



# **2024 INTERNAL AUDIT REPORT**

**Sewer System Management Plan September 2019**

**CIWQS WDID: 2SSO10172**

**Audit Period:**

**July 2021 thru June 2024**

**Original SSMP Adoption Date June 2007**

**LRO Certification Date: January 17, 2025**

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**LRO Internal Audit Report Certification :**

I certify under penalty of law that this document and all attachments were prepared under my supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering this information, the information submitted is, to the best of my knowledge and belief, true and accurate. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

A handwritten signature in blue ink, appearing to read "Steve Moore", with a stylized flourish underneath.

January 17, 2025

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Steve Moore, General Manager, LRO

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Date

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## **1.0 EXECUTIVE SUMMARY**

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### **1.1 Purpose of the Internal Audit**

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The purpose of the Internal Audit (Audit) of the September 2019 Sewer System Management Plan (SSMP), updated May 2023, is to focus on evaluating the effectiveness and implementation of the SSMP and the sewer program and District's compliance with the requirements in Attachment D of the Statewide Sanitary Sewer Systems General Order (Order WQ 2022-0103-DWQ) including identification of any deficiencies and the steps to correct them. This audit sets the stage for recommended changes to the SSMP in its required update in August 2025.

### **1.2 Internal Audit Prepared By:**

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This internal audit report was prepared by the Audit Team (Team) which is composed of personnel from District's staff.

- Steve Moore, General Manager/District Engineer
- Paul Bruemmer, Operations and Maintenance Manager
- Patrick Filipelli, Senior Business Systems Analyst

Other personnel in-house were consulted to furnish the data and information on which the Team relied for the Audit, notably John Vogel, Manny Vigil, Rafael Zarco, Josh Hill, Phil Benedetti, and Kevin Lewis.

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## **2.0 REGULATORY BACKGROUND**

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On December 6, 2022, the SWRCB adopted Order No.WQ 2022-0103-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (WDR). The WDR was originally adopted by the SWRCB on May 2, 2006 and modified several times before this 2022 update which supersedes all previous orders. The WDR requires that owners of sanitary sewer collection systems with more than one mile of pipe discharging to a publicly owned treatment works to have a SSMP, to comply with the terms of the Order, which is to reduce the number and severity of Sanitary Sewer Spills, to audit the program every three years, and revise the SSMP at least every six years. The updated WDR introduced new requirements that substantially changed the content and structure of the original SSMP, but kept the eleven elements established in the original WDR. This Audit evaluates the District's SSMP and identifies the changes needed to comply with SSMP requirements in Attachment D of the WDR.

The District has specific reporting requirements in the CMSA National Pollution Discharge Elimination System Permit (NPDES) No. R2-2023-0006 regarding its capital program efforts to reduce inflow and infiltration (I&I) of storm water and groundwater into the sewer system with a goal of reducing blending of partially treated wastewater into the effluent of the treatment plant during high wet weather flows.

### **2.1 Description of District Sanitary Sewer System**

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The District sanitary sewer system serves a population of 43,736 through 15,500 service connections. The District owns and operates 199 miles of gravity sewer line four inches and larger, has nineteen (19) sewage lift/pump stations and 7.39 miles of pressure sewers. All service laterals and their connections are owned, maintained and repaired or replaced by the private property owners.

The sewer system includes approximately 5,700 pipe segments, 5,600 sewer manholes and access points located in a 20 square mile service area. All District sewer program infrastructure is owned, operated and maintained by the District.

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### **3.0 SSMP AUDIT 2021-2024**

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To stay in compliance with the State Water Resources Control Board Order WQ-2022-0103-DWQ, the District conducts an audit of its SSMP every three years. The goal of the audit is to determine whether the SSMP complies with current requirements, whether the SSMP reflects current practices, and whether the SSMP is effective in reducing spills. The Audit covers the period of July 1, 2021 to June 30, 2024. The Audit included a review of SSMP compliance with the new WDR requirements. The results of the Audit are summarized in the Audit Checklist in Appendix A. This Audit Checklist review separately evaluates each of the eleven Elements of the SSMP to determine compliance or non-compliance with the WDR Attachment D and each of the Element subsection requirements.

## 4.0 SSMP EFFECTIVENESS

The District has been very proactive in improving its overall operations and maintenance and capital improvements of the sewer system assets thereby continuing reductions in both numbers of spills and volumes of sewage spilled during the audit period. In addition, the District has also significantly reduced the numbers of Category 1 overflows to waters of the US – all goals of the WDR. The District has placed a high emphasis on improving this performance indicator of its management of the sewer program, and achieved the lowest recorded number of spills for the last two consecutive years of this Audit period. These spill reductions can be traced to significant prioritized renewal and replacements of District pipelines as well as enhanced prioritization of defective assets utilizing updated condition assessment data and associated risk scores.

The District Spill Rate/100 miles is also approaching comparable rates for enrolled agencies in RWQCB Region 2 and for all enrolled agencies in the State.

A major emphasis of the SSMP Update in August 2025 will be to revise program descriptions to incorporate initiatives developed and implemented in this Audit period, described in the Appendix A checklist. It will also include modifications of SSMP language to show compliance with the specific expectations of the 2022 Updated WDR, Attachment D.

### 4.1 SSO Spill Rate and Volume Indices During Audit Period

**Table 1 Spill Rate Index (spills/100mi/yr)**

	Cat 1	Cat 2	Cat 3
	Main System	Main System	Main System
Ross Valley Sanitary District CS	2.59	0	2.91
State Municipal (Public) Average	1.95	1.48	2.84
Region Municipal Average	3.28	1.22	4.04

**Table 2 Net Volume Spills Index (gallons/1000 Capita/yr)**

	Cat 1	Cat 2	Cat 3
	Main System	Main System	Main System
Ross Valley Sanitary District CS	1,194.27	0	25.44
State Municipal (Public) Average	9,335.36	268.24	86.73
Region Municipal Average	5,789.30	261.17	207.01

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## 5.0 SSMP COMPLIANCE

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Program compliance is evaluated by a review of SSMP elements using the Audit Checklist. The audit checklist indicates whether each SSMP element is compliant, describes recent revisions or updates and recommends future actions to maintain effective SSMP elements that reflect current District practices. The Audit Checklist, completed for 6/2021 – 6/2024, is included in Appendix A.

The Audit checklist has identified numerous details that should be updated and described in the SSMP document to comply with the written expectations for the eleven elements of Attachment D in the new WDR. Several elements are up to date in the current SSMP, but it does not describe program components such as the capital improvement program and the newly coined “sewer blockage control program” that replaced the fats-oils-grease (FOG) program. The 2025 SSMP Update will incorporate these changes among others described in the checklist. The Spill Emergency Response Plan (SERP) was updated and incorporated into the SSMP in accordance with the timeline required in the 2022 WDR update (June 2023). In addition, the nineteen (19) pump station emergency response plans (ERPs) were updated at the same time as the SERP, including station modifications, and these are a robust component of the SSMP to prevent spills in case of pump station power outages or other shutdown scenarios.

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### 5.1 Summary of Status of 2021 Corrective Actions

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The previous 2021 SSMP Audit found that the SSMP at that time met and exceeded expectations of the WDR. While many program strengths were highlighted, the Audit identified the following sewer program weaknesses and recommended corrective actions thereto. Below is the list of weaknesses and the review of those areas during the Audit period. All weaknesses were adequately addressed by program changes, especially regular training.

1. SSMP Change Log has not been properly completed and managed during the Audit period.
  - SSMP change log was reviewed, updated and managed over the recent Audit period.
2. Emergency response and overflow event files requires expansion and enhanced documentation of event details for full conformance with SWRCB expectations.
  - In the recent Audit period, general incident files in the CMMS that document spill response were prioritized for better documentation, easy-to-follow file labeling, and now include a memorandum detailing short- and long-term corrective actions for public sewer spills.

3. Operations and Maintenance Program must be revised to reflect actual program elements, staffing, maintenance activities and training.
  - The Operations and Maintenance department has made the necessary revisions to program elements as recommended above during the recent audit period. In the 2025 SSMP update, these changes will be added to Element 4 of the new order.
4. The District needs to expand the operations and maintenance program for manholes and siphon maintenance activities.
  - The District has expanded its program for manhole and siphon maintenance related activities during the recent audit period. The District implemented a monitoring system for basic inspection of manholes to ensure that access points with longer term condition assessment schedules are regularly checked for basic deficiencies. The information collected is used to plan in-house repairs and maintenance related work. For siphons, a scheduled approach for siphon cleaning and maintenance has been created. These improvements will be documented in the 2025 SSMP update.
5. Regular annual emergency response training and field exercises were not completed as required in the SSMP.
  - Annual emergency response training was conducted during the Audit period.
6. Employee classification titles were not properly referenced in the SSMP, OERP and WQMP e.g., District Engineer
  - Employee classification titles are correctly referenced in the SSMP and SERP.
7. District employees are not generally familiar with the WDR requirements, or the processes and procedures stated in the SSMP and OERP.
  - District employees are familiar with the WDR requirements, SSMP and SERP as received annual training in the Audit period.
8. Regular training of all employees on the WDR and SSMP requirements is not occurring.
  - During the audit period regular training of all employees occurred, with emphasis on field personnel and their supervisors that respond to emergencies.
9. The SSMP, OERP and WQMP are not generally utilized by field staff who rely mostly on directions during and following an overflow event from seasoned supervisors and managers.

- During the audit period the SSMP, SERP and WQMP were utilized by field staff who now rely on annual training as well as supervision and oversight from knowledgeable staff.

## **5.2 Review of 2021 Recommendations and Opportunities for Improvement**

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The 2021 Audit identified nine corrective action (CA) items for the District to address. The external auditor stated that “completion of these items should result in the Sanitary Sewer program being in substantial conformance with the WDR and MRP requirements and regulator expectations identified since the original authorization of the WDR and amended MRP.” As detailed below, these items were completed during the Audit period and therefore the District achieved the goal of substantial conformance with the WDR and MRP requirements.

### **Recommendation:**

**CA-1:** The District must improve the use of the SSMP Change Log with regular updates and changes in the sewer program resulting from observed and completed improvements since the last SSMP adoption.

### **Response:**

The SSMP Change Log was improved with important updates to the SSMP, such as the 2023 SERP and associated pump station ERPs, and incorporations by reference. These changes and others will be incorporated into an updated SSMP document for the August 2025 update. Going forward SSMP program changes and additions will be documented in the Change Log in accordance with requirements of the new SSSWDR.

### **Recommendation:**

**CA-2:** The District must improve emergency response documentation and evaluations by additional written narratives and calculations of all event related volumes especially recovered.

### **Response:**

For the audit period new reporting procedures were instituted to improve documentation and evaluations of emergency response actions, especially public sanitary sewer spill incidents. Spill packets include more transparent calculation procedures for improved documentation and staff receive annual training at the beginning of each wet season (e.g., September-October). Emphasis in recent annual spill response trainings was placed on recovering spill volumes using new, more effective vacuum truck equipment. A corrective action memo is now included in the documentation for each spill detailing short- and long-term corrective actions.

### **Recommendation:**

**CA-3:** Element 4 Operations and Maintenance Program must be revised to reflect actual program elements, staffing, maintenance activities and training.

### **Response:**

Element 4 was revised during the audit period, as documented in the Change Log, but more extensive changes need to be made in accordance with Appendix A of this Internal Audit, especially regarding the training program that was revised in 2024.

**Recommendation:**

**CA-4:** The District needs to expand the operations and maintenance program for manholes and siphon maintenance activities.

**Response:**

The manhole observation, maintenance and repair program was enhanced during the Audit period and the performance metrics reports document these extensive activities.

Siphons are sewer lines that go under creeks or other utility obstructions, and RVSD experience is that they do not require special maintenance compared to other sewer lines. The only difference is that they require higher frequency cleaning due to their tendency to accumulate debris at the low point between manholes. Siphons do not require special equipment or cleaning techniques compared to other gravity sewer lines. During the Audit period a separate siphon maintenance program was determined to be technically unnecessary, and this program concept has been discontinued.

**Recommendation:**

**CA-5:** The District needs to assure that regular annual training SSO/OERP and SSO/OERP field exercises are conducted and properly documented.

**Response:**

During the Audit period the District has assured that regular annual training on Spill Response and Reporting, and the SERP are conducted and properly documented.

**Recommendation:**

**CA-6:** The District must expand training program to include at least a summary overview for all non-field staff members on the WDR, MRP, SSMP, OERP and WQMP.

**Response:**

During the Audit period the District provided summary overview of the program to non-field staff.

**Recommendation:**

**CA-7:** Consider streamlining the SSMP to assure a more user-friendly document that will be used and not ignored by the staff eliminating extraneous and duplicative information and information that is not directly compliant with the WDR and MRP requirements.

**Response:**

The SSMP was updated in response to the 2021 Audit and posted to the District website for ease of reference by staff. The August 2025 update will incorporate the recommended streamlining, eliminating any remaining extraneous and duplicative information not already eliminated, and ensuring compliance with the updated SSSWDR requirements in Attachment D.

**Recommendation:**

**CA-8:** Consider hyperlinking all critical supporting documents from the SSMP Element and on the SSMP webpage.

**Response:**

This recommendation was completed early in the Audit period, documents are linked on the District webpage.

**Recommendation:**

**CA-9:** Consider annually reviewing and completing the SWRCB Pre-Inspection Questionnaire.

**Response:**

This recommendation was completed during the Audit period when an inspection was conducted by the Regional Water Board.

During the Audit period in 2022, the WDR and MRP were replaced by the SSSWDR, and this audit (Appendix A) lays out the details that need to be updated by August 2025 in order to be in compliance with the updated order. The District has engaged Fischer Compliance to assist with this pending SSMP Update.

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## ACRONYMS, ABBREVIATIONS, TERMS. AND DEFINITIONS

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ADWF	Average Dry Weather Flow
CCTV	closed circuit television
CDO	Cease and Desist Order
CIP	Capital Improvement Plan or Program
CIWQS	California Integrated Water Quality System
CMMS	Computerized Maintenance Management System
CMSA	Central Marin Sanitation Agency
COF	Consequence of Failure
District	Ross Valley Sanitary District
F <sub>C</sub>	Consequence of Failure
F <sub>L</sub>	Likelihood of Failure
FM	force main
FOG	Fats, Oil, and Grease
ft	feet
FY	Fiscal Year
gal	gallons
GIS	Geographic Information Systems
GPS	Global Positioning System for satellite-based location information
HFC	High Frequency Cleaning, <1 year
hr	hour
IAMP	Infrastructure Asset Management Plan
I/I	infiltration/inflow
in	inches
InfoAsset	District's CMMS software
kWh	kilowatt-hour; unit of energy
LF	linear feet
LOF	Likelihood of Failure
LOS	Level of Service
LS	Lift Station
MACP	Manhole Assessment and Certification Program ©
MG	million gallons; measure of flow volume.
mgd	million gallons per day; measure of flow rate
mi	miles
O&M	Operations and Maintenance
PACP	Pipeline Assessment and Certification Program ©
PS	Pump Station
PWWF	Peak Wet Weather Flow
QA/QC	quality assurance and quality control
RDI/I	rainfall-dependent infiltration/inflow
RVSD	Ross Valley Sanitary District
RWQCB	Regional Water Quality Control Board
SCADA	supervisory control and data acquisition
SOP	Standard Operating Procedure
SSMP	Sewer System Management Plan
SSS	Sanitary Sewer Spill
yr	year

## **Appendix A SSMP Audit Checklist**

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**SSMP AUDIT CHECKLIST**

Each of the eleven SSMP Elements and their associated requirement(s) are represented in the checklist below.

Either a **YES** or **NO** is provided for each question. If a **YES** is indicated, then the requirement is considered to be both compliant and current.

If a **NO** is indicated, then an update/change is needed and a comment is made under remarks section (minor recommended updates may also be indicated even if a **YES** is indicated).

Further explanation is provided and a timeline to complete those changes will be described in the "Narrative for Recommended Updates and Revisions" section following this checklist.

		YES	NO	REMARKS
<b>1. SEWER SYSTEM MANAGEMENT PLAN GOAL AND INTRODUCTION</b>				
1.1	Regulatory Context - Does the Plan introduction provide a general description of the local sewer system management program and discuss Plan implementation and guidelines?		X	While the current introduction does provide a general description of the District's SSMP, plan implementation and guidelines, the SSMP needs to be updated to refer to the 2022 statewide SSSWDR ("new state order") and several new practices to more accurately describe district operations. 1) Table of contents requires updating to reflect the 2022 statewide SSSWDR (e.g., Blockage Control replaces "FOG"), and current SERP information that complies with the updated SSSWDR. 2) Tables 1-1- 9-2 and Figures 1-1 -9-1 require updates. Many of these tables and figures have information that has changed since the last update such as pipeline distribution by material and RVSD org chart. 3) Acronyms and abbreviations definitions sheets require updating to 2022 statewide SSSWDR, and discontinue OERP (now SERP) and SSO (now called "spills").
1.2	<b>SSMP Update Schedule</b> - Does the Plan introduction include a schedule for the District to update the Plan, including the schedule for conducting internal audits? (must include milestones for incorporation of activities addressing prevention of sewer spills)		X	The current SSMP does not include a schedule for updates or audits, it does include goals which would require milestones to meet the 2022 SSSWDR, these edits will be incorporated into the SSMP update due 8/2/25
1.3	<b>Sewer System Asset Overview</b> - Does the Plan introduction provide a description of the District's assets and service area?		X	While the current introduction does provide a description of the District's assets and service area there have been minor changes that should be updated to reflect current assets and service area in the SSMP update due 8/2/25
		YES	NO	REMARKS
<b>2. ORGANIZATION</b>				
1	Is the name of the Legally Responsible Official provided/current?	X		The LRO list in table 2-2 on page II-8 is current and accurate. The list of Data submitters in table 2-2 page II-8 needs minor changes to reflect current District staff.
2	Are position titles, telephone numbers, and email address for management, administrative, and maintenance positions responsible for implementing specific SSMP elements provided/current?		X	Table 2-1 on page II-7 is accurate, it includes the position titles, telephone numbers, email addresses for district personnel responsible for implementing specific Elements provided. However the table 2-1 on page II-7 requires updates to reflect the terminology of the 2022 SSSWDR, (example) element 7 states FOG program and should be updated to blockage control program.
3	Are the organizational lines of authority provided/current?		X	The current Organizational lines of authority Figure 2-1 on page II-3 requires updates and modifications to reflect the District's current organizational lines of authority. Example updates are removal of crew lead position and addition of second superintendent position.
4	Is the chain of communication for reporting spills from receipt of complaint or other information, including the person responsible for reporting spills to the State and Regional Water Boards and other agencies provided/current?		X	The current SSMP does contain the chain of communication for reporting spills, it is explained in section 2.3 on page II-8. Figure 2-2 on page II-8 does require updates of terminology and 2022 SSSWDR spill category updates. The SSMP does not include a complete list of updated staff at the district. Retirement and other added positions require updates in table 2-2 on page II-8 of the current SSMP. Terminology under section 2.3 on page II-8 also requires updates to reflect the new state order (example) OERP- SERP / SSO- Spill. These edits will be incorporated into the SSMP update due 8/2/25
		YES	NO	REMARKS
<b>3. LEGAL AUTHORITY</b>				
Does the SSMP contain excerpts from the current Ross Valley Sanitary District's Ordinance Code documenting the District's legal authority to:				
1	Prevent illicit discharges?		X	The SSMP describes prevention of illicit discharges on page III-3. It refers to the District's sanitary code (Article VI, section 601) which prohibits drainage to the District's sanitary sewers. This section also needs updates to reflect current District policies, for instance adding a description of the 2022 Lateral enforcement program to the SSMP document. Table 3-1 on page III-2 also lists the Districts code provisions relevant to SSMP implementation. On page III-4 Limit discharges of fats, oils, grease and debris, the terminology in this section requires updates to meet the 2022 statewide SSSWDR order language (Blockage control program, adding roots, rags and other debris to FOG) and descriptions within.
2	Collaborate with storm sewer agencies to coordinate emergency spill responses, ensure access to storm sewer systems during spill events, and prevent unintentional cross connections of sanitary sewer infrastructure to storm sewer infrastructure?		X	The current SSMP does not include Storm sewer references or agreements with the County of Marin or the four towns and cities the District performs Sewer services within. The current SSMP on page III-5 3.3 does refer to (Agreements with other Agencies) and this section should have storm water agencies added to reflect the new state order. The access to storm sewer during spill response is assumed authorized and reported to the county of Marin of any spill in excess of 1000 gallons reaching waterway or conveyance system, which may trigger sampling requirements. The District actively accesses storm water infrastructure in all five jurisdictions for spill response at this time. Unintentional cross connection to storm sewer systems is prevented and corrected by District inspectors performing inspections during lateral and mainline construction. The District's 2021 IAMP prioritizes creek crossings in condition assessment and CIP to minimize risk of cross connections of storm water and sanitary systems. This information regarding the IAMP should be more clearly incorporated into the SSMP update due 8/2/25

3	Require proper design and construction of sewers and connections?		X	The current SSMP includes the District's sanitary code on page III-3 ( Article IV specifications for side sewers, building sewers, lateral sewers and connections. It also contains information regarding Article V public sewer construction which outlines the District's authority regarding proper design and construction of sewers. This section should include a table of the following code(Article IV 401,402,403,409,410,411,415) and (Articles V 501, 502,509) this Table should also include the webpage link to each sanitary code citation and specifications for construction. There is also language on page V-1, 5.1 and in Table 5-1 that the District may incorporate or refer to section 3 which covers design and construction standards for installation rehabilitation and repair. The District has standard specifications, drawings and approved materials that was implemented June 2020 and is available on the District website, and an update is planned prior to the SSMP update. This web link should be added in the upcoming SSMP update due 8/2/25
4	Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the District?		X	The SSMP on page III-3 specifically cites the District's sanitary code (Article II, section 210-power and authorities of inspectors) but this is incomplete. This section should be updated with Ordinance 100 references regarding District rights to access / clear easements for maintenance, repair, and inspection (e.g., section 8). In addition to the District sanitary code, the District has Ordinance 100 that specifically addresses private lateral ownership and the responsibilities and requirements regarding maintenance, testing and replacement of laterals and access.
5	Enforce any violation of its sewer ordinances, service agreements, or other legally binding procedures?		X	The SSMP describes enforcement measures on page III-4 The districts sanitary code ( Article VIII, section 802- misdemeanor) details the District's ability to enforce provisions of the sanitary code. This section continues to page III-5 which refers to Article VIII, 805 Abatement of public nuisance enables the district to terminate discharges. Need to add details from Ordinance 100 on enforcement authority - e.g., Section 9.D Notice to Repair.
6	Does the current SSMP show the most current set of District Ordinances, service agreements and/or other legally binding procedures to demonstrate the District's legal authority?		X	On page III-4 and page III-5 the SSMP does show the current District ordinances, service agreements and other legally binding procedures to demonstrate legal authority. However programs such as FOG section on page III-5 needs language update to meet the new state order as well as section 3.3 (Agreements with other Agencies ) should include the County of Marin and other towns and cities serviced to reflect storm water infrastructure access and reporting for spill response activities. Ordinance 100 is described on page III-5 of the current SSMP but could contain more details and outline of the ordinance. This section requires the addition information on Ordinance 102 which outlines capacity charges and permit fees, as well as the Lateral Grant and Loan resolutions/ordinances that support the private lateral program. These will be added in the update due 8/2/25

**YES**      **NO**      **REMARKS**

**4. OPERATION AND MAINTENANCE PROGRAM**

**4.1 Updated Map of Sanitary Sewer Systems**

1	Is the sewer system map(s) up-to-date?		X	Page IV-1 section 4.1 (sanitary sewer mapping) explains the Districts GIS and CMMS systems. This section explains the mapping and work order systems the District uses to maintain its system mapping.
2	Are there procedures for maintaining the map and providing the State and Regional Water Board staff access to the map(s)?		X	The District lists procedures for maintaining the GIS mapping system on page IV-1 and IV-2 section 4.1. Section 4.1 on pages IV-1 and IV-2 lists the responsible parties and their tasks for updating the mapping system to most current system conditions. Section 4.1 ( Updates to existing drawings) page IV-2 should be updated to reflect that the District no longer utilizes hard copy map books. New improvement plan drawings needs to be updated because the District no longer maintains hard copies of records. The District has a web link available for any interested party including the waterboard to access District mapping, but this needs to be described in this section. The mapping system is also provided on request if more specific information is required. <a href="https://experience.arcgis.com/experience/3385aa21673c4b0bb5c4148db9e872d2/page/page/0?views=view.3">https://experience.arcgis.com/experience/3385aa21673c4b0bb5c4148db9e872d2/page/page/0?views=view.3</a>
3	Does the map show gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities within the service boundaries?		X	The District GIS mapping system shows all of the following infrastructure, Gravity line segments, Manholes, pumping facilities, Pressure pipes, Valves, and Storm water conveyance facilities (owned by others) within its service boundaries, using the Marin Maps GIS interface.

**4.2 Preventive Operation and Maintenance Activities**

1	Is the District's scheduling and data collection system for preventive operation and maintenance activities conducted by staff (and contractors if applicable), as described in attachment D section 4.3 of Order WQ 2022-0103-DWQ, sufficiently detailed?		X	While the District has a good description of the Preventative operation and maintenance within the SSMP, some of the narrative requires updating such as on page IV-3 first paragraph which states trunk line cleaning over 15-inch is done by contractor. These tasks are now performed in house due to new larger cleaning equipment acquired. The SSMP should have updated system cleaning frequency map on page IV-4 figure 4-1. On page IV-5 figure 4-2 the table will need an update to show current sewer cleaning frequency flow chart the District uses to assess cleaning frequency. Table 4-5 list of local contractors needs to be updated.
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**4.3 Training**

1	Is in-house and external training provided on a regular basis for sanitary sewer system operations and maintenance staff (and contractors if applicable) and does it cover the requirements described in attachment D section 4.3 of Order WQ 2022-0103-DWQ ?			X	The current SSMP does provide information regarding the State Waste Discharge requirements, page IV-10. This section needs to be updated to reflect the new state order and District training currently being performed. Page IV-11 and table 4-2 on page IV-11 should be reviewed and edited for current practices Live spill estimation / spill packet exercise, SSO flow estimation chart use, SSMP review training, annual spill sampling training. Table 4-2 should reflect current CWEA redwood empire section the district is in. Need to add that the District utilizes online training platform Vector solutions which, for example, has detailed competency based training to meet the new state order. The trainings include sewer spill emergency response plan and pump station emergency response plan for 19 pump stations. The training platform Vector solutions also covers Cal Osha required and other training topics for the District. The District performs annual spill sampling training with CMSA (contracted Lab) to meet state order training requirements. The CSRMA safety training officer no longer provides the training indicated in the SSMP and this section needs updating.
<b>4.4 Equipment Inventory</b>					
1	Is there an inventory of sewer system equipment, including the identification of critical replacement and spare parts?			X	The current SSMP has an outdated inventory. Page IV-12, section 4.5 requires updates as well as Table 4-4 on page IV-13 to update the current district Inventory and parts and locations (which have changed with the moving of headquarters to 1111 Andersen, San Rafael).
		YES	NO	REMARKS	
<b>5. DESIGN AND PERFORMANCE PROVISIONS</b>					
<b>5.1 Updated Design Criteria and Construction Standards and Specifications</b>					
1	Does the SSMP contain updated design criteria, and construction standards and specifications, for the construction, installation, repair, and rehabilitation of existing and proposed system infrastructure components, including but not limited to pipelines, pump stations, and other system appurtenances. *If existing design criteria and construction standards are deficient to address the necessary component-specific hydraulic capacity as specified in section 8 (System Evaluation, Capacity Assurance and Capital Improvements) of this Attachment, the procedures must include component-specific evaluation of the design criteria.			X	The District maintains Standard Specifications and Drawings (Standards) last updated in 2020, that are posted and available by order on the districts website under "SSMP" and the open government link at <a href="http://www.rvsd.org">http://www.rvsd.org</a> . Page V-1 Table 5-1 contains the summary of the standards relevant to SSMP implementation and collection system design and rehabilitation. Pump station specifications have historically been developed on a case-by-case basis as needed for construction of specific pump station facilities or for improvements to facilities.
<b>5.2 Procedures and Standards</b>					
1	Does the SSMP document current procedures and standards for the inspection and testing of newly constructed, newly installed, repaired, and rehabilitated system pipelines, pumps, and other equipment and appurtenances?			X	Section 5.2 Page V-2 Procedures and standards for inspection, testing, rehabilitation and repair. Section 5.2 meets the new state order requirements. Minor update of the section header and descriptions are needed. The standard drawings, specifications and approved materials are planned to be updated in June 2025, in advance of incorporation into the SSMP in its update in 8/2/25.
		YES	NO	REMARKS	
<b>6. SPILL EMERGENCY RESPONSE PLAN</b>					
1	Does the SSMP include an up to date Spill Emergency Response Plan to ensure prompt detection and response to spills to reduce spill volumes and collect information for prevention of future spills in accordance with attachment D Section 6 of Order WQ 2022-0103-DWQ?			X	The District has updated its SERP / ERP (Pump Stations) to comply with the state order WQ2022-0103-DWQ and was incorporated by reference into the SSMP in 2023. The updated SERP information will be added to the updated SSMP due 8/2/2025.
		YES	NO	REMARKS	
<b>7. SEWER PIPE BLOCKAGE CONTROL PROGRAM</b>					
1	Does the SSMP include procedures for the evaluation of the District's service area to determine whether a sewer pipe blockage control program is needed to control fats, oils, grease, rags, and debris in accordance with attachment D Section 7 of Order WQ 2022-0103-DWQ?			X	Element 7 language needs to be updated to reflect the new state order "sewer pipe blockage control program" that adds roots and debris to FOG. Pages VII-1 - VII-4 / page VII-1 for the currently 86 food establishments, need to add how our supervisor review function (in CMMs) reports grease for special inspection, coordinated with CMSA. Page VII-2 ,7.3 outreach should be updated to reflect door hanger use in addition to the video ads noted, which are used by the district for general debris wipes, grease, latex gloves, plumber outreach to catch lateral cleaning debris etc. The webpage referenced is now called "public education" not "sustainability." To meet the new state order, this section needs a new narrative that describes programmatic efforts to control roots, rags and debris in addition to the FOG control program conducted by contract with CMSA. The table of Sanitary Code references should be expanded to include toots, rags and debris. This program should tie-in with performance metrics such as soft blockages removed. This should be developed for the 8/2/25 SSMP Update.
		YES	NO	REMARKS	
<b>8. SYSTEM EVALUATION, CAPACITY ASSURANCE, AND CAPITAL IMPROVEMENTS</b>					
<b>8.1 System Evaluation and Condition Assessment</b>					
1	Does the SSMP include procedures for System Evaluation and Condition Assessment as outlined in attachment D section 8.1 of order WQ 2022-0103-DWQ?			X	The current SSMP is in need of updates of section 8.1 page VIII-1 the section update will be completed and updated to match the new state order before 8/2/25
<b>8.2 Capacity Assessment and Design Criteria</b>					
1	Does the SSMP include procedures to identify system components that are experiencing or contributing to spills caused by hydraulic deficiency and /or limited capacity, including procedures to identify the appropriate hydraulic capacity of key system elements as outlined in attachment D section 8.2 of order WQ 2022-0103-DWQ?			X	The 2023 Capacity Evaluation, incorporated by reference into the SSMP, includes these procedures. The current SSMP is in need of updates of section 8.2 on page VIII-2 the sections update will be completed and updated to match the new state order before 8/2/25 The District has performed comprehensive capacity assessment through 2006 SHECAP and updated by the Capacity Evaluation in 2023.
<b>8.3 Prioritization of Corrective Action</b>					

1	Are the findings of the condition assessments and capacity assessments used to prioritize correction actions?	X		Condition assessment and capacity assessments inform in-house and capital improvement program priorities for corrective action. The current SSMP needs updated language in section 8.3 title and within on page VIII-2 to match the new state wide order which will be completed before the 8/2/25 deadline
2	Does the prioritization consider the severity of the consequences of potential spills?	X		The 2021 IAMP contains risk scores for all District system assets that were weighted as 30% consequence of failure and 70% likelihood of failure. These risk scores help set the priority for corrective action, so severity of consequences is definitely considered in the District's prioritization.
<b>8.4 Capital Improvement Plan</b>				
1	Does the capital improvement plan include the items as outlined in attachment D section 8.4 of order WQ 2022-0103-DWQ?	X		The Capital Improvement plan has a budget, schedule and completion dates that are tied to the sewer rate study and documented in annual capital program reports on the District's website under "Open Government" and "District Studies and Reports". It incorporates input of Operations and Maintenance and coordinates with other Agencies and utilities. The current SSMP needs updated language in Section 8.4 title and within page VIII-2 to match the new state order which will be completed before 8/2/25
		YES	NO	REMARKS
<b>9. MONITORING, MEASUREMENT AND PROGRAM MODIFICATIONS</b>				
1	Does the SSMP include an Adaptive Management section that addresses Plan implementation effectiveness and the steps for necessary Plan improvement as outlined in attachment D section 9 of order WQ 2022-0103-DWQ?		X	While Element 9 contains relevant performance metrics that are tracked by the District to monitor SSMP effectiveness, there are other metrics that should be added, and this section needs to be updated to comply with the new state order on 8/2/25.
		YES	NO	
<b>10. INTERNAL AUDITS</b>				
1	Does the SSMP include internal audit procedures, appropriate to the size and performance of the District's system, for the District to comply with section 5.4 (SSMP Audits) of order WQ 2022-0103-DWQ?		X	This Element should be updated to reflect the cycle in the new state order of the 3-year audit and 6-year SSMP update. The District utilizes a checklist to set priorities for the next SSMP update due 8/2/25.
		YES	NO	REMARKS
<b>11. COMMUNICATION PROGRAM</b>				
1	Does the SSMP include procedures for the District to communicate with the public for Spills and discharges resulting in closures of public areas, or that enter a source of drinking water, and the development, implementation and update of its Plan, including opportunities for public input to Plan implementation and updates?		X	This Element 11 needs updates for public communication regarding the closure of public areas due to spills, signage & barricades, website closure notice etc. which was not a requirement of the last state order. The District does however have good description of procedures used to consider public comment for SSMP development. The District also uses the multiple avenues to transmit SSMP performance through monthly metrics, Annual metrics, General manager monthly bulletin, Board meeting minutes and the District website has a multitude of informational reports and educational videos available.
2	Does the SSMP include procedures for the District to communicate with Owners/operators of systems that connect into the District's system, including satellite systems, for system operation, maintenance, and capital improvement-related activities?	X		N/A -The District has no satellite systems connecting to the District infrastructure.