Article IX, Section 9.2 – Violation, ORD84-1 Article IX, Section 9.8 – Liability and Penalties for Violations, WWS-RR Article VII - Penalties, and WWS-RR Article VII, Section 61 Offenses Subject to Court Action*.

4.3 2021 Audit Results

The District continues to review and update its Ordinances and Rules and Regulations to be consistent with WDRs and State requirements.

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5. OPERATIONS AND MAINTENANCE PROGRAM

SSS WDR Requirements: The SSMP must include those elements listed below that are appropriate and applicable to the Enrollee's system:

A. Each wastewater collection system agency shall maintain up-to-date maps of its wastewater collection system facilities, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves.

B. Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventive Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders.

C. Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and system for ranking the conditions of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short-term and long-term plans plus a schedule for developing the funds needed for the capital improvement plan.

D. Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained.

E. Provide equipment and replacement part inventories, including identification of critical replacement parts.

This section of the SSMP discusses the District's sewer system operation and maintenance.

5.1. District Collection System Maps

District collection system maps are divided into four geographic areas: Ebbetts Pass, La Contenta, West Point and Copper Cove. Each area is then subdivided by an alphanumeric indexing system. Ebbetts Pass extends from Six Mile Village, east of Angels Camp, to the eastern edge of Arnold and White Pines, along California State Highway 4. La Contenta is the area of Valley Springs extending

south along State Highway 26 from the intersection of Highway 12 and Highway 26. West Point is generally along Highway 26, in and about the town of West Point. Copper Cove is to the East, North and West of Lake Tulloch, several miles south of Highway 4 and the town of Copperopolis.

All maps are available to field staff in Mobile MMS, paper format, as well as searchable Adobe Acrobat® public document format (PDF) documents. The PDF maps, introduced in 2008, are used extensively by field staff and can be accessed in the field through the District's tablet computer books. They reflect either or both water and wastewater systems, in color, and are a decided improvement from the previous single system paper maps. Collection system maps show gravity and pressure pipes, manholes, tanks, pumping facilities, valves, lots, APNs, addresses, and road names. Ancillary systems owned by the District including recycled water and electrical systems are also shown. An example of a collection system map from the Arnold Service Area, east of Highway 4, is shown in **Figure 5-1**.

District Engineering Department staff maintain AutoCAD® map drawings comprising the whole of each of the four areas. These maps are geo-positioned according to NAD83, California State Planes, Zone III. Each area has an index map and PDF maps have numerous short-cut buttons to facilitate staff use. Information about the District's sewer facilities is shown directly on these maps with pages devoted to detailed insets of various locations such as lift stations and treatment plants. Additional information may be found by cross referencing APN's with District as-built drawings.

Map pages affected by new construction, facility upgrades, or replacement projects are updated using field corrected maps and/or as-built project drawings. Corrections identified by field staff are transmitted to Engineering and corrected promptly. Because of the electronic nature of CCWD mapping, updates both major and minor, are relatively simple to accomplish, and field staff have shown a preference for computerized mapping.

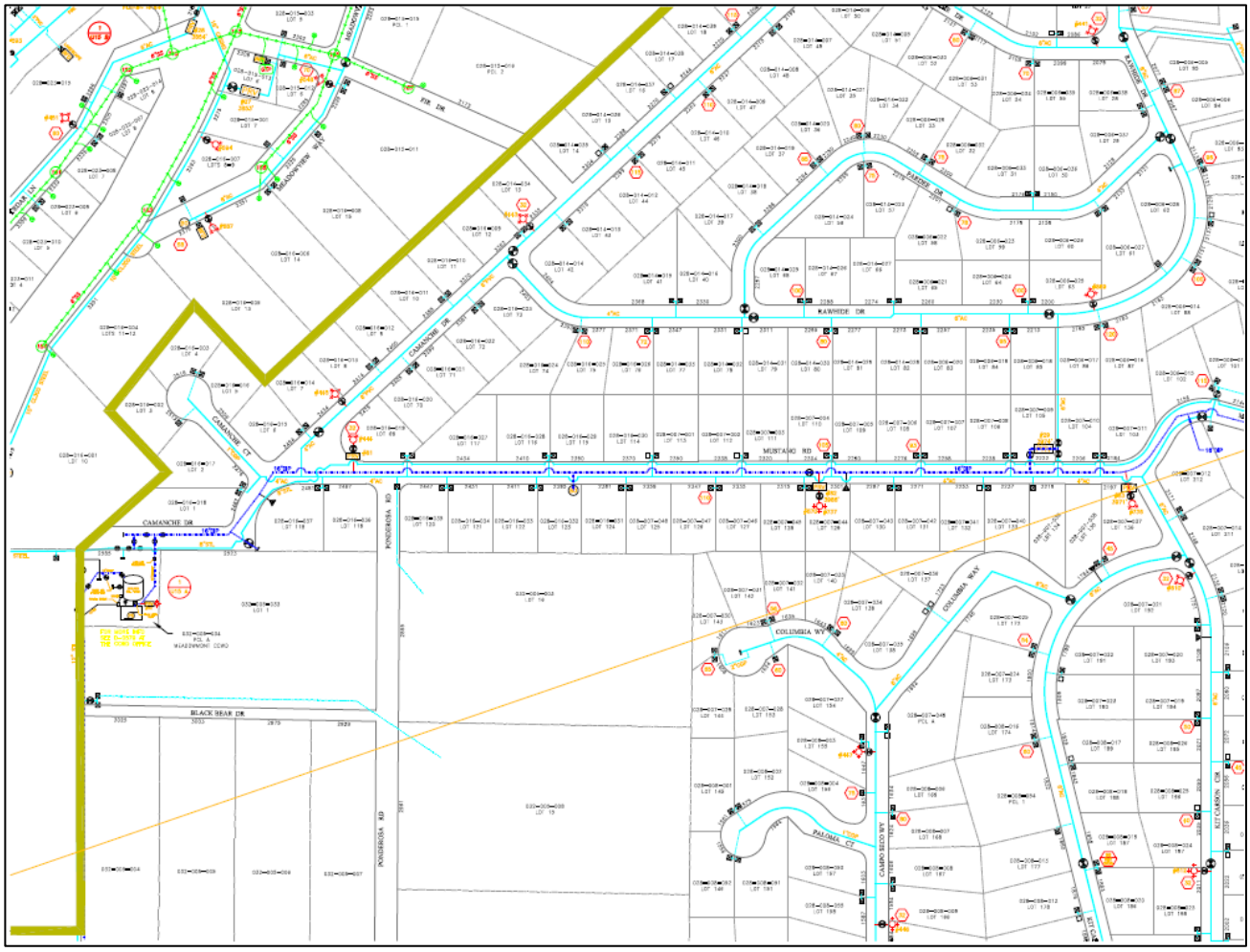

Figure 5-1: Example of District Maintained Collection System Maps

5.2. Preventive Maintenance Program

The District's preventative maintenance (PM) program includes cyclical as well as focused maintenance, and cleaning and inspection of the sanitary sewer system. The process of scheduling, documenting and recording these activities is facilitated using a computerized Work Order system as described below.

- Issue scheduled PM work order as specified by maintenance personnel.
- Issue work order for service requests or repair orders including SSO received from customer service.
- Differentiate work order priority for specified areas of the system.

Work orders are "closed" by maintenance staff as work is completed. Typically, the following information is added to the database each time an order is closed.

- Description of work
- Parts used
- Observations on the equipment
- Adjustments to the maintenance schedule
- Equipment identification number(s)
- Initiating party
- Employee or field crew assignment
- Any additional information the maintenance staff believes would be advantageous for future reference
- Maintenance and repair history of any asset
- Closed Circuit Television (CCTV) areas for history or troubleshooting
- Smoke Testing
- Root Control
- Cyclical or Focused cleaning areas and maps
- Spill reports
- Blockages

5.3. Preventative Maintenance Schedule

During routine preventative maintenance, staff conduct inspections to gather information, evaluate potential immediate and/or future impacts and adjust Work Order priority and scheduling. PM work schedule may be adjusted as follows:

- Remain on current PM schedule.
- Treat for roots or FOG.
- Place on prioritized PM.
- Removed from prioritized PM.
- Repair.

5.3.1. Lift Station Cleaning and Inspection

Collection system staff perform routine inspections using a station checklist. Checklists are designed to confirm that the station is in normal operating condition and include such items as housekeeping, fluid levels, pump totalizer readings, wet well levels, and instrumentation and generator operations. Maintenance performed, station statistics and observations are recorded in log books kept at the station. Station PM occurs as follows:

- Lift station inspection one to four times per month.
- Wet well cleaning one to four times per year.
- Electrical inspection one time per year.
- Mechanical inspection including pumps one time per year.
- Priority alarms simulated one to four times year.
- Generators operated under load one to four times per month.

Lift stations are inspected and cleaned based on the needs of the individual lift station. High usage lift stations, older lift stations, and lift stations with heavy FOG accumulation are inspected and cleaned more frequently.

5.3.2. Sewer Cleaning and Inspection

Sewer cleaning and inspection occurs as part of PM. The District performs cyclic cleaning and inspection based on the branching structure of the collections system. Starting from the ends of the sub-areas and working toward the wastewater treatment plant, each sub area of the system is cleaned and inspected on a rotating basis. The District takes a proactive approach on non-problem areas through establishing a goal to clean and inspect all gravity lines on a rotating eight (8) year schedule.

As cleaning is completed and condition assessments made, potential trouble areas are documented and prioritized for increased cleaning or remedial action as required. Focused cleaning may include root control or hydro-jetting of the line.

5.3.3. Fats, Oils, and Grease Control

The District has a proactive approach to PM that minimizes FOG trouble spots. Mitigation of FOG impacts to the sewer system are discussed in Section 8, FOG Control Program.

5.3.4. Quality Control Inspections

The District uses standard operating procedures for proper cleaning, root control, flushing methods and equipment usage. CCTVs are done regularly as part of the preventative maintenance schedule.

5.3.5. Service Requests and Repair Orders

Service requests are initiated by customer service staff. Once the collections system staff receives the service request, they investigate the request and generate a prioritized task order. Service requests are prioritized by the nature of the request and initiate any of the following actions: placement on priority schedule, CCTV of the line, referral for further evaluation, or referral directly to the District engineering department for rehabilitation or replacement.

5.3.6. Flow Monitoring

Lift stations are designed and constructed with effluent flow meters. However, older stations, built prior to 1990, and stations acquired from other owners generally do not have flow meters. Flow is also measured at all wastewater treatment plants. When flow is available, it is used to evaluate I/I and collection system capacity.

5.3.7. Computer Monitoring

Lift stations are monitored by a Supervisory Control and Data Acquisition (SCADA) system protocol using Aveva Wonderware® at the majority of District sites. However, at some locations, high speed data communication is not available. At locations where no SCADA supervision is possible, an auto dialer system is used to indicate alarm conditions.

The District is in the process of updating and expanding the SCADA system with the intent that staff will be able to monitor and respond to issues remotely through a portable device and protected network, i.e. VPN,

smartphone, tablet.

5.4. Rehabilitation and Replacement Program

The District has a Capital Improvement Program, and Capital Improvement Plan (CIP) which is updated annually, as well as a Rehabilitation and Replacement (R&R) Program. The CIP and R&R Programs are used to identify and prioritize system deficiencies and implement appropriate short- and long-term actions to address each deficiency. Timing of construction of new and R&R facilities is based on priority, deficiency, and input from the operations staff. Risk assessment, financing, and staffing are also considered in the long-term management of District facilities.

The CIP is funded primarily through wastewater rates, wastewater facility connection charges and municipal bonds. The composition of the finance package for each project is based upon the percentage of new and existing customers that will be served by the new or upgraded facility. R&R projects are funded by a restricted account earmarked for R&R. R&R funding comes from bi-monthly customer service charges and are not subject to reallocation or other use.

5.4.1. Identification of System Deficiencies

1. Review of CCTV surveys.
2. During the process of cleaning a mainline, mainlines and manholes are inspected for structural integrity, roots, and/or I/I problems.
3. The District's lift stations are continually monitored during routine inspections by lift station operators. Discovered defects are reported to supervisors and/or directly to the District's electricians and mechanics.
4. In the fiscal year 2018-2019 the District purchased manhole bypass piping equipment for cleaning and recoating manholes.

5.4.2. Implementation of Short- and Long-Term Rehabilitation Actions

Short Term. Facilities that are a priority are investigated immediately and an action plan is developed. Pipelines that are at risk of failure are repaired as soon as possible. Temporary repairs or repairs that are limited in scope are undertaken immediately by District staff.

Long Term. Facilities that are not in danger of immediate failure but need rehabilitation or are near the design life expectancy, are either repaired by District crews or are placed on the Capital Improvement Plan (CIP). Facilities that are larger in scope, requiring engineering design, analysis or planning, are also placed on the CIP.

5.5. Training

The District provides extensive training for all sewer maintenance staff. Wastewater collections staff are encouraged to become and remain California Water Environment Association (CWEA) certified in maintenance and operation of wastewater collection systems. The District assists with this certification by paying for the preparation course, take home study material, certification exams, and required continuing education to maintain certification. Participation and involvement with other industry organizations such as American Society of Civil Engineers (ASCE), Water Environment Federation (WEF), Central Valley Clean Water Association (CVCWA), and California Association of Sanitation Agencies (CASA) is also encouraged by the District.

Numerous outside vendor-sponsored training courses, in-house trainings lead by experienced staff, and extensive cross training programs are employed to keep operators current with updated maintenance and operation practices. The following training is provided on a yearly or biennial timeframe.

- First-aid
- CPR
- Confined Space Entry
- Trench Safety
- Stand-by Generator Operations
- Traffic Control
- Training on the use of all collection system maintenance equipment.
- On Call/Stand by

5.6. Contingency Equipment and Replacement Inventories

The District maintains an extensive inventory of critical replacement parts and owns necessary construction equipment to conduct repairs. Additionally, nearly all of the Districts lift stations have stationary emergency power generators, with the goal to also provide emergency storage at all sites.

5.6.1. Contingency Equipment

The District has numerous pieces of portable equipment available in the event of an emergency: pumps, generators, heavy equipment and traffic safety equipment. The District owns and operates a variety of equipment to keep the collection system in working order. At this time, the District's fleet includes the following:

- Four (4) nine yard Vac-Con® trucks; used to clean lift stations and

pipelines.

- One (1) 3,400 gallon pumper truck.
- One (1) 2,250 gallon pumper truck.
- Two (2) ~~One (1)~~ trailer mounted high pressure jetting rodder
- Three (3) Bobcats®.
- One (1) CCTV truck; used to inspect inside gravity and service lines.
- Four (4) portable TV push inspection cameras.
- Five (5) backhoes; earth moving equipment.
- Five (5) dump trucks.
- Three (3) mini excavators.
- Five (5) portable power generators.

Training on the use of all collection system maintenance equipment is provided to collection staff and supervisors.

In compliance with In-Use Off-Road Diesel Vehicle Regulations mandated by California Air Quality Resources Board (CARB), the District is in the process, prior to January 1, 2023, of replacing on-road heavy-duty diesel vehicles with engines older than 2010.

5.6.2. Replacement Parts Inventory

A robust inventory of replacement parts is maintained by each District's department. The Collections Department keeps pipe and fitting inventory in a variety of materials and sizes ranging from 2-inch to 10-inches in diameter. Parts that are needed routinely for preventative maintenance are kept on hand or can be easily attained from local vendors. Procedures are in place for unplanned or emergency parts purchases. Parts are also available during emergencies from the District's wastewater treatment facilities or at other District departments.

5.7. 2021 Audit Results

The 2019 SSMP audit identified 4 major aspects of the SSMP that needed to be updated. As part of the 2021 audit, CCWD staff reviewed the 2019 results. The following illustrates the status of each aspect.

5.7.1. District Collection System Maps

Operations staff need up-to-date collection system maps to efficiently

operate and maintain the sewer system. The District is in the process of converting collection system maps from an AutoCAD® based format to a geographic information system (GIS) based format and has implemented a formal computerized maintenance management system (CMMS). Implementation of a GIS based CMMS has given field staff access to more data in the field, a platform to document and store field data, and has made it easier to identify discrepancies between collection system maps and field conditions.

The District's goal is one database for all uses: planning (system and budgeting), mapping, maintenance and reporting. A collection of data entered into and evaluated using CMMS provides information on the state of the collection system, how well O&M activities are working, and changes or improvements that should be made.

5.7.2 Preventative Maintenance Schedule

The process of prioritizing PM is somewhat informal and hard to effectively implement. When pipelines are CCTV'd, there is no indexing or rating system, and data is difficult to access and analyze. As part of the 2019 Audit, the District has established a goal to index CCTV videos and enumerate the data in a way that helps objectively prioritize PM scheduling. Additionally, the scheduled goal to clean and CCTV the entire system was reduced from a 5-year rotating schedule to an 8-year rotating schedule. The Operations Department may contract with a third-party contractor to meet scheduled goals for sewer cleaning and inspection.

Without an effective PM scheduling mechanism, scheduling and meeting scheduled PM deadlines has been challenging to the District. As part of the 2019 SSMP Update, the schedule has been adjusted to reflect a prioritized structure, with some lift stations being inspected more frequently than others. A formal procedure, in addition to enumerating CCTV video data, should be in place and used to adjust the PM schedule based on objective data. The District is considering cleaning and inspecting representative samples of the system to determine priority of the whole.

Additionally, there is no formal process for inspecting manholes. As part of the 2019 SSMP Audit, the District's goal is to introduce a formal process for inspecting manholes. One complication the District has found with accomplishing this goal is that several manholes are located on backyard sewer mains located within public utility easements on private property. Many of these backyard sewer mains and manholes have little or no access, and in some cases property owners are not aware of their existence.

Not having access to sewer mains and manholes is problematic for several reasons. Besides not being able to perform routine maintenance, if there were an SSO, the District may not be able to initiate the Overflow Emergency Response Plan (discussed in Section 7). District staff recently wrote a letter to property owners with backyard sewer mains to bring attention to this matter. Next, the District will identify critical assets that must be accessible and write a second letter to property owners to establish access. This work effort is a continuing process.

As mentioned in Section 5.7.1, the District's current maintenance and management system lacks the ability to store, access and analyze data. Implementation of a CMMS would be helpful in determining and implementing a PM schedule. A CMMS would also provide a centralized location for maintaining and accessing inspection log books (currently stored at each individual lift station), CCTV records, easements, etc.

The items in section 5.7.2 have been addressed with the implementation of CMMS. The District currently has records, preventive maintenance information, and inspection schedules pertaining to line cleaning, lift stations and other Collections system infrastructure. There is a continuous work effort to improve in all of these areas.

5.7.3 Flow Monitoring

The District is working toward reducing I/I. In the fiscal year 2018-2019 the District purchased smoke testing equipment to locate areas of high I/I and continues to conduct testing throughout the systems. Additionally, the District is evaluating enhancing the functionality of the existing SCADA system with the purchase and use of AVEVA Wonderware Historian® software. This will allow additional functionality for Engineering to evaluate operations and issues.

5.7.4 Contingency Equipment and Replacement Inventories

An accurate record of inventory is essential to maintaining necessary parts in stock. Since the 2019 SSMP Update, the District worked to develop and implement an inventory management program within CMMS to ensure critical replacement parts are available during emergencies and can be easily located.

To facilitate this effort the District has secured a parts warehouse to control inventory. CCWD also secured property and material to construct a maintenance shop and material warehouse. The District hired a Purchasing Agent to oversee and maintain the day to day operations, inventory, and ordering of parts for this warehouse.

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6. DESIGN AND PERFORMANCE PROVISIONS

SSS WDR Requirements:

A. The SSMP must identify design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems.

B. The SSMP must identify the procedures and standards for inspecting and testing the installation of new sewers, pumps and other appurtenances and for rehabilitation and repair projects.

This section of the SSMP discusses the District's Design and Construction Standards as well as procedures and standards for inspecting new and repaired facilities.

6.1. Design and Construction Standards and Specifications

The District requires all new sanitary sewer systems, pump stations and other appurtenances, as well as the rehabilitation and repair of existing sewer facilities, to be designed and constructed in accordance with the current version of the *Calaveras County Water District Water, Design and Construction Standards*.

6.2. Inspection and Testing Procedures

Within the Sewer System Testing Section (02661) of the Technical Specifications are procedures and standards for inspecting and testing the installation of new or rehabilitated sewers, pumps and other appurtenances.

6.3. 2021 Audit Results

The Districts Design and Construction Standards are currently in the process of being reviewed and updated. Periodic review and update of the Design and Construction Standards should be performed every 2 to 5 years to ensure the most current construction methods and acceptable materials. Additionally, the Design and Construction Standards update will include an approved materials list, along with septic tank and lift station design standards.

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7. OVERFLOW EMERGENCY RESPONSE PLAN

SSS WDR Requirements: Each Enrollee shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

A. Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner.

B. A program to ensure an appropriate response to all overflows.

C. Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g., health agencies, Regional Water Boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach waters of the State in accordance with the MRP. All SSOs shall be reported in accordance with the MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDRs or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification.

D. Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained.

E. Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities.

F. A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters of the United States and to minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

Requirements of the Amended Monitoring and Reporting Program:

G. Definitions for Category 1, Category 2, Category 3, and Private Lateral Sewage Discharge (PLSD).

H. Within two hours of becoming aware of any Category 1 SSO greater than or equal to 1,000 gallons discharged to surface water or spilled in a location where it probably will be discharged to surface water, notify the California Office of Emergency Services (Cal OES) and obtain a notification control number.

I. Reporting:

Category 1 SSO: Submit draft report within three business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date.

Category 2 SSO: Submit draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of the SSO end date.

Category 3 SSO: Submit certified report within 30 calendar days of the end of month in which SSO the occurred.

SSO Technical Report: Submit within 45 calendar days after the end date of any Category 1 SSO in which 50,000 gallons or greater are spilled to surface waters.

"No Spill" Certification: Certify that no SSOs occurred within 30 calendar days of the end of the month or, if reporting quarterly, the quarter in which no SSOs occurred.

Collection System Questionnaire: Update and certify every 12 months.

J. Conduct water quality sampling within 48 hours after initial SSO notification for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters. These records must be kept of file.

K. All SSO event records must be maintained, including any telemetry records if relied upon to document and/or estimate SSO volume.

This section of the SSMP provides an overview and summary of the District's emergency response documents and procedures for sewer overflows.

7.1. Overflow Emergency Response Plan (OERP)

The District's overflow emergency response procedure is detailed in a stand-alone document, the Overflow Emergency Response Plan (OERP), included as **Appendix B**. The OERP describes the responsibilities and procedures for field crew to follow when responding to an SSO, from notification of an SSO through corrective actions, sampling, and reporting to the appropriate government agencies. The OERP also contains appendices with detailed sample collection and testing procedures, a list of emergency contacts, a list of approved contract services, and sample spill report and chain of custody forms.

7.1.1. Objectives

The main objectives of the OERP are to protect human health and the environment, satisfy regulatory agency requirements, and minimize risk of enforcement actions against the District. Additional objectives include providing appropriate customer service, and protecting the collection system and facilities, and private and public property.

7.1.2. Legal Requirements and Scope

The OERP discusses the ***SSS WDR*** and the responsibilities of the District.

7.2. Spill Response Procedures

The OERP details response procedures from first responders to follow-up measures and final reporting. Sections within the OERP include the following.

7.2.1. First Response

Notification of an SSO may be initiated from a variety of sources including the public, an outside agency, District staff, SCADA alarm, or auto dialer. Calls are received by customer service staff during business hours or a live answering service at night. Field staff are available 24 hours per day and are instructed to respond immediately. The notification process and chain of communication were shown in **Figure 3-2**. The OERP provides the initial responsibilities and priorities of the responding personnel and contact numbers for Collection System Workers in each geographical area.

7.2.2. Follow-up Measures

This OERP addresses spill classification and notification procedures including contact information and procedures for each type of spill. Follow-up measures consist of procedures for site cleanup and disinfection, water sampling procedures, and the posting of warning signs.

7.2.3. Final Reporting

The OERP details responsibilities for completion of the Sewer Spill Report, procedures and responsibilities for Spill Certification, Agency Reporting, and Maintenance of Spill Logs. Appendices to the OERP contain additional procedures and forms.

7.3. Traffic and Crowd Control

The District contracts with professional educators to train all maintenance, collections, and inspection personnel in traffic control using a professional development program that was developed specifically for water utility employees by the Association of California Water Agencies (ACWA) and the Joint Powers

Insurance Authority (JPIA).

7.4. Spill Prevention, Containment and Mitigation

The OERP is available to all personnel. It is used as a resource in emergency response training. All wastewater operations and maintenance staff are trained on emergency response procedures. New employees receive this training as part of their orientation and this training is reinforced during tailgate training sessions. Construction Inspectors are also trained in emergency response procedures. The District emphasizes its goal to have no SSOs to construction contractors and contractors are required to submit and obtain approval of all flow bypasses and emergency response plans prior to the start of construction.

8. FATS, OILS AND GREASE (FOG) CONTROL PROGRAM

SSS WDR Requirements: Each Enrollee shall evaluate its service area to determine whether a FOG control program is needed. If an Enrollee determines that a FOG program is not needed the Enrollee must provide justification as to why it is not needed. If FOG is found to be a problem, the Enrollee must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. This plan shall include the following as appropriate.

A. A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area.

B. The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG.

C. Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, best management practice requirements, record keeping and reporting requirements.

D. Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance.

E. An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section.

F. Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (E) above.

G. An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG.

SWRCB requires each enrollee to evaluate its service area to determine whether a FOG control program is needed and to develop a program if needed. The District conducted an evaluation of its service area FOG and determined that proactive preventative maintenance is effective in mitigating FOG blockages in the sewer system, and a formal FOG control program is not needed.

8.1. District Evaluation of Service Area FOG

The District regulates direct and indirect contributors to the sewer system through the following actions and programs:

- Preventative Maintenance
- Source Control Measures
    1. Industrial Pretreatment and Pollution Prevention Program
    2. Issuance of discharge permits to Food Service Enterprises (FSE)
    3. Enforcement of General Sewer System User Requirements

8.1.1 Preventative Maintenance

Cyclical and focused PM schedules consist of hydro-jet cleaning and chemical control measures to inhibit grease accumulation. Hydro-jetting is the most common method of trunk line preventive maintenance.

PM for any sewer system area is prioritized based on qualitative findings of previous PM results, such as observation of grease accumulation or grit deposits. High priority segments are placed on an accelerated PM schedule and the findings are forwarded to the District's Industrial Pretreatment and Pollution Prevention Program (IPP) for follow-up. These segments will remain on accelerated PM until subsequent observations determine that the potential for obstruction or blockage have been reduced or eliminated.

8.1.1 Source Control Measures

Source control is not a major issue in the District's collection system owing to primarily serving low density residential housing. The District source control measures consist of the programs detailed in the following subsections.

8.1.1.1. Industrial Pretreatment and Pollution Prevention Program (IPP)

The IPP is administered by the Engineering staff. IPP staff are responsible for permitting, inspecting, monitoring, and assisting in investigations relating to FOG control. All Food Service Establishments (FSE) are considered potential FOG generators. Currently there are 53 FSEs in the service area. To control FOG at its source, the District requires all FSEs to do the following:

- Install Grease Removal Devices (GRD) for all new and existing FSEs.
- Conduct GRD scheduled maintenance a minimum of every three months for grease interceptors and weekly for grease traps.
- Maintain records and grease pick-up logs on site and

available for review by District personnel.

8.1.1.2. Discharge Requirement

When a waste permit is issued to an FSE, District staff advise the permittee on the following.

- GRD sizing
- GRD maintenance requirements
- Best management practice requirements
- Record keeping and reporting requirements

FSEs are inspected at least four times per year. Inspection includes reviewing grease traps and grease interceptors cleaning records, FOG best management practices, and ensuring compliance with waste discharge permits.

A copy of the compliance inspection check-list is located in **Appendix F,** the Audit and Update Technical Memorandum (See Section 11). Follow-up tasks, as needed, are performed, such as increasing grease interceptor pumping frequency and requiring grease interceptor repairs.

8.2. Enforcement of General Sewer System User Requirements

The District possesses the legal authority to control sources of FOG through District Ordinances and Rules and Regulations as described in subsections 4.2.4 and 4.2.5.

In the event of non-compliance with District Ordinances and Rules and Regulations, the District Enforcement Response Plan (ERP) aims to deal with the noncompliance in a just, efficient and effective manner. The ERP addresses the different types of non-compliance and the nature of the violation, as well as the enforcement response tasks for each non-compliance matter. It also includes an enforcement matrix which shows the title and action allowed by District personnel. The necessary steps are as follows.

- Grease traps are inspected four times per year to Identify and respond to noncompliance as quickly as possible, and to minimize impact to the District's collection system.
- If a grease trap does not pass inspection the owner is given a 30-day notice, followed by a 10-day notice (if needed) to clean or repair the grease trap.
- Thirty (30) days after the initial notice, if the grease trap is not

cleaned or repaired, the District will clean or repair the grease trap and bill the owner.

8.3. Public Education and Outreach Program

In 2017 the District increased public outreach and education regarding the disposal of FOG through a dedicated webpage: https://ccwd.org/dont-put-fats-oils-grease-drain/. During the holiday season the District communicates this information in the form of a press release, as well as including the web address in the special message section of service bills. The District continues to update and improve public outreach and education about FOG disposal.

9. SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

SSS WDR Requirements: The Enrollee shall prepare and implement a capital improvement plan that will provide hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event. At a minimum, the plan must include:

a. *Evaluation: Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs that escape the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events.*

b. *Design Criteria: Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria.*

c. *Capacity Enhancement Measures: The steps needed to establish a short-term and long- term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.*

d. *Schedule: The Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a) – (c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D.14.*

The District has prepared and implements a 5-year Capital Improvement Plan (CIP) which includes wastewater facilities that have been identified to be deficient or need to be expanded for additional capacity. The CIP is updated and budgeted for on a yearly basis to adjust priorities and respond to new concerns such as when a SSMP is reviewed, or a Master Plan is completed.

The information for the 5-year CIP is taken from the wastewater Master Plans for each service area which are: West Point, Arnold, Vallecito, Copper Cove, Forest Meadows, and La Contenta. These Master Plans contain evaluations, design criteria, and capacity enhancement measures for the build-out of each area and are updated approximately every ten years. Master Plans for Copper Cove and La Contenta were updated in 2018 Forest Meadows was updated in 2004, and Arnold, West Point, and Vallecito were updated in 2005. Each sanitary sewer collection system was evaluated using District

design criteria and treatment plant flow records to compare existing and future peak flows under dry and wet weather conditions. Some collection systems were hydraulically modeled using InfoSewer® software developed and distributed by Innovyze® located in Monrovia, California. The model, together with field personnel observations, identifies those portions of the system that are experiencing overflows or other capacity issues.

9.1. 2021 Audit Results

Capacity analysis enhancement efforts continue to be somewhat limited. The computerized hydraulic model is not available for all parts of the system, which limits the extent of capacity analysis performed, and indicates developers may be connecting to the existing system with minimal capacity analysis. As the District transitions into a GIS based system map, all three software systems: ArcGIS, AutoCAD and InfoSewer® will be integrated into a single geospatial system. A long-term future goal is for the District to have a hydraulic sewer model of each of the District's service areas, which would dramatically improve the understanding of system capacity. The District is considering requiring developers to participate in the cost of said capacity analyses. Currently CCWD is working to update its GIS layer in Mobile MMS with applicable system information such as line size, age, depth,etc. as a step toward improving its capacity understanding.

10. MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS

SSS WDR Requirements: The Enrollee shall:

A. Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities.

B. Monitor the implementation and, where appropriate, measure the effectiveness of each component of the SSMP.

C. Assess the success of the preventive maintenance program.

D. Identify and illustrate SSO trends, including: frequency, location and volume.

E. Update program components, as appropriate, based on monitoring or performance evaluations.

This section of the SSMP discusses parameters of how the District monitors the success of the SSMP and how the District plans to keep the SSMP current.

10.1. Records Maintenance

The District collects system information including all maintenance activities, SSO data, service and repair history, root control, pipe cleaning, and customer complaints. The data is collected and can be accessed at the main office computer system which is used to generate reports to monitor and prioritize SSMP activities.

The Collections Department manages, reviews, and maintains CCTV records at the Collections Department office located at the Jenny Lind Water Treatment Plant near Valley Springs California and/or the District headquarters in San Andreas. Root abatement and pipe cleaning maps are also maintained by the Collections Department.

10.2. Data Reporting and Assessing the Program

The success of the Preventative Maintenance program is assessed through identification and tracking of trends in key performance indicators over time. The District uses the following performance indicators.

- Location of all SSOs.
- SSOs by cause: roots, grease, debris, pipe failure, pump station failure, capacity.
- Length and location of pipeline cleaned.
- Length and location of pipeline cleared of roots.

- Lift station maintenance performed.
- Repairs and rehabilitation projects completed.
- Number of grease interceptors inspected.

10.3. Location of all SSOs

Data collected for SSOs is used to plot spill locations on sewer system maps of each collection system. Spill location markers are color coded to identify cause. Marker shape distinguishes Category 1 from Category 2 and smaller spills. Sewer system maps are maintained by the Engineering Department.

10.4. Updating Program Components

Program audits are conducted to ensure the SSMP remains current and useful over time. The District assign staff to coordinate the review of the SSMP, and each section of the SSMP is reviewed by the appropriate staff from both the Operations and Engineering Departments.

10.5. 2021 Audit Results

The Operations Department is responsible for maintaining regulatory compliance. As part of the 2021 Audit it was discovered that the District is continuously working on improving to meet these compliance requirements.

11. SSMP PROGRAM AUDITS

SSS WDR Requirements: As part of the SSMP, the Enrollee shall conduct periodic internal audits appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the Enrollee's compliance with the SSMP requirements identified in this subsection (D.13), including identification of any deficiencies in the SSMP and steps to correct them.

Requirements of the Amended Monitoring and Reporting Program: Implementation of the SSMP and changes/updates to the SSMP must be document and kept on file.

Calaveras County Water District will conduct an internal audit of their SSMP every two years, and focus on the effectiveness of the SSMP and the District's compliance with the SSMP requirements of ***SSS WDR***. The audit will include, but is not limited to, the following areas:

- Any significant changes to components of the SSMP, including but not limited to:
    1. Legal Authority
    2. Organization
    3. FOG Control Program, and
    4. Overflow Emergency Response Plan.
- Any significant changes to the referenced compliance documents presented as appendix items to the Sewer System Management Plan or as a plan update. A summary of the 2019 Audit and Update findings is presented in a Technical Memorandum and provided as **Appendix F**, along with the 2019 Program Audit.
- SSMP implementation efforts over the past two years.
- Strategies to correct deficiencies, if identified, will be developed by the responsible District department.

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12. COMMUNICATION PROGRAM

SSS WDR Requirements: The Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented.

The Enrollee shall also create a plan of communication with systems that are tributary and/or satellite to the Enrollee's sanitary sewer system.

The District will communicate on a regular basis with the public on the implementation and performance of this SSMP.

The SSMP was made available to the public and public comments were invited at the District Board meetings on July 28, 2010 and December 9, 2015. A draft of this update was made available to the public on April 15, 2019 and comments were invited at the District's Engineering Committee Meeting and Board Meetings on May 15, 2019 and June 12, 2019, respectively.

The District maintains a website at http://www.ccwd.org. This website provides information to the public on a wide variety of topics. The website is a valuable and effective communication channel and a source for current District news, features, important announcements, agendas for Board meetings, and information links. Once approved by the Board of Directors, the SSMP will be posted on the web site in an area that will also be used to notify the public of information related to sewer system management.

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13. SSMP COMPLETION AND CERTIFICATION

SSS WDR Requirements: Both the SSMP and the Enrollee's program to implement the SSMP must be certified by the Enrollee to be in compliance with the requirements set forth above and must be presented to the Enrollee's governing board for approval at a public meeting. The Enrollee shall certify that the SSMP and subparts thereof, are in compliance with the SSS WDR within the time frames identified in the time schedule provided in subsection D.15 below.

In order to complete this certification, the Enrollee's authorized representative must complete the certification portion in the Online SSO Database Questionnaire by checking the appropriate milestone box, printing and signing the automated form, and sending the form to the State Water Board.

13.1. Approval of Governing Board at Public Meeting

Elements of the SSMP were presented to the District's Engineering Committee and Governing Board of Directors at a public meeting on July 28, 2010 and adopted per Resolution No. 2010-54. The previous update was adopted by the Governing Board of Directors on December 9, 2015 per Resolution No. 2015-68.

The 2019 SSMP Update and Audit was made available for public review and comment through the District's website starting April 24, 2019. The updated SSMP was presented to the District's Governing Board of Directors at a public meeting on June 12, 2019. The 2019 SSMP Update was adopted per Resolution No. 2019-42.

13.2. Certification of SSMP Elements

Online certification of all elements within the SSMP was completed on July 29, 2010. The updated elements will be recertified within seven days of public adoption by the District's Governing Board of Directors.

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