



TECHNICAL MEMORANDUM

Date: May 28, 2025

BKF Job Number: C20230242-10

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Subject: County Service Area 64 Sewer System Management Plan Audit

The San Bernardino County (County) retained BKF Engineers (BKF) to conduct an audit of the County Service Area 64 (CSA 64) sewer system management practices and effectiveness in implementing its Sewer System Management Plan (SSMP) pursuant to California Sanitary Sewer Systems, Water Quality Order No. 2022-0103-DWQ (General Order). The purpose of the SSMP Audit is to:

- Evaluate the implementation and effectiveness of the County's Water and Sanitation Department (Department) in preventing spills for the CSA 64 system.
- Evaluate compliance with State Water Resources Control Board Order No. WQ 2022-0103-DWQ, which supersedes the previous General Order WQ 2006-003-DWQ and subsequent amendments.
- Identify SSMP deficiencies in addressing ongoing spills and discharges to waters of the State.
- Identify necessary modifications to the SSMP to correct deficiencies.

This technical memorandum (TM) documents the process that BKF took to complete the SSMP Audit and the results. Accordingly, the following sections of the TM include:

- Section 1: Introduction
- Section 2: Key Regulatory Drivers
 - 2.01 Sewer System Management Plan Audit Requirements
 - 2.02 Sewer System Management Plan Requirements
- Section 3. Sewer System Management Plan Methodology
 - 3.01 Performance Measures
 - 3.02 Results Reporting
- Section 4: Sanitary Sewer Management Plan Audit
 - 4.01 Desktop Assessment
 - 4.02 Sanitary Sewer Management Plan Evaluation
 - 4.03 Corrective Action Schedule
 - 4.04 Sewer System Operators' Input on the Audit Findings
 - 4.05 Disclaimer

SECTION 1: INTRODUCTION

The County has 18 Special Districts that includes over 13,000 customers across the County. The Department serves as the primary public staffing resource for the operation and maintenance of the each of the Special Districts. The CSA 64 system is in Spring Valley Lake, a small community located between Victorville and Apple Valley, California. The community contains 4,205 individually owned lots and a 200-acre fresh water lake made up of 7 miles of shore line. CSA 64 consists of approximately 37 miles of pipelines, three lift stations, and serves a population of 14,870 residents¹.

The audit report is designed to meet the requirements of the General Order; namely, to document audit findings and recommended corrective actions, and to provide a schedule to address identified deficiencies. Sewer System operators' input on the audit findings have been considered throughout the preparation of the SSMP. A copy of all SSMP audits are kept on file in the County's Department records, and audit reports are also uploaded to the California Integrated Water Quality System (CIWQS) Database. The SSMP must be audited every three years to assess the effectiveness of the plan and identify improvements that could further increase the plan's effectiveness on limiting spills.

The reissued General Order includes changes and additional requirements for an agency to:

- Comply with federal and state prohibitions of discharge of sewage to waters of the State.
- Comply with specifications, notification, monitoring, reporting, and recordkeeping requirements.
- Proactively operate and maintain resilient sanitary sewer systems to prevent spills, eliminate discharges of sewage to waters of the State through effective implementation of an SSMP, monitor, track, and analyze spills for ongoing system-specific performance.
- Report noncompliance with the reissues General Order per reporting requirements.

The County's CSA 64 SSMP was last updated in 2017 and the Sanitary Sewer Overflow Response Plan was last updated in October, 2020.

SECTION 2: KEY REGULATORY DRIVERS

While considering that the County's CSA 64 collection system is relatively small with minimal complexities, we recommend that the County focus their regulatory compliance efforts on: (1) meeting the requirements of the General Order, and (2) avoiding enforcement actions. Both of these efforts are discussed in further detail in the following sections.

2.01 SEWER SYSTEM MANAGEMENT PLAN AUDIT REQUIREMENTS

The key requirements for SSMP Audits are described in Section 5.4 of the General Order as:

5.4. Sewer System Management Plan Audits

The Enrollee shall conduct an internal audit of its Sewer System Management Plan, and implementation of its Plan, at a minimum frequency of once every three years. The audit must be conducted for the period after the end of the Enrollee's last required audit period. Within six months after the end of the required 3-year audit period, the Legally Responsible Official shall submit an audit report into the online CIWQS Sanitary Sewer Database per the requirements in section 3.10

¹ CIWQS Collection System Operational Report for CSA 64, accessed May 6, 2025.

<https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/publicReportSSOPerformance.jsp?wdid=6SSO11379&fromPerformance=true&category=&startDate=01/01/2015&endDate=1/1/2025>



(Sewer System Management Plan Audit Reporting Requirements) of Attachment E1 of this General Order.

Audit reports submitted to the CIWQS Sanitary Sewer Database will be viewable only to Water Boards staff.

The internal audit shall be appropriately scaled to the size of the system(s) and the number of spills. The Enrollee's sewer system operators must be involved in completing the audit. At a minimum, the audit must:

- *Evaluate the implementation and effectiveness of the Enrollee's Sewer System Management Plan in preventing spills;*
- *Evaluate the Enrollee's compliance with this General Order;*
- *Identify Sewer System Management Plan deficiencies in addressing ongoing spills and discharges to waters of the State; and*
- *Identify necessary modifications to the Sewer System Management Plan to correct deficiencies.*

The Enrollee shall submit a complete audit report that includes:

- *Audit findings and recommended corrective actions;*
- *A statement that sewer system operators' input on the audit findings has been considered; and*
- *A proposed schedule for the Enrollee to address the identified deficiencies.*

SSMP Audit reporting and record keeping are describing in General Order Attachment E1, Section 3.10, which states:

3.10. Sewer System Management Plan Audit Reporting Requirements

The Enrollee shall submit its Sewer System Management Plan Audit and other pertinent audit information, in accordance with section 5.4 (Sewer System Management Plan Audits) of this General Order, to the online CIWQS Sanitary Sewer System Database by six (6) months after the end of the 3-year audit period.

If a Sewer System Management Plan Audit is not conducted as required: the Enrollee Shall:

- *Update the online CIWQS Sanitary Sewer System Database and select the justification for not conducting the Audit; and*
- *Notify its corresponding Regional Water Board (see Attachment F (Regional Water Quality Control Board Contact Information)) of the justification for the lapsed requirements.*

The Enrollee's reporting of a justification for not conducting a timely Audit does not justify non-compliance with this General Order. The Enrollee shall:

- *Submit the late Audit as required in this General Order; and*
- *Comply with subsequent Audit requirements and due dates corresponding with the original audit cycle.*

The California State Water Resources Control Board (State Water Board) transitioned SSMP Update and Audit due dates to align with the changes in the Reissued General Order, and lists them on the State



Water Board website. The near-term deadlines for the CSA 64 sewer system are summarized in Table 2-1.

Table 2-1. Sewer System Management Plan Near-term Deadlines^(a)		
Tasks	Frequency	Due Date
Annual Report	Annual	April 1, 2025
Sanitary Sewer System Service Area Boundary Map ^(b)	One Time	December 31, 2025
SSMP Update	Six Years	August 2, 2025
SSMP Audit	Three Years	February 2, 2025 ^(c)
SSMP Audit	Three Years	February 2, 2028 ^(d)
SSMP Update	Six Years	August 2, 2031
Notes:		
(a) Sources: Section 5.4 of the General Order; Section 3.11 of Attachment E1 of the General Order.		
(b) Electronic Sanitary Sewer System Service Area Boundary Map Specifications.		
(c) Audit Period: August 3, 2024 to August 2, 2027.		
(d) Audit Period: August 3, 2027 to August 2, 2030.		

2.02 SEWER SYSTEM MANAGEMENT PLAN REQUIREMENTS

A summary of the General Order reference sections for each element of the SSMP and key changes are shown in Table 2-2. A summary of common violations is provided in Attachment A.

Table 2-2. Key Regulatory Changes for Sewer System Management Plan Development/Updates^(a)			
2006 WDR (rescinded)	2022 WDR (current)	2022 Changes	Summary of Key 2022 WDR Changes
SSMP Elements			
1. Goal <i>Provision D.13(i)</i>	1. Goal and Introduction <i>Att. D-6, Spec. 5.2</i>	Many	• Implementation of SSMP as "living document." • Enforcement of development, update, and implementation. • Narratives for regulatory context, assets, updated sewer map(s).
2. Organization <i>Provision D.13(ii)</i>	2. Organization <i>Attachment D-6, Spec 5.1</i>	Few	• Name of Legally Responsible Official. • Enhanced details on LRO training and experience requirements.
3. Legal Authority <i>Provision D.13(iii)</i>	3. Legal Authority <i>Attachment D-6</i>	Few	• Collaboration with storm drain agencies; easement accessibility agreements.
4. O/M Program <i>Provision D.13(iv)</i>	4. O/M Program <i>Attachment D-6</i>	Many	• Procedures for maintaining/providing Water Board access to sewer map(s) • Enhanced training/WDR, drills/skilled vol. est., CIWQS reporting; scheduling system in place.
5. Design and Performance Provisions <i>Provision D.13(v)</i>	5. Design and Performance Provisions <i>Attachment D-6</i>	Few	• Few changes.
6. Overflow Emergency Response Plan <i>Provision D.13(vi)</i>	6. Spill Emergency Response Plan <i>Attachment D-6</i>	Many	• Numerous upgrades to notification, monitoring, reporting, record keeping, definitions. • Staff/contractor requirements for implementation, removing/cleaning sewage from drainage conveyance systems not impacting beneficial uses/receiving waters. • Coordination/collaboration with storm drain agencies (prior,



**Table 2-2. Key Regulatory Changes for Sewer System Management Plan
Development/Updates^(a)**

2006 WDR (rescinded)	2022 WDR (current)	2022 Changes	Summary of Key 2022 WDR Changes
			- during, after) spills. • Post-spill assessments, annual assessment, implement containment tech/practices. • Requires annual certification in Annual Report that plan is up-to-date.
7. Fats, Oils, and Grease Control Program <i>Provision D.13(vii)</i>	7. Sewer Pipe Blockage Control Program <i>Attachment D-6</i>	Few	• Plan/schedule for pipe-blocking substances. • Commercial controls/authority to inspect, "hot spot" program, source controls.
8. System Evaluation and Capacity Assurance Plan <i>Provision D.13(viii)</i>	8. System Evaluation, Capacity Assurance and Capital Improvements <i>Attachment D-6</i>	Many	• Implementation of capital improvements. • Identify/justify and prioritize specific system areas (high env. consequences/areas, new surface waters, steep terrain, high groundwater, near surface waters), exfiltration, recordkeeping enhancements, assets vulnerable to climate impacts. • More information for capacity assessments, inspections, audits. • Capacity of flood-prone systems subject to inflow/infiltration. • Increases in erosive forces, pumping redundancy, prioritization of corrective actions. • Enhanced coordination (operations/maintenance/engineering, other utilities).
9. Monitoring, Measurement, and Program Modifications <i>Provision D.13(ix)</i>	9. Monitoring, Measurement, and Program Modifications <i>Attachment D-6</i>	Few	• Adaptive management/implementation effectiveness (Key Performance Indicators) • Update plan procedures/activities based on monitoring/performance evaluations.
10. SSMP Audits <i>Provision D.13(x)</i>	10. Internal Audits <i>Attachment D-6</i>	Few	• Completed every 3 years (vs. every 2 years), input from operators, and cert/upload/LRO.
11. Communication Program <i>Provision D.13(xi)</i>	11. Communication Program <i>Attachment D-6</i>	Few	• Enhanced communications procedures (public/owners/operators connected to sewers).
Other Components			
Legally Responsible Official	Designation of LOR <i>Spec. 5.1</i>	Major	• Legally Responsible Official must have authority to ensure compliance, authority over management of the entire sewer system, and authorized to make managerial decisions governing operations, capital improvements, and ensuring long-term environmental compliance. • Legally Responsible Official must possess recognized degree/certificate for O/M of sewer systems and/or professional training and experience demonstrated through extensive knowledge, training, and experience.
SSMP Development and Implementation <i>Provision D.11</i>	SSMP Development and Implementation <i>Spec. 5.2</i>	Major	• Agencies must develop and implement an SSMP (ensuring adequate funding/management, matching size, scale and complexity, procedures for management, operation, maintenance, prioritization of system repairs and maintenance, implementation of current standard industry practices through available equipment, technologies, and strategies).



Table 2-2. Key Regulatory Changes for Sewer System Management Plan Development/Updates^(a)

2006 WDR (rescinded)	2022 WDR (current)	2022 Changes	Summary of Key 2022 WDR Changes
Certification of System Management Plan + Updates <i>Provision D.14</i>	Certification of SSMP and Updates <i>Spec. 5.3</i>	Major	Legally Responsible Official must certify/upload SSMPs to CIWQS.
SSMP Internal Audits <i>Provision D.13(x)</i>	SSMP Development and Update <i>Spec. 5.4</i>	Minor	- Audits of SSMPs every 3 years (vs. every 2 years under 2006 WDR). - Within 6 months after the end of the required 3- year Audit period, the agency Legally Responsible Official shall submit the Audit report into the online CIWQS database per requirements of section 3.10 of Attachment E1 of the Reissued WDR). Audit reports will only be viewable publicly in CIWQS by Water Board staff. - Audits must: 1) be sized/scaled to system, 2) evaluate implementation and effectiveness of SSMP in preventing spills, 3) identify necessary modifications to SSMP for correcting deficiencies, and 4) include a proposed schedule for correcting.
Notes: (a) Source: BACWA Guide for Developing and Updating of SSMPs, July 2024.			

SECTION 3: SEWER SYSTEM MANAGEMENT PLAN AUDIT METHODOLOGY

BKF's framework for the SSMP audit consists of five key elements:

1. **Audit Kick-Off Meeting** – A kick-off meeting with County Department staff was conducted to describe the audit process, define the audit purpose, set expectations, and identify key goals and outcomes.
2. **SSMP Assessment** – The County's CSA 64 SSMP was reviewed to evaluate the level of conformance of the SSMP to the requirements of the General Order.
3. **Data Gathering and Review** – All available data and previously prepared documents relevant to the SSMP were gathered and reviewed.
4. **Staff Review and Input** – Multiple round of review were conducted by County Department engineering and operations staff to assess the level of conformance of County practices with policies and procedures identified in the SSMP. Staff were asked to provide their opinion on the performance of, and recommended improvements to, the sewer system management program.
5. **Documentation** – The SSMP Audit Report was developed and submitted to the County for certification and upload.

3.01 PERFORMANCE MEASURES

BKF evaluated the County's CSA 64 sewer system management operations against the established SSMP policies and procedures for each key element:

1. Goals
2. Organization
3. Legal Authority
4. Operations and Maintenance Program
5. Design and Performance Provisions



6. Overflow Emergency Response Plan
7. FOG Control Program
8. System Evaluation and Capacity Assurance Plan
9. Monitoring, Measurement, and Program Modifications
10. SSMP Program Audits
11. Communications Program

3.02 RESULTS REPORTING

To enable County to focus on improving its sewer management program for CSA 64, BKF's findings for each performance area are described in three distinct categories, in accordance with the General Order:

1. **Compliance** – The act of meeting regulations. This is the starting point for Sewer System Management Plan development, as all the requirements in the individual elements must be incorporated and addressed. As agencies begin to develop their new Sewer System Management Plan, there will be cases where new procedures, work plans, and ordinances will need to be developed or updated to meet the requirements. Compliance is the most fundamental aspect in the development of the Sewer System Management Plan.
2. **Implementation** – The actions or steps taken to accomplish tasks, goals, and objectives. There needs to be a plan and schedule to carry out these actions. A plan without a goal is just a wish and a plan that is not implemented is just an idea. To implement a plan, a goal, level of effort, resources, and timeline need to be determined.
3. **Effectiveness** – The degree to which something is successful in producing a desired result. There must be a procedure or method to measure effectiveness so the degree to which something is effective can be determined. A requirement of an internal audit (Element 10) is to measure the effectiveness of each Sewer System Management Plan element.

Key Performance Indicators (KPIs) were and will be continue to be used to evaluate the effectiveness of the sewer management program. The KPIs set a measurable target to identify if the County is meeting desired outcome for sewer management. The KPIs are summarized on Attachment B.

SECTION 4: SANITARY SEWER MANAGEMENT PLAN AUDIT

This section describes the SSMP audit findings and recommended corrective actions and schedule for the three-year audit period ending August 2, 2024.

4.01 DESKTOP ASSESSMENT

BKF reviewed available information provided by the County including organization charts, CIWQS records, record drawings, standard operating procedures (e.g., Spill Emergency Response Plan), County ordinances, design standards, the existing 2017 SSMP, and spill records. BKF also lead progress meetings where staff provided input on the County's current sewer system management program. Information provided by the County and accessed via CIWQS databases and online tools were reviewed and evaluation. The results of the evaluations are presented in the following attachments:

- Attachment B: CSA 64 Sewer System Management Plan Key Performance Indicators
- Attachment C: CSA 64 Sewer System Information
- Attachment D: CSA 64 SSO and Maintenance Metrics (2015 – 2025)
- Attachment E: CSA 64 SSO Events Details (2015 – 2024)



4.02 SANITARY SEWER MANAGEMENT PLAN EVALUATION

Table 4-1 summarizes the findings and corrective actions from evaluation of the compliance, implementation, and effectiveness of the existing SSMP.

4.03 CORRECTIVE ACTION SCHEDULE

It is recommended that the County plan to correct all deficiencies identified in this audit report prior to the submission of the SSMP Update.

4.04 SEWER SYSTEM OPERATORS' INPUT ON THE AUDIT FINDINGS

In compliance with the General Order Specification 5.4, sewer system operators were provided on the findings detailed in Table 4-1. Operators and engineering staff commented on draft versions of Table 4-1 and the SSMP Audit Report. The inputs provided by Department staff were considered and utilized to revise Table 4-1 and the SSMP Audit Report.

4.05 DISCLAIMER

BKF is providing professional judgement as to the compliance of the County's sewer system management program and are not providing legal assurance of compliance with regulations and requirements. The County is responsible for legal review and compliance of the County's program and documents with State and Federal requirements.



Table 4-1. Summary of Sewer System Management Plan Requirements and Corrective Actions				
Element Requirement		Corrective Action Plan		
		Factor	Action	
Element I - Goals and Introduction				
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 Sanitary Sewer Overflows (SSOs), as well as mitigate any SSOs that do occur."				
A	The SSMP Introduction section must provide a general description of the local sewer system management program and discuss SSMP implementation and updates.	Compliance	- Added this newly required subsection to the SSMP - Provided general description of the SSMP and how you will implement and update it.	
		Implementation	- Update the table of staff positions and roles/responsibilities for each SSMP review, development, implementation, and updates for each Element. - Include the process in place for ensuring the SSMP will be fully implemented as written -- including periodic review dates of the entire SSMP for ensuring continuous compliance, implementation, and striving to improve effectiveness of all elements.	
		Effectiveness	Review KPIs in Attachment B of the Audit Report for each element; adjust element content and update the SSMP Change Log as necessary prior to completion of next audit.	
B	The SSMP Introduction section must include a schedule for the County to update the SSMP, including the schedule for conducting internal audits. The schedule must include milestones for incorporation of activities addressing sewer spill prevention.	Compliance	- Add this newly required subsection to the SSMP. - Include a compliance plan & schedule: - Required due dates for updating the SSMP. - Required due dates to conduct SSMP Audits. - Annual review of previous SSMP audit findings. - Update Element 1 whenever (1) significant work/program or organizational changes are made, (2) anytime the SSMP Implementation Team has a change of members/responsibilities, (3) when SSMP audits are completed.	
		Implementation	Regularly review this element to ensure adherence to the schedule and timely achievement of milestones.	
		Effectiveness	Document progress and submission dates of items in the SSMP schedule for measuring of whether deadlines are met.	
C	The County SSMP must have an Introduction section to provide a description of the County-owned assets and service area including but not limited to: - Location, including county(ies). - Service area boundary. - Population and community served. - System size, including total length in miles, length of gravity mainlines, length of pressurized (force) mains, and number of pump stations and siphons. - Structures diverting stormwater to the sewer system. - Data management systems. - Sewer system ownership and operation responsibilities between the County and private entities for upper and lower sewer laterals. - Estimated number or percent of residential, commercial, and industrial service connections. - Unique service boundary conditions and challenge(s). Reference to the County’s up to-date map of its sanitary sewer system.	Compliance	Add this newly required subsection to the SSMP including: - Current service area, population, and sewer assets in the map. - Include unique features or challenging characteristics (e.g., inaccessible areas, surface water crossings), as applicable - Ownership and operation responsibilities between the County and private entities. - Percent of residential, commercial, and industrial connections. - Statement confirming system maps (also required by Element 4) are up to date. - Description of stormwater infrastructure overlap with sewer system, as applicable.	
		Implementation	Combine with Element 4 map requirements. Establish a schedule for GIS data review and update and assign review/update tasks to a responsible person.	
		Effectiveness	Combine with Element 4 map requirements. Track internal map update submission dates to evaluate frequency and completion of GIS updates.	

Table 4-1. Summary of Sewer System Management Plan Requirements and Corrective Actions			
Element Requirement		Corrective Action Plan	
		Factor	Action
Element II - Organization			
A	The SSMP must identify organizational Staffing responsible and integral for implementing the local SSMP through an organizational chart or other similar narrative documentation that includes: • The name of the Legally Responsible Official as required in Section 5.1 (Designation of a Legally Responsible Official) of the General Order. • The position titles, telephone numbers, and email addresses for management, administrative, and maintenance positions for implementing specific SSMP elements. • Organizational lines of authority. • 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, as applicable.	Compliance	• Add a new section to the SSMP with the names and contact information of the LRO and Data Submitters. Update LRO contact. • Update the organization chart in Appendix A of SSMP Volume II. • Update Appendix T in Vol. II with the current chain of communication for spills from receipt of a call reporting a spill, to the spill report certification.
		Implementation	Annually review to ensure: • LRO information is current. • Contact information for management, administrative, and maintenance positions are current. • Chain of communication for spills is correct.
		Effectiveness	Track annual updates to ensure the organization chart and contact information are up-to-date.
Element III - Legal Authority			
The CSA 64 SSMP must include copies or an electronic link to the County’s current sewer system use ordinances, service agreements and/or other legally binding procedures to demonstrate the County possesses the necessary legal authority to:			
A	Prevent illicit discharges into its sanitary sewer system from inflow and infiltration (I/I); unauthorized stormwater; chemical dumping; unauthorized debris; roots; fats, oils, and grease; and trash, including rags and other debris that may cause blockages.	Compliance	(No action. In compliance.)
		Implementation	Establish and implement a procedure for updating ordinances, codes, and agreements when deficiencies are discovered by staff.
		Effectiveness	Track KPI 3 in Attachment B to keep the County's sewer ordinances and standards up-to-date and adequate.
B	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.	Compliance	Add this new requirement to the SSMP.
		Implementation	Include local storm drain agency collaboration efforts in trainings.
		Effectiveness	Quiz staff ability knowledge at training events, safety meetings, and/or weekly tailgates.
C	Require that sewer system components and connections be properly designed and constructed.	Compliance	(No action. In compliance.)
		Implementation	(No action.)
		Effectiveness	Track KPI 3 in Attachment B to keep the County's sewer ordinances and standards up-to-date and adequate.
D	Ensure access for maintenance, inspection, and/or repairs for portions of the service lateral owned and/or operated by the County.	Compliance	(No action. In compliance.)
		Implementation	(No action.)
		Effectiveness	Track KPI 3 in Attachment B to keep the County's sewer ordinances and standards up-to-date and adequate.
E	Enforce violation(s) of ordinances, service agreements, or other legally binding procedures.	Compliance	(No action. In compliance.)
		Implementation	(No action. The ordinance/codes/service agreements are available on the as Appendix C, Appendix D of SSMP Volume II.)
		Effectiveness	Track KPI 3 in Attachment B to keep the County's sewer ordinances and standards up-to-date and adequate.
F	Obtain easement/accessibility agreements for locations requiring sewer system operations and maintenance, as applicable.	Compliance	(No action. The County does not have any easements or accessibility agreements within the CSA 64 system service area.)
		Implementation	(No action.)
		Effectiveness	(No action.)
Element IV - Operations and Maintenance Program			
A	The SSMP must include the items listed below that are appropriate and applicable to the County’s system: • An up-to-date map(s) of the sanitary sewer system, and procedures for maintaining and providing State and Regional Water Board staff access to the map(s). • The map(s) must show gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities within the sewer system service area boundaries	Compliance	Include a PDF map or set of maps in the SSMP and include procedures for providing State and Regional Water Boards access.
		Implementation	Establishing procedure(s) for keeping maps current.

Table 4-1. Summary of Sewer System Management Plan Requirements and Corrective Actions			
Element Requirement		Corrective Action Plan	
		Factor	Action
	Sewer system service area boundaries.	Effectiveness	Track KPI 2 in Attachment B to keep the maps up to-date.
A scheduling system and a data collection system for preventive operation and maintenance activities conducted by staff and contractors must include:			
B	A scheduling system for inspection and maintenance activities.	Compliance	(No action. In compliance.)
		Implementation	Implement the plan and schedule for inspection and preventative maintenance for the entire system.
		Effectiveness	Use KPIs 5 and 6 in Attachment B to track progress against the planned system inspections and preventative maintenance activities.
C	A scheduling system for higher-frequency inspections.	Compliance	(No action. In compliance.)
		Implementation	Implement the plan and schedule for inspecting trouble spots more frequently.
		Effectiveness	Use KPIs 5 and 6 in Attachment B to track progress against the planned system visual inspections and CCTV inspections of pump/lift stations.
D	A scheduling system for maintenance of known problem areas including areas with tree root problems.	Compliance	(No action. In compliance.)
		Implementation	Implement the plan and schedule of preventative maintenance for hot spot pipelines and pump stations.
		Effectiveness	Use KPI 5 in Attachment B to track progress against the planned and scheduled hot spot cleanings.
E	A scheduling system for regular visual and closed-circuit television (CCTV) inspections of manholes and sewer pipes.	Compliance	(No action. In compliance.)
		Implementation	(No action. County is continuing to implement annual inspections)
		Effectiveness	Track KPI 6 in Attachment B to follow the plan and schedule for system CCTV inspection.
F	A data collection system to document the data from system inspection and maintenance activities, including system areas/components prone to root-intrusion potentially resulting in system backup and/or failure.	Compliance	(No action. In compliance.)
		Implementation	Add the maintenance and inspection cycles and records to CMMS for all key assets, periodically evaluate them, and adjust as needed.
		Effectiveness	(No action.)
G	In-house and external training provided on a regular basis for sanitary sewer system operations and maintenance staff and contractors. The training must cover: • The requirements of the General Order • The County's SERP procedures and practice drills • Skilled estimation of spill volume for field operators, and • Electronic CIWQS reporting procedures for staff submitting data.	Compliance	Update the training program to meet requirements and reflect what is being done. Describe a training program for spill response personnel, data submitters, and LROs that meets all the requirements and list the regular training frequency (the appropriate level of training is at the County's discretion).
		Implementation	Implement the training program and keep consistent records of training and attendance.
		Effectiveness	Quiz staff ability knowledge at training events, safety meetings, and/or weekly tailgates.
H	An inventory of sewer system equipment, including the identification of critical replacement and spare parts.	Compliance	Update Vol. II Appendix F and attach to the SSMP.
		Implementation	Periodically audit the inventory to make sure it is up to date. Ensure that the location of the inventory items is well-known by the staff and are readily accessible.
		Effectiveness	Track KPI 2 in Attachment B to ensure the equipment inventory is up to date.
Element V - Design and Performance Provisions			
The SSMP must include the following items as appropriate and applicable to the County's system:			
A	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.	Compliance	(No action. In compliance.)
		Implementation	(No action.)
		Effectiveness	Track KPI 4 in Attachment B to ensure the design criteria and construction standards and specifications are up to date.
	If existing design criteria and construction standards are deficient to address the necessary component-specific hydraulic capacity as specified in Element 8 (System	Compliance	(No action. In compliance.)

Table 4-1. Summary of Sewer System Management Plan Requirements and Corrective Actions			
Element Requirement		Corrective Action Plan	
		Factor	Action
B	Evaluation, Capacity Assurance and Capital Improvements), the procedures must include component-specific evaluation of the design criteria.	Implementation	If portions of the collection system are experiencing surcharging during rain events, they should be evaluated and compared to what is expected.
		Effectiveness	(No action.)
C	Procedures and standards for the inspection and testing of newly constructed, newly installed, repaired, and rehabilitated system pipelines, pumps, and other equipment and appurtenances.	Compliance	(No action. In compliance.)
		Implementation	Periodically review inspection records to ensure adherence to standards and specifications.
		Effectiveness	Track KPI 4 in Attachment B to ensure the procedures and standards for the inspection and testing are up to date.
Element VI - Spill Emergency Response Plan			
The SSMP must include an up-to-date SERP to ensure prompt detection and response to spills to reduce spill volumes and collect information for prevention of future spills. The SERP must include procedures to meet all the following:			
A	Notify primary responders, appropriate local officials, and appropriate regulatory agencies of a spill in a timely manner.	Compliance	(No action. In compliance.)
		Implementation	Establish realistic response time goals and monitor emergency response performance.
		Effectiveness	Track KPI 7 in Attachment B to ensure spills are responded within an appropriate timeframe.
B	Notify other potentially affected entities (for example, health agencies, water suppliers, etc.) of spills that potentially affect public health or reach waters of the State.	Compliance	Update the Emergency Reporting Procedures and Responsibilities Interoffice Memo to include updated contact information for County and other affected agencies.
		Implementation	Include a call-list for all appropriate contacts and ensure it is readily available to response staff.
		Effectiveness	Track KPI 2 in Attachment B to ensure the contact information for other agencies are updated at a regular frequency.
C	Comply with the notification, monitoring and reporting requirements of the General Order, State law and regulations, and applicable Regional Water Board Orders.	Compliance	Review and update Volume II Appendix B, Appendix G, and Appendix S, as needed, including: • SSO Definitions (Appendix S); • Staff names, titles, and contact information (Appendix B); • Agency/utility and associated contact information (Appendix B); • Include storm drain agency coordination/collaboration (prior, during, and after) spills (Appendix G).
		Implementation	Ensure appropriate staff are familiar with reporting timelines and trained in data submitting, as required by the Reissued General Order.
		Effectiveness	(No action.)
D	Ensure that appropriate staff and contractors implement the SERP and are appropriately trained.	Compliance	(No action. In compliance.)
		Implementation	Follow the training schedule and keep training records.
		Effectiveness	(No action. Combine with Element 4.3)
E	Address emergency system operations, traffic control, and other necessary response activities.	Compliance	Update SERP to include traffic control.
		Implementation	Include how to coordinate with law enforcement and/or fire departments for assistance in large volume traffic areas.
		Effectiveness	(No action. Evaluate once information is updated.)
F	Contain a spill and prevent/minimize discharge to waters of the State or any drainage conveyance system.	Compliance	(No action. In compliance.)
		Implementation	(No action. Current approach is effective.)
		Effectiveness	Track KPI 8 in Attachment B to ensure all spills are effectively contained.
G	Minimize and remediate public health impacts and adverse impacts on beneficial uses of waters of the State.	Compliance	(No action. In compliance.)
		Implementation	(No action. Current approach is effective.)
		Effectiveness	(No action. Minimization and remediation efforts appear effective.)
H	Remove sewage from the drainage conveyance system.	Compliance	Update Volume II Appendix B to include procedures for removal of sewage from the drainage conveyance system.
		Implementation	Include how to coordinate with local stormwater agency or storm drain owner and operator to ensure sewage removal.
		Effectiveness	Track KPI 8 in Attachment B to ensure all spills are effectively contained.
I	Clean the spill area and drainage conveyance system in a manner that does not inadvertently impact beneficial uses in the receiving waters.	Compliance	Update Volume II Appendix B to include procedures for cleaning of sewage from the drainage conveyance system.
		Implementation	(No action.)

Table 4-1. Summary of Sewer System Management Plan Requirements and Corrective Actions			
Element Requirement		Corrective Action Plan	
		Factor	Action
		Effectiveness	(No action.)
J	Implement technologies, practices, equipment, and interagency coordination to expediate spill containment and recovery.	Compliance	(No action. In compliance.)
		Implementation	(No action.)
		Effectiveness	Track KPI 8 in Attachment B to ensure all spills are effectively contained.
K	Implement pre-planned coordination and collaboration with storm drain agencies and other utility agencies/departments prior, during, and after a spill event.	Compliance	Add coordination and collaboration with storm water agencies to the SSMP.
		Implementation	Include coordination with storm drain utilities and other utilities agencies/departments in trainings.
		Effectiveness	(No action.)
L	Conduct post-spill assessments of spill response activities.	Compliance	(No action. In compliance.)
		Implementation	(No action. Current approach is effective.)
		Effectiveness	(No action.)
M	Document and report spill events as required in the General Order.	Compliance	Update Volume II Appendix H to include Spill Category 3 and updated contacts.
		Implementation	Educate staff on the definitions of the different Spill Categories as part of their trainings.
		Effectiveness	(No action.)
N	Annually, review and assess effectiveness of the SERP and update it as needed.	Compliance	Include a schedule to annually review and assess effectiveness of the SERP and update as needed.
		Implementation	Follow the schedule to review and update SERP.
		Effectiveness	Track KPI 2 in Attachment B to ensure SERP is reviewed and updated on time.
Element VII - Sewer Pipe Blockage Control Program			
The SSMP must include procedures for the evaluation of the County’s service area to determine whether a sewer pipe blockage control program is needed to control fats, oils, grease, rags, and debris. If the County determines that a program is not			
A	An implementation plan and schedule for a public education and outreach program that promotes proper disposal of pipe-blocking substances.	Compliance	(No action. In compliance.)
		Implementation	(No action.)
		Effectiveness	Track KPI 9 in Attachment B to ensure sewer pipe blockage is effectively controlled and minimized.
B	A plan and schedule for the disposal of pipe-blocking substances 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 substances generated within a sanitary sewer system service area.	Compliance	(No action. In compliance.)
		Implementation	(No action.)
		Effectiveness	(No action.)
C	The legal authority prohibits discharges to the system and identifies measures to prevent spills and blockages.	Compliance	(No action. In compliance.)
		Implementation	(No action.)
		Effectiveness	(No action.)
D	Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, best management practices requirements, recordkeeping and reporting requirements.	Compliance	(No action. In compliance.)
		Implementation	(No action.)
		Effectiveness	(No action.)
E	Authority to inspect grease producing facilities, enforcement authorities, and whether the County has sufficient staff to inspect and enforce the fats, oils, and grease ordinance.	Compliance	Update this section with whether the County has sufficient staff to inspect and enforce the fats, oils, and grease ordinance.
		Implementation	(No action.)
		Effectiveness	(No action.)
F	An identification of sanitary sewer system sections subject to fats, oils, and grease blockages and establishment of a cleaning schedule for each section.	Compliance	(No action. In compliance.)
		Implementation	Develop a maintenance schedule for the sanitary sewer system sections subject to facts, oils, and grease blockages.
		Effectiveness	Track KPI 10 in Attachment B to ensure sewer pipe blockage is effectively controlled and minimized.

Table 4-1. Summary of Sewer System Management Plan Requirements and Corrective Actions			
Element Requirement		Corrective Action Plan	
		Factor	Action
G	Implementation of source control measures for all sources of fats, oils, and grease reaching the sanitary sewer system for each section identified above.	Compliance	Describe how the source control measures are implemented at different sources of fats, oils, and grease.
		Implementation	Ensure all sources of fats, oils and grease are handled correctively.
		Effectiveness	Track KPI 9 in Attachment B to ensure sewer pipe blockage is effectively controlled and minimized.
Element VIII - System Evaluation and Capacity Assurance Plan			
The SSMP must include procedures and activities for: • Routine evaluation and assessment of system conditions; • Capacity assessment and design criteria; and • Prioritization of corrective actions, and capital improvement plan.			
The SSMP must include procedures to:			
A	Evaluate the sanitary sewer system assets utilizing the best practices and technologies available.	Compliance	Add this element to the SSMP.
		Implementation	Develop a plan to perform and document systematic inspections on all gravity pipes, manholes and lift/pump stations (including sub-assets of lift/pump stations), including force mains/siphons, etc. Include historic inspection records when performing the evaluation. Determine an inspection frequency for each asset.
		Effectiveness	Track KPIs 5 and 6 trends in Attachment B to evaluate success of the inspection plan.
B	Identify and justify the amount (percentage) of its system for its condition to be assessed each year.	Compliance	(No action. In compliance.)
		Implementation	(No action.)
		Effectiveness	(No action.)
C	Prioritize the condition assessment of system areas that: • Hold a high level of environmental consequence if vulnerable to collapse, failure, blockage, capacity issues, or other system deficiencies. • Are located in or within the vicinity of surface waters, steep terrain, high groundwater elevations, and environmentally sensitive areas. • Are within the vicinity of a receiving water with a bacterial-related impairment on the most current Clean Water Act section 303(d) List (check with your local Regional Water Quality Control Board for their latest lists).	Compliance	Add this element to the SSMP. Prioritize condition assessment based hot spots, criticality, etc.
		Implementation	Inspect high risk assets according to the frequency determined above.
		Effectiveness	Track KPIs 5 and 6 in Attachment B to ensure the inspection plan is implemented.
D	Assess the system conditions using visual observations, video surveillance and/or other comparable system inspection methods.	Compliance	Add this element to the SSMP. Determine an inspection frequency for each asset including lift/pump stations, air release valves, and force mains - including alignment inspections/route walks.
		Implementation	Inspect high risk assets according to the frequency determined above and in accordance with the considerations listed in the General Order.
		Effectiveness	Track KPIs 5 and 6 trends in Attachment B to evaluate success of the prioritized condition assessment.
E	Utilize observations/evidence of system conditions that may contribute to exiting of sewage from the system which can reasonably be expected to discharge into a water of the State.	Compliance	Update SSMP to include this new requirement.
		Implementation	Identify the portions of the collection system with evidence of exfiltration. If groundwater is infiltrating the pipe, when the water table recedes, it is possible for sewage to exfiltrate.
		Effectiveness	(No action.)
F	Maintain documents and recordkeeping of system evaluation and condition assessment inspections and activities.	Compliance	Maintain records of condition assessment and inspections. No records were provided by the County for this audit.
		Implementation	Annually review inspection data to track any major or minor changes in the system. All changes should be tracked in a change log.
		Effectiveness	Track trends of KPIs 5, 6, and 8 in Attachment B to ensure adequate performance of inspection and maintenance activities.

Table 4-1. Summary of Sewer System Management Plan Requirements and Corrective Actions			
Element Requirement		Corrective Action Plan	
		Factor	Action
G	Identify system assets vulnerable to direct and indirect impacts of climate change, including but not limited to sea level rise; flooding and/or erosion due to increased storm volumes, frequency, and/or intensity; wildfires; and increased power disruptions.	Compliance	Update SSMP to include this new requirement.
		Implementation	Maintain a list of vulnerable assets and their hazards.
		Effectiveness	(No action.)
H	The SSMP must 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 for: • Dry-weather peak flow conditions that cause or contribute to spill events. • The appropriate design storm(s) or wet weather events that causes or contributes to spill events. • The capacity of key system components. • Identify the major sources that contribute to the peak flows associated with sewer spills.	Compliance	Update SSMP to include this new requirement.
		Implementation	Develop and implement a system evaluation procedure.
		Effectiveness	Track KPI 11 in Attachment B to understand if current procedures are adequate to reduce capacity-related spills.
I	The capacity assessment must consider condition assessments, inspections, audits, spill history, capacity of flood-prone systems under storm conditions, increased inflow and infiltration due to larger/higher intensity storms due to climate change, updated design storm, and necessary redundancy in pumping and storage.	Compliance	Update SSMP to include this new requirement.
		Implementation	Develop and implement a system evaluation procedure.
		Effectiveness	Track KPI 11 in Attachment B to understand if current procedures are adequate to reduce capacity-related spills.
J	The findings of the condition assessments and capacity assessments must be used to prioritize corrective actions. Prioritization must consider the severity of the consequences of potential spills.	Compliance	Update SSMP to include this new requirement.
		Implementation	• Utilize all available data for prioritizing corrective actions considering severity/consequences of potential spills. • Maintain documents and recordkeeping of system evaluation and condition assessment inspections and activities. Documentation may include CCTV records, manhole inspection records, lift/pump station inspection records, hydraulic model updates.
		Effectiveness	Track KPI 12 in Attachment B to understand if current corrective actions are adequate to reduce spills.
The capital improvement plan must include the following items:			
K	Project schedules include completion dates for all portions of the capital improvement program.	Compliance	Include a CIP Forecast as an appendix in the with details on project schedule.
		Implementation	Timelines can and should be adjusted based on changing priorities. However, reasons for deviation from the plan should be documented.
		Effectiveness	Track KPI 13 in Attachment B to determine if the capital improvement plan has been adhered to.
L	Internal and external project funding sources for each project.	Compliance	Include funding sources and timing on the CIP Forecast for each project.
		Implementation	For unfunded projects, list the plan to secure funding.
		Effectiveness	Track KPI 14 in Attachment B to determine if the funding source for each CIP project has been identified and secured.
M	Joint coordination between operation and maintenance staff, and engineering staff/consultants during planning, design, and construction of capital improvement projects; and Interagency coordination with other impacted utility agencies.	Compliance	Update the SSMP to include discussion regarding CIP coordination efforts.
		Implementation	Holding regular project coordination meetings that include all providers and stakeholders to keep projects on track and resolve issues that may arise in a timely manner.
		Effectiveness	Track KPI 2 in Attachment B to ensure there is an annual review of the Capital Improvement Plan by all necessary individuals including both Engineering and Operations.

Table 4-1. Summary of Sewer System Management Plan Requirements and Corrective Actions			
Element Requirement		Corrective Action Plan	
		Factor	Action
Element IX - Monitoring, Measurement, and Program Modifications			
The SSMP must include an Adaptive Management section that addresses SSMP implementation, effectiveness, and the steps for necessary SSMP improvement, including:			
A	Maintaining relevant information, including audit findings, to establish and prioritize appropriate activities.	Compliance	Attach this Audit as an Appendix to the SSMP.
		Implementation	Collect and store data in an electronic format that is easy to access, and stored in a way that is easy to import and analyze.
		Effectiveness	Track KPIs 1 and 2 in Attachment B to measure whether SSMP has been updated and audited on time.
B	Monitoring the implementation and measuring the effectiveness of each SSMP element.	Compliance	Update Section 9 in the SSMP and develop a consolidated list of monitoring and performance goals that meet the objectives listed for each Element above.
		Implementation	Have periodic SSMP review meetings to ensure that the SSMP is being carried out, ensuring staff specified in Element 2 are included/documented in reviews. Additionally, graph historical system performance and spill performance results to assist with evaluating effectiveness.
		Effectiveness	(No action.)
C	Assessing the success of the preventive operation and maintenance activities.	Compliance	(No action. In compliance.)
		Implementation	(No action.)
		Effectiveness	Track KPIs 5 through 12 in Attachment B to measure the success of the preventative operation and maintenance activities.
D	Updating SSMP procedures and activities, as appropriate, based on results of monitoring and performance evaluations.	Compliance	Periodically review and update Section 9 in the SSMP, as necessary, and log the changes.
		Implementation	Schedule and perform periodic SSMP review meetings to ensure the SSMP is being implemented and carried out.
		Effectiveness	Track KPI 2 in Attachment B to measure whether SSMP has been updated on time.
E	Identifying and illustrating spill trends, including spill frequency, locations, and estimated volumes.	Compliance	Monitor historic system performance trends.
		Implementation	Maintain data in a manner that can be reviewed and evaluated makes the data more valuable.
		Effectiveness	Track KPI 12 in Attachment B to identify spill trends.
Element X - Internal Audits			
The SSMP shall include internal audit procedures, appropriate to the size and performance of the system, for the County to comply with section 5.4 (SSMP Audits) of the General Order. The County shall conduct an internal audit of its SSMP, and implementation of its SSMP, at a minimum frequency of once every three years. The audit must be conducted for the period after the end of the County's last required audit period. Within six months after the end of the required 3-year audit period, the Legally Responsible official shall submit an audit report into the online CIWQS Sanitary Sewer System Database per the requirements in section 3.10 (SSMP Audit Reporting Requirements) of Attachment E1 of the General Order. Audit reports submitted to the CIWQS Sanitary Sewer System Database will be viewable only to Water Boards staff. The internal audit shall be appropriately scaled to the size of the system(s) and the number of spills. The County's sewer system operators must be involved in completing the audit.			
A	At minimum, the audit must: • Evaluate the implementation and effectiveness of the County's SSMP in preventing spills. • Evaluate the County's compliance with the General Order. • Identify SSMP deficiencies in addressing ongoing spills and discharges to waters of the State. • Identify necessary modifications to the SSMP to correct deficiencies.	Compliance	Attach this Audit as an Appendix to the SSMP.
		Implementation	• Include audit findings, recommended corrective actions, input from collection system operations staff, and a proposed schedule to address identified deficiencies. • Once the audit findings have been determined, distribute findings to operations staff. • Regularly maintain SSMP Change Log based on modifications necessary to address deficiencies.
		Effectiveness	At a minimum, focus KPIs on measuring each Elements effectiveness in preventing spills and compliance with the General Order.
B	The County shall submit a complete audit report that includes: • Audit findings and recommended corrective actions. • A statement that sewer system operators' input on the audit findings has been considered. • A proposed schedule for the County to address the identified deficiencies.	Compliance	Routinely schedule audits every 3 years.
		Implementation	Submit complete audit report in CIWQS that includes: • County SSMP audit findings and recommended corrective actions. Findings and recommended corrective actions should be formalized in a table or report. • A statement that sewer system operators' input on the audit findings has been considered.
		Effectiveness	Track KPI 1 in Attachment B for measuring whether SSMP audit deadlines are met.

Table 4-1. Summary of Sewer System Management Plan Requirements and Corrective Actions			
Element Requirement		Corrective Action Plan	
		Factor	Action
Element XI - Communication Program			
The SSMP must include procedures for the County to communicate with:			
A	The public for spills and discharges resulting in closures of public areas, or that enter a source of drinking water, and the development, implementation, update of its SSMP, including opportunities for public input to SSMP implementation and updates	Compliance	Update the SSMP to include discussion regarding public notice of closures to public areas and source water contamination.
		Implementation	Track outreach efforts.
		Effectiveness	Track KPI 15 in Attachment B to determine the effectiveness of communicating the SSMP with the public.
B	Owners/operators of systems that connect into the County’s system, including satellite systems, for system operation, maintenance, and capital improvement-related activities.	Compliance	Describe communication protocols with system owners/operators connecting to the County's collection system for related operations, maintenance, and capital improvement activities.
		Implementation	Document and track communications.
		Effectiveness	(No action.)

ATTACHMENT A: SUMMARY OF COMMON VIOLATIONS





Table A-1. Summary of Common WDR Violations by Element^(a)

Element	General Order Reference Section	Common Violations
Element 1: Goal & Introduction	• Attachment D.1 • Spec. 5.2	• Failure to identify appropriate goals. • Failure to establish necessary funding, staffing, capital resources for sewer program. • Failure to update Sewer System Management Plan sub-elements. • Failure to maintain Sewer System Management Plan Change Log. • Failure to establish process to ensure public has access/input to Sewer System Management Plan. • Failure to complete appropriate Sewer System Management Plan audits. • Failure to measure effectiveness and progress. • Failure to develop and implement procedures for updating sewer maps. • Failure to provide appropriate narrative descriptions describing procedures for prioritization of system repairs and maintenance to prevent spills.
Element 2: Organization	• Attachment D.2 • Spec. 5.1	• Failure to designate a qualified Legally Responsible Official with appropriate training and experience. • Failure to establish and update all related necessary responsible staff and lines of authority. • Failure to establish and update agency chain of communication for reporting spills. • Failure to reflect changes in the Sewer System Management Plan Change Log.
Element 3: Legal Authority	• Attachment D.3	• Failure to establish proper agency codes, standards, legal agreements, including but not limited to failure to exercise necessary fats, oils, and grease (FOG) control authority for regulating discharges from Food Service Establishments (FSEs), multifamily housing, and residential homes. • Failure to ensure necessary legal authority for accessing flood control channels and easements for ensuring adequate access for spill response and cleanup operations within service area. • Failure to periodically review agency codes, standards, legal agreements, and procedures for ensuring conformance to requirements.
Element 4: Operations and Maintenance Program	• Attachment D.4 • Spec. 5.7 • Spec. 5.19	• Failure to establish process to ensure sewer maps are up to date. • Failure to establish and review required maintenance program activities (CCTV, inspections, etc.) • Failure to establish adequate training program for staff and contractors. • Failure to establish equipment inventory including identification of critical spare part(s), including failure to update Sewer System Management Plan Change Log. • Failure to change/adapt operations/maintenance program based on actual results/experience
Element 5: Design and Performance Provisions	• Attachment D.5	• Failure to establish, implement, and maintain appropriate sewer standards and procedures for inspections, and testing. • Failure to enforce instances of noncompliance. • Failure to document and substantiate deviations from standards and procedures.



Table A-1. Summary of Common WDR Violations by Element^(a)

Element	General Order Reference Section	Common Violations
Element 6: Spill Emergency Response Plan	• Attachment D.6 • Spec. 5.12 • Attachment E-1	• Failure to develop and adapt a Spill Emergency Response Plan that meets all requirements. • Failure to test/evaluate emergency procedures including deploying contracted services where necessary. • Failure to adequately recover wastewater following a spill event. • Failure to ensure supply of adequate critical/identified spare parts/equipment prior to spills. • Failure to properly notify appropriate outside agencies/officials. • Failure to conduct training/drills/skilled volume estimations for operators required in Attachment D.4.3 • Failure to maintain Spill Emergency Response Plan (annually) and note change in the Sewer System Management Plan Change Log
Element 7: Sewer Pipe Blockage Control Program	• Attachment D.7	• Failure to identify appropriate needs for pipe blockage program. • Failure to ensure adequate pipe blockage control enforcement authority. • Failure to enforce requirements for instances of noncompliance.
Element 8: System Evaluation, Capacity Assurance and Capital Improvements	• Attachment D.8 • Spec. 5.6 • Spec. 5.10	• Failure to develop and implement system evaluation, capacity assurance, and capital improvement programs. • Failure to identify sections holding high degree of environmental consequences if vulnerable to collapse, failure, blockage, capacity issues, or other system deficiencies. • Failure to identify system sections located in or within the vicinity of surface waters, steep terrain, high groundwater elevations, and environmentally sensitive areas. • Failure to identify assets within the vicinity of receiving water with a bacterial-related impairment on the most current Clean Water Act section 303(d) List. • Failure to develop and implement capital improvement plan (CIP) for necessary sewer system repairs and improvements (short term and long-term). • Failure to include input from field staff regarding known system problems. • Failure to document changes and reason(s) for changes in Sewer System Management Plan Change Log.
Element 9: Monitoring, Measurement and Program Modifications	• Attachment D.9 • Spec. 5.11	• Failure to collect/maintain and evaluate relevant data for monitoring, measuring, and assessing preventive maintenance program effectiveness. • Failure to update/modify agency Sewer System Management Plan based on results from internal audits and evaluate/adapt data required for this element. • Failure to document changes in Sewer System Management Plan Change Log.



Table A-1. Summary of Common WDR Violations by Element^(a)

Element	General Order Reference Section	Common Violations
Element 10: Internal Audits	• Attachment D.10	• Failure to conduct routine Sewer System Management Plan audits at a minimum frequency of every three years. • Failure to measure Sewer System Management Plan element effectiveness (a simple checklist will not fulfill this obligation). (For specific examples of self-audit compliance/noncompliance, visit the following link: https://bacwa.org/wp-content/uploads/2011/12/BACWA_SSMP_Audits_OE_ppt-12-08-11.pdf) • Failure to implement identified deficiencies/recommendations and commit to new enhancements via a plan/schedule (short and long-term). • Failure to upload and certify the audit report in CIWQS, notify the appropriate Regional Water Board for instances where Audits were not performed, or timelines met, or certify/upload an Audit Report as required.
Element 11: Communication Program	• Attachment D.11	• Failure to develop and implement a public communication program, especially during emergencies. • Failure to solicit input on Sewer System Management Plan content. • Failure to communicate with owners/operators of sewer system(s) connected to the agency's sewer system. • Failure to document how communications were performed. • Failure to regulatory communicate and document communications with stormwater conveyance system owners within agency service area.
Notes: (a) Source: BACWA Guide for Developing and Updating of SSMPs, July 2024.		

ATTACHMENT B: CSA 64 SEWER SYSTEM MANAGEMENT PLAN KEY PERFORMANCE INDICATORS





Table B-1. CSA 64 Sewer System Management Plan Key Performance Indicators

KPI Number	Target Element	Description	Data Source	Existing Performance ^(a)	Target Performance
1	WDR Compliance	Number of WDR compliance deadlines missed in the previous three-year period	WDR Compliance Schedule	0	0
2	WDR Compliance	Percentage of SSMP sections reviewed and updated each year	Annual SSMP Update Schedule	0%	100%
3	Legal	Years since last update of applicable sewer ordinances or standards	Municipal Code	45 years	≤ 15 years
4	Legal	Years since last comprehensive update to design standards and specifications	Standard Specifications & Details	13 years	≤ 15 years
5	Operation & Maintenance	Completion rate of scheduled preventive and corrective maintenance work orders	Anecdotal/CMMS ^(b)	100%	90%
6	Operation & Maintenance	Percentage of scheduled pipeline inspections completed (by linear feet)	Anecdotal/CMMS ^(b)	100%	90%
7	Operation & Maintenance	Mean annual response time for reported SSOs	SSO Reports	< 30 minutes	30 minutes
8	Operation & Maintenance	Volume of sanitary sewer overflows discharged to surface waters per year for the past 10 years	CIWQS	0 gallons	0 gallons
9	Sewer Pipe Blockage Control Program Effectiveness	Number of pump clogs due to ragging per year for the past 10 years	Anecdotal/CMMS ^(b)	0	0
10	Sewer Pipe Blockage Control Program Effectiveness	Number of sanitary sewer overflows attributed to pipeline blockages per year for the past 10 years	CIWQS	0	0
11	System Performance: Capacity	Total number of capacity-related SSOs over the past 10 years	CIWQS	0	0
12	System Performance: Trends	Difference between current year SSO count and preceding 3-year average	CIWQS	0	≤ 0
13	Corrective Actions	Percentage of scheduled improvements completed over the past two years	Anecdotal/CMMS ^(b)	100%	90%



Table B-1. CSA 64 Sewer System Management Plan Key Performance Indicators

KPI Number	Target Element	Description	Data Source	Existing Performance ^(a)	Target Performance
14	Funding Sources	Percentage of projects in the 5-year CIP that remain unfunded	5-Year CIP	0%	0%
15	Communication and Outreach	Time elapsed since SSMP was last agenized for a regular council meeting	Previous Council Agendas	4 years	≤ 6 years

Notes:

(a) Existing performance metrics is based on input from County staff.

(b) The County does not currently have CMMS; however, there are plans to implement CMMS in the future. The existing performance is based on anecdotal input from the County staff, and future performance should be pulled from the planned CMMS.

ATTACHMENT C: CSA 64 SEWER SYSTEM INFORMATION



**Table C-1. CSA 64 Sewer System Information**

Attribute	Identifier or Quantity	Unit
WDID	6SSO18104	-
Gravity Main Length ^(a)	36	miles
Force Main Length ^(a)	1	miles
Total System Length ^(a)	37	miles
Lift Stations ^(a)	3	count
Manholes	774	count
Population ^(a)	14,870	people
Residential Service Connections ^(b)	3,969	count
Commercial Service Connections ^(b)	53	count
Industrial Service Connections ^(b)	0	count
Irrigation Service Connections ^(b)	8	count
Total Service Connections	4,030	count

Notes:

(a) Source: CIWQS Collection System Operational Report for CSA 64 between January 1, 2015 to May 1, 2025

(<https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/publicReportSSOPerformance.jsp?wdid=6SSO11379&fromPerformance=true&category=&startDate=01/01/2015&endDate=5/1/2025>)

(b) Source: Meeting and email correspondence with County staff throughout the duration of the SSMP Audit and Update projects.

ATTACHMENT D: CSA 64 SEWER SYSTEM SSO AND MAINTENANCE METRICS (2015 – 2025)





Table D-1. CSA 64 SSO Incident Metrics (2015 - 2025)^(a)

Year	SSOs per Year	Number of SSOs per 100 miles
2015	1	2.7
2016	0	0
2017	0	0
2018	0	0
2019	0	0
2020	0	0
2021	0	0
2022	0	0
2023	0	0
2024	0	0
2025 ^(b)	0	0

Notes:

(a) Source: CIWQS Collection System Operational Report for CSA 64 between January 1, 2015 to May 1, 2025

(<https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/publicReportSSOPerformance.jsp?wdid=6SSO11379&fromPerformance=true&category=&startDate=01/01/2015&endDate=5/1/2025>)

(b) Data is applicable through the month of April.

**Table D-2. CSA 64 SSO Event Metrics (2015 - 2025)**

Year	Volume Spilled, gallons	Volume Recovered, gallons	Volume Reaching Storm Drains, gallons	Volume Reaching Surface Water, gallons	Net Volume Spilled per 1,000 People Served, gallons/1000 capita/yr
2015	2000	1800	0	0	13.4
2016	0	0	0	0	0
2017	0	0	0	0	0
2018	0	0	0	0	0
2019	0	0	0	0	0
2020	0	0	0	0	0
2021	0	0	0	0	0
2022	0	0	0	0	0
2023	0	0	0	0	0
2024	0	0	0	0	0
2025 ^(b)	0	0	0	0	0

Notes:

(a) Source: CIWQS Collection System Operational Report for CSA 64 between January 1, 2015 to May 1, 2025

(<https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/publicReportSSOPerformance.jsp?wddid=6SSO11379&fromPerformance=true&category=&startDate=01/01/2015&endDate=5/1/2025>)

(b) Data is applicable through the month of April.



Table D-3. CSA 64 Maintenance Activity Summary (2015 - 2025)

Year			
	Hydrocleaning, feet	CCTV, feet	FOG Inspections, quantity
2015	11,822	Unknown	12
2016	36,347	Unknown	12
2017	55,978	91,773	12
2018	6,788	75,179	12
2019	16,571	41,593	12
2020	55,762	52,497	12
2021	72,806	36,467	12
2022	44,061	7,720	12
2023	37,950	10,843	13
2024	31,784	Unknown	13
2025 ^(a)	300	6,657	4

Notes:

(a) Data is applicable through the month of April.



Figure D-1. Historical SSO Frequency (CSA 64 vs. State Municipal [Public] Average)

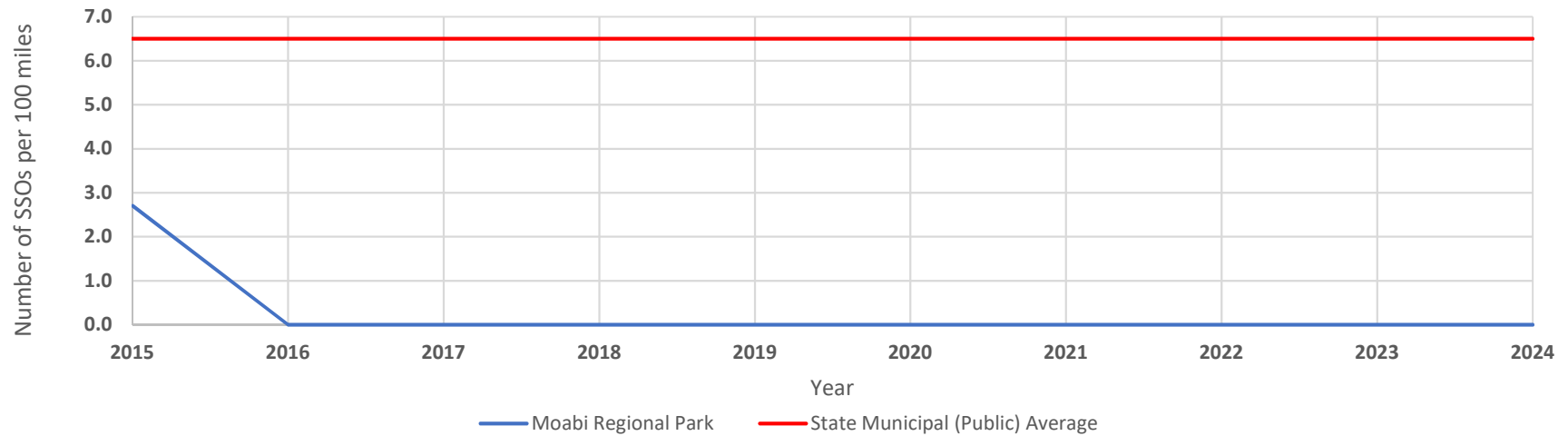
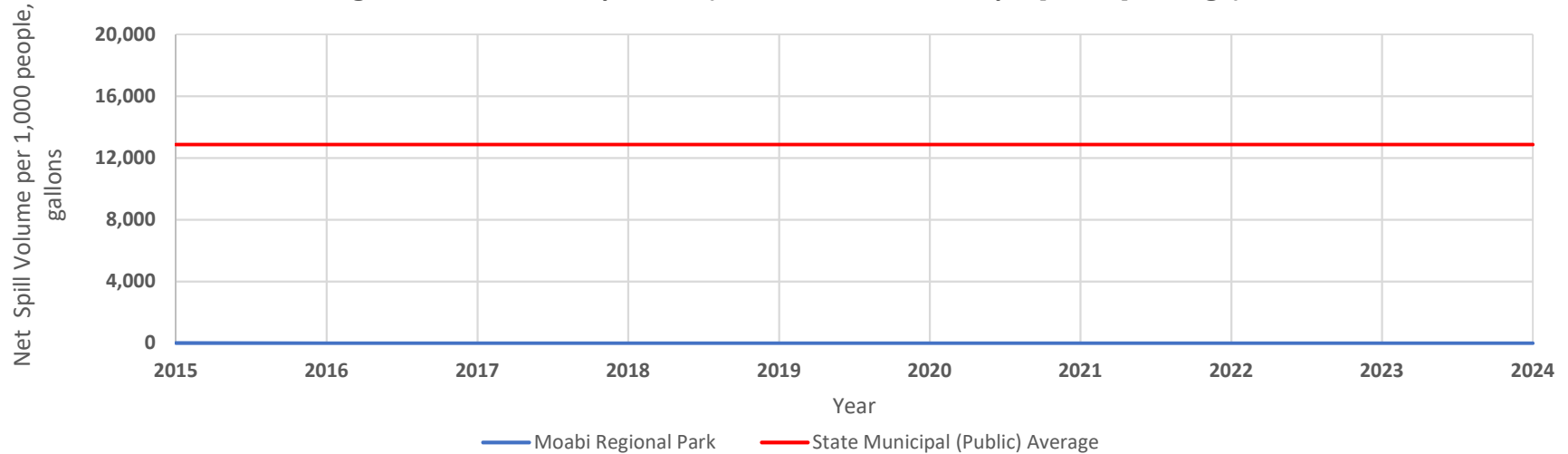


Figure D-2. Historical Spill Rate (CSA 64 vs. State Municipal [Public] Average)



ATTACHMENT E: CSA 64 SSO EVENT DETAILS (2015 – 2024)





Table E-1. CSA 64 SSO Events Details (2015 - 2024)

Spill ID	Spill Created Date	Spill Type	Spilled Volume, gallons	Spill Volume Recovered, gallons	Spill Volume Reaching Surface Water, gallons	Spill Cause	Failure Location	Spill Location
813686	2/27/2015	Category 2	2,000	1,800	0	Vandalism	At manhole rim	Between Spring Valley Lake Parkway and Jacaranda in drainage channel