**EXHIBIT "A"**

# City of Riverside

## Public Works Department

Sewer Division

# Sewer System Management Plan

Revised May 2025
Originated July 2009

# CHANGE LOG

All revisions made to the Sewer System Management Plan (SSMP) since its last certification, including when revisions were completed and the personnel who authorized the change, shall be incorporated into the SSMP. These records are outlined below.

| Date | SSMP Element | Change/Revision | Authorization |
|---|---|---|---|
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# AUTHORIZED REPRESENTATIVES

## Legally Responsible Official

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efiladelfia@riversideca.gov

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reland@riversideca.gov

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# ELEMENT 1: SEWER SYSTEM MANAGEMENT PLAN GOAL AND INTRODUCTION

***The goal of the SSMP is to provide the plan and schedule to (1) properly manage, operate, and maintain all parts of the sanitary sewer system owned by the City of Riverside, (2) reduce and prevent spills, and (3) contain and mitigate spills that do occur.***

This SSMP has been developed and is implemented with the intent of properly managing, operating, and maintaining all parts of the City's sanitary sewer system. The City has identified specific goals that it believes achievable through the implementation of the contents of this plan. With this regard, the SSMP establishes the following discrete goals:

1. **Minimize the frequency of spills**
2. **Appropriately mitigate the impacts caused by spills**
3. **Provide notifications and reports to all required regulatory agencies in a timely manner**
4. **Effectively manage, operate, maintain, and improve the sewer collection system**
5. **Provide education and outreach to the general public to increase awareness of the sanitary sewer system, its function, and operation, and to promote the proper disposal of pipe-blocking substances**
6. **Train collection system operators, employees, contractors, responders, or other agents to address any sewer spill events**
7. **Work to ensure the City sewer system is properly designed, constructed, and funded to provide sufficient capacity to convey base and peak flows while meeting or exceeding applicable regulations, laws, and generally acceptable practices relative to sanitary sewer system O&M.**

## INTRODUCTION

This SSMP has been prepared in compliance with the requirements of the State Water Resources Control Board adopted Order No. 2022-0103-DWQ, Statewide General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems. This section includes a brief overview of the City of Riverside's (City) sanitary sewer system, a summary of the Order's regulatory context, and the purpose and organization of this SSMP.

## Regulatory Context

Sewage is untreated or partially treated domestic, municipal, commercial and/or industrial waste (including sewage sludge), and any mixture of these wastes with inflow or infiltration of stormwater or groundwater, conveyed in a sanitary sewer system. A spill is a discharge of sewage from any portion of a sanitary sewer system due to a sanitary sewer system spill, operational failure, and/or infrastructure failure. Sewage and its associated wastewater spilled from a sanitary sewer system may threaten public health, beneficial uses of waters of the State, and the environment.

On May 2, 2006, the State Water Resources Control Board adopted Order No. 2006-003 DWQ (Order), the Statewide General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems, which required owners and operators of wastewater collection systems with more than one mile of pipeline to comply with all elements and provisions of the WDRs.

On August 6, 2013, the State Water Resources Control Board adopted Order No. WQ 2013-0058-EXEC, amending the Monitoring and Reporting Requirements (MRP) included in the original Order. The MRP in the original Order categorized spills as Category 1 and Category 2. The amended MRP implemented a Category 3 spill, facilitating the evaluation of high threat and low threat spills.

On December 6, 2022, and to further provide a consistent, statewide regulatory approach to address sanitary sewer spills, the State Water Board adopted revised Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2022-0103-DWQ. **The requirements of the revised order became effective on June 3, 2023.**

The revised Sanitary Sewer Systems General Order (WDR) requires public agencies that own or operate sanitary sewer systems to develop and implement sewer system management plans and report all sanitary sewer spills to the State Water Board's online California Integrated Water Quality System (CIWQS) Sanitary Sewer System Database. The revised WDR added additional spill Category 4 to recognize the lowest-threat spills less than or equal to 50 gallons and added adaptive management principles to the SSMP development and implementation ethos.

The WDRs include directives for owners and operators of collection systems to demonstrate adequate and efficient management, operation, and maintenance of their collection systems. Generally, the WDRs require that:

- During a spill event all feasible steps are implemented to control the volume released and prevent any untreated wastewater from entering storm drains, waters of the state, and etc,

- All spill events are reported to the State Water Resources Control Board via the California Integrated Water Quality System (CIWQS),
- An SSMP is prepared and approved by the board governing the owners or operators of a sanitary sewer system, and
- The SSMP is implemented and by way of an adaptive management program. The adaptive management program periodically considers the effectiveness of the plan and the operations and maintenance program in preventing and mitigating spills, and revises it accordingly when deficiencies and/or improvements are identified.

## SSMP Purpose, Organization, and Update Schedule

On October 13, 2006, the City applied for coverage under the original Order by submitting a Notice of Intent (NOI) with the State Water Resources Control Board. On January 18, 2007, the City registered for an account with the State of California Sanitary Sewer System Database (California Integrated Water Quality System [CIWQS]). The CIWQS database provides the City with the mechanism to report spills as required by the WDRs.

In May 2009, the City adopted and began implementing its SSMP. The SSMP includes provisions to provide proper and efficient management, operation, and maintenance of the City's collections system, while considering risk management and cost benefit analysis. The SSMP also requires a separate **Spill Emergency Response Plan** that establishes standard procedures for immediate response to a spill in a manner designed to minimize water quality impacts and potential nuisance conditions.

This revision of the City's SSMP reflects and addresses the findings of the SSMP audit completed in October 2024 for the period from May 2021 to May 2024.

To fulfill the requirements of the WDRs, this SSMP contains 11 elements which detail the management, operation, and maintenance of all parts of the City's sanitary sewer system. These elements are:

1. Goals
2. Organization
3. Legal Authority
4. Operations and Maintenance Program
5. Design and Performance Provisions
6. Spill Emergency Response Plan
7. Sewer Pipe Blockage Control Program
8. System Evaluation and Capacity Assurance Plan
9. Monitoring, Measurement, and Program Modifications
10. SSMP Program Audits
11. Communication Program

A summary of each of the elements, as defined in the WDRs, is included at the beginning of each section to inform readers of the section's content and the basis of their inclusion in the SSMP. Following this introduction, each section contains the policies, practices, descriptions, and references used to address the element's requirements

### SSMP Update Schedule

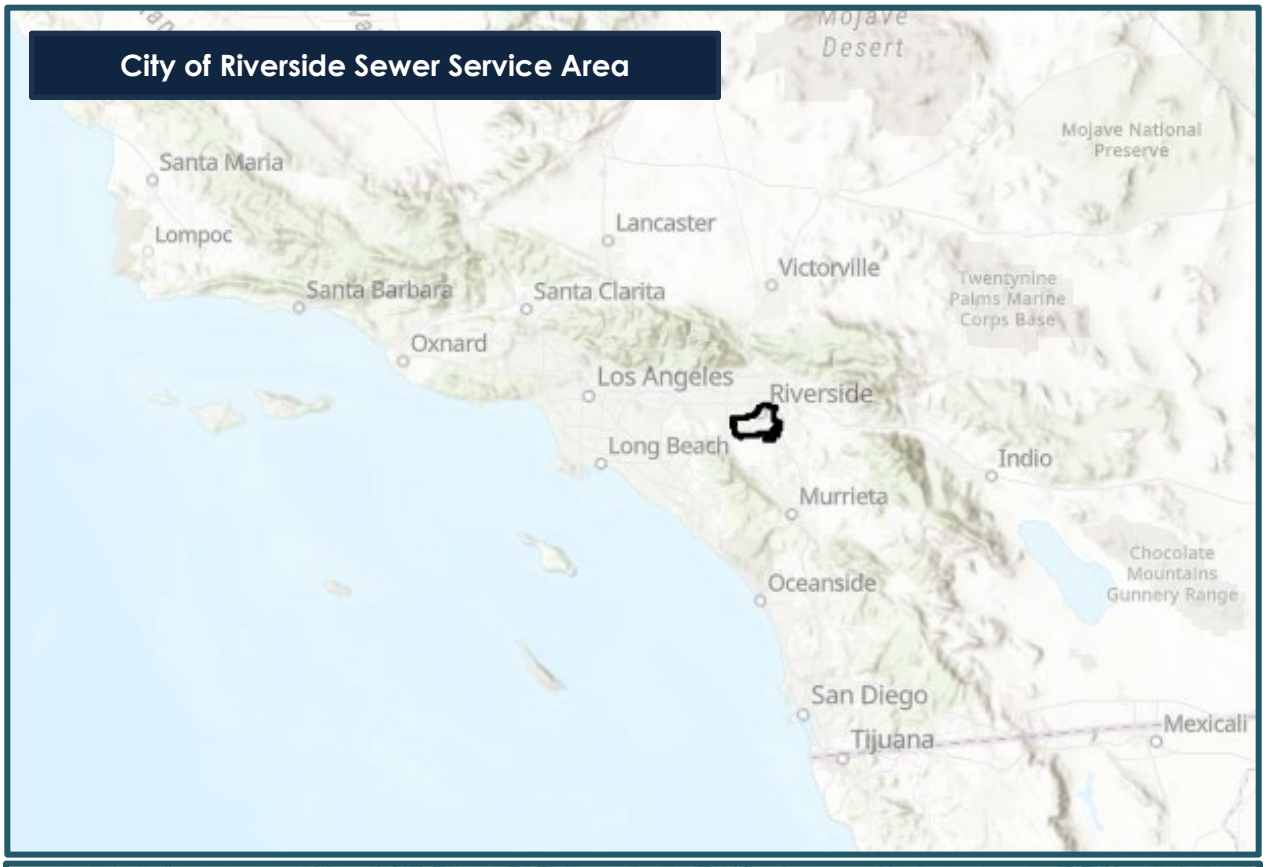
| Action Item | Due Date | Notes: |
|---|---|---|
| **SSMP Update and Re-certification** | May 2025 | 6-year recertification by City Council |
| SSMP Internal Audit Report (May 2024 to May 2027) | Nov. 2027 | |
| SSMP Internal Audit Report (May 2027 to May 2030) | Nov. 2030 | |
| **SSMP Update and Re-certification** | May 2031 | 6-year recertification by City Council |
| Adaptive management updates to SSMP | As needed | SSMP to be updated as needed based on monitoring and performance evaluations conducted throughout the SSMP implementation period. |

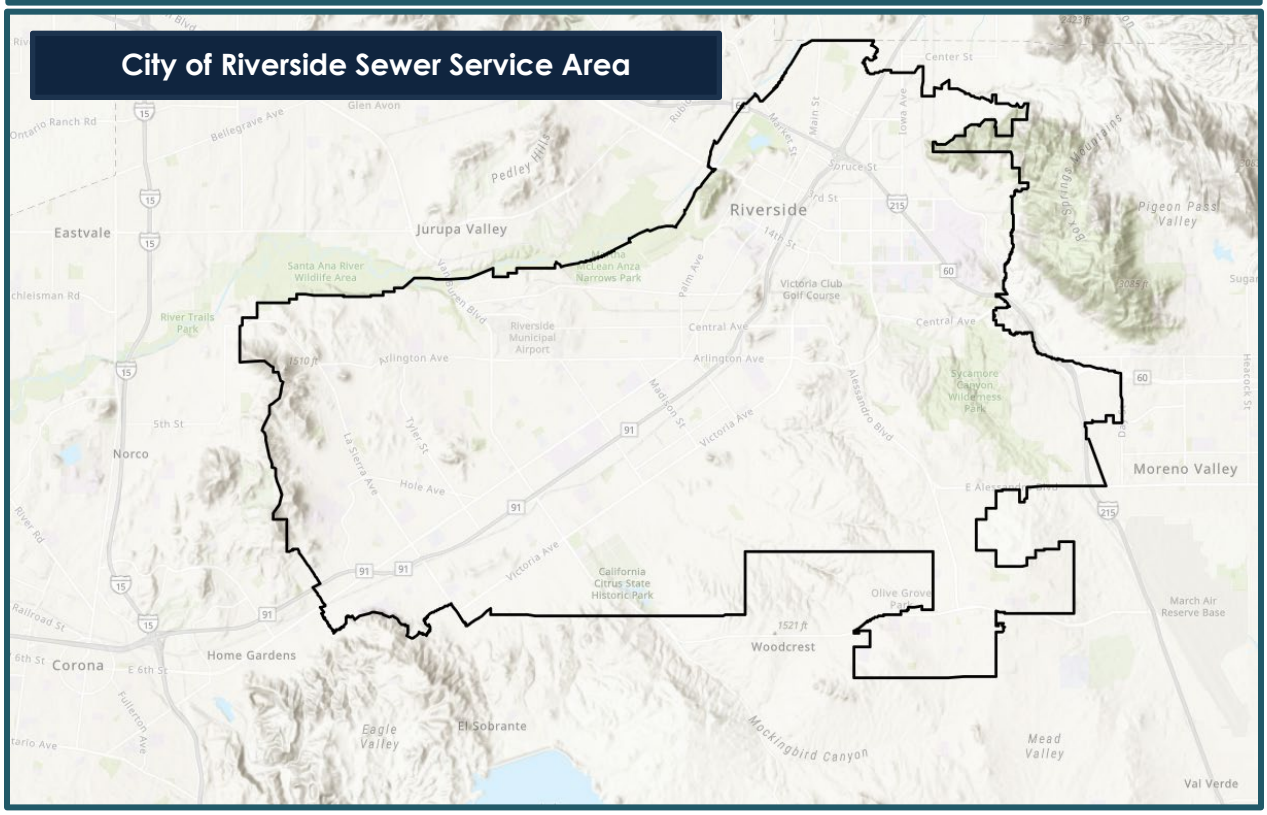
## Sewer System Asset Overview

The City owns and operates a sanitary sewer collection system (collection system) consisting of over 800 miles of sewer lines ranging in size from 4 inches to over 50 inches in diameter. There are 19 pump stations located throughout the City that range in size from 100 gallons per minute (gpm) up to 2,000 gpm providing service to those areas where sewage must be momentarily pumped due to local geography. Treatment is provided at the Regional Water Quality Control Plant (RWQCP), which provides preliminary, primary, secondary, and tertiary treatment for a flow rated capacity of approximately 46 million gallons per day (mgd).

### Location and Service Area

The City of Riverside is located in inland Southern California and is the seat of Riverside County. The City was incorporated in 1870. Riverside proudly holds the title of the 12th largest city in California and the 6th largest in Southern California. It is bordered by the Cities of Corona and Norco to the West, Jurupa Valley to the North, Moreno Valley to the East, and unincorporated portions of Riverside County to the South. In addition to the City of Riverside, the City provides wastewater treatment services for the Community Services Districts of Edgemont, Jurupa, and Rubidoux and some unincorporated portions of Riverside County as shown below:


City of Riverside Sewer Service Area
Mojave Desert
Mojave National Preserve
Santa Maria
Lompoc
Lancaster
Victorville
Santa Barbara
Santa Clarita
Twentynine Palms Marine Corps Base
Oxnard
Los Angeles
Riverside
Long Beach
Indio
Murrieta
Chocolate Mountains Gunnery Range
Oceanside
San Diego
Tijuana
Mexicali


City of Riverside Sewer Service Area
Eastvale
Jurupa Valley
Riverside
Pigeon Pass Valley
Norco
Moreno Valley
Corona
Home Gardens
Woodcrest
El Sobrante
Eagle Valley
Mockingbird Canyon
Mead Valley
Val Verde
March Air Reserve Base

## Population and Community Served

The City's 2025 population is approximately just over 317,000 residents. The total population served is approximately 329,000. The community served is that typically expected for a large urban City and environment. The City serves customers including, but not limited to residential, commercial, industrial, hospitality, and small to large educational institution users.

## System Size and Data Management

The City of Riverside Sewer System is summarized as follows:

| City of Riverside Sewer System Summary | |
|---|---|
| Total Length – Gravity Mains (miles) | 813 |
| Total Length – City-owned lower laterals (miles) | 424 |
| Length of pressurized force mains (miles) | 8 |
| Number of Pump Stations | 19 |
| Number of Siphons | 12 |
| Number of Stormwater Diversions | 1 |

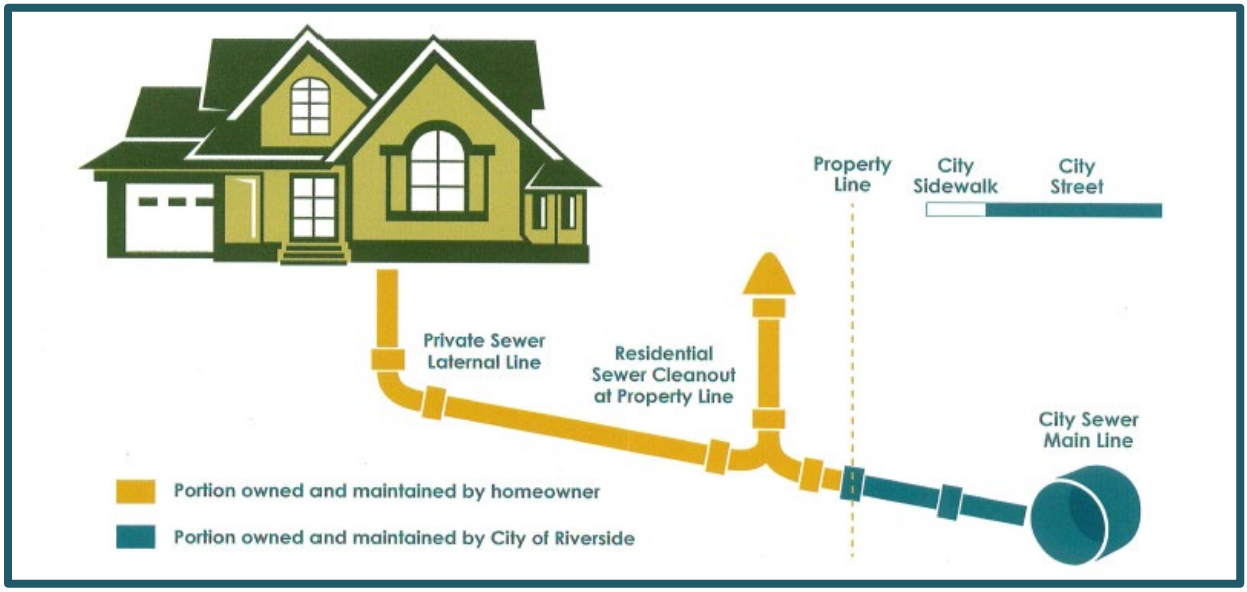
The Sewer Division utilizes an Oracle Utilities Work and Asset Management System (UWAMS) as its computerized maintenance management system (CMMS). The CMMS database serves as the comprehensive repository for collection system assets and enables maintenance work to be requested, planned, prioritized and recorded. The Sewer Division utilizes ESRI ArcGIS to track and visualize assets, facilities, completion of work, system maintenance "hot spots," repairs, and spill locations.

## Sewer Lateral Ownership and Operation Responsibilities

Sewer lateral ownership and operation responsibilities within the City of Riverside are determined based on whether a premises is residential or non-residential according to the definitions provided in the Riverside Municipal Code and referenced below:

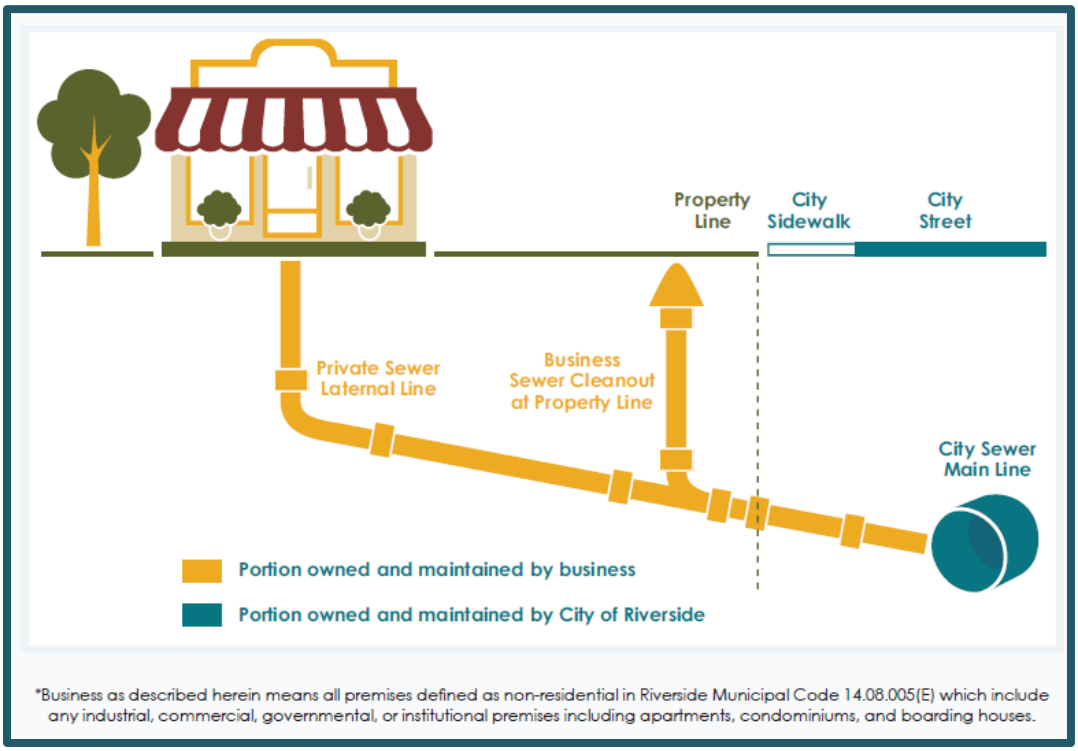
| Riverside Municipal Code Citation | Term | Definition |
|---|---|---|
| Chapter 14.08 Sewer Connections and Permits, 14.08.005 - Definitions | (I) Residential premises | Residential premises means any dwelling unit that is primarily used as a person or persons living quarters, excluding apartments, and which discharges or causes to be discharged sewage in the City sewerage system |
| Chapter 14.08 Sewer Connections and Permits, 14.08.005 - Definitions | (E) Nonresidential premises | Nonresidential premises means any industrial, commercial, governmental, or institutional premises including apartments, condominiums, and boarding houses, which discharge or cause to be discharged sewage into the City sewerage system. |

For **residential premises**, the City of Riverside owns and operates the lower sewer lateral extending from the property line or City easement boundary to the point of connection to the mainline, and limited to those laterals where a cleanout has been installed at the property line per the diagram below:



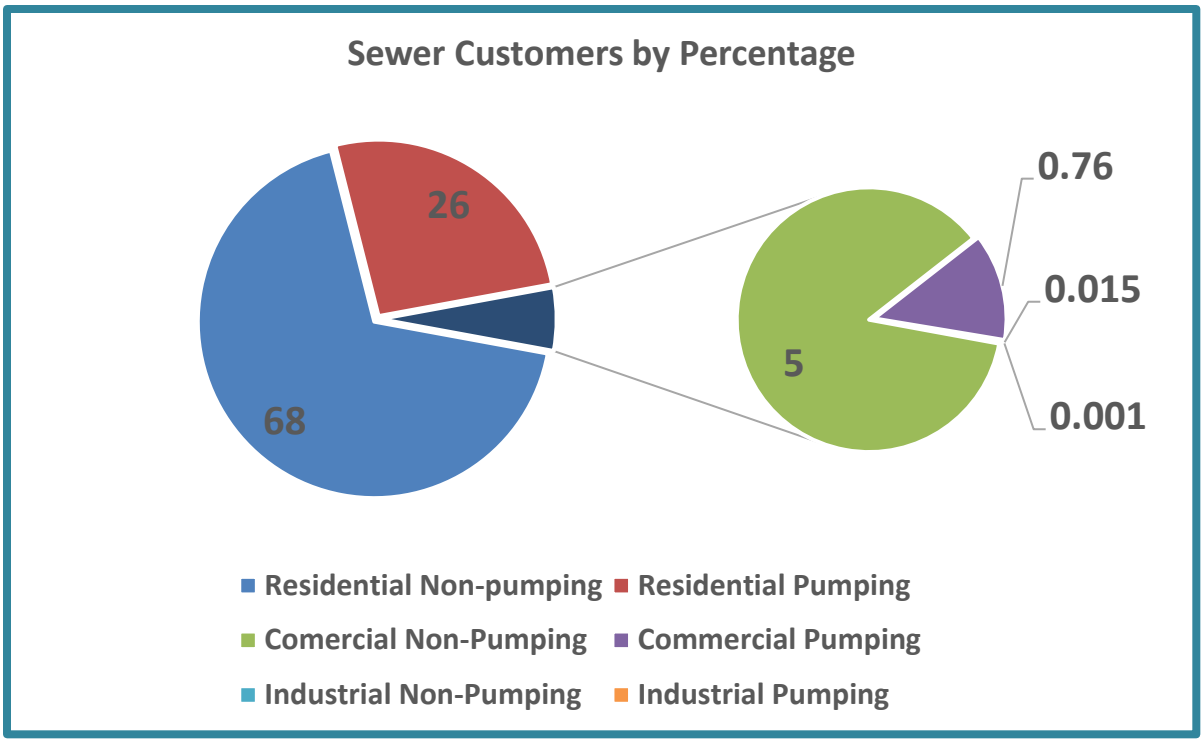
For residential premises, the property owner owns and operates the upper lateral, extending from the building to the property line in all circumstances.

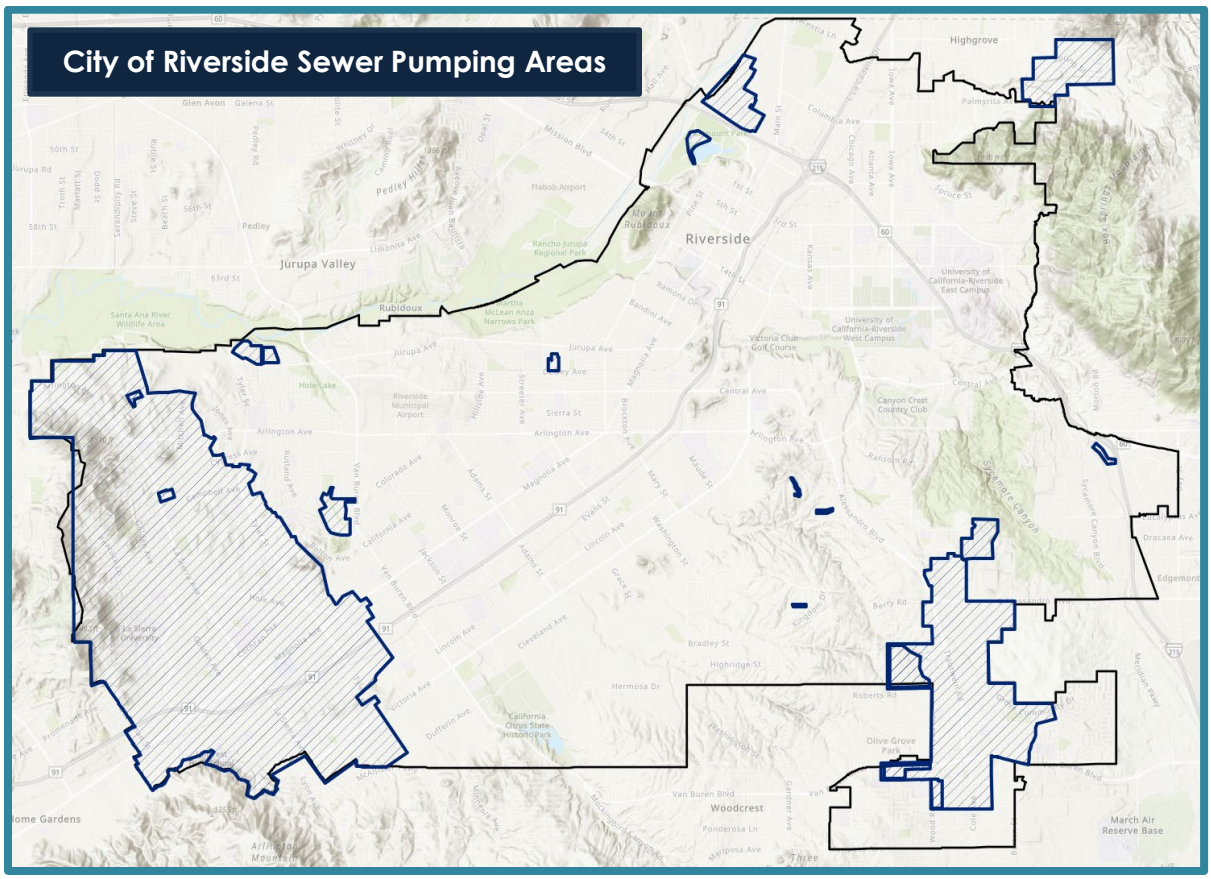
For **nonresidential premises**, in all circumstances, ownership and operation of both the upper and lower sewer lateral is the responsibility of the property owner per the diagram below:




## Service Connection Profile

The City of Riverside's sewer rate structure is divided into two broad zones based on whether the property is served by a sewer lift station or not. These zones are defined as "pumping" or "non-pumping" zones with the same use categories repeated in each. The following chart shows percentages of customers across pumping and non-pumping zones and by residential, commercial, and industrial use categories. The map following, shows the pumping areas throughout the City of Riverside sewer service area.


Sewer Customers by Percentage
26
68
5
0.76
0.015
0.001
Residential Non-pumping
Residential Pumping
Comercial Non-Pumping
Commercial Pumping
Industrial Non-Pumping
Industrial Pumping


City of Riverside Sewer Pumping Areas
Riverside
Jurupa Valley
Rubidoux
Highgrove
Woodcrest
March Air Reserve Base

# ELEMENT 2: ORGANIZATION

***The SSMP must identify:***

***a) The name of the Legally Responsible Official as required in section 5.1 of Order No. 2022-0103-DWQ – Statewide General WDR For Wastewater Collection Agencies.***

***b) The position titles, telephone numbers, and email addresses for management, administrative, and maintenance positions responsible for implementing specific SSMP elements.***

***c) Organizational lines of authority; and***

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

The administration and implementation of the SSMP is directed through the Sewer Division of the City of Riverside Public Works Department. The Sewer Division's offices are located at:

**Regional Water Quality Control Plant (RWQCP)**
**5950 Acorn Street**
**Riverside, CA 92504**
**Phone: (951) 351-6140, Fax: (951) 351-6267**

## Legally Responsible Official

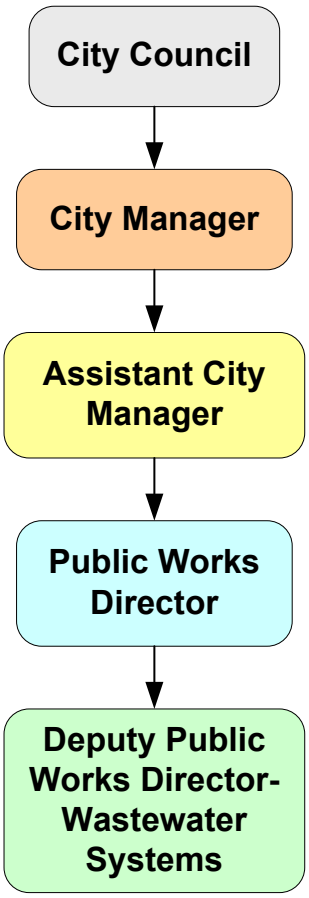
- Deputy Public Works Director – Wastewater Systems

## Authorized Representative

The City has authorized certain individuals to serve as Authorized Representatives for all sanitary sewer related issues in the City. These representatives are authorized to sign and certify all reports required by the State WDRs and other information required by the State or Regional Water Board. These individuals are also authorized to electronically sign and certify reports made through CIWQS. The titles of these individuals are:

- Technical and Compliance Manager

**Figure 1 - Organization**



- Field Operations Manager
- Maintenance Operations Manager

The names and contact information of the individuals listed above can be found at the beginning of this document.

## Administrative and Maintenance Personnel

The Sewerage Systems Division of the Public Works Department employs over 100 individuals to manage, operate, maintain, and improve the sewer system. At the head of this division is the Deputy Public Works Director – Wastewater Systems who provides immediate oversight over all sanitary sewer related issues in the City. Figure 1 describes the organization by which the Deputy Public Works Director – Wastewater Systems receives direction from the City Council. There are several management, administrative, and maintenance positions working under the direction the Deputy Public Works Director – Wastewater Systems. Tables 1 and 2 below give the names and phone numbers of positions responsible for implementing the SSMP and the entire range of positions/departments having some responsibility for implementing specific elements of the SSMP, respectively. These tables are key components to the proper implementation of the SSMP and its effectiveness. A complete organizational chart identifying lines of authority for all Sewerage Systems Division Employees can be found in **Attachment 1**.

**Table 1 - Responsible Positions**

| Position | Phone Number |
|---|---|
| City Attorney's Office | (951) 826-5567 |
| Public Works Director | (951) 826-5341 |
| Emergency Services Coordinator | (951) 237-6685 |
| Public Works Safety Officer | (951) 351-6187 |
| Deputy Public Works Director – Wastewater Systems | (951) 351-6080 |
| Public Works Senior Engineer, Sewer Design | (951) 826-5409 |
| Principal Engineer, RWQCP | (951) 826-5706 |
| Field Operations Manager | (951) 351-6007 |
| Principal GIS Analyst | (951) 351-6170 |
| Technical and Compliance Manager | (951) 351-6095 |
| Wastewater Resources Analyst | (951) 351-6076 / 6077 |
| Environmental Services Coordinator | (951) 351-6054 |
| Senior Environmental Compliance Inspectors | (951) 351-6072 / 6012 |
| Environmental Compliance Inspectors | (951) 351-6145 |
| Wastewater Operations Superintendent | (951) 351-6205 |
| Collection Systems Supervisor | (951) 351-6195 |
| Laboratory Environmental Services Coordinator | (951) 351-6016 |
| Wastewater Maintenance Scheduler (Collections) | (951) 351-6278 |
| Sr. Wastewater Collection System Technician | (951) 351-6056 |
| Lead Wastewater Collection System Technicians | See Supervisor |
| Wastewater Mechanical Supervisor | (951) 351-6104 |
| Fleet Operations Manager | (951) 351-6157 |
| Operations Supervisors | (951) 351-2270 |
| Senior Operators | See Supervisor |
| Operations Dispatchers | (951) 351-6280 |
| Public Works Administrative Analyst | (951) 351-5239 |

**Table 2 - Responsible Staff for SSMP Elements**

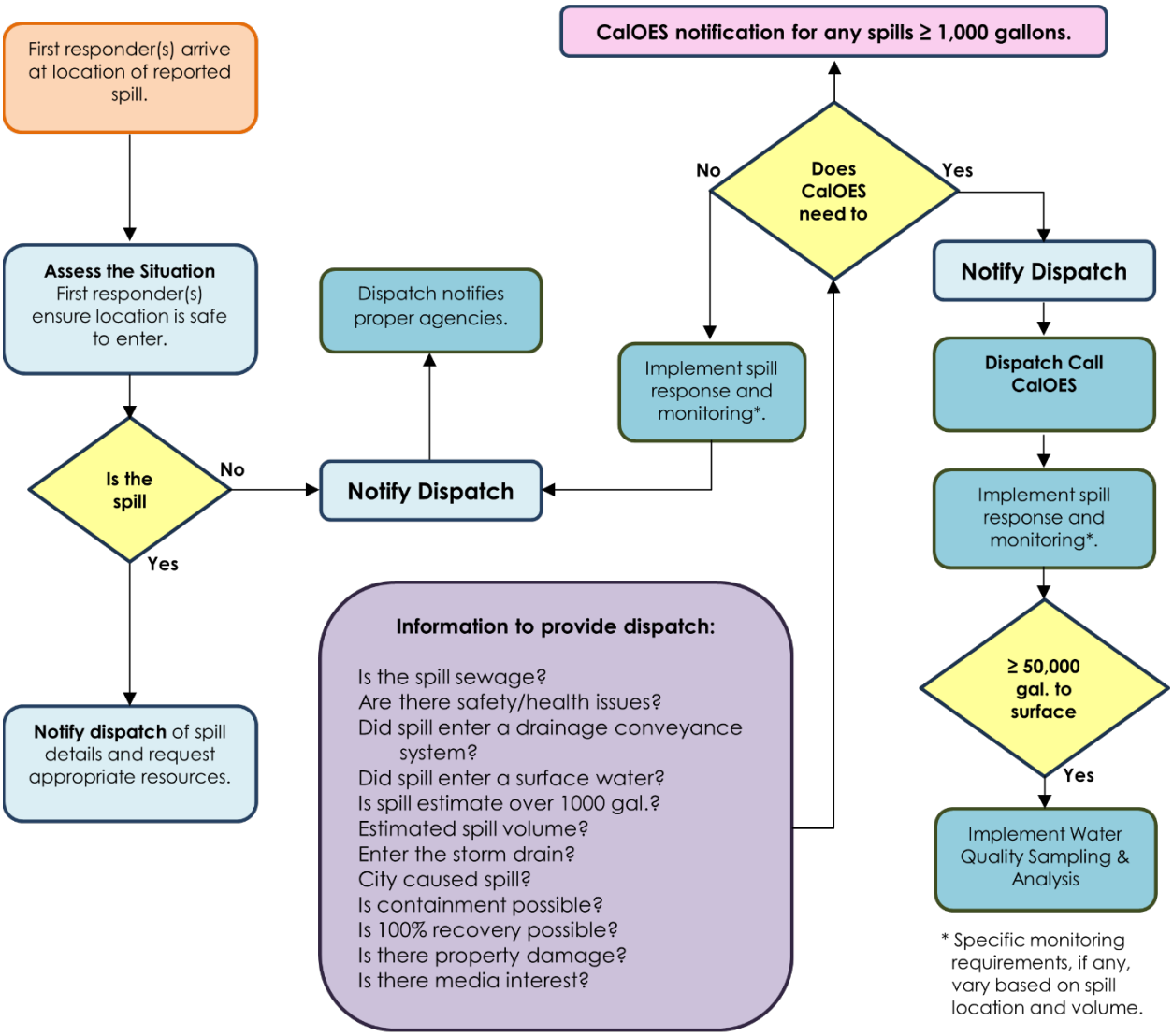
| Element | Responsible Staff |
|---|---|
| **I. Goals** | • Deputy Public Works Director – Wastewater Systems<br>• Wastewater Operations Managers |
| **II. Organization**<br>a. Name of the Responsible or authorized representative(s)<br>b. Names and telephone numbers of management, administrative, and maintenance positions<br>c. Chain of communication for reporting spills | • Deputy Public Works Director – Wastewater Systems<br>• Technical and Compliance Manager<br>• Wastewater Field Operations Manager |
| **III. Legal Authority**<br>a. Prevent illicit discharges to the collection system<br>b. Require that sewers and laterals be properly designed and constructed<br>c. Ensure access to the collection system<br>d. Limit discharge of FOG and other debris that may cause blockages<br>e. Enforcement of Ordinance | • City Attorney<br>• Public Works Director<br>• Deputy Public Works Director – Wastewater Systems<br>• Technical and Compliance Manager<br>• Wastewater Field Operations Manager<br>• Environmental Compliance Supervisor<br>• Senior Environmental Compliance Inspectors<br>• Environmental Compliance Inspectors |
| **IV. Operation and Maintenance Program**<br>a. Maintain current map of collection system and storm drain system<br>b. Describe routine and preventative operation and maintenance of collection system<br>c. Develop a rehabilitation and replacement plan. (See SSMP Plan Chapter specifics)<br>d. Develop and implement a training program<br>e. Provide equipment and training parts inventories | • Deputy Public Works Director – Wastewater Systems<br>• Wastewater Field Operations Manager<br>• Collection Systems Supervisor<br>• Wastewater Collections Scheduler<br>• Sr. Wastewater Collection System Technician<br>• Wastewater Collections System Crew Leaders<br>• Wastewater Collections System Technicians<br>• Wastewater Mechanical Supervisor<br>• Fleet Operations Manager<br>• Safety Officer<br>• Senior GIS Analyst |
| **V. Design and Performance Provisions**<br>a. Design, construction and specification standards for installation and rehabilitation of new and existing sewers.<br>b. Procedures and standards for the | • Public Works Director<br>• Principal Engineer-RWQCP<br>• Public Works Senior Engineer, Sewer Design<br>• Deputy Public Works Director – Wastewater Systems |

| | |
|---|---|
| inspection of new or rehabilitated sewers and appurtenances. | |
| **VI. Spill Emergency Response Plan**<br>a. Notification procedures for regulatory agencies<br>b. Response and mitigation procedures<br>c. Staff and contractor training<br>d. Emergency operations<br>e. Containment and monitoring plans | • Public Works Safety Officer<br>• Deputy Public Works Director – Wastewater Systems<br>• Technical and Compliance Manager<br>• Field Operations Manager<br>• Wastewater Operations Manager<br>• Environmental Compliance Supervisor<br>• Laboratory Manager<br>• Collection System Supervisor<br>• Senior Wastewater Collection System Technician<br>• Wastewater Collections System Crew Leaders<br>• Wastewater Collections System Technicians<br>• Operations Supervisors<br>• Senior Operators<br>• Operations Dispatchers |
| **VII. Sewer Pipe Blockage Control Program**<br>a. Identification of "hot spot" areas of collection system<br>b. Identification of food service businesses in "hot spot" areas of collection system<br>c. Administrative controls (permits) for potential grease dischargers<br>d. Requirement to install grease removal equipment<br>e. Encouragement to use BMPs to reduce grease discharges<br>f. Periodic inspections<br>g. Enforcement actions<br>h. Public Education | • Field Operations Manager<br>• Technical and Compliance Manager<br>• Environmental Compliance Supervisor<br>• Senior Environmental Compliance Inspectors<br>• Environmental Compliance Inspectors<br>• Wastewater Operations Manager<br>• Wastewater Mechanical Supervisor<br>• Wastewater Maintenance Scheduler<br>• Sr. Wastewater Collection System Technician<br>• Wastewater Collections System Crew Leaders<br>• Wastewater Collections System Technicians |
| **VIII. System Evaluation, Capacity Assurance, and Capital Improvements**<br>a. Capacity evaluation<br>b. Identification of capacity needs<br>c. Project schedule | • Public Works Senior Engineer, Sewer Design<br>• Deputy Public Works Director – Wastewater Systems<br>• Field Operations Manager<br>• Collection Systems Supervisor |

| | |
|---|---|
| **IX. Monitoring, Measurement, and Program Modifications**<br>a. Maintain records and data<br>b. Monitor implementation of SSMP<br>c. Assess the success of preventive maintenance program<br>d. Update program elements<br>e. Identify and track spill trends | • Deputy Public Works Director – Wastewater Systems<br>• Technical and Compliance Manager<br>• Field Operations Manager<br>• Wastewater Resources Analyst<br>• Collection Systems Supervisor<br>• Environmental Compliance Supervisor<br>• Wastewater Maintenance Scheduler |
| **X. Internal Audits**<br>a. Person responsible for the Audit<br>b. Scope of the Audit<br>c. Audit work product<br>d. Schedule for the Audit, minimum every two years | • Technical and Compliance Manager<br>• Field Operations Manager<br>• Wastewater Resources Analyst<br>• Collection Systems Supervisor<br>• Environmental Compliance Supervisor |
| **XI. Communication Program**<br>a. Notification that an SSMP is being prepared. Website use is suggested | • Technical and Compliance Manager<br>• Field Operations Manager<br>• Environmental Compliance Supervisor<br>• Collection Systems Supervisor<br>• Public Works Administrative Analysts |

## Spill Chain of Communication

The City of Riverside utilizes a systematic approach to spill response and notification. From receipt of a complaint or observation to cleanup of a verified spill. Various positions are responsible for ensuring that proper procedures are followed in the event of a spill. A complete description of spill response is found in the Spill Emergency Response Plan maintained by the City. In summary, spill communication begins with a call to Wastewater Operations Dispatchers who dispatch a staff member to respond. Upon arrival, the staff member will relay information back to Dispatch who will send out Agency email notifications to responsible positions as defined in this section. Notifications to various other agencies are made by dispatch as required depending on the nature of the spill. One of the Authorized Representatives may perform other notifications for Category 1 spills. A graphic depiction of spill response and notification as outlined in the Spill Emergency Response Plan is provided below.


First responder(s) arrive at location of reported spill.
Assess the Situation
First responder(s) ensure location is safe to enter.
Is the spill
No
Yes
Notify dispatch of spill details and request appropriate resources.
Dispatch notifies proper agencies.
Notify Dispatch
Information to provide dispatch:
Is the spill sewage?
Are there safety/health issues?
Did spill enter a drainage conveyance system?
Did spill enter a surface water?
Is spill estimate over 1000 gal.?
Estimated spill volume?
Enter the storm drain?
City caused spill?
Is containment possible?
Is 100% recovery possible?
Is there property damage?
Is there media interest?
CalOES notification for any spills ≥ 1,000 gallons.
Does CalOES need to
No
Yes
Implement spill response and monitoring*.
Notify Dispatch
Dispatch Call CalOES
Implement spill response and monitoring*.
≥ 50,000 gal. to surface
Yes
Implement Water Quality Sampling & Analysis
* Specific monitoring requirements, if any, vary based on spill location and volume.

# ELEMENT 3: LEGAL AUTHORITY

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

***a) Prevent illicit discharges into its sanitary sewer system (examples may include I/I, stormwater, chemical dumping, unauthorized debris and cut roots, etc.);***

***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 infrastructure;***

***c) Require that sewer system components and connections be properly designed and constructed;***

***d) Ensure access for maintenance, inspection, and/or repairs for portions of the lateral owned or maintained by the Enrollee;***

***e) Enforce any violation of its sewer ordinances, service agreements, or other legally binding procedures; and***

***f) Obtain easement accessibility agreements for locations requiring sewer system operations and maintenance, as applicable.***

The City's legal authority is comprised of several documents and codes that enable the City to protect its sewer system from harmful discharges and activities. Among the documents and codes used are the Riverside Municipal Code (RMC), City of Riverside Standard Drawings for Construction, Greenbook Standard Specifications for Public Works Construction, 2021 edition, Uniform Plumbing Code, and City easements. The following summarizes the City's legal authority:

## Illicit Discharges

RMC Sections 14.12.335 PROHIBITED WASTE DISCHARGES and 14.12.345 LIMITATION ON WASTEWATER STRENGTH provide legal authority to prevent illicit discharges to the sewer system. These sections include prohibitions against the discharge of any material or waste that could harm the collection system, POTW, or jeopardize the safety of the City's collection system personnel. RMC Section 14.12.385 INDUSTRIAL AND COMMERCIAL STORMWATER REQUIREMENTS provides the City authority to restrict or prohibit the discharge of storm water into the collection system.

## Design and Construction

Sewers and sewer connections are required to meet the criteria contained in the Public Works Department's "Criteria for Sewer Facility Design", City Standard Drawings for Sewer Line Construction, Greenbook Standard Specifications for Public Works Construction, 2021 edition, and the latest City approved edition of the Uniform Plumbing Code. RMC Section 14.12.260 INTERCEPTOR REQUIREMENTS provides design and construction criteria for interceptors installed within the City.

## Access

The City has secured sewer easements to ensure access for maintenance, inspection, or repairs of City owned collection systems on private property and for portions of the lateral owned or maintained by the City. The City has a variety of methods for obtaining easements to construct and maintain sewer lines through private property:

1. Acquisition of the easement through voluntary purchase from the owner
2. Acquisition through condemnation for a sewer line easement
3. As a condition of development, the property owner is requested to dedicate or grant an easement to the City for sewer line installation

These easements permit the City to conduct periodic and scheduled sewer line cleaning to prevent spills. If there is a problem in a sewer line in an area where the City has been unable to acquire a sewer easement, the City's Code Enforcement Division has the authority to order the house vacated due to lack of sewer services.

## FOG Discharge

RMC Chapter 14.12 has several sections that contribute to the limitation of discharges of fats, oils, greases and other debris that may cause blockages in the collection system. These include:

§ 14.12.255 SAND/OIL GRAVITY SEPARATION INTERCEPTOR
§ 14.12.260 INTERCEPTOR REQUIREMENTS
§ 14.12.270 INTERCEPTOR MAINTENANCE
§ 14.12.275 RESTAURANTS
§ 14.12.305 USE OF OR DAMAGE TO CITY EQUIPMENT OR FACILITIES
§ 14.12.335 PROHIBITED WASTE DISCHARGES
§ 14.12.345 LIMITATIONS ON WASTEWATER STRENGTH
§ 14.12.360 INDUSTRIAL WASTEWATER PRETREATMENT
§ 14.12.375 PROHIBITED DISCHARGE OF RECOVERED PRETREATMENT WASTE

RMC Chapter 14.12, in its entirety, can be found here: https://library.municode.com/ca/riverside/codes/code_of_ordinances?nodeId=PTIICOOR_TIT14PUUT_CH14.12DIWAINPUSEPOINSTDRSY

## Enforcement

The Environmental Compliance Section enforces Section 14.12 of the RMC through its federally approved pretreatment inspection program. This program helps reduce illicit discharges including discharges of fats, oils, and grease (FOG). Other Public Works personnel ensure that sewers are properly designed, constructed, and that access to the sewer system is available.

# ELEMENT 4: OPERATIONS AND MAINTENANCE PROGRAM

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

***a) Maintain an up-to-date map(s) of the sanitary sewer system, and procedures for maintaining and providing State and Regional Water Boad staff access to the map(s). The map(s) must show all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities within the sewer system service area boundary;***

***b) Describe routine preventive operation and maintenance activities by staff and contractors, including a scheduling system and a data collection system for preventative operation and maintenance activities. The scheduling system is to include inspection and maintenance activities, higher-frequency inspections and maintenance of known problem areas, including areas with tree-root problems, and regular CCTV inspections of manholes and sewer pipes. The data collection system is to include data from system inspection and maintenance activities, including system areas/components prone to root-intrusion potentially resulting in system backup and/or failure.***

***c) Provide in-house and external training on a regular basis for staff in sanitary sewer system operations, maintenance, and contractors. The training is to include the requirements of General Order 2022-0103-DWQ, the Enrollee's Spill Emergency Response Splan procedures and practice drills, skilled estimation of spill volume for field operators, and electronic CIWQS reporting procedures for all staff submitting data.***

***d) Provide an inventory of sanitary sewer equipment, including identification of critical replacement and spare parts.***

Operation and maintenance activities in the City of Riverside are performed regularly and are enabled through technology. The City of Riverside utilizes and maintains a detailed database of sewer assets and work. This computerized maintenance management system (CMMS) contains information on all aspects of the sewer system. Each manhole, pump, line segment, etc. is designated as an asset and assigned a unique identification number (asset ID). This information is used to aide operations and maintenance staff in their efforts to clean the entire sewer system every 24 months and track work down to the individual asset level.

In addition to regular cleaning, the City maintains up-to-date maps and a rehabilitation and replacement plan. It also provides regular training for staff and maintains equipment and replacement part inventories. All of these are components of the operations and maintenance program and help ensure a properly maintained sewer system.

## Sewer Maps

The Sewer Division utilizes digital technology and maps to ensure that the most current version of the system map data is always available. When development or construction projects are completed, as-built plans are submitted to the City. The Wastewater GIS Team then digitizes any new, modified, or abandoned sewer lines into the map based on these plans.

Sewer technicians are trained to observe field conditions and compare those to the existing maps. Any discrepancies between the field and the map are referred to the sewer GIS team for investigation and correction as needed. If the issue pertains to an attribute, it will be recorded and updated in the map and CMMS. If the issue is physical or geographical, a senior technician will review the report and investigate further.

In cases where original construction drawings cannot be found, CCTV coupled with field observations are used correct the map data as accurately as possible.

## Preventive Maintenance

Collections System staff perform a variety of operations and maintenance activities to ensure the reliable performance of the collection system. Sewer lines are cleaned of roots, debris, grease, etc. at varying intervals. Sewer cleaning is performed by using high pressure hydro-jetting equipment, specialized root cutters, and other equipment. As cleaning is performed, Collections System staff also perform visual inspections of manholes to check for evidence of surcharge, vandalism, structural damage, and other conditions of concern. The Collection System's goal is to clean the entire system every 24 months.

Collection System cleaning is accomplished through the implementation of a work order based system which provides staff a daily scheduled cleaning route. After a section has been cleaned, collections crews complete a cleaning record which includes the following information:

- Date and time of cleaning
- Method of cleaning
- Names of collections workers
- Location and cause of any blockage
- Field observation notes related to line condition and cleaning status
- Recommendation of necessary further actions

Upon completion of the day's activities, all cleaning information and work orders are returned to Collection System offices for entry into the CMMS database.

Another integral part of the City's preventive maintenance program involves regularly inspecting each of the City's 19 sewer pump stations. Each station is monitored daily

through SCADA with additional on-site inspections performed regularly. Inspections allow collections crews to visually check for any signs of abnormal activity and respond accordingly.

In addition, 17 of the pump stations are equipped with telemetry communication abilities enabling the stations to be monitored on a continuous basis. Any abnormalities are reported and addressed in a timely manner. In the event of a power outage, the two largest pump stations are equipped with both backup diesel generators and backup diesel powered pumps; 9 others have auxiliary power ports to which a portable generator can be connected quickly. The remaining stations are small enough to where, in the absence of power, a sewer vacuum truck, or a rotation of trucks, could keep sewage from leaving the system until power or mechanical operation is restored.

## Rehabilitation and Replacement Plan

The City's Rehabilitation and Replacement Plan is centered on several processes including regular CCTV inspections. Collection system personnel and contractors perform CCTV inspections and rate pipes according to the NASSCO Pipeline Assessment and Certification Program (PACP) standards. This standard provides consistency and uniformity in the sewer line inspections and increases confidence in resulting data. It provides a mechanism whereby sewer lines are rated. Sewer lines are rated on a scale of 1 to 5 per PACP standards:

- Grade 1 - Acceptable structural condition
- Grade 2 - Minimal collapse risk
- Grade 3 - Collapse unlikely in near future
- Grade 4 - Collapse likely in foreseeable future
- Grade 5 - Collapsed or collapse imminent

The Sewer division has developed an in-house GIS application which allows users to input various assets needing repair into a table and visualize them on a system map. The application tracks the asset's status in the repair process across the various work groups which may affect the outcome of those repairs, as noted in the table below, and along with other relevant details about the asset and the repair. It also enables users to add attachments and cost information as needed.

| City of Riverside Sewer Repair Capabilities | | |
|---|---|---|
| **Work Section** | **Scope** | **Work performed by:** |
| **Collections** | Residential mainlines and lower laterals ≤ 8" diameter and ≤ 6' deep. | In-house |
| **Construction Administration** | Any; generally, emergency or high-priority point repairs with City arterials or other high-traffic areas, or any parts of the system too deep for in-house | Contractor |
| **Engineering** | Major repairs or co-located point repair projects which can be bundled to form larger projects under one mobilization. | Contractor |

When a repair is entered into the table, it is assigned a rating generally consistent with NASSCO structural quick ratings; that is used to track its priority. Combining the rating with the asset's location allows co-located repairs to be identified and packaged into single projects comprising multiple repair locations. The GIS repair map helps ensure that all identified repairs are tracked from discovery through to closure.

Funding of rehabilitation and replacement projects is another integral part of the Rehabilitation and Replacement Plan. While budget amounts change from year to year based on the expected projects for each year, the Capital Improvement Program (CIP) budget contains funds for miscellaneous sewer repairs. Within the CIP budget, the line item 'Collection System Replacement – Maintenance' and 'Collection System Upgrades' contain varying amounts of funds each year to address unplanned rehabilitation and replacement. Other planned projects are specified as line items of the CIP budget.

## Training

Collections systems personnel receive several trainings to enhance their job knowledge, skills, and abilities. These trainings include:

- Spill Emergency Response
- Sewer Cleaning
- Forklift Operation
- First aid/CPR
- Lockout/Tagout Procedures
- Confined Space Entry and Rescue
- General Safety – PPE
- Traffic Control
- Pipe Repair
- Public Relations
- Pump Station Operations and Maintenance
- CCTV and trench shoring

All training is recorded in a training database maintained by the City.

## Equipment and Replacement Parts

The Collection Systems Section utilizes several vehicles and equipment to maintain the sewer system. Among the vehicles in operation are:

- Two high pressure hydro-jet trucks. One of which has 1,200 feet of hydro hose for maintenance in easements, alleys, and other areas with accessibility challenges
- Five hydro/vacuum trucks with high pressure sewer line cleaning and vacuum capabilities. One of these is a single rear axle, shorter wheelbase unit for access to space-limited parts of the collection system.
- Two Closed-Circuit Television (CCTV) vans. One with the ability to inspect laterals and sewer lines from three to thirty-six inches. Each is equipped with the necessary equipment to record video inspections.
- Two trailer mounted hydro-jetters for laterals, easements, and main line cleaning
- One 10-yard dump truck
- One stake-bed utility truck
- Two backhoe loaders
- Two bobcat loaders
- One safety utility trailer
- One channel maintenance trailer
- One sewer line repair trailer
- One spill emergency response containment and mitigation trailer
- One lateral inspection and repair truck with an on-board skid mounted jetter
- Four push type inspection cameras for spot lateral and main inspections.

A variety of replacement parts are retained for collections equipment, lift station repairs, and sewer repairs. These parts include nozzles, whip hoses, reel hose, and high pressure valves. Certain collections crew members are trained to perform high pressure hose repairs. All other repairs are performed at the City's vehicle maintenance facility, including scheduled preventive maintenance.

# ELEMENT 5: DESIGN AND PERFORMANCE PROVISIONS

***The SSMP must include the following items as appropriate and applicable to the Enrollee'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 appurtenances;***

***b) Procedures and standards for inspecting and testing the installation of newly constructed system pipelines, pumps, and other equipment and appurtenances.***

## Design Criteria and Standard Construction Design

The Public Works Department, Engineering Division is responsible for capital sewer projects that include repair, replacement, and new installation of sanitary sewer systems, pump stations, and other appurtenances. All design and construction is subject to the approval of the City Engineer. To facilitate and streamline the approval process, the City has developed design guidelines for construction of sewer projects which are contained in the City's *Standard Drawings for Construction* and the *Sewage Lift Station and Force Main Guidelines.* These design guidelines can be found at: City of Riverside - Standard Drawings for Construction. In addition to these standard drawings, the City uses the Greenbook Standard Specifications for Public Works Construction, 2021 edition, and the Uniform Plumbing Code for guidance on sewer design.

In addition to specific design guidelines, the Riverside Municipal Code provides general direction on where and how sewer lines should be installed. For example, Section 13.12.040 SEWER requires sewer mains to be "laid at such depth that the top of such mains shall not be less than six feet below the established grade of the street." It also requires sewer mains to be laid a "minimum of five feet from the centerline of the street on the northerly or easterly side thereof."

These documents and guidelines set forth various sewer construction requirements that ensure the proper function of the sewer system. When plans are submitted to engineering staff, they are closely reviewed for sewer line sizing, depth, clearances, manhole spacing, etc. As the review process progresses, plans meeting all required specifications will be approved for project construction. When construction is not approved, affected parties are notified of the plan discrepancies.

## Inspection and Testing

While installing new sewers, pumps, and other appurtenances, testing and inspection of the new sewer system is performed to ensure quality installation. The City employs several Public Works Construction Inspectors who, among other things, inspect the installation of public works projects. Private sewer systems are inspected by Building and Safety Inspectors from the Community Development Department. Inspectors use the Greenbook Standard Specifications for Public Works Construction, 2021 edition, and the Uniform Plumbing Code to ensure sewer systems are installed properly. They use inclinometers, air tests, water tightness tests, video surveillance and other tests to inspect sewer installation.

When new manholes are installed, they are visually inspected to determine if there are any conditions which are characteristic of inflow or infiltration (I/I). Video pole cameras are used in hard to see areas to aide in the I/I evaluation. Furthermore, all new sewer lines are televised after installation is complete. This video and additional inclinometer testing help determine if sewer systems have been built according to design specifications.

Existing manholes are inspected as part of normal sewer line preventative maintenance activities. When defects which can allow inflow are identified, such as frames below grade, holes, and cover defects various methods are used to mitigate these. Examples include:

**Reset Frame and Raise to Grade:** Resetting the frame is method intended to adjust a frame that has moved horizontally and/or to raise the cover above grade to prevent inflow. Installation, resetting, and raising, involved minimal excavation and can generally be performed by City crews.

**Manhole Covers:** Different strategies are employed to address manholes suspected to be prone to inflow. These include the installation of gasketed manhole covers to seal the frame/cover interface, plugging manhole pick holes when present, or replacing the covers with ones without holes. In some cases composite manhole covers with locking mechanism have been installed in place of traditional iron manhole covers. These covers prevent access to the manholes and have a gasket-type seal which helps keep odors and sewer gases in the collection system.

# ELEMENT 6: SPILL EMERGENCY RESPONSE PLAN

***Each Enrollee shall develop and implement 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 for future spills. At a minimum, this plan must include procedures to:***

***a) Notify primary responders, appropriate local officials, and appropriate regulatory agencies of a spill in a timely manner;***

***b) Notify other potentially affected entities (e.g. health agencies, water suppliers, etc.) of spills that potentially affect public health or reach waters of the State;***

***c) Comply with the notification, monitoring and reporting requirements of the General Order 2022-0103-DWQ, State law and regulations, and applicable Regional Water Board Orders;***

***d) Ensure that appropriate staff and contractors implement the Spill Emergency Response Plan and are appropriately trained;***

***e) Address emergency system operations, traffic control and other necessary response activities;***

***f) Contain a spill and prevent/minimize discharge to waters of the State or any drainage conveyance system;***

***g) Minimize and remediate public health impacts and adverse impacts on beneficial uses of waters of the State;***

***h) Remove sewage from the drainage conveyance system;***

***i) Clean the spill area and drainage conveyance system in a manner that does not inadvertently impact beneficial uses in the receiving waters;***

***j) Implement technologies, practices, equipment, and interagency coordination to expedite spill containment and recovery;***

***k) Implement pre-planed coordination and collaboration with storm drain agencies and other utility agencies/departments prior, during, and after a spill event;***

***l) Conduct post-spill assessments of spill response activities;***

***m) Document and report spill events as required by General Order 2022-0103-DWQ;***

***n) And annually review and assess the effectiveness of the Spill Emergency Response Plan, and update as needed.***

The City of Riverside has created several documents to ensure it utilizes a systematic approach to spill response and notification procedures. Sewer Division staffs continually

review these documents in an effort to constantly improve public and environmental health. While the paragraphs below provide summaries of the required elements of this section, specific processes are contained in the **Spill Emergency Response Plan** maintained by the City.

## Notification and Response Procedures

Spill Communication follows a defined procedure to ensure that all spills are reported and responded to in an appropriate manner. Within this process, primary responders (usually a collection systems or operations crew member) are notified of potential spills and respond to the location in question. Upon arrival, the staff member will relay information back to Dispatch who will send out Agency email notifications to responsible positions as defined in this section. Notifications to various other agencies are made by dispatch as required depending on the nature of the spill. One of the Authorized Representatives may perform other notifications for Category 1 spills. Concurrent with notification procedures, primary responders work to correct the problem and minimize its effects.

## Training

The City of Riverside provides regular training on the **Spill Emergency Response Plan** for all personnel potentially involved in spill response and any contractors performing work on the sewer collection system. In these trainings, the plan is reviewed and discussed to ensure proper procedures are understood. Real life experiences and scenarios are shared and reviewed to enhance training sessions.

The City utilizes an in-house developed digitized version of the CIWQS Spill Report form using GIS tools. This offers a mobile solution that allows data to be collected directly in the field at the time of the incident. This data is recorded and stored in the City's GIS system, enabling quick collection of information required in the CIWQS reporting system.

Technicians are being trained to incorporate this digital form into their spill response procedures, ensuring they collect the necessary data and photographs at appropriate stages during spill response.

## Emergency Operations

Aside from those emergency procedures outlined in the preceding, other procedures such as traffic control and crowd control may be necessary in the event of a major sewer spill. Collections systems crews are equipped with traffic cones, barricades, caution tape and other items that enable the control of traffic and crowds during minor events. In the event of a major spill, other Public Works crews, law enforcement, and fire personnel may be contacted to assist in emergency operations. These crews are experienced in closing

lanes or streets, establishing detour routes, crowd control, and other emergency operations.

## Minimize Impacts

The **Spill Emergency Response Plan** is designed to ensure that all reasonable steps are taken to contain and prevent the discharge of sewer spills to waters of the United States. While the proper implementation of this plan will prevent most discharges to waters of the United States, there are situations when these waters become affected. Should this occur and if receiving water monitoring is necessary, the receiving water is evaluated and sampled in accordance with City's Water Quality Monitoring Program.

# SEWER PIPE BLOCKAGE CONTROL PROGRAM

***The SSMP must include procedures for the evaluation of the Enrollee's service area to determine whether a sewer pipe blockage control program is needed to control fats, oils, grease, rags, and debris. If an Enrollee determines that a program is not needed, the Enrollee must provide justification for why it is not needed. The procedures must include, at minimum:***

***a) An implementation plan and schedule for a public education outreach program that promotes proper disposal of pipe-blocking substances;***

***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;***

***c) The legal authority to prohibit discharges to the system and identify measures to prevent spills and blockages;***

***d) Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements;***

***e) Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the fats, oils, and grease (FOG) ordinance;***

***f) An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section; and***

***g) Implementation of source control measures for all sources of FOG reaching the sanitary sewer system for each section identified in each section above.***

The City of Riverside has determined it benefits from a sewer pipe blockage control program and has implemented various policies and practices to limit Fats, Oils, and Grease and other pipe-blockage substances from entering the sewer system. This program is administered by the Environmental Compliance (EC) Section and Collections System staff.

## Public Education

Public education and outreach is performed through a variety of activities primarily performed by the EC Section. This section participates in many local events each year to educate the public about pipe-blocking substances, such FOG, and other sewer related

issues. These events are usually sponsored by local agencies such as the Riverside Police Department, Chamber of Commerce, United Way, and others. During these events, EC staff members show the effects of FOG using demonstrations and personal interaction and distribute a variety of promotional and educational items.

While the general public receives education through local events, the EC Section also educates business owners while conducting inspections of restaurants. EC staff conduct inspections at all restaurants in the City on a regular basis. During these inspections, they check drains, grease interceptors, waste oil containers, records, etc. to verify compliance with local ordinances. These activities provide an opportunity to educate business owners about pipe-blocking substances and the effect they have on the sewer system.

The City also occasionally includes informational inserts in residents' sewer bills and displays FOG messages on City social media.

## Pipe-blocking Substance Disposal

Pipe-Blocking substances include fats, oils, grease (FOG), rags, and other debris. As mentioned above, EC Inspectors visit restaurants, kitchens, and other known FOG producing facilities on a regular basis to verify compliance with municipal codes. During these visits, facility records including waste oil disposal and grease interceptor maintenance are checked to ensure proper disposal of all pipe-blocking substances. In addition, EC Inspectors provide education and offer educational materials that inform how to properly dispose of FOG.

## Legal Authority

The City has established legal authority to prohibit discharges of FOG and other pipe-blocking substances to the sanitary sewer system. This is accomplished through several municipal codes, primarily Section 14.12.335 PROHIBITED WASTE DISCHARGES which explicitly prohibits grease and other viscous materials from entering the sewer system. In addition to this prohibition, Section 14.12.275 RESTAURANTS requires users to separate FOG to the maximum extent practicable for off-site disposal. This section also requires restaurants seek a determination from the EC Section on whether or not a grease interceptor must be installed. Finally, Section 14.12.270 INTERCEPTOR MAINTENANCE requires users to properly maintain their interceptors utilizing the 25% rule and establishing other standards to the regular interceptor cleaning process.

## Requirements for Grease Removal Devices

As mentioned in the previous section, Section 14.12.275 of the Riverside Municipal Code mandates that restaurants shall not "discharge wastewater from such restaurant to the POTW without first receiving a written determination from Director, and complying with

such determination, of the POTW interceptor requirements." This determination is made as users complete and submit a discharge survey that defines the probable impact the restaurant will impose on the sewer system. Interceptors are to be sized and designed in accordance with the Uniform Plumbing Code with a minimum size of 750 gallons. Additional interceptor requirements including accessibility, tee, and sample box requirements are found in Section 14.12.260 INTERCEPTOR REQUIREMENTS.

In addition to sizing and installation requirements, the municipal code gives requirements for interceptor maintenance. Section 14.12.270 INTERCEPTOR MAINTENANCE requires that interceptors are properly maintained at all times. An interceptor is not considered to be properly maintained, if for any reason the interceptor is not in good working condition or if the operational fluid capacity has been reduced by more than twenty-five percent by the accumulation of floating material, sediment, oil or grease, or other liquids that have limited or no solubility in water. This section prohibits the use of "enzymes, proteins, or other materials that emulsify, suspend, or dissolve oil and grease." It also requires that when cleaned, "the entire contents of the interceptor from all chambers and sample box shall be removed."

Section 14.12.230 RECORD KEEPING requires users to "keep records of waste hauling, reclamations, wastewater pretreatment, monitoring device recording charts and calibration reports, effluent flow, and sample analysis data, on the site…" Records must be kept onsite for a minimum of three years.

## Authority to Inspect

Section 14.12.215 INSPECTION provides the authority to inspect businesses in order to ascertain if all municipal code requirements are being met. This section requires users to provide access and have personnel available who are knowledgeable of all facility processes. The EC Section administers the inspection program. EC is comprised of six EC Inspectors (I and II), two Senior EC Inspectors and an EC Supervisor. This diligent staff is sufficient to inspect and enforce the FOG ordinance.

## FOG Problem Areas and Maintenance Schedule

Several areas throughout the City have been identified as having a risk for FOG blockages based on field technician observations of FOG in the sewer system. These areas are identified in Figure 2. To help prevent sewer line blockages in these areas, operations and maintenance crews may employ various techniques ranging from manhole inspections, CCTV inspection and in extreme cases heightened cleaning frequency. This enhanced cleaning schedule helps to keep these sewer sections properly maintained.

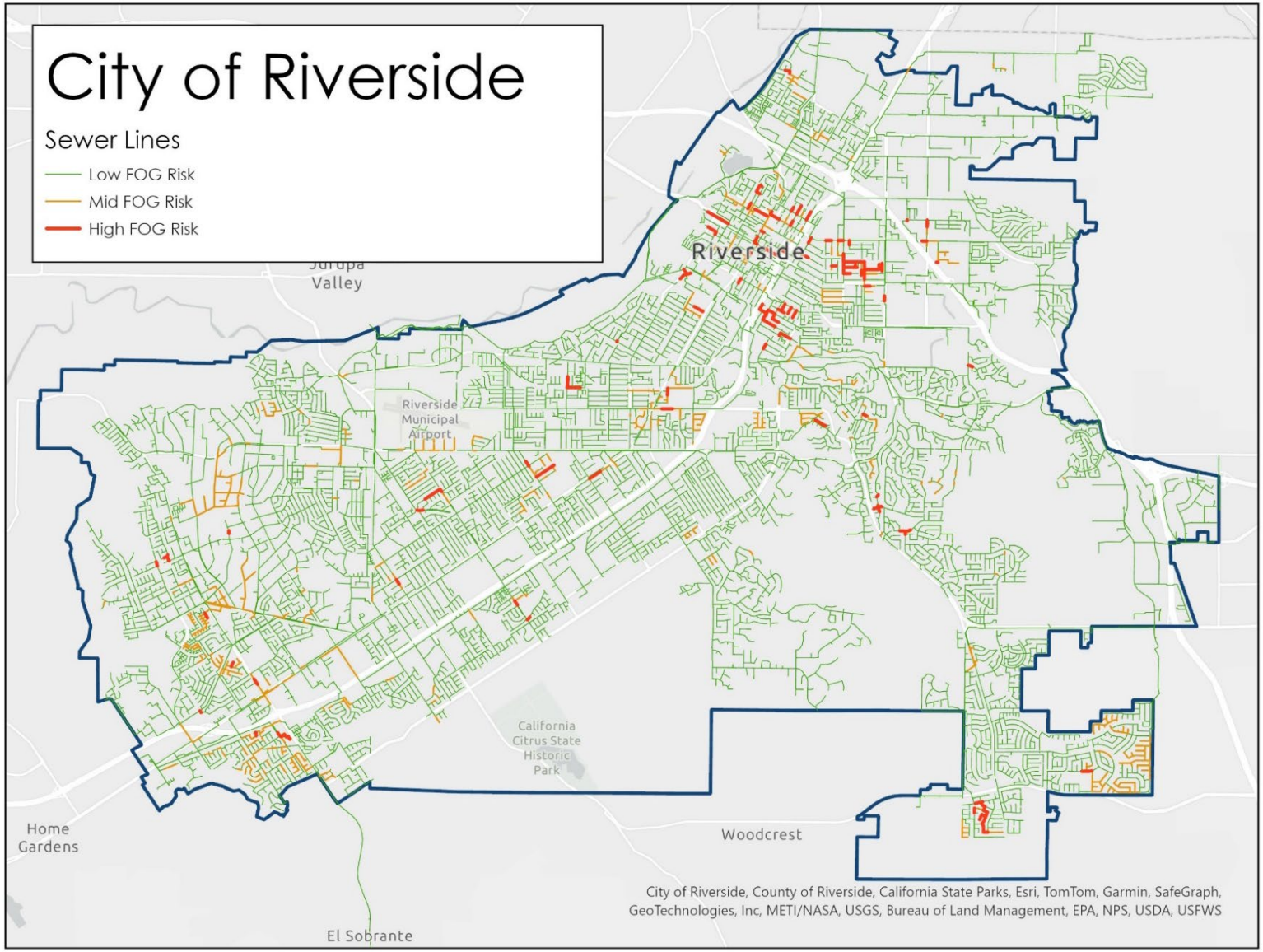
During routine preventative maintenance, City Collection System Technicians identify and document any potential structural issues or objects within the lines that could cause blockages and lead to spills. This data is imported into the collection system GIS map, lines to be filtered based on issues identified during routine line cleaning. Notations from cleaning efforts are then used to inform scheduled CCTV inspection efforts looking for fats, oils, grease and other blockage forming materials and potential sources. These efforts also allow for preemptive cleaning in hotspot areas and targeted education and outreach to homeowners on proper disposal methods.

Hot spot data is recorded and carried over across cleaning cycles which allows for ongoing comparison of condition and effectiveness. This ongoing analysis is particularly valuable for monitoring our High-Frequency lines, ensuring they are necessary, or correctly prioritized in the program, and, when necessary, designating for repair or replacement.

## Source Control for Problem Areas

As detailed in this element, the City's multi-faceted source control program consists of inspections, public education and other activities. When problems in commercial/retail areas are identified, EC staff increase efforts in these areas in an attempt to locate specific causes of the problem. As mentioned, the City also includes informational flyers in residents' sewer bills. In addition to these efforts, the City utilizes GIS mapping to identify clustered areas where sewer line maintenance crews have observed severe FOG buildup in sewer lines. These areas are then referred to EC staff for more focused investigation activities.

**Figure 2 - Areas Subject to Blockages Due to Fats, Oils, & Grease**



# ELEMENT 8: SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

***a) The SSMP must include procedures and activities for routine evaluation and assessment of system conditions, capacity assessment and design criteria, prioritization of corrective actions, and a capital improvement plan (CIP). System Evaluation and Condition Assessment: Evaluate the sanitary sewer system assets utilizing the best practices and technologies available. Identify and justify the amount of its system for its condition to be assessed each year. Prioritize the condition assessment of system areas that hold a high level of environmental consequences if vulnerable to collapse, failure, blockage, or other system deficiencies, are located within the vicinity of surface waters, steep terrain, high groundwater elevations, and environmentally sensitive areas, and are within the vicinity of a receiving water with a bacterial-related impairment on the most current Clean Water Act section 303(d) List. Assess the system conditions using visual observations, video surveillance and/or other comparable system inspection methods. 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. Maintain documents and recordkeeping of system evaluation and condition assessment inspections and activities, and identify system assets vulnerable to direct and indirect impacts of climate change, including but not limited to flooding and/or erosion due to increased storm volumes, frequency, intensity, wildfires, power disruptions, etc.***

***b) Capacity Assessment and Design Criteria: 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 of 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, and the identification of of major sources that contribute to the peak flows associated with sewer spills. The capacity assessment must consider: data from existing system condition assessments, system inspections, system audits, spill history, and other available information, capacity of flood-prone systems subject to increased infiltration and inflow, under normal local and reginal storm conditions, capacity of systems subject to increased infiltration and inflow due to larger and/or higher-intensity storm events as a result of climate change, increases in erosive forces in canyons and streams near underground and above-ground system components due to larger and/or higher-intensity storm events, capacity of major system elements to accommodate dry weather peak slow conditions and***

***updated design storm and wet weather events, and necessary redundancy in pumping and storage capacities.***

c) ***Prioritization of Corrective Action: 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.***

d) ***Capital Improvement Plan: The CIP must include project schedules including the completion dates for all portions of the CIP, internal and external project funding sources for each project, and 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.***

In 2019, the City prepared a planning document for facility planning for the RWQCP and collection system called the Wastewater Collection and Treatment Facilities Integrated Master Plan. This plan, utilizing the same study framework and focus areas, was an update to a similar effort completed in 2008. The Master Plan sets forth prioritized projects necessary to continue reliable wastewater treatment to the City as wastewater flows and population increase. This 2019 Wastewater Integrated Master Plan identifies and plans for expansion and replacement needs through the year 2037.

As part of this study, flow data was collected from various areas of the sewer system and modeled to identify capacity related deficiencies. Projects to address these deficiencies were then grouped into one of the following four timeframe categories based prioritized need:

- **Existing Projects:** Existing Deficiencies to be constructed between years 2020 through 2027.
- **Near-Term: Future** Deficiencies to be constructed between years 2020 through 2027.
- **Long-Term: Future** Deficiencies to be constructed between years 2028 through 2037.
- **Buildout:** Construction in years 2038 and beyond.

## Repair Locations and Prioritization

The Sewer division has developed an in-house GIS application which allows users to input various assets needing repair into a table and visualize them on a system map. The application tracks the asset's status in the repair process across the various work groups which may affect the outcome of those repairs, as noted in the table below, and along

with other relevant details about the asset and the repair. It also enables users to add attachments and cost information as needed.

| City of Riverside Sewer Repair Capabilities | | |
|---|---|---|
| **Work Section** | **Scope** | **Work performed by:** |
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| Construction Administration | Any; generally, emergency or high-priority point repairs with City arterials or other high-traffic areas, or any parts of the system too deep for in-house | Contractor |
| Engineering | Major repairs or co-located point repair projects which can be bundled to form larger projects under one mobilization. | Contractor |

When a repair is entered into the table, it is assigned a rating generally consistent with NASSCO structural quick ratings, that is used to track its priority. Combining the rating with the asset's location allows co-located repairs to be identified and packaged into single projects comprising multiple repair locations. The GIS repair map helps ensure that all identified repairs are tracked from discovery through to closure.

## CCTV Inspection

GIS is being utilized to map and visualize the locations of all lines included in the SECAP. By viewing these lines spatially, we help ensure that no areas are overlooked. GIS allows us to identify and display issues such as cracks, holes, blockages, and other structural problems, and view them on a map. Layers including defects and deficiencies can be overlayed onto other relevant system data, including asset age, traffic flow, and maintenance history, to prioritize repairs effectively.

GIS is also being used for long-term planning, helping us monitor the health of the system and track which lines have been inspected with CCTV. GIS has been used to identify all pipes below 8" in diameter and schedule them for replacement in an effort to eliminate all 6" mainlines from the system due to their propensity for blockage and difficulty in cleaning and inspecting them.

# ELEMENT 9: MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS

***The SSMP must include an Adaptive Management section that addresses its implementation effectiveness and the steps necessary for SSMP improvement:***

***a) Maintain relevant information, including audit findings, that can be used to establish and prioritize appropriate SSMP activities;***

***b) Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP;***

***c) Assess the success of the preventative operation and maintenance activities;***

***d) Update SSMP procedures and activities, as appropriate, based on monitoring or performance evaluations; and***

***e) Identify and illustrate spill trends, including: frequency, location, and estimated volumes.***

The SSMP and the programs described therein are continually reviewed to monitor and measure the performance of the sewer collection system. This review, in conjunction with the SSMP Program Audits element, is used to identify the strengths and weaknesses of current programs and modify them as deemed necessary.

## Maintain Information

To monitor and measure the SSMP's effectiveness, the City manages and maintains detailed records of the sewer system's condition, capacity, and operation and maintenance activities. The Sewer Division utilizes an Oracle Utilities Work and Asset Management System (UWAMS) as its computerized maintenance management system (CMMS). The CMMS database serves as the comprehensive repository for collection system assets and enables maintenance work to be requested, planned, prioritized and recorded. The Sewer Division utilizes ESRI ArcGIS to track and visualize asset, facility, completion of work, spills, hot spot, repair, and spill locations. Records of line cleaning, televising, spills, and other pertinent information provide the necessary data required to identify areas of concern. Among the data tracked are:

- Miles of sewer line cleaned
- Miles of sewer line inspected
- # of service requests completed
- # of spills
- Causes of spills
- Locations of spills

- Quantity spilled
- Repair replacement of sewer lines
- Public Education events/activities

Detailed information relevant to specific sewer lines, manholes, or other assets is also maintained. Databases enable quick access to detailed information, including CCTV videos, spill details, and dates of specific line cleanings.

## Monitor Implementation of SSMP

The City's robust CMMS database facilitates the process by which each element of the SSMP is measured for its effectiveness in fulfilling the goals of the SSMP. This process is performed in conjunction with the audit which covers a period of three years. During these audits the City reviews the SSMP's elements as well as various other key statistics related to its collection system to monitor and assess the effectiveness of the implementation of its SSMP and management of its collection system. Further detail of this process is shown in the proceeding sections.

Table 3 below summarizes the performance indicators the City utilizes to assess the effectiveness of each of its SSMP elements.

**Table 3 - Performance Indicator Summary**

| SSMP Element | Summary of Element Purpose | Performance Indicator for Assessing Effectiveness |
|---|---|---|
| **Goals** | Provide a description of the City's sewer system management program and discuss SSMP goals, implementation, and updates | • Has the schedule for conducting audits and updating the SSMP been adhered to?<br>• Are milestones being monitored?<br>• Is the sewer system management program description up to date?<br>• Has the SSMP been approved by the City's Council on schedule?<br>• Are system maps up to date and are updates to maps performed in a timely manner?<br>• Is asset data maintained up to date? |

| | | |
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| **Organization** | Identify the City's staffing responsible for implementing the SSMP | • Have there been any changes in assigned responsibilities for implementing the SSMP?<br>• Is all contact information up to date?<br>• Is the organizational chart up to date? |
| **Legal Authority** | Demonstrate that the City possesses the necessary legal authority to maintain its collection system and implement the SSMP | • Are codes and ordinances incorporated adequate for fulfilling the SSMP's legal requirements?<br>• Are periodic reviews of ordinances, codes, and service agreements performed?<br>• Have any revisions to codes, ordinances, and service agreements been incorporated? |
| **Operations and Maintenance Program** | Provide a description of the City's sewer collection system Operations and Maintenance Program | • Are all sewer system maps included up to date and are all updates completed in a timely manner?<br>• Total number and volume of spills<br>• Has maintenance work been completed as scheduled?<br>• Have inspections of infrastructure been completed as scheduled?<br>• Has all training been completed as scheduled?<br>• Have consistent records of training and attendance been maintained?<br>• Has the City maintained an inventory of all equipment necessary for maintenance, inspections, and emergency procedures? |

| | | |
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| | | • Has the inventory list been audited and kept up to date?<br>• Have any inventory deficiencies been discovered and were they addressed? |
| **Design and Performance Provisions** | Provide a description of the design criteria, and construction standards and specifications, for the construction, installation, repair, and rehabilitation of existing and any proposed collection system infrastructure | • Has the City implemented its current design and construction standards, specifications, and inspection procedures?<br>• Does the City have a review process for its standards and procedures? |
| **Spill Emergency Response Plan** | Provide an up-to-date Spill Emergency Response Plan to ensure prompt spill detection, response, and information collection | • Does the Spill Emergency Response Plan include the necessary procedures to properly respond, document, and report spills?<br>• Does the City have a review process for its Spill Emergency Response Plan?<br>• Is the Spill Emergency Response Plan up to date?<br>• How does the City assess the effectiveness of its Spill Emergency Response Plan? |
| **Sewer Pipe Blockage Control Program** | Provide a description of the City's Sewer Pipe Blockage Control Program | • Number of blockages/spills due to FOG or other pipe-blocking substances<br>• Number of FOG-producing facilities inspected<br>• Has the City maintained a current inspection plan and schedule of FOG-producing facilities? |
| **System Evaluation and Capacity Assurance** | Provide a summary of the City's evaluation and assessment of the condition and capacity of its sewer collection system | • Has the City developed procedures for evaluating and monitoring the condition and capacity of its sewer collection system? |

| | | |
|---|---|---|
| | | • Has the City adhered to its evaluation and monitoring procedures?<br>• Has the City reviewed and maintained their procedures updated?<br>• Has the City identified any capacity-related problems or condition deficiencies, and have they been addressed? |
| **Monitoring, Measurement, and Program Modifications** | Provide a description of the City's adaptative management program to assess the effectiveness of its SSMP and implement the necessary improvements | • Has the City developed performance indicators to measure the effectiveness of each SSMP element?<br>• Has the City established a plan and schedule to review the performance indicators?<br>• Has the City identified any deficiencies and addressed findings? |
| **Program Audits** | Provide a summary of the City's SSMP audit procedures | • Have audits been performed as required?<br>• Have the audits assessed compliance, implementation, and effectiveness?<br>• Have any deficiencies been identified?<br>• Has a plan and schedule been established to address any deficiencies found?<br>• Were past SSMP audit findings incorporated into the SSMP update as outlined in the schedule?<br>• Was the SSMP Change Log updated, as necessary? |
| **Communication Program** | Provide a description of the City's procedures for communicating with the public and other public agencies | • Has the City developed and implemented communication procedures/practices that will adequately communicate |

| | | |
|---|---|---|
| | | spills and operation and maintenance activities?<br>• Has the City established a review process of its communication procedures/practices and outreach efforts?<br>• Has the City performed outreach activities to residential customers? |

## Assessment of Preventive Maintenance Program

As outlined in **Element 4: Operations and Maintenance Program**, the preventive maintenance program is a critical component in evaluating the effectiveness of the City's SSMP. The processes described in that element are tracked and recorded as outlined in the preceding sections and the data gathered is used to routinely assess the success of the preventative maintenance program. Any findings are then utilized to develop and incorporate the necessary modifications to the SSMP and the operations and maintenance program. This assessment is completed in conjunction with the biannual program audit which is described in the following SSMP element and includes both quantitative and qualitative analysis of SSMP program elements.

## Update Program Elements

Based on the above monitoring and performance evaluations, program elements part of the SSMP will be updated or revised, as appropriate. At a minimum, the SSMP will be updated and re-certified every six years and will include any significant modifications necessary. The City's process includes distributing the SSMP to appropriate staff for review to ensure all information is current and accurate, and to solicit operator input for program improvement. As required by the WDRs, once any major revisions are incorporated, the SSMP will be approved and adopted by the City's Council. Once adopted, the City's authorized representatives will re-certify the SSMP and upload it onto CIWQS.

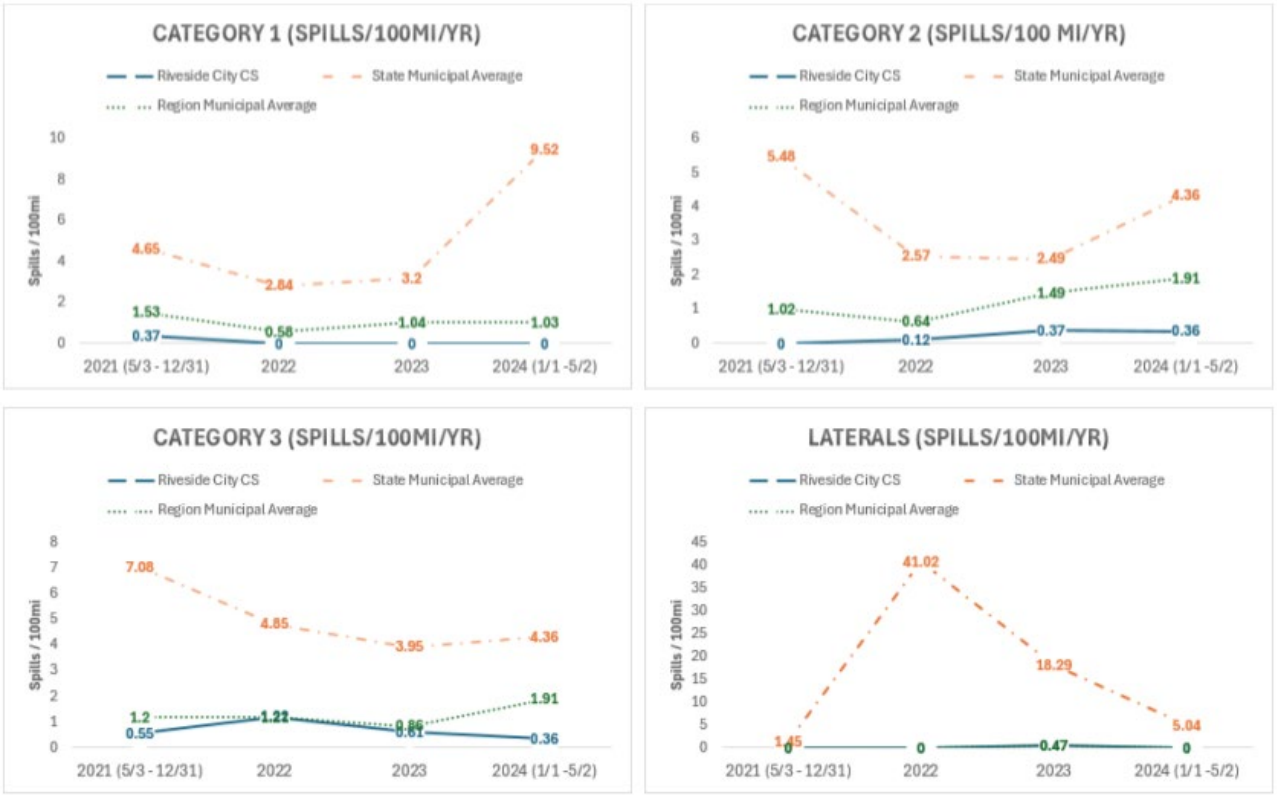
## Spill Trends

The City uses the CIWQS database and mapping system to track and illustrate state and regionwide spill trends. The City also submits their spill information to CIWQS, making it accessible to the public. Identifying trends in spills can be extremely valuable and help to identify problem areas. The City's database includes detailed information about spills including their location, volume, cause, response time, notifications, etc. Through analysis of the database as well as analysis using GIS mapping software, spill trends can be

identified that can uncover unknown issues with the sewer system. Much of this analysis is described and detailed in the Program Audits Element. When trends are found, changes in practices including revisions to the operations and maintenance schedule can be made to reduce future spills.

The following figures illustrate spills by category per 100 Miles per year for the most recent audit period. Comparing CIWQS spill data per spill category for the City of Riverside and Regional and State municipalities throughout the audit period, the City is riverside is well below the averages of those groups.

Figure 3: Spills by Category Per 100 Miles Per Year for Audit Period




## GIS and Dashboards to Track KPIs and Inform Improvements

The Sewer Collections Section utilizes GIS dashboards to track weekly sewer line cleaning production throughout the City. The system has been in place for three maintenance cycles and has been a key factor informing cleaning frequencies and priorities. Within the system, each assets history is recorded to ensure that each is inspected or cleaned during each cycle.

As the system continues to be enhanced, it allows for greater capacity to analyze trends in recorded footage and identify which lines require more attention. By examining the system spatially alongside the CMMS, opportunities for improvement in the preventative maintenance cycle can be identified and implemented as part of the adaptive

management program. Current efforts are focused on adjusting work order generation and sequencing to better align with the system's flow and reduce technician travel time between work orders.

The GIS system is also used to analyze the age of collection system assets and to help prioritize those nearing the end of their anticipated lifespan for replacement.

Field Technicians have been equipped with smartphones to facilitate electronic field data collection tools and regular access to the most up-to-date sewer and storm system maps. These tools also allow for real-time data collection and quicker response to service requests and spills.

# ELEMENT 10: SSMP PROGRAM AUDITS

***As part of the SSMP, the Enrollee shall conduct periodic internal audits, appropriate to the size of the system and the number of spills. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the Enrollee's compliance with the SSMP requirements identified in the General Order 2022-0103-DWQ Attachment D, including identification of any deficiencies in the SSMP and steps to correct them.***

In accordance with the WDRs, the City conducts all internal audits of its SSMP every three years. The purpose of the audits is to assess the performance of the SSMP and determine if any improvements or changes must be made. The audits consist of an audit standard operating procedure (SOP) drafted by the City to streamline and document the audit process. The audit worksheet is included as Attachment A in this document. Together with Attachment A, the City uses the data gathered as part of the Monitoring, Measurement, and Program Modifications Element and performance indicators to: 1) evaluate the effectiveness of the City's SSMP; 2) ensure compliance with the WDRs; 3) identify any SSMP deficiencies; and 4) correct any SSMP deficiencies identified by implementing the necessary modifications.

The final work product derived from the audit process is a summary of organization changes, operations and maintenance activities, sewer pipe blockage inspections, CIP projects, public education events, and other pertinent activities and systematic changes that the City will implement. This summary consists of narrative, graphical, and cartographic descriptions and information as well as recommendations on further progress.

# ELEMENT 11: COMMUNICATION PROGRAM

***The Enrollee shall communicate on a regular basis with:***

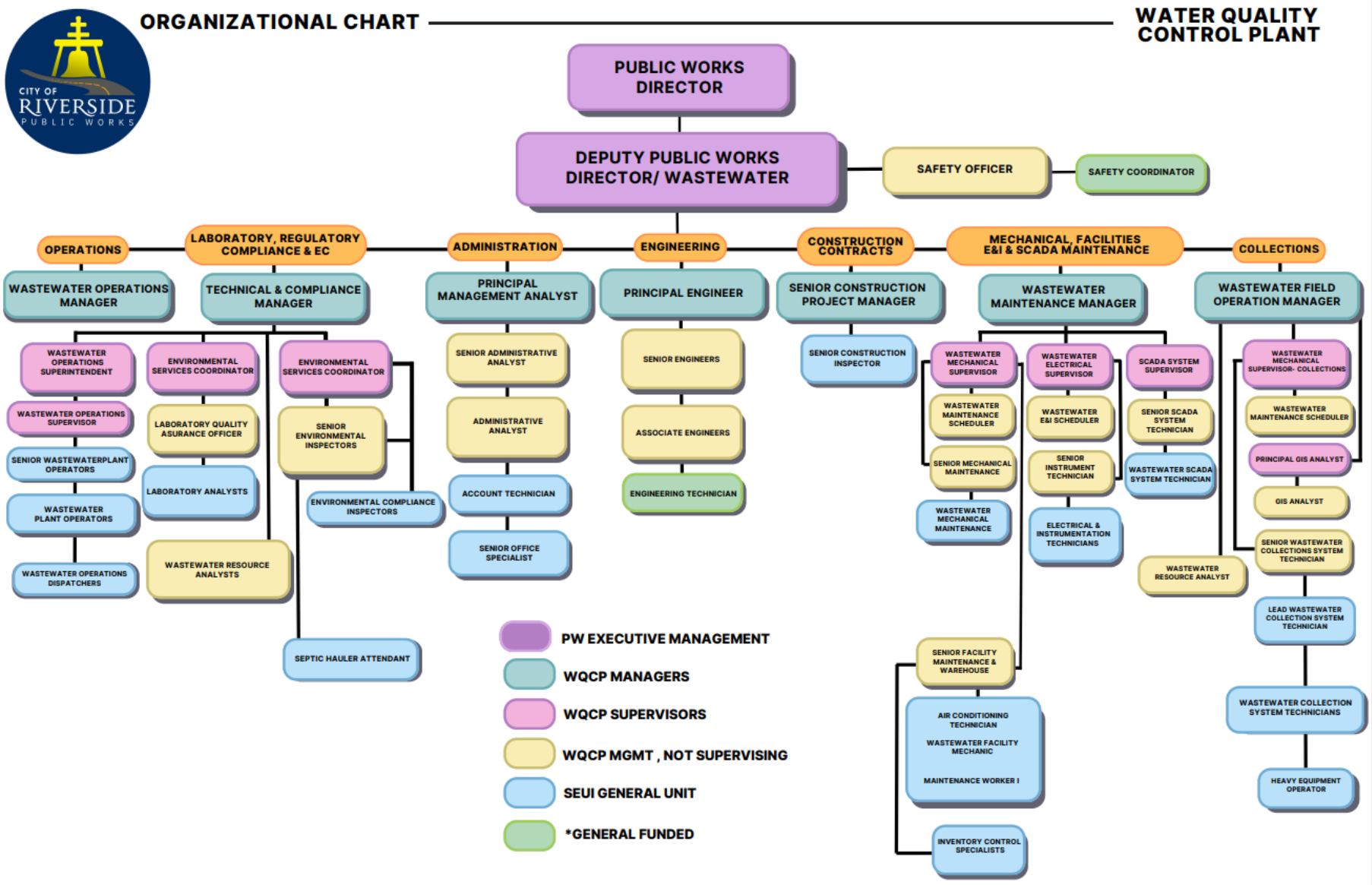
***a) The public: for spills and discharges resulting in closures of public areas, or that enter a source of drinking water and on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented. b) Owners/operators of systems that connect into the Enrollee's system, including satellite systems, for: system operation, maintenance, and capital improvement-related activities.***

The City of Riverside utilizes an informative communication program designed to provide the public with information and enable them to comment on all facets of the sewer system. This is accomplished through the publication of various sewer system documents on the City's website. These can be found at http://www.riversideca.gov/publicworks/sewer/. Viewers of any sewer related information can contact the Sewer Division by phone or email and ask questions and provide feedback on any aspect of the sewer system.

The Environmental Compliance Section also performs significant public education and outreach throughout the City. They participate in several events sponsored by local agencies such as the Riverside Police Department, Chamber of Commerce, United Way, and others. During these events, EC staff members communicate the effects of discharging pipe-blocking substances, pharmaceuticals, and other substances to the sewer system. EC staff members have a variety of promotional items available for distribution.

In addition to the above, the City also communicates with the public by including occasional informational inserts in residents' sewer bills and displaying sewer-related messages on City social media.

The City of Riverside communicates with other sewerage agencies on a regular basis. The City regularly meets and communicates with the Community Services Districts of Jurupa, Rubidoux, and Edgemont to discuss any pertinent issues regarding their or the City's sewer systems. Other neighboring cities including Corona, Norco, Jurupa Valley, Moreno Valley, and the County of Riverside are contacted regarding a variety of topics as need dictates. All of these agencies are invited to view the City's website and documents found there and ask questions or provide comments through phone or email.


ORGANIZATIONAL CHART
WATER QUALITY CONTROL PLANT
CITY OF RIVERSIDE PUBLIC WORKS
PUBLIC WORKS DIRECTOR
DEPUTY PUBLIC WORKS DIRECTOR/ WASTEWATER
SAFETY OFFICER
SAFETY COORDINATOR
OPERATIONS
LABORATORY, REGULATORY COMPLIANCE & EC
ADMINISTRATION
ENGINEERING
CONSTRUCTION CONTRACTS
MECHANICAL, FACILITIES E&I & SCADA MAINTENANCE
COLLECTIONS
WASTEWATER OPERATIONS MANAGER
TECHNICAL & COMPLIANCE MANAGER
PRINCIPAL MANAGEMENT ANALYST
PRINCIPAL ENGINEER
SENIOR CONSTRUCTION PROJECT MANAGER
WASTEWATER MAINTENANCE MANAGER
WASTEWATER FIELD OPERATION MANAGER
WASTEWATER OPERATIONS SUPERINTENDENT
WASTEWATER OPERATIONS SUPERVISOR
SENIOR WASTEWATERPLANT OPERATORS
WASTEWATER PLANT OPERATORS
WASTEWATER OPERATIONS DISPATCHERS
ENVIRONMENTAL SERVICES COORDINATOR
LABORATORY QUALITY ASURANCE OFFICER
LABORATORY ANALYSTS
WASTEWATER RESOURCE ANALYSTS
ENVIRONMENTAL SERVICES COORDINATOR
SENIOR ENVIRONMENTAL INSPECTORS
ENVIRONMENTAL COMPLIANCE INSPECTORS
SEPTIC HAULER ATTENDANT
SENIOR ADMINISTRATIVE ANALYST
ADMINISTRATIVE ANALYST
ACCOUNT TECHNICIAN
SENIOR OFFICE SPECIALIST
SENIOR ENGINEERS
ASSOCIATE ENGINEERS
ENGINEERING TECHNICIAN
SENIOR CONSTRUCTION INSPECTOR
WASTEWATER MECHANICAL SUPERVISOR
WASTEWATER MAINTENANCE SCHEDULER
SENIOR MECHANICAL MAINTENANCE
WASTEWATER MECHANICAL MAINTENANCE
WASTEWATER ELECTRICAL SUPERVISOR
WASTEWATER E&I SCHEDULER
SENIOR INSTRUMENT TECHNICIAN
ELECTRICAL & INSTRUMENTATION TECHNICIANS
SCADA SYSTEM SUPERVISOR
SENIOR SCADA SYSTEM TECHNICIAN
WASTEWATER SCADA SYSTEM TECHNICIAN
WASTEWATER RESOURCE ANALYST
WASTEWATER MECHANICAL SUPERVISOR- COLLECTIONS
WASTEWATER MAINTENANCE SCHEDULER
PRINCIPAL GIS ANALYST
GIS ANALYST
SENIOR WASTEWATER COLLECTIONS SYSTEM TECHNICIAN
LEAD WASTEWATER COLLECTION SYSTEM TECHNICIAN
WASTEWATER COLLECTION SYSTEM TECHNICIANS
HEAVY EQUIPMENT OPERATOR
SENIOR FACILITY MAINTENANCE & WAREHOUSE
AIR CONDITIONING TECHNICIAN
WASTEWATER FACILITY MECHANIC
MAINTENANCE WORKER I
INVENTORY CONTROL SPECIALISTS
PW EXECUTIVE MANAGEMENT
WQCP MANAGERS
WQCP SUPERVISORS
WQCP MGMT , NOT SUPERVISING
SEUI GENERAL UNIT
*GENERAL FUNDED

**SSMP Audit Procedure**

**EFFECTIVE DATE**: **MAY 2025** **APPROVED:**
**REVIEW DATE:** **MAY 2027**
**PREPARED BY:** **RWQCP Management**

_____
**Deputy Public Works Director, Wastewater**

**City of Riverside**
**RWQCP Administrative Directive**

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**SUBJECT:** **CITY OF RIVERSIDE SEWER SYSTEM MANAGEMENT PLAN INTERNAL AUDIT STANDARD OPERATING PROCEDURE**

**PURPOSE:**
The purpose of this Standard Operating Procedure (SOP) is to outline the steps necessary to evaluate the effectiveness of the City of Riverside's (City) Sewer System Management Plan (SSMP) and identify any needed improvements and assure the goals of the SSMP are achieved.

**GOAL:**
The goal of the SOP is to comply with the requirements outlined in Section 5.4 Sewer System Management Plan Audits of the State Water Resources Control Board adopted Order No. 2022-0103-DWQ, Statewide General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems. The WDRs provide unified procedures for tracking and reporting sanitary system overflows spills, establish consistent requirements for the development and implementation of an SSMP and uniform reporting requirements, and facilitate consistent enforcement for violations.

In May 2009, RWQCP staff prepared and adopted its SSMP in compliance with the WDRs, outlining the provisions to provide proper and efficient management, operation, and maintenance of its sewer collection system.

As required by the WDRs, the RWQCP must conduct an internal audit of its SSMP at a minimum of every three years. The goals of the audits are to:

1. Evaluate the implementation and effectiveness of the SSMP.
2. Evaluate the City's compliance with the WDRs.
3. Identify any deficiencies with the SSMP.
4. Correct any SSMP deficiencies identified by implementing the necessary modifications.

This SOP outlines the internal practices and procedures RWQCP staff will follow to complete an audit of its SSMP and incorporate the necessary revisions.

**LIST OF ACRONYMS:**

| | |
|---|---|
| BACWA | Bay Area Clean Water Agencies |
| CIP | Capital Improvement Project |
| CIWQS | California Integrated Water Quality System |
| EC | Environmental Compliance |
| FOG | Fats, Oils, and Grease |
| LRO | Legally Responsible Official |
| MGD | Million Gallons per Day |
| MRP | Monitoring and Reporting Program |
| SERP | Spill Emergency Response Plan |
| OES | Office of Emergency Services |
| O&M | Operations and Maintenance |
| RWQCP | Regional Water Quality Control Plant |
| SOP | Standard Operating Procedure |
| SSMP | Sewer System Management Plan |
| WDRs | Waste Discharge Requirements |

**CITY AUDIT TEAM:**
The SSMP audit team is led by the RWQCP's Collections Section Wastewater Field Operation Manager. The Collections team will utilize this SOP to complete the City's SSMP audit and will collaborate with RWQCP Regulatory, EC, and Administration staff to incorporate the necessary revisions.

Per the WDRs, the Collections team will complete audits at a minimum frequency of once every three years, covering a three-year period beginning at the end of the last audit period.

**PROCEDURE:**
The following section outlines the procedures RWQCP staff will follow to complete an audit of the SSMP.

**Collections Operator Input and Feedback**
Prior to and as part of the SSMP audit process, feedback from Collections Technician and maintenance scheduling staff is requested. Collections field and scheduling staff are asked to consider the SSMP and provide any recommended improvements.

Utilizing this feedback provide a discussion on the implementation of any outcomes or new changes. Include a chart summarizing all feedback and outcomes.

**SSMP Audit**
In accordance with the specifications of the WDRs, the audit focuses on four (4) specific areas:

**Focus Area 1:** Evaluating the implementation and effectiveness of the City's SSMP

**Focus Area 2:** Evaluate the City's compliance with the WDRs

**Focus Area 3:** Identify SSMP deficiencies in addressing ongoing spills and discharges to Waters of the State

**Focus Area 4:** Identify necessary modifications to the SSMP to correct deficiencies along with a schedule to make those modifications

Each of the Focus Areas are described below.

**Focus Area 1**
Utilizing the data available from CIWQS, compare the performance of the City's sewer system over the audit period to other systems statewide and within Region 8. Available CIWQS data is quantified per spill category (i.e., Category 1, Category 2, and Category 3) for the City's collection system, as well as statewide and Region 8 systems and includes:

- Number of spills
- Net volume of spills
- Spill rate per 100 miles
- Spill Failure Location

Once gathered, present all metrics graphically to compare the City's data with statewide and Region 8 data. Utilizing these metrics as benchmarks, staff can assess the effectiveness of the SSMP at managing the City's collection system, reducing and preventing spills, and containing and mitigating spills that do occur.

Present all the comparisons and provide a discussion.

**Focus Area 2**

Section 5 of the WDRs outlines the specifications applicable to collection system operators. As part of the audit, a review of the City's overall compliance with these specifications is required.

Review each of the specifications in Section 5 below to determine the City's compliance.

| WDR Specification | Compliant? |
|---|---|
| 5.1 Designation of Legally Responsible Official | |
| 5.2 SSMP Development and Implementation | |
| 5.3 Certification of SSMP Updates | |
| 5.4 SSMP Audits | |
| 5.5 Six-Year SSMP Update | |
| 5.6 System Resilience | |
| 5.7 Allocation of Resources | |
| 5.8 Designation of Data Submitters | |
| 5.9 Reporting Certification | |
| 5.10 System Capacity | |
| 5.11 System Performance Analysis | |
| 5.12 Spill Emergency Response Plan and Remedial Actions | |
| 5.13 Notification, Monitoring, Reporting, and Recordkeeping Requirements | |
| 5.14 Electronic Sanitary Sewer System Service Area Boundary Map | |
| 5.15 Voluntary Reporting of Spills from Privately-Owned Sewer Laterals and/or Private Sanitary Sewer Systems | |
| 5.16 Voluntary Notification of Spills from Privately-Owned Laterals and/or Systems to the California Office of Emergency Services | |
| 5.17 Unintended Failure to Report | |
| 5.18 Duty to Report to Water Boards | |
| 5.19 Operation and Maintenance | |

A checklist including more thorough explanations of Section 5 specifications is included in this SOP as Appendix A.

Complete this checklist to evaluate the City's compliance with each of the Section 5 specifications and provide a discussion.

**Focus Area 3**
Similar to Focus area 1, the City will utilize data from CIWQS and evaluate its spill history specific to any spills which discharged to Waters of the State. City staff will research these spills to determine whether any deficiencies in the SSMP and/or SSMP required procedures cause or exacerbated the conditions which led to a discharge to Waters of the State. Any factors determined to have been contributing will be remedied by way of the SSMP update.

**Focus Area 4**
Attachment D of the WDRs outlines what information each of the elements must include and identify. As part of the audit, a review of each SSMP element is required.

The SSMP consists of 11 elements:

1. SSMP Goal and Introduction
2. Organization
3. Legal Authority
4. Operation and Maintenance Program
5. Design and Performance Standards
6. Spill Emergency Response Plan
7. Sewer Pipe Blockage Control Program
8. System Evaluation, Capacity Assurance, and Capital Improvements
9. Monitoring, Measurement, and Program Modifications
10. Internal Audits
11. Communication Program

The Bay Area Clean Water Agencies (BACWA) drafted a "Guide for Developing and Updating Sewer System Management Plans (SSMPs)" in March 2024. This document was drafted by BACWA and reviewed by State and Regional Water Board staff to guide and assist agencies in developing and updating their SSMPs. Utilizing BACWA's guide complete a review of the City's SSMP elements.

BACWA's guiding document is included in this SOP as Appendix B.

Present all review findings and provide a discussion of any SSMP revisions to be implemented. Include a chart summarizing all findings.

## Appendix A

## Section 5 Specifications Checklist

| WDR Specification | Compliant? |
|---|---|
| 5.1 Designation of Legally Responsible Official<br>The Enrollee shall designate a Legally Responsible Official (LRO) that has authority to ensure the enrolled sanitary sewer system(s) complies with this Order, and is authorized to serve as a duly authorized representative. The Legally Responsible Official must have responsibility over management of the Enrollee's entire sanitary sewer system, and must be authorized to make managerial decisions that govern the operation of the sanitary sewer system, including having the explicit or implicit duty of making major capital improvement recommendations to ensure long-term environmental compliance. The Legally Responsible Official must have or have direct authority over individuals that:<br>• Possess a recognized degree or certificate related to operations and maintenance of sanitary sewer systems, and/or<br>• Have professional training and experience related to the management of sanitary sewer systems, demonstrated through extensive knowledge, training and experience. | |
| 5.2 SSMP Development and Implementation<br>To facilitate adequate local funding and management of its sanitary sewer system(s), the Enrollee shall develop and implement an updated Sewer System Management Plan. The scale and complexity of the Sewer System Management Plan, and specific elements of the Plan, must match the size, scale and complexity of the Enrollee's sanitary sewer system(s). The Sewer System Management Plan must address, at minimum, the required Plan elements in Attachment D (Sewer System Management Plan – Required Elements) of this General Order. To be effective, the Sewer System Management Plan must include procedures for the management, operation, and maintenance of the sanitary sewer system(s). The procedures must:<br>1. Incorporate the prioritization of system repairs and maintenance to proactively prevent spills, and<br>2. Address the implementation of current standard industry practices through available equipment, technologies, and strategies. | |
| 5.3 Certification of SSMP Updates<br>The Legally Responsible Official shall certify and upload its Sewer System Management Plan and all subsequent updates to the online CIWQS Sanitary Sewer System Database. | |
| 5.4 SSMP Audits<br>The Enrollee shall conduct an internal audit of its Sewer | |

| WDR Specification | Compliant? |
|---|---|
| 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 System Database per the requirements in section 3.10 (Sewer System Management Plan Audit Reporting Requirements) of Attachment E1 of this General Order.<br><br>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 minimum, the audit must:<br>• Evaluate the implementation and effectiveness of the Enrollee's Sewer System Management Plan in preventing spills;<br>• Evaluate the Enrollee's compliance with this General Order;<br>• Identify Sewer System Management Plan deficiencies in addressing ongoing spills and discharges to waters of the State; and<br>• Identify necessary modifications to the Sewer System Management Plan to correct deficiencies.<br><br>The Enrollee shall submit a complete audit report that includes:<br>• Audit findings and recommended corrective actions;<br>• A statement that sewer system operators' input on the audit findings has been considered; and<br>• A proposed schedule for the Enrollee to address the identified deficiencies. | |
| 5.5 Six-Year SSMP Update<br>At a minimum, the Enrollee shall update its Sewer System Management Plan every six (6) years after the date of its last Plan Update due date. The Updated Sewer System Management Plan must include:<br>• Elements required in Attachment D (Sewer System Management Plan – Required Elements) of this Order;<br>• Summary of revisions included in the Plan update based on internal audit findings; and<br>• Other sewer system management-related changes.<br><br>The Enrollee's governing entity shall approve the updated Plan. The Legally Responsible Official shall upload and certify | |

| WDR Specification | Compliant? |
|---|---|
| the approved updated Plan in the online CIWQS Sanitary Sewer System. During the time period in between Plan updates, the Enrollee shall continuously document changes to its Sewer System Management Plan in a change log attached to the Plan. | |
| 5.6 System Resilience<br>The Enrollee shall include and implement system-specific procedures in its Sewer System Management Plan to proactively prioritize: (1) operation and maintenance, (2) condition assessments, and (3) repair and rehabilitation, to address ongoing system resilience, as specified in Attachment D (Sewer System Management Plan – Required Elements) of this General Order. | |
| 5.7 Allocation of Resources<br>The Enrollee shall:<br>• Establish and maintain a means to manage all necessary revenues and expenditures related to the sanitary sewer system; and<br>• Allocate the necessary resources to its sewer system management program for:<br>• Compliance with this General Order,<br>• Full implementation of its updated Sewer System Management Plan,<br>• System operation, maintenance, and repair, and<br>• Spill responses. | |
| 5.8 Designation of Data Submitters<br>The Legally Responsible Official may designate one or more individuals as a Data Submitter for reporting of spill data. The Legally Responsible Official shall authorize the designation of Data Submitter(s) through the online CIWQS database. | |
| 5.9 Reporting Certification<br>The Legally Responsible Official shall electronically certify, on the Enrollee's behalf, all applications, reports, the Sewer System Management Plan(s) and corresponding updates, and other information submitted electronically into the online CIWQS Sanitary Sewer System Database, as follows: "I certify under penalty of perjury under the laws of the State of California that the electronically submitted information was prepared under my direction or supervision. Based on my inquiry of the person(s) directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete, and complies with the Statewide Sanitary Sewer Systems General Order. I am aware that there are significant penalties for submitting false information | |
| 5.10 System Capacity | |

| WDR Specification | Compliant? |
|---|---|
| The Enrollee shall maintain the system capacity necessary to convey: (1) base flows during dry weather conditions, and (2) wet weather peak flows consistent with designated local historic storms. Design storms must take into account system-specific stormwater contributions via inflow and infiltration, and location-specific depth of groundwater and storm frequencies. The Enrollee shall implement capital improvements to provide adequate hydraulic capacity to:<br>• Meet or exceed the design criteria as defined in the Enrollee's System Evaluation and Capacity Assurance element of its Sewer System Management Plan; and<br>• Prevent system capacity-related spills, and adverse impacts to the treatment efficiency of downstream wastewater treatment facilities. | |
| 5.11 System Performance Analysis<br>The Enrollee shall include a running 10-year system performance analysis in its Annual Report. The analysis must include two CIWQS-generated graphs presenting the following information: Graph 1 – Total Spill Volume per Year: X axis: A 10-year period which includes the current calendar year and the nine previous calendar years; Y axis: The total spill volume, per Spill Category, for each calendar year. Graph 2 – Total Number of Spills per Year: X axis: A 10-year period which includes the current calendar year and the nine previous calendar years; Y axis: The total number of spills, per Spill Category, for each calendar year. The current calendar year is the calendar year covered in the Annual Report. The Enrollee shall generate the graphs in CIWQS, using the existing data in the online CIWQS Sanitary Sewer System Database | |
| 5.12 Spill Emergency Response Plan and Remedial Actions<br>Within six (6) months of the Adoption Date of this General Order, the Enrollee shall update and implement its Spill Emergency Response Plan, per Attachment D, section 6 (Spill Emergency Response Plan) of this General Order<br>The Enrollee shall certify, in its Annual Report, that its Spill Emergency Response Plan is up to date. The Spill Emergency Response Plan shall include measures to protect public health and the environment. The Enrollee shall respond to spills from its system(s) in a timely manner that minimizes water quality impacts and nuisance by:<br>• Immediately stopping the spill and preventing/minimizing a discharge to waters of the State;<br>• Intercepting sewage flows to prevent/minimize spill | |

| WDR Specification | | Compliant? |
|---|---|---|
| | volume discharged into waters of the State;<br>• Thoroughly recovering, cleaning up and disposing of sewage and wash down water; and<br>• Cleaning publicly accessible areas while preventing toxic discharges to waters of the State. | |
| 5.13 | Notification, Monitoring, Reporting, and Recordkeeping Requirements<br>The Enrollee shall comply with notification, monitoring, reporting, and recordkeeping requirements in Attachment E1 of this General Order. | |
| 5.14 | Electronic Sanitary Sewer System Service Area Boundary Map<br>For continuing enrollees, starting on July 1, 2025, and no later than December 31, 2025:<br><br>The Legally Responsible Official shall submit, to the State Water Board, geospatial data detailing the locations of the Enrollee's sanitary sewer system service area boundary, per the required content and specifications in section 3.8 (Electronic Sanitary Sewer System Service Area Boundary Map) of Attachment E1 of this General Order, for each system identified by a WDID number. | |
| 5.15 | Voluntary Reporting of Spills from Privately-Owned Sewer Laterals and/or Private Sanitary Sewer Systems<br>Within 24 hours of becoming aware of a spill (as described below) from a private sewer lateral or private sanitary sewer system that is not owned/operated by the Enrollee, the Enrollee is encouraged to report the following observations to the online CIWQS Sanitary Sewer System Database | |
| 5.16 | Voluntary Notification of Spills from Privately-Owned Laterals and/or Systems to the California Office of Emergency Services<br>Upon observing or acquiring knowledge of any of the following from a private sewer lateral or private sanitary sewer system that is not owned/operated by the Enrollee, the Enrollee is encouraged to notify the California Office of Emergency Services (as provided by Health and Safety Code section 5410 et. seq. and Water Code section 13271), or inform the responsible party that State law requires such notification to the Office of Emergency Services by any person that causes or allows a sewage discharge to waters of the State:<br>• A spill equal to 1,000 gallons or more that discharges (or has a potential to discharge) to waters of the State, or a drainage conveyance system that discharges to waters of the State; or<br>• A spill of any volume to surface waters. | |
| 5.17 | Unintended Failure to Report<br>If an Enrollee becomes aware that they unintentionally | |

| WDR Specification | | Compliant? |
|---|---|---|
| | failed to submit relevant facts in any report required in this General Order, the Enrollee shall promptly notify Regional Water Board and State Water Board staff. | |
| 5.18 | Duty to Report to Water Boards<br>In accordance with Water Code section 13267 and/or section 13383, upon request by the State Water Board Executive Director (or designee) or a Regional Water Board Executive Officer (or designee), the Enrollee shall provide the requested information which the State or Regional Water Board deems necessary to determine compliance with this General Order. | |
| 5.19 | Operation and Maintenance<br>To prevent discharges to the environment, the Enrollee shall maintain in good working order, and operate as designed, any facility or treatment and control system designed to contain sewage and convey it to a treatment plant. | |

Appendix B

BACWA
Guide for Developing and Updating Sewer System Management Plans (SSMPs)
March 2024

# Guide for Developing and Updating of Sewer System Management Plans

**JULY 2024**

*DISCLAIMER: This document was originated by, funded by, and is the property of the Bay Area Clean Water Agencies, a consortium of wastewater collection and treatment agencies located in the San Francisco Bay Area. All guidance in this document is intended to provide Sanitary Sewer Systems General Order enrollees a tool for preparing Sewer System Management Plans that comply with the Order requirements. These materials are informational only, and are not intended to implement, interpret, or create new requirements. In the case of any conflict with existing statutes, regulations, or orders, the actual statute, regulation, or order governs.*

*It may be freely distributed without restriction except that it cannot be sold, and distribution shall be at no cost to the recipient(s) other than nominal costs for reproduction and printing.*

* * *

Please note: This document has been formatted for screen reader accessibility, and as such, acronyms commonly used in the industry are not used in this document, with exceptions in rare instances for emphasis.

However, in keeping with the common use of acronyms in conversations and discussions, a list of acronyms is included in **Appendix 7**.

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# Acknowledgements

This Sewer System Management Plan Guidance Manual was prepared with the generous support of the Bay Area Clean Water Agencies (BACWA) with expert input from a consortium of sewer collection system agencies and leading subject matter experts. It has been reviewed by State Water Board staff for helping collection system agencies develop and update their Sewer System Management Plans (Sewer System Management Plans or Plans). We wish to thank the following individuals and organizations for their invaluable participation as authors, editors, and/or reviewers for preparation of this document.

- Mary Cousins, P.E. (BACWA Technical Manager)
- Guidance Manual Development Team:
    - James Fischer (Fischer Compliance LLC)
    - Sam Rose (Sam Rose Consulting)
    - Richard Cunningham (Utility Software LLC)
    - Paul Causey (Causey Consulting)
- Peer Reviewers:
    - AM Consulting
    - Napa Sanitation District
    - Western Municipal Water District
    - Elsinore Valley Municipal Water District
    - City of Vacaville
    - City of Brentwood
    - Sacramento Area Sewer District
- State Water Board (Division of Water Quality and Office of Enforcement)
- California Association of Sanitation Agencies
- Central Valley Clean Water Association
- Clean Water SoCal
- California Water Environment Association

# Introduction and Frequently Asked Questions

## Is the Manual a Guidance Document or Is It an Enforcement Tool?

- This question was raised during the development of the manual because - like the Vehicle Code - the manual can be interpreted as both an educational tool as well as an enforcement device, depending on the end user's point-of-view and business purposes.

  The authors and reviewers elected to adopt a style and tone in the language in the manual that stresses education and learning. This will help guide the end user towards achieving the Water Board's strategic goal of having agencies operate in a process of continuous improvement.

## What are the differences with 2006 and 2022 Waste Discharge Requirements?

- Both Waste Discharge Requirements (WDRs) require all publicly-owned sewer agencies with >1 mile of sewer pipes to enroll for coverage. For a copy of the Order, visit the enroll for regulatory coverage website.
- The 2022 WDR (referred to throughout this manual as the "Reissued WDR") has additional changes and new requirements.
- This manual focuses on the key requirements of the Reissued WDR to facilitate agencies in developing and updating their Sewer System Management Plans.
- A summary of the key differences between the 2006 and 2022 WDRs is provided in Appendix 1. In addition, Appendix 3 contains archived State Water Board staff presentations on the 2022 WDR that were developed in April 2023.

## What Do Agencies Need to Do to Help Stay in Compliance?

- Visit the State Water Board's Spill Reduction website to stay current and review the all the latest regulatory compliance information.
- Attend – and document – staff completion of available industry training.
- Maintain a Sewer System Management Plan Change Log for documenting all agency Sewer System Management Plan modifications for the Reissued WDR (see Appendix 2).
- Review all key compliance deadlines for the Reissued WDR (see checklist included in Appendix 2 as an example) to help reduce agency violations for missing deadlines.

## Why Was the Manual Developed?

- To provide a "blueprint" for assisting small/medium-sized collection system owners and operators to comply with the State Water Resources Control Board (SWRCB) General Reissued Waste Discharge Requirements for Sanitary Sewer Systems ("Reissued WDR", Order No. 2022-0103-DWQ).
- The Reissued WDR became effective on June 5, 2023 and replaced the 2006 WDR (Order No. 2006-003-DWQ and its Monitoring and Reporting Program, Order No. 2013-0058-EXEC).

## What Size Sewer Agency Is the Manual Intended For?

- Although the manual will be useful to any size agency, it was carefully designed to match the size, scale, and complexity of small/medium-sized sewer systems to help facilitate practical use by all levels of agency personnel responsible for developing, updating, and implementing a Sewer System Management Plan.
- Suggested strategies for compliance with the WDR appear in the document but due to the various sizes or complexities of sanitary sewer systems, compliance strategies will vary greatly.

## Why Do Collection System Managers and Operators Need this Version of the Manual?

- It replaces the previous (2015) version of the guidance manual and reflects the increased complexity and specificity of the newly reissued WDR.

Note, however, the 2015 version of this manual is still available for reference. Many recommendations from the 2015 version have been incorporated into this manual including a summary of recommendations distilled from the document (see Appendix 4).

- It offers a more practical approach to developing a Sewer System Management Plan than the 2015 version by providing a step-by-step method to specifically meet the requirements of the Reissued WDR.
- This updated manual helps operators comprehensively demonstrate compliance, implementation, and effectiveness of their Sewer System Management programs.

## How Was the Manual Developed?

- A point-by-point technical review of the Reissued WDR was completed by industry subject matter experts to help distill the WDR content into the manual to help agencies expedite compliance, implementation, and improve effectiveness of Sewer System Management Plans.
- Over 300 individual collection system agency managers/operators were surveyed to ascertain opinions about the 2015 version and solicit additional input and guidance for development of this manual.

## What Does the Manual Do?

- Provides guidance aimed at small/medium sized collection system agencies required to comply with the requirements of the Reissued WDR.
- Refines, updates, and provides additional tools for helping Legally Responsible Officials and Data Submitters, managers, supervisors, and field operators overcome challenges with the increased depth and complexity of the Reissued WDR (compared to original WDR, Order 2006-003-DWQ and its accompanying Monitoring and Reporting Program, Order No. 2013-0058-EXEC, both now rescinded).

## What Doesn't the Manual Do?

- Replace legal review/assurances or shielding of an agency against potential enforcement including Clean Water Act litigation.
- Substitute responsibility of an agency to complete/adopt a fully compliant Sewer System Management Plan.
- Provide a "One Size Fits All" document or checklist substitute.

## Strategies and Where to Start

Key strategies for making the best use of the Manual include:

- Have a clear understanding of the overall concepts/changes to the Revised WDR.
  The Revised WDR contains new requirements and expectations of agencies. Agencies must adapt to the Reissued WDR requirements.
- The manual's style has a step-by-step "How To Do It" approach, different than the 2015 version, which provided general guidance in narrative form.

- Put together a Sewer System Management Plan team made up of your agency's Operations and Engineering staff to get the best input into the document. Both Operations and Engineering have WDR requirements to fulfill that cross over disciplines.



Photo Credits: Rosamond Community Services District, City of Roseville, West Bay Sanitary District

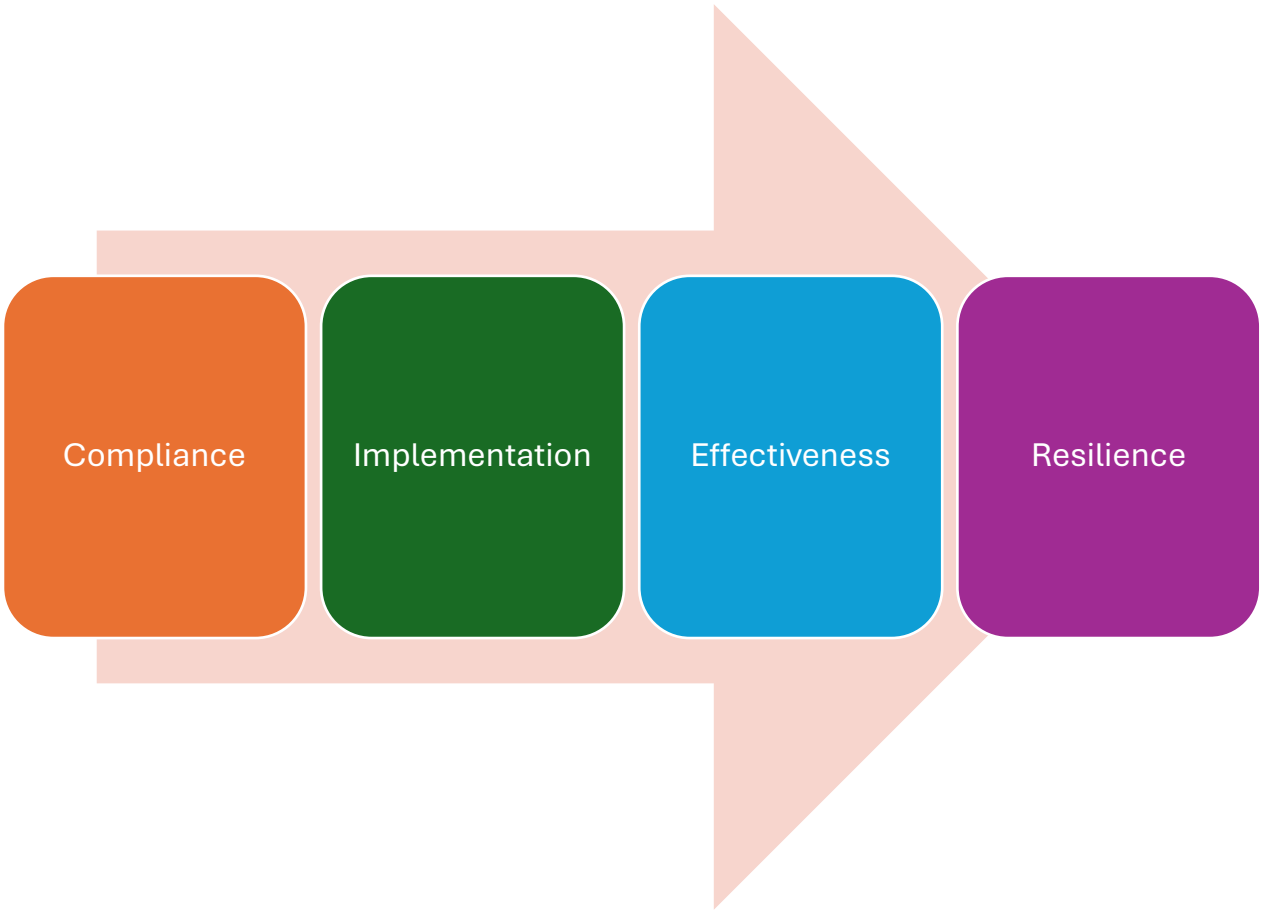
## Document Structure

The information in this User manual is divided into multiple sections that correspond to the WDR requirements in Attachment D, Sewer System Management Plan-Required Elements.

Each element discussed in the manual is broken into the following sections:

- Requirements – concise description summarizing applicable WDR requirements.
- Compliance – guidance for helping agency demonstrate compliance.
- Implementation – guidance for supporting actions to be performed/developed to meet compliance of main/sub-elements.
- Effectiveness – guidance for utilizing Key Performance Indicators for measuring targets, showing how agency plans and processes are working and how effective they are for achieving desired results.
- Resilience – guidance to further bolstering programs to avoid violations, reduce spills, and sustain scrutiny by outside regulators.
- Common Violations – typical noncompliance issues identified during Sewer System Management Plan audits.

***Figure 1 – Visualization for Sewer System Management Plan Compliance, Implementation, Effectiveness, and Resillience***



## Regulatory Background

- The Reissued WDR requires public, private, or other non-governmental entities approved for regulatory coverage by the State Water Board (referred to as "Enrollees") to develop a Sewer System Management Plan (see Figure 2 below).
- Sewer System Management Plans, at a minimum, must be audited (by agency staff or outside consultants) at least every three (3) years and updated every six (6) years, according to the Water Board's regulatory schedule.
- The agency's Sewer System Management Plan must be approved and adopted by a local governing board at a public meeting.
- The Reissued WDR requires the Sewer System Management Plan to be uploaded to the California Integrated Water Quality System (CIWQS) Sanitary Sewer System database and certified by the agency Legally Responsible Official.

2006 WDR

- To provide a consistent, statewide regulatory approach to address sewage spills, the State Water Resources Control Board (State Water Board) adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Order No. 2006-0003 (SSS WDRs), on May 2, 2006.
- All public agencies that own or operate a sanitary sewer system, which is comprised of more than one mile of pipes or sewer lines that convey wastewater to a publicly owned treatment facility, were required to apply for coverage under the Order.
- The 2006 WDR was rescinded in 2022 when the reissued version was adopted.

2022 WDR

- The "Reissued WDR" (Order No. 2022-0103-DWQ) was adopted on December 6, 2022 and became effective on June 5, 2023.
- The Reissued WDR updates many aspects of the 16-year-old Order and includes a number of new requirements for Sewer System Management Plans. For more detailed information about the differences between the 2006 and the Reissued WDR, see Appendix 1.
- A list of the key Sewer System Management Plan requirements (inclusive of related WDR "Attachments" and "Specifications") is shown below.

***Figure 2 – Sewer System Management Plan Requirements (Reissued WDR)***

### *ELEMENT 1: Goal & Intro*

- Attachment D, Section 1(Goal/Intro), Specifications 5.2 (Develop/Implement Sewer System Management Plan)

### *ELEMENT 2: Organization*

- Attachment D, Section 2 (Org.), Specifications. 5.1 (Designation of LRO and Data Submitter(s))

### *ELEMENT 3: Legal Authority*

- Attachment D, Section 3 (Legal Authority)

### *ELEMENT 4: Operations and Maintenance Program*

- Attachment D, Section 4 (O/M, Training/Drills), Specifications: 5.7 (Necessary Resources), 5.19 (Proper O/M)

### *ELEMENT 5: Design and Performance Provisions*

- Attachment D, Section 5 (Design/Performance)

### *ELEMENT 6: Spill Emergency Response Plan*

- Attachment D, Section 6 (Spill Emergency Response Plan), Specifications 5.12 (SERP/Remedial Actions)
- Attachment E-1 (Notification, Monitoring, Reporting, Recordkeeping)

### *ELEMENT 7: Sewer Pipe Blockage Control Program*

- Attachment D, Section 7 (Pipe Blockage Control Program)

### *ELEMENT 8: System Evaluation, Capacity Assurance, Capital Improvements*

- Attachment D, Section 8 (System Evaluation, Capacity Assurance, Capital Improvements)
- Specifications 5.6 (System Resilience)
- Specifications 5.10 (System Capacity)

### *ELEMENT 9: Monitoring, Measurement, Program Modifications*

- Attachment D, Section 9 (Monitoring, Measurement, Program Modifications)
- Specifications 5.11 (System Performance Analysis)

### *ELEMENT 10: Internal Audits*

- Attachment D, Section 10 (Internal Audits)

### *ELEMENT 11: Communication*

- Attachment D, Section 11 (Communication Program)

## Background

A Sewer System Management Plan is developed specifically for the size and complexity of an agency's sewer system. The Sewer System Management Plan is, in essence, a declaration of how the agency will operate and maintain their collection system.

The Water Board requires that the Sewer System Management Plan be evaluated for compliance, implementation and effectiveness while addressing system resilience. To properly manage the Sewer System Management Plan, these concepts must be considered when developing each element. ***Set yourself up for success.***

**Compliance** is 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. As a reminder, Attachment D specifies *"The Enrollee's development, update, and implementation of a Sewer System Management Plan addressing the requirements of this Attachment is an enforceable component of this General Order."*

**Implementation** is 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.

**Effectiveness** is 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.

**A Key Performance Indicator (KPI)** is a measurable target that indicates how plans and processes are working in terms of obtaining desired results. KPIs provide focus for strategic and operational improvements, create an analytical basis for decision making, and help place attention on what matters most.

Key Performance Indicator example:

Goal: Develop a hydraulic model that determines pipe capacity requirements for current system and future (a 30-year buildout is used here strictly for this example).

Examples of Key Performance Indicators:

- Number of capacity-related spills or surcharge conditions during the period?
- Has the system responded to rain events as indicated by the hydraulic model?
- Have there been any changes to zoning designations (residential, commercial, industrial)?
- Rain event trends: Have there been changes in rain event occurrences, intensity, and duration?
- Water conservation: Do change(s) require modifications to our model assumptions?

These Key Performance Indicators will help to determine the extent to which the hydraulic model is effective.

**Resilience** is the ability to recover from or adjust to adversity or change and grow from disruptions. It is also quickly recovering from system failures. Resilience can be built through planning, preparing for, mitigating, and adapting to changing conditions. Examples of Resilience include:

- **Bypass ports on force mains.** If a pump station fails completely, a portable pump can bypass the station using the force main for discharge.
- **Emergency generators for pump stations.** Backup generators ensure continuous operations during power failure events.
- **Training.** A competent workforce will get the job done better, reducing the chance for failures. Training helps to ensure more staff are available for emergencies and have practiced and adapted training to real-work spill events.
- **Safety Program.** A robust safety program helps ensure staff are available when needed.
- **Public Outreach.** Providing information on kitchen best practices and what not to flush reduces the likelihood that pipe blocking items are discharged to the sewer system.
- **Mutual Aid Assistance.** Agreements and coordination with neighboring agencies for assistance during spill events.
- **Conduct a vulnerability assessment**. Performing regular vulnerability assessments helps to identify, prioritize, and put proper resources where/when needed. Assessing your local Regional Water Board Basin Plan and/or beneficial use designations is another great practice (visit the State/Regional Water Board website for links to your local regional water board for more details).
- **Adaptive Management**. Agencies must include an "Adaptive Management" section as part of Element 9 (see Monitoring, Measurement, and Program Modifications on page D-9 of Reissued WDR) that addresses the implementation effectiveness and steps for necessary improvements.

Examples of Resilience Indicators:

- The number of occasions that an imminent spill had been discovered through routine maintenance activities.
- The number of occasions containment was implemented prior to a sewage discharge to surface waters.
- The number of occasions that overflow storage capacity was utilized to prevent a spill.
- The number of occasions when an alarm was received, and staff were able to act and prevent a spill.
- The number of occasions staff found a better way of doing something and making improvements to existing procedures.
- Adapting and being prepared for the consequences of more intense rain events.
    - Securing or fortifying assets subject to flooding or erosion, fortifying creek crossings, proactive easement inspection and maintenance (Refer to Attachment 8.1 of the Reissued WDR for more specific examples which should be considered by your agency for developing measures for adapting to climate change.)

Identifying resilience that is built into your agency's system, programs and procedures will help to adapt to what you have and develop a robust system to reduce the likelihood of a spill.

As your agency develops its Sewer System Management Plan in accordance with the Reissued WDR requirements, compliance, implementation, effectiveness, and resilience need to be considered as each element is addressed throughout the document.

**The Connection between Compliance, Implementation, Effectiveness, and Resilience.**

When developing a Sewer System Management Plan, an agency must describe how their plan will address each element. This is the agency's declaration or statement of what they will do to comply with each element When this plan is carried out, and implemented as described, and, if the desired results are realized, then the plan is effective. If safeguards are put in place to prevent or mitigate failures, omissions, and oversights, then there is a level of resilience built-in to the Plan.

Compliance-Implementation-Effectiveness-Resilience Example:

> **Sewer System Management Plan, Attachment D, 4.4 – Equipment Inventory**, *An inventory of sewer system equipment, including the identification of critical replacement and spare parts.*

Compliance: Agency maintains a list of all equipment utilized for operation and maintenance of the collection system and has identified critical replacement and spare parts.

Implementation: Agency has a procedure that requires equipment to be routinely inspected and maintained in good working order and spare parts, including critical spare parts, are replaced when used. Agency reviews the equipment and replacement/spare parts inventory (example, semi-annually) to ensure all necessary equipment is available and replacement and critical spare parts are in stock. Implementation Plan/Schedule:

- Review by June 1 of each year.
- Review by December 2 of each year
- Annually evaluate Element Compliance plan against actual actions taken.

Effectiveness: (Examples of Key Performance Indicators)

- Has the agency experienced occasions when a part was needed, but not available?
- Has the agency experienced occasions when a needed part was not included as a "critical spare part" in the agency's inventory?
- Has the agency experienced occasions when equipment failed and could not be used when needed?

Resilience:

- Does the agency have a QA/QC process for ensuring semi-annual reviews to ensure inventory is accurate?
- Does the agency have Standard Operating Procedures (SOP) for maintaining equipment and critical/spare parts inventory that can be properly operated by staff?
- Does the agency have more than one staff member capable of performing the reviews?
- Are all critical spare parts properly accessible, labeled, and readily available (either in-house or secured via outside contract)? Do agency staff know where items are located and can quickly and efficiently deploy critical spare parts when necessary to eliminate/reduce spills?

For each element and related sub element of the Sewer System Management Plan, the four concepts above should be addressed.

**Enforcement Considerations**

The Agency's Legally Responsible Officials, managers, and governing boards should review and be aware of potential liabilities for noncompliance with the Reissued WDR. An excellent practice is to review enforcement language outlined in **Specifications 5.17 and 5.18** (page 27) and **Provisions 6** (pages 27-31) of the Reissued WDR. In addition, agencies should keep abreast of the latest Water Board enforcement penalty actions within their respective service areas (see California Integrated Water Quality System Administrative Civil Liability ACL Report) and also review example enforcement for improving understanding about the enforcement process and potential ramifications for noncompliance (see examples below).

- Region 1: North Coast Regional Water Board — example enforcement
- Region 2: San Francisco Bay Regional Water Board — example enforcement
- Region 3: Central Coast Regional Water Board — example enforcement
- Region 4: Los Angeles Regional Water Board — example enforcement
- Region 5: Central Valley Regional Water Board — example enforcement
- Region 6: Lahontan Regional Water Board[1] — example enforcement
- Region 7: Colorado River Regional Water Board — example enforcement
- Region 8: Santa Ana Regional Water Board — example enforcement
- Region 9 San Diego Regional Water Board — example enforcement

In addition, agencies should also review the most current version of the Water Board Enforcement Policy for improving understanding about the specific factors considered by State/Regional Water Boards in assessing civil liabilities with formal enforcement Orders. The Enforcement Policy has changed since 2010 which could affect penalty actions due to these changes. The most recent Policy was changed in 2017 (affecting some of the examples above). As of June 2024, the State Water Board has proposed additional changes to the Policy. Visit the State Water Board's Office of Enforcement Water Quality Enforcement Policy Amendments | for the latest Policy.

One final recommendation is to always be aware of any additional requirement(s) established by your local Regional Water Quality Control Board. For example, all collection system agencies within the San Diego Regional Water Board area are required to report private lateral sewage discharges they become aware of, that equal or exceed 1,000 gallons; result in a discharge to a drainage channel and/or surface water, and/or discharge to a storm drainpipe that was not fully captured and returned to the sanitary sewer system….must be reported to the Regional Board (see Order No. R9-2007-0005 for details).

[1] *See Settlement Agreement R6V-2020-0001 for final enforcement action (signed 2/14/2020), which included specific adjustments to alleged violations and final penalty amount for numerous sewage discharges and Sewer System Management Plan- deficiencies.*

# Element 1 – Goal And Introduction

REQUIREMENTS [2]

*"The goal of the Sewer System Management Plan (Plan) is to provide a plan and schedule to:":*

- *"Properly manage, operate, and maintain all parts of the Enrollee's sanitary sewer system(s),",*
- *"Reduce and prevent spills,",*
- *"Contain and mitigate spills that do occur.".*

*The Plan must include a narrative Introduction section that discusses the following:*

## 1.1. Regulatory Context

REQUIREMENTS[1]

*"The Plan Introduction section must provide a general description of the local sewer system management program and discuss Plan implementation and updates."*

COMPLIANCE

Guidance 1.1.1: To comply with this requirement, an agency may want to state some goals for the collection system. Example goals could include:

- Properly manage, operate, and maintain the wastewater collection system.
- Proactively reduce infiltration/inflow.
- Minimize the frequency of sanitary sewer spills.
- Mitigate the impact of spills.
- Identify team members who developed the Sewer System Management Plan.

The Reissued WDR requires the Sewer System Management Plan at a minimum to be updated every 6 years as specified in Specifications 5.5 and Attachment D of the Reissued WDR (see State Water Board online tool for checking your agency Sewer System Management Plan and Audit due dates).

An agency could also consider the following additional best practices:

- Update individual element(s) of its Sewer System Management Plan as necessary between deadlines specified by the Reissued WDR. Specific examples could include:
    - Changes to staffing/responsibilities listed in Element 2 (Organization)
    - Document/showcase new improvements to work programs (Elements, 4 and 8) including but not limited to upgrades to maintenance schedules, technologies, practices, capital improvement programs, standard operating procedures, training, etc.

2 See Attachment D, Section1 of Reissued WDR (page D-2).

- Help the agency prepare and complete required Sewer System Management Plan Audits required every 3 years (see State Water Board online tool).

Develop a plan and schedule that includes the following:

- List the required due date for your current Sewer System Management Plan (the one being updated).
- List the required due date for your next Sewer System Management Plan.
- List when your agency plans to conduct your next Sewer System Management Plan Audit, including start and finish dates.
- List the due date for submitting your next Sewer System Management Plan Audit to CIWQS.
- Provide a general description of the agency sewer system management program.
- Provide a general description of how the agency will implement the sewer system management program.
- Provide a general description of how the agency will update the sewer system management program.

IMPLEMENTATION

Guidance 1.1.2: For implementing this Sewer System Management Plan sub-element, an agency can consider the following:

- Identify the team members that developed the Sewer System Management Plan. List positions and roles/responsibilities for its review, development, implementation, and updating.
- Addresses all 11 required elements required for full compliance with the Reissued WDR. If your agency has decided certain elements are not applicable, then provide a justification for any element not completed.
- Include a statement confirming the agency has a process in place for ensuring its Sewer System Management Plan will be fully implemented as written.
- Include a statement confirming that the agency will conduct periodic review(s) of its entire Sewer System Management Plan for ensuring continuous compliance, implementation, and striving to improve effectiveness of all elements.
- Develop a plan/schedule:
    - Annually review previous Sewer System Management Plan audit findings, including making efforts to ensure your local governing board is fully aware of all significant program shortcomings (projects, funding, budgets, etc.) that require their approval.
    - Check next Sewer System Management Plan audit due date and Sewer System Management Plan update (see State Water Board online tool).
    - Review Key Performance Indicators for each element; adjust element content and update the Sewer System Management Plan Change Log as necessary prior to completion of next audit.
    - Update this element whenever:
        - Significant work/program or organizational changes are made.

        - After Sewer System Management Plan audits are completed.
        - Anytime the SEWER SYSTEM MANAGEMENT PLAN Implementation Team has a change of members/responsibilities.
    - When Sewer System Management Plan audits are completed and significant changes are identified, a plan, schedule, and person responsible should be developed and implemented for each Sewer System Management Plan element (see examples throughout this document provided in each Element).
    - When audit deficiencies are discovered through the audit process.

EFFECTIVENESS

Guidance 1.1.4: To measure effectiveness, an agency should develop Key Performance Indicators, asking questions such as:

- Has the schedule for conducting audits been adhered to?
- Has the schedule for updating the Sewer System Management Plan been adhered to?
- Are the established milestones being monitored?
- Is the sewer system management program description up to date (the description may need to be updated due to a significant change in the way an agency operates, change in service area, etc)?
- Does agency have the appropriate staff with its implementation team?

## 1.2. Sewer System Management Plan Update Schedule

REQUIREMENTS[3]

*"The Plan Introduction section must include a schedule for the Enrollee to update the Plan, including the schedule for conducting internal audits. The schedule must include milestones for incorporation of activities addressing prevention of sewer spills."*

COMPLIANCE

Guidance 1.2.1**:** To comply with this requirement, an agency should consider that the following information be included:

- List the legal due date for your current Sewer System Management Plan (the one being updated).
- List of the legal due date for your next Sewer System Management Plan Update.
- List of when your agency plans to conduct your next Sewer System Management Plan audit, including start and finish dates.
- List of the due date (and period covered) for submitting your next Sewer System Management Plan audit to the California Integrated Water Quality System (CIWQS). Visit the State Water Board website "lookup tool" for more details.
- List of significant milestones of spill prevention activities.
- Include actions that will be conducted during the six-year Sewer System Management Plan update cycle. Examples: a list of the date of milestones addressing prevention of sewer spills, such as:
    - Date flow monitoring will be conducted.
    - Date CCTV inspection cycle will be completed.
    - Date lift/pump station, force main conveyance system will be assessed/rehabilitated.
    - Date that capital improvement project will commence.
    - Date new equipment was/will be purchased.

IMPLEMENTATION

Guidance 1.2.2**:** For implementing this Sewer System Management Plan sub-element, an agency can consider the following:

- Periodically review and update its Sewer System Management Plan whenever:
    - Significant work/procedures/programs/organizational changes are made.
    - Sewer System Management Plan audits are completed

[3] See Attachment D, Section 1.2 of the Reissued WDR (page D-3)

- Sewer System Management Plan audits are completed, and significant changes and/or deficiencies are identified.
- Milestones or significant changes or events are triggered; they must be identified and included for addressing ongoing spill prevention measures.

EFFECTIVENESS

Guidance 1.2.3: To measure effectiveness, an agency should develop Key Performance Indicators, such as:

- Have audits been performed on schedule? Measured by review of completion dates for audits against required timelines.
- Has the Sewer System Management Plan been approved by the governing board on schedule (every six years)?
  - Measured by review of historic local governing body adoption dates against required timelines.
- Are established sewer program milestones being monitored?

## 1.3. Sewer System Asset Overview

REQUIREMENTS[4]

*"The Agency Sewer System Management Plan must have an Introduction section to provide a description of the Agency-owned assets and service area including but not limited to:".*

- *Location, including county(ies).*
- *Service area boundary (see specific requirements contained in Specifications 5.14 and Attachment E1, requiring an electronic Sanitary Sewer System Service Area Boundary Map submitted to CIWQS).*
- *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 Enrollee 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 Enrollee's up to-date map of its sanitary sewer system, as required in section 4.1 (Updated Map of Sanitary Sewer System) of this Attachment."*

[4] See Attachment D, Section 1.3 of Reissued WDR (page D-3)

COMPLIANCE

Guidance 1.3.1: To comply with this requirement, an agency can consider the following:

The Agency should list and/or describe:

- System sewer assets (included in Attachment D, Section 1.3 of the Reissued WDR)
- Service area including terrain and any unique geological features or other characteristics that are challenging like mountainous, desert, inaccessible areas and surface water crossings, etc. and other conditions that present challenges.
- Statement confirming system maps are up to date.

IMPLEMENTATION

Guidance 1.3.2: To facilitate implementation of this Sewer System Management Plan sub-element, an agency can consider the following:

- Develop a standardized method for collecting data to ensure consistency from year-to-year.
- Establish a schedule for data review.
- Assign review tasks to a responsible person(s) for ensuring completion.

EFFECTIVENESS

Guidance 1.3.3: To facilitate measuring effectiveness, an agency should develop Key Performance Indicators, such as:

- Are the system maps up to date?
- Are asset data kept in the computerized maintenance management system, GIS, etc., and are up to date?
- Are updates to the maps performed in a timely manner?

## Supplemental Guidance – Element 1

RESILIENCE

To provide resilience for this element, an agency should consider identifying or developing resilience indicators, such as:

- Standard operating procedure to provide guidance when collecting and managing asset data.
- QA/QC process to ensure information is correct, calendar dates/deadlines for reminders to avoid missing deadlines or violating WDR requirements.
- Training for all appropriate agency staff to ensure more than one staff member can collect and manage data.

ITIONAL RELATED SEWER SYSTEM MANAGEMENT PLAN REQUIREMENTS

In addition to the above guidance, an agency should also consider addressing the following related "Specifications" requirements in the Reissued WDR:

- Specifications 5.2 (pages 18-19): "Sewer System Management Plan Development and Implementation"
- Specifications 5.7 (page 22): "Allocation of Resources"
- Provisions 6.1 (pages 27-35): "Enforcement Provisions"
- Provisions 6.3 (page 31): "Sewer System Management Plan Availability"

ADDITIONAL GUIDANCE

- See Appendix 4

COMMON WDR VIOLATIONS

To help reduce potential violations for noncompliance, an agency should avoid the following common violations:

- ✓ 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.
- ✓ Failure to describe technologies and practices to reduce spills.

# Element 2 – Organization

REQUIREMENTS[5]

*"The Plan must identify organizational staffing responsible and integral for implementing the local Sewer System Management Plan through an organizational chart of 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 this General Order.*
- *The position titles, telephone numbers, and email addresses for management, administrative, and maintenance positions responsible for implementing specific Sewer System Management Plan 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. (For example, county health officer, county environmental health agency, and State Office of Emergency Services)."*

COMPLIANCE

Guidance 2.1: To comply with this requirement, an agency can consider the following:

List or describe:

- Name(s) of Legally Responsible Official(s) (LRO) and Data Submitters specified in the Plan. As a reminder, Specifications 5.1 requires that the LRO must have the authority to ensure compliance with the provisions of the General Order and make managerial decisions regarding the operation of the sanitary sewer system. The LRO must have direct authority over individuals that have necessary qualifications, such as a recognized degree or certificate in sanitary sewer system operations and maintenance or professional training and experience in sewer system management. In addition, the LRO must be authorized to make major capital improvement recommendations.
- Position Titles/Contact Information. The agency should list all position titles that have the authority and responsibility for the Plan implementation. The contacts should include positions, titles and contact information for management, administrative, and maintenance staff responsible for implementing Sewer System Management Plan elements.
- Organizational lines of authority. The element should identify lines of authority through an organization chart or similar document or a narrative explanation.
- Chain of communication for reporting spills from receipt of complaint or other information, including the person responsible by the agency for reporting spills to the State and Regional Water Boards and other agencies, as applicable. (For example, county health officer, county environmental health agency, and State Office of Emergency Services.)

[5] See Attachment D, Element 2 of Reissued WDR (page D-3)

- This information is located in Element 6, Spill Emergency Response Plan, so the information is only located in one place within the Sewer System Management Plan.

IMPLEMENTATION

Guidance 2.2: To facilitate implementation, an agency can consider the following:

- Periodically review and ensure that:
  - The name(s) of Legally Responsible Official(s) are up to date in the Plan and CIWQS.
  - The position title(s), having authority and responsibility for implementation of the various Sewer System Management Plan elements, are up to date.
- The organizational lines of authority can be demonstrated via an organization chart or by narrative description
- Description of LRO(s) possession of professional training and/or collection system experience or (or the subordinates of Legally Responsible Officials) do not satisfy minimum requirements (see Specifications 5.1).
  - Description of the chain of communication for spills from receipt of a call reporting a spill to spill report certification is being adhered to.
  - Organizational lines of authority are up to date.

EFFECTIVENESS

Guidance 2.3: To facilitate measuring effectiveness, an agency should develop a process of documenting Key Performance Indicators, by answering questions such as:

- Have there been instances when a service call for a spill was not properly routed to response personnel?
- Were all spill response activities documented and forwarded to the LRO?
- Have there been any changes in assigned responsibilities for implementing the Sewer System Management Plan, and if changes are made, was noted in the Sewer System Management Plan Change Log?
- Is there a process in place to ensure all contact information remains up to date?
- Is there a process in place to ensure the organizational chart is up to date?
- Are service calls being properly routed to appropriate personnel?

## Supplemental Guidance – Element 2

RESILIENCE

To provide resilience for this element, an agency should consider identifying or developing resilience indicators, such as:

- Ensuring that more than one person is capable and responsible for specific duties for Sewer System Management Plan implementation, e.g., back-up personnel.
- Designation of more than one LRO to help ensure full and continuous coverage of duties.
- Ensuring that more than one staff member can implement and be responsible for specific Sewer System Management Plan elements.
- Periodically review contact information to ensure it is up to date.

ADDITIONAL RELATED SEWER SYSTEM MANAGEMENT PLAN REQUIREMENTS

In addition to the above guidance, an agency should also consider addressing the following related "Specifications" requirements in the Reissued WDR:

- **Specifications 5.1 ("Designation of a Legally Responsible Official)**

ADDITIONAL GUIDANCE

- See Appendix 4

COMMON WDR VIOLATIONS

To help reduce potential violations for noncompliance, an agency should avoid the following common violations:

- ✓ 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

REQUIREMENTS[6]

*"The Agency Sewer System Management Plan must include copies or an electronic link to the Enrollee's current sewer system use ordinances, service agreements and/or other legally binding procedures to demonstrate the Enrollee possesses the necessary legal authority."*

- *"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."*
- *"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."*
- *"Require that sewer system components and connections be properly designed and constructed."*
- *"Ensure access for maintenance, inspection, and/or repairs for portions of the service lateral owned and/or operated by the Enrollee."*
- *"Enforce violation(s) of ordinances, service agreements, or other legally binding procedures."*
- *"Obtain easement accessibility agreements for locations requiring sewer system operations and maintenance, as applicable."*

COMPLIANCE

Guidance 3.1: To comply with this requirement, an agency can consider the following:

- Confirm and reference ordinances, codes, service agreements, and procedures for meeting each legal authority requirement.
    - Consider providing specific citations for each requirement.

IMPLEMENTATION

Guidance 3.2: To facilitate implementation, an agency can consider the following:

- Monitor for occasions when the ordinance/code failed to address issues as intended.
- Ensure any agreements are up to date.
- Ensure ordinance/codes/service agreements are available to staff for reference when needed.
- Establish and implement a procedure for updating ordinances, codes, and agreements when deficiencies are discovered by staff.

[6] See Attachment D, Section 3 of Reissued WDR (page D-4)

EFFECTIVENESS

Guidance 3.3: To facilitate measuring effectiveness, an agency should develop Key Performance Indicators, such as:

- Are the District codes and ordinances adequate for fulfilling the Sewer System Management Plan legal requirements?
- Does the agency have a process in place for periodic review and evaluation of all legal authorities?
- Have there been instances when the code or ordinance did not address a need or circumstance?

## Supplemental Guidance – Element 3

RESILIENCE

- To provide resilience for this element, an agency should consider identifying or developing resilience indicators, such as:
    - Monitoring performance of ordinances, codes, and agreements for deficiencies and omissions.
    - Performing periodic reviews of ordinances, codes, and service agreements to ensure they are up to date.
    - Staying abreast of industry trends and local ordinances that may affect operations.
    - Reviewing codes and ordinances periodically.

ADDITIONAL GUIDANCE

- See Appendix 4

COMMON WDR VIOLATIONS

To help reduce potential noncompliance, an agency should avoid the following common violations:

- ✓ 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

## 4.1 Updated Map of Sewer System

REQUIREMENTS[7]

*"The Plan must include the items listed below that are appropriate and applicable to the Enrollee'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

Guidance 4.1.1: To comply with this requirement, an agency can consider the following:

Ensuring the following:

- Availability of up-to-date sewer system maps that include:
  - All current infrastructure assets owned and operated by the agency (gravity mains, manholes, pump stations, pressure pipes (a.k.a. force mains), valves, and stormwater conveyance systems within sewer system service area boundary, etc.
  - Details for pipe diameters, and direction of flows be included on maps (a legend is should be provided on maps for symbol clarity).
  - If your agency is not the owner of the stormwater conveyance system, make every effort to obtain the maps, preferably in a format that is compatible with yours.
    - Any format will do.
    - If you are not able to obtain stormwater conveyance system maps, document your efforts to demonstrate your diligence.
- Ensure sewer maps contain all known drinking water facility intakes (required information to be reported for all Category 1 and2 spills – see Attachment E1, sections 3.1.2 and 3.2.2)

IMPLEMENTATION

Guidance 4.1.2: To facilitate implementation, an agency can consider the following:

- Establishing procedure(s) for ensuring all maps are up to date.
- Monitoring occasions where maps were inaccurate.
- Establishing formal procedure for maintaining and keeping maps current including:
  - A written Standard Operating Procedure that details the steps to update the maps,

[7] See Attachment D, Section 4.1 of Reissued WDR (page D-4)

  - Procedures for field personnel who, upon discovering an error/omission, complete updates in a specified timeframe (e.g., map updates will be completed 20 days, after the initial submittal requesting proposed change(s)),
  - A quality assurance process to verify changes are complete and accurate, and
  - Identification of all responsible person(s) for ensuring maps are current.

- Establish procedure for providing access to the maps for the State and Regional Water Boards by:
  - Posting maps on agency website (if applicable and does not violate agency policy).
  - Maintaining maps in digital format that can be delivered electronically via remote link (e.g., Dropbox) or e-mailed to the requester.
  - Providing paper copies via mail or parcel service if requested.

EFFECTIVENESS

Guidance 4.1.3: To facilitate measuring effectiveness, an agency should develop Key Performance Indicators, that answer questions such as:

- Were all map updates completed in a timely manner?
- Are all staff trained in the procedure for providing map update information?
- Are newly installed sewer assets incorporated into the system maps?
- Are there terrain features or assets that should be incorporated in future map book updates (e.g. exposed pipe, siphons, ARVs, surface water, etc)?

**Electronic Sanitary Sewer System Service Area Boundary Map**

The Boundary Map is not required under Element 4, but is a related one-time requirement.

see Attachment E1, section 3.8 on page E1-17 and Specifications 5.14

For existing enrollees, between July 1, 2025 and December 31, 2025, *"the Legally Responsible Official shall submit, to the State Water Board, geospatial data detailing the locations of the Enrollee's sanitary sewer system service area boundary, per the required content and specifications in section 3.8 (Electronic Sanitary Sewer System Service Area Boundary Map) of Attachment E1 of this General Order, for each system identified by a WDID number. An Enrollee of a disadvantaged community that may need assistance developing an electronic map to comply with this requirement, may contact State Water Board staff for assistance at SanitarySewer@waterboards.ca.gov."*

## 4.2 Preventive Operation and Maintenance Activities

REQUIREMENTS[8]

*"A scheduling system and a data collection system for preventive operation and maintenance activities conducted by staff and contractors.*

*The scheduling system must include:*

- *inspection and maintenance activities*
- *Higher-frequency inspections*
- *Maintenance of known problem areas including areas with tree root problems*
- *Regular visual and closed-circuit television (CCTV) inspections of manholes and sewer pipes.*

*The data collection system must 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

Guidance 4.2.1: To comply with this requirement, an agency can consider the following:

- The preventive operation and maintenance activities will vary from agency to agency. It is up to the agency to determine which activities are appropriate for the size, complexity, and condition of their system.
- Utilize data collection systems (methods or tools) that gather and store data. Examples can include (but are not limited to):
  - Computerized Maintenance Management System (CMMS) which collects detailed information that can be reported and analyzed in a systematic manner,
  - Inspection Management software (such as software used for CCTV inspection defect coding, allows for data collection and manipulation),
  - Computer spreadsheets that can capture, display, and manipulate data,
  - Paper records, such as forms and logs, allow for detailed data collection (note: may require extensive labor to be analyzed).

  Note: Paper data collected can certainly be analyzed but it can be a labor-intensive endeavor when there is a large amount of data.

  Note: Data needs to be collected in a manner so that it can be used to plan, inform, improve decision-making, and monitor and predict trends.

[8] See Attachment D, Section 4.2 of Reissued WDR (page D-4)

IMPLEMENTATION

Guidance 4.2.2: To facilitate implementation, an agency can consider the following:

- Development of a Data Collection System and a schedule, an agency can consider these two examples:
- EXAMPLE: **Data Collection System:** Development of a Plan and Schedule. A plan is a detailed proposal for doing or achieving something. A Schedule is a timeline, to complete tasks. The WDR requires agencies to have a plan and schedule for completing inspection and maintenance activities, including high-frequency inspections and maintenance activities of known problem areas (including all sewer assets including gravity/force main conveyance systems, lift/pump stations, siphons, etc. specific to agency).
  - EXAMPLE: **Plan:** [Agency] owns one CCTV van and dedicates two field staff to pipe inspection operations. The inspection process begins at the top of the collection system and progresses downstream, in a systematic manner through established maintenance zones, until the cycle is complete.
  - EXAMPLE: **Schedule:** The goal is to complete the entire cycle in a 4-year period.

Establish a Data Collection System and Schedule for each of the agency's core maintenance and inspection activities covering all key sewer assets, and periodically evaluate them for effectiveness and adjusted, if needed.

EFFECTIVENESS

Guidance 4.2.3: To facilitate measuring effectiveness, an agency should develop Key Performance Indicators, such as:

- Are the agency maintenance, operations, engineering work orders periodically reviewed for accuracy and completeness?
- Does the agency monitor "open," "overdue," or "not yet completed" work orders to ensure completion of tasks?
- Are inspection and maintenance activities reducing the number and volume of spills?
- Is maintenance work being completed as scheduled?
  - If not is the reason justified and documented?
- Are inspections of pipes, manholes, lift/pump stations, force main conveyance system(s) being completed as scheduled?
- Does the agency have a proactive root control program?
- Does the agency have a system for developing/tracking historical performance/results?
- A list of suggested operation and maintenance O/M information including work program descriptions and /guidance for supporting development/updating of this element is included is in Appendix 5.

## 4.3 Training

REQUIREMENTS[9]

*"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 this General Order; the Enrollee's Spill Emergency Response Plan procedures and practice drills, skilled estimation of spill volume for field operators, and electronic CIWQS reporting procedures for staff submitting data."*

COMPLIANCE

Guidance 4.3.1: To comply with this requirement, an agency can consider the following:

- Ensure a training program is in place that meets all above requirements.

IMPLEMENTATION

Guidance 4.3.2: To facilitate implementation, an agency can consider the following:

- The amount and type of training provided may vary depending on job classification or responsibility. Each agency needs to decide the level of training for their personnel.
- The skills of emergency response personnel can become rusty performing spill response tasks because (generally) there are not a lot of spills to respond to.

  Therefore, as a rule, training should be provided more frequently (and documented in a training procedure or guideline) for procedures and tasks that are done infrequently and have a high consequence of failure.

  The more often employees participate in training, drills, and exercises, the more likely it will be that everyone remembers what to do in case of an emergency. Therefore, the Training Plan should define the schedule for the training program.
- An effective training program includes a demonstrated ability and/or knowledge component.
- Suggested training program outlines:
  - Spill Response Personnel:
    - General Reissued WDR overview
    - Spill Emergency Response Plan, including:
      - Methods and strategies for estimating spill volume and volume recovered.
      - Methods and strategies for estimating spill start time and end time.

[9] See Attachment D, Section 4.3 of Reissued WDR (page D-5)

        - Drills, to simulate spill response activities (including training for service providers; some agencies require service providers to be trained as part of their contracting process).
        - Pertinent definitions (see Reissued WDR, Attachment A)
        - Spill categories.
        - Notification requirements (Cal-OES).
        - Monitoring requirements for spill location and spread and receiving water sampling.
        - Spill response documentation, including photo documentation.
    - Data Submitters:
        - General Reissued WDR overview.
        - Attachment E1 – Notification, Monitoring, Reporting and Recordkeeping.
        - Reporting timelines
        - Data Entry for California Integrated Water Quality System (CIWQS)
    - Legally Responsible Officials (LROs)
        - General Reissued WDR, with focus on:
        - Prohibitions
        - Specifications
        - Attachment A – Definitions
        - Attachment D – Sewer System Management Plan (Sewer System Management Plan)
            - With attention on Spill Emergency Response Plan
        - Attachment E1 – Notification, Monitoring, Reporting and Recordkeeping.
        - Data Entry for California Integrated Water Quality System (CIWQS)

***NOTE:*** *Staff should also be trained on all core competencies they perform, such as CCTV inspections, Hydro-Cleaning, lift station maintenance, including current available industry standards for inspection such as standards by the National Association of Sewer Service Companies, NASSCO.*

EFFECTIVENESS

Guidance 4.3.3: To facilitate measuring effectiveness, an agency should develop Key Performance Indicators, such as:

- Has all training been completed as scheduled?
- Have consistent records of training and attendance been consistently documented and maintained?
- Have all staff demonstrated ability and knowledge after each training event?

- Have contractors received, at a minimum, direction for:
  - Reporting spills (including process for spill notifications)
  - Implementing containment
  - Securing the site

## 4.4 Equipment Inventory

REQUIREMENTS[10]

*"An inventory of sewer system equipment, including the identification of critical replacement and spare parts."*

COMPLIANCE

Guidance 4.4.1: To comply with this requirement, an agency can consider the following:

- Maintaining an inventory log that includes:
  - All equipment used in the maintenance, operation, and spill response for the collection system.
  - All spare parts needed for repair of assets.
    - Identify and include critical spare parts.
      - Items that *would cause the system or activities to shutdown if they failed.*
- Ensuring the locations of inventory items are well-known by the staff and are readily accessible.

IMPLEMENTATION

Guidance 4.4.2: To facilitate implementation, an agency can consider the following:

- Develop an equipment inventory including all equipment used for maintenance, inspections, and emergency response procedures. This can be done utilizing a database, spreadsheet, or paper form.
- Periodic auditing of the agency's inventory to ensure it is up to date.
  - Always document these efforts and include:
    - The name of the person (or outside consultant) performing/assisting with the inventory audit,
    - The date the audit was performed (and specified audit period),
    - Any change and documentation made to the spare/critical parts list and update(s) to Sewer System Management Plan Change Log.
- A critical spare part can be defined as anything that will shut down equipment or processes if it fails. Critical spare parts are a key component to an inventory that will reduce the impact of a failure.

[10] See Attachment D, Section 4.4 of Reissued WDR (page D-5)

  - EXAMPLES: transducers, floats or other control switches for lift/pump stations, radio, or power supplies for SCADA systems, fuses, and relays, pipe, and fittings for quick responses to gravity and force main failure, spare pump(s), including any specialty tool that equipment or process relies on.
- When developing this list, consider any emergency response equipment that is relied upon, such as:
  - Emergency response (e.g., bypass pump, portable generator, etc.), including providing appropriate contact number(s) if relying on mutual aid assistance from another agency(ies) or outside contractor(s).
- Critical spare parts should be clearly labeled, and personnel should be aware of their location and have access to facilitate a timely response.

EFFECTIVENESS

Guidance 4.4.3: To facilitate measuring effectiveness, an agency should develop Key Performance Indicators, such as:

- Has the inventory list been audited as scheduled?
- Have any inventory deficiencies or omissions been discovered and rectified?
- Has the agency experienced any equipment failure that inhibited a spill response?

## Supplemental Information – Element 4

RESILIENCE

To provide resilience for this element, an agency should consider identifying or developing resilience indicators, such as:

- Develop an SOP for updating maps when errors are discovered.
- Develop and use forms (paper or electronic) for data collection to help ensure all pertinent information is consistently collected.
- Periodically evaluate inspection cycle intervals to help ensure they are optimized.
- Require staff to demonstrate ability and/or knowledge for all training activities.
- Monitor equipment and critical spare parts usage for and trends.

ADDITIONAL RELATED SEWER SYSTEM MANAGEMENT PLAN REQUIREMENTS

In addition to the above guidance, an agency should also consider addressing the following related "Specifications" requirements in the Reissued WDR:

- **Specifications 5.19 ("Proper Operations and Maintenance")**

ADDITIONAL GUIDANCE

- See Appendix 4

OPERATIONS/MAINTENANCE SUPPLEMENT

- See Appendix 5

COMMON WDR VIOLATIONS

To help reduce potential violations for noncompliance, an agency should avoid the following common violations:

- ✓ 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

## 5.1 Updated Design Criteria and Construction Standards

REQUIREMENTS[11]

*"The Plan must include the following items as appropriate and applicable to the Enrollee's system".*

*"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."*

COMPLIANCE

Guidance 5.1.1: To comply with this requirement, an agency should consider ensuring:

- Confirm the agency has design standards and specifications.
- Periodically review existing agency design criteria, and construction standards and specifications to ensure industry best practices are considered.
- Confirm design standards address hydraulic capacity for both pipes and pump stations.

IMPLEMENTATION

Guidance 5.1.2: To facilitate implementation, an agency can consider the following:

- Monitoring methods: Establishing a red-lined copy of the agency's standards with input from suggestions made by end-users (e.g., staff, contractors, engineers, and planners). Take note of any instances where the standards did not produce the best result.
- Requiring and reviewing warranty inspections to ensure outcomes were as intended.
- Staying abreast of industry best practices.
- Review plan: A good practice is to establish a review plan for the routine/periodic review which includes staff responsible for utilizing standards, specifications, and inspections. This is the time to address changes that have been suggested since the last update. Note: if an egregious error or omission is discovered, it should be addressed in a timely manner without delay.
- Updating: Updates should be documented, and a revision number and date should be maintained on the document. The prior version(s) should be collected, and the updated version should be distributed.

[11] See Attachment D, Section 5.1 of Reissued WDR (page D-5)

- If portions of the collection system are experiencing surcharging during rain events, they should be evaluated and compared to what is expected.

EFFECTIVENESS

Guidance 5.1-3: To facilitate measuring effectiveness, an agency could develop Key Performance Indicators, such as:

- EXAMPLE: Does the agency implement its current design and construction standards, specifications, and inspection procedures? Measured by annual review of design and construction standards, specifications, and inspection procedures to ensure conformance to requirements.

## 5.2 Procedures and Standards

REQUIREMENTS[12]

*"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

Guidance 5.2.1: To comply with this requirement, an agency can consider the following:

- Ensure agency has procedures and standards for inspection and testing of newly constructed facilities and repaired and rehabilitated facilities.

IMPLEMENTATION

Guidance 5.2.2:

- It is recommended that inspectors be trained in the standards and inspection procedures and be qualified by a person with the requisite experience.

To facilitate implementation, an agency can consider the following:

- Review inspections records to ensure adherence to standards and specifications.
- Establish and implement a process for staying abreast of industry standards.

EFFECTIVENESS

Guidance 5.2.3: To comply with this requirement, an agency can consider the following:

Develop Key Performance Indicators, such as:

- Does the agency have a procedure for review of its standards and procedures?
- Were any design or installation deficiencies found during warranty inspections?
- Are hydraulic model findings included in the design process?

[12] See Attachment D, Section 5.2 of Reissued WDR (page D-5)

- Does the agency stay abreast of industry design standards and technical advances in the industry?
- Are there procedures in place for when deviation from standard procedures and/or specs, testing, etc. is necessary?

## Supplemental Information – Element 5

RESILIENCE

To provide resilience for this element, an agency should consider identifying or developing resilience indicators, such as:

- Staying abreast of industry trends and standards.
- Performing warranty inspections of newly installed or repaired assets to evaluate design and installation practices.
- Evaluating as-built changes for trends and areas for design and performance improvements.

ADDITIONAL RELATED SEWER SYSTEM MANAGEMENT PLAN REQUIREMENTS

In addition to the above guidance, an agency should also consider addressing the following related "Specifications" requirements in the Reissued WDR:

- **Specifications 5.19 ("Proper Operations and Maintenance")**

ADDITIONAL GUIDANCE (RECOMMENDATIONS FROM 2015 SEWER SYSTEM MANAGEMENT PLAN MANUAL)

- See Appendix 4

COMMON WDR VIOLATIONS

To help reduce potential violations for noncompliance, an agency should avoid the following common violations:

- ✓ 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.

# Element 6 – Spill Emergency Response Plan

REQUIREMENTS[13]

*"The Plan must 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. The Spill Emergency Response Plan must include procedures to meet all the following."*

- *"Notify primary responders, appropriate local officials, and appropriate regulatory agencies of a spill in a timely manner."*
- *"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."*
- *"Comply with the notification, monitoring and reporting requirements of this General Order, State law and regulations, and applicable Regional Water Board Orders."*
- *"Ensure that appropriate staff and contractors implement the Spill Emergency Response Plan and are appropriately trained."*
- *"Address emergency system operations, traffic control and other necessary response activities."*
- *"Contain a spill and prevent/minimize discharge to waters of the State or any drainage conveyance system."*
- *"Minimize and remediate public health impacts and adverse impacts on beneficial uses of waters of the State."*
- *"Remove sewage from the drainage conveyance system."*
- *"Clean the spill area and drainage conveyance system in a manner that does not inadvertently impact beneficial uses in the receiving waters."*
- *"Implement technologies, practices, equipment, and interagency coordination to expedite spill containment and recovery."*
- *"Implement pre-planned coordination and collaboration with storm drain agencies and other utility agencies/departments prior, during, and after a spill event."*
- *"Conduct post-spill assessments of spill response activities."*
- *"Document and report spill events as required in this General Order."*
- *"Annually, review and assess effectiveness of the Spill Emergency Response Plan, and update the Plan as needed."*

COMPLIANCE

Guidance 6.1: To comply with this requirement, an agency can consider the following:

- Develop a Spill Emergency Response Plan and ensure the Spill Emergency Response Plan includes, at a minimum, procedures to address the requirements above,

[13] See Attachment D. Section 6 of Reissued WDR (page D-6)

IMPLEMENTATION

Guidance 6.2: To facilitate implementation, an agency can consider the following:

- Establish realistic response time goals and monitor emergency response performance. Develop a call-list for all appropriate contacts and ensure it is readily available to response staff.
- Periodically review contact information to ensure it is up to date.
- Ensure staff are familiar with Attachment E1 of the General Order.
- Provide training of the Spill Emergency Response Plan at least annually.
- Develop a training program for contractors that (at a minimum) includes requiring immediate notification to agency, providing direction for containment and recovery, for securing the spill site and protecting the public, and requiring contractors stay on site until agency response personnel arrive.
- Develop a plan to coordinate spill event activities with other agencies and support services, if applicable. Hold periodic meetings (with appropriate external agencies and/or mutual assistance partners) to ensure continuity of operations.
- Identify opportunities to establish mutual assistance agreements (formal/informal) with other agencies and periodically conduct drills to ensure availability.
- Contain a spill and prevent/minimize discharge to waters of the State or any drainage conveyance system. Ensure first response vehicles have some containment devices readily available for use upon arrival at the spill site. Ensure additional containment devices can be transported to the spill site in a timely manner. Train on containment and perform drills to ensure staff is competent.
- Recover as much of the spill as is possible and return to sewer system or other appropriate facility
- Minimize and remediate public health impacts and adverse impacts on beneficial uses of waters of the State. Make efforts to keep the spill footprint as small as possible. Cordon off the spill site to prevent people from getting into the area.
- Coordinate with law enforcement and/or fire department for assistance in large volume traffic areas or areas where there is risk to public health, if appropriate.
- Upon discovery of sewage discharge to a drainage conveyance system, locate an access point downstream of the entry point and block it to prevent discharge to surface waters. This may not be feasible during rain events. Use a hydro-vac to clean and retrieve sewage from the drainage conveyance system. For agencies that do not own a hydro-vac, consider using on-call emergency service agreements to support response efforts. As an alternate to the method described above, plug the first dry drainage conveyance system access point, or the last access point prior to discharge to the environment, flush with fresh water from the spill entry point, and pump the flush water from the plugged manhole back to the sewer system. Coordinate/communicate with drainage conveyance system owner for cleaning operations direction.

- Clean the spill area and drainage conveyance system in a manner that does not inadvertently impact beneficial uses in the receiving waters. For hard surfaces, broom, power wash or flush with fresh water, vacuum retrieve and return the water to the sewer system or dispose of it at a treatment plant or other appropriate facility. For soil or landscaped surfaces, clean and retrieve as much as practical, dilute the area with fresh water, and treat with disinfectant (ensure disinfectant is approved by local governing authority including local Regional Water Quality Control Board in advance; a best practice is after dilution/appropriate disinfection, waste material must be removed and cannot be left at the site to prevent it from becoming runoff).
- Implement technologies, practices, equipment, and interagency coordination to expedite spill containment and recovery. Use on-call services to assist with containment, if applicable. Use mutual aid agreements with neighboring agencies, if applicable. Use vacuum retrieval equipment, if available.
- Consider using level sensing technology to monitor flow conditions and receive advanced warning of surcharging conditions, preventing the spill and related containment efforts.
- Implement pre-planned coordination and collaboration with storm drain agencies and other utility agencies/departments prior, during, and after a spill event.
    - Before spills – Meet with drainage conveyance system owner to develop a plan for cleaning and sewage retrieval.
    - During spills – Implement the plan. Contact drainage conveyance system owner if circumstances are not addressed in the plan.
    - After spills – Perform periodic post-incident debriefs to evaluate effectiveness and make changes to the plan if necessary.
- Conduct post-spill assessments of spill response activities. Involve (at the least) staff that played a role in the response. Evaluate each spill event for adherence to the Spill Emergency Response Plan and for effectiveness. An example could be evaluating how well agency staff performed with spill recovery and cleanup operations for the event.
- Document and report spill events as required in this General Order. Develop data collection forms that include not only the fields in the California Integrated Water Quality System (CIWQS) database, but also data that supports assumptions and estimations. Ensure appropriate staff are familiar with reporting timelines and trained in data submitting, a required by the Reissued WDR.
- Annually, review and assess effectiveness of the Spill Emergency Response Plan, and update the Plan as needed. Review all Post-spill evaluations for trends and instances when the procedures did not produce the desired results. Ensure all contacts and contact information is up to date. Ensure any changes made are implemented. Maintain Sewer System Management Plan Change Log.
- Evaluate the need for adapting change management techniques based on review of spill events/results.

EFFECTIVENESS

Guidance 6.3: To facilitate measuring effectiveness, an agency should develop Key Performance Indicators, such as:

- EXAMPLE: Does the agency implement an effective Spill Emergency Response Plan? Measured by quarterly review, training/practice drills, and completion of field data collection forms for conforming with Attachment E1 requirements of the Reissued WDR. Measured by checking to ensure Post-Spill Assessment (and any necessary change management techniques if necessary) are being completed for every spill event.

## Supplemental Information - Element 6

RESILIENCE

To provide resilience for this element, an agency should consider identifying or developing resilience indicators, such as:

- Provide training on a regular basis for all spill response staff. Training should include:
  - Determining spill start time and end time.
  - Determining spill volume and volume recovered (also required in Element 4).
  - Data collection (forms)
  - Containment, recovery and clean up (including training/drills, refer to Element 4).
  - CIWQS data submitting.
- Develop a training plan for service providers.
- Periodically review post-spill assessments for trends and identify areas for improvement.

ADDITIONAL RELATED SEWER SYSTEM MANAGEMENT PLAN REQUIREMENTS

In addition to the above guidance, an agency should also consider addressing the following related "Specifications" requirements in the Reissued WDR:

- **Specifications 5.13 ("Notification, Monitoring, Reporting, Record Keeping Requirements")**

ADDITIONAL GUIDANCE

- See Appendix 4

COMMON WDR VIOLATIONS

To help reduce potential violations for noncompliance, an agency should avoid the following common violations:

- ✓ 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

REQUIREMENTS[14]

*"The Sewer System Management Plan must include procedures for the evaluation of the Enrollee's service area to determine whether a sewer pipe blockage control program is needed to control fats, oils, grease, rags, and debris. If the Enrollee determines that a program is not needed, the Enrollee shall provide justification in its Plan for why a program is not needed. The procedures must include, at minimum:"*

- *An implementation plan and schedule for a public education and outreach program that promotes proper disposal of pipe-blocking substances.*
- *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.*
- *The legal authority prohibits discharges to the system and identifies measures to prevent spills and blockages.*
- *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.*
- *Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the fats, oils, and grease ordinance.*
- *An identification of sanitary sewer system sections subject to fats, oils, and grease blockages and establishment of a cleaning schedule for each section; and*
- *Implementation of source control measures for all sources of fats, oils, and grease reaching the sanitary sewer system for each section identified above."*

COMPLIANCE

Guidance 7.1: To comply with this requirement, an agency can consider the following:

- Ensuring the agency has a pipe blockage control program (including necessary legal/enforcement authority) that addresses the system's most common blockage-causing defects, such as roots, fats/oils/grease, wipes, etc.
- Schedules are kept for maintenance activities, such as gravity main cleaning, lateral cleaning/rodding, pump station maintenance, etc.
- Schedules are kept for inspection activities, such as grease interceptors, food service establishments, CCTV of gravity pipes, manholes, pump stations, etc.
- Monitoring findings from cleaning operations
- Enforcing maintenance requirements

[14] See Attachment D, Section 7 of Reissued WDR (page D-7)

IMPLEMENTATION

Guidance 7.2: To facilitate implementation, an agency can consider the following:

- An implementation plan and schedule for a public education and outreach program that promotes proper disposal of pipe-blocking substances:
    - Include door hangers, flyers, bill stuffers, newsletters, etc. with agency message.
    - Place agency message on its website.
    - Have a presence at community events to convey agency message.
    - Establish a schedule that lists the events, actions, and timelines.
- 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.
    - Utilizing hydro-vac vacuum retrieval to return water to the sewer system; dispose of debris at a treatment plant or appropriate facility. For agencies that do not own a hydro-vac, consider contracted services.
- A plan for handling grease
    - Review of the agency's legal authority that:
        - Prohibits discharges of fats, oil and grease to the system and identifies measures to prevent spills and blockages.
        - Prohibits illicit discharges; ensure agency ordinance or code address illicit discharges.
        - Ensures requirements in place for grease handling:
            - Installation of grease removal devices (such as traps or interceptors).
            - Design standards for the removal devices.
            - Maintenance requirements along with best management practices requirements.
            - Recordkeeping and reporting requirements.
            - If source control is performed by another agency or company, ensure all requirements are met.
    - Inspection of grease producing facilities:
            - Establishing/confirming the agency's grease enforcement authority.
            - Establishing whether the agency has sufficient staff to inspect and enforce the fats, oils, and grease ordinance.
    - Identification of sanitary sewer system sections subject to fats, oils, and grease blockages and establishing a cleaning schedule for each section where required.

- Implementation of source control measures for all sources of fats, oils, and grease reaching the sanitary sewer system for each section identified above.
- Review of gravity pipe inspection records to identify portions of the collection system experiencing grease build up or other pipe blocking defects.
- Estimate appropriate maintenance intervals.
- Once the intervals are established, when the line segment comes due for cleaning, a CCTV inspection is performed to determine if the section needs to be cleaned.
- Based on the CCTV inspection results, adjust the interval, if necessary, until the optimal interval is determined. Manhole monitoring devices can be used to monitor the flow through the upstream manhole of a problem line segment, which will help establish the optimal interval.

  If the problem is related to a discharge from the food service establishment or other grease-discharging business, follow agency source control procedures to rectify the problem.

- Identify measures to prevent spills and blockages:
  - Identify problem areas in agency collection system, generally accomplished by CCTV inspection.
  - Establish appropriate maintenance and inspections intervals that allows for identification of problems and implementation of preventive measures. This is a challenging endeavor, and you can use your agency spill record to drive the maintenance interval.
    Generally speaking, a downward trending spill rate for maintenance defects would indicate an appropriate maintenance interval. Focus should be on portions of the collection system where the consequence of failure is high (e.g., high volume gravity mains and lift/pump stations).
  - Ensure the agency public outreach programs address pipe blocking items.

EFFECTIVENESS

Guidance 7.3: To facilitate measuring effectiveness, an agency should develop Key Performance Indicators, such as:

- Have there been any blockages/spills from any identified problem area?
- Is the agency receiving feedback on public outreach efforts?
- Is the debris and other sewage solids collected during cleaning activities being disposed of appropriately?
- Does the agency have a plan and schedule for inspection of grease producing facilities (and is schedule appropriate or require amendments)? Was the schedule adhered to?
- Have there been spills due to excessive fats, oil, grease, roots, or non-dispersible wipes discovered in the sewer system?

- Are there repeat offenders among FSEs? Are enforcement trends decreasing?
- Are Source Control staff included in the plan check process? Does the agency have a process to check/measure to ensure appropriate department(s) is/are provided the opportunity to engage in plan checks, including source control and collection system staff?

## Supplemental Information – Element 7

RESILIENCE

To provide resilience for this element, an agency should consider identifying or developing resilience indicators, such as:

- Inspect assets directly downstream of grease producing businesses to ensure source control is effective.
- Develop outreach doorhangers or flyers to perform targeted outreach when discoveries are made in the field.
- Perform regular assessments of system assets to monitor performance.
- Establish a QA/QA process for evaluating pipe cleaning effectiveness.

ADDITIONAL GUIDANCE

- See Appendix 4

COMMON WDR VIOLATIONS

To help reduce potential violations for noncompliance, an agency should avoid the following common violations:

- ✓ 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, Capital Improvements

REQUIREMENTS

*"The Plan must include procedures and activities for*

- *Routine evaluation and assessment of system conditions,*
- *Capacity assessment and design criteria.*
- *Prioritization of corrective actions.*
- *Capital improvement plan."*

## 8.1. System Evaluation and Condition Assessment

REQUIREMENTS

*"The Plan must include procedures to:*

- *Evaluate the sanitary sewer system assets utilizing the best practices and technologies available.*
- *Identify and justify the amount (percentage) of its system for its condition to be assessed each year.*
- *Prioritize the condition assessment of system areas that:*
  - *Hold a high level of environmental consequences 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).*
- *Assess the system conditions using visual observations, video surveillance and/or other comparable system inspection methods.*
- *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.*
- *Maintain documents and recordkeeping of system evaluation and condition assessment inspections and activities,*
- *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

Guidance 8.1.1: To comply with this requirement, an agency can consider the following:

- 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.
- To justify amount of system evaluated each year:
    - Evaluate past performance.
      Spill trends (trending up may indicate the inspection cycle is too long; trending down may indicate the appropriate interval).
    - Evaluate maintenance and repair efforts.
      Maintenance and repair trends (trending up may indicate asset performance is declining; trending down may indicate asset performance is stable or improving).
    - Evaluate the age of the system. Older assets tend to need more attention. Newly constructed or rehabilitated assets tend to need less attention. Use information detailed above (and more, if available) to provide an answer to the question "How do you know the return cycle is appropriate for your system?"
- Perform a system-wide vulnerability assessment to determine risk (the likelihood of failure and the consequence of failure)
- Prioritize condition assessment based on risk.
    - Identify high-risk assets, such as high flow volumes, locations near surface water or environmentally sensitive areas.
    - Locations in areas with restricted or seasonal access.
    - Locations with history of failure(s).
    - Rank and prioritize projects based on assigned risk value.
    - Develop a likelihood/consequence matrix for the agency's system.

IMPLEMENTATION

Guidance 8.1.2: To facilitate implementation, an agency can consider the following:

- Utilize observations/evidence of system conditions that may contribute to exiting of sewage from the system that can reasonably be expected to discharge into a water of the State.
- Identify the portions of the collection system with evidence of infiltration. If ground water is infiltrating the pipe, when the water table recedes, it is possible for sewage to exfiltrate (see section 3.24 of Reissued WDR for more information on exfiltration).
- Identify the portions of the collection system with evidence of breaks, cracks, and failing joints.
- Identify the portions of the collection system near surface water or environmentally sensitive areas. If the pipe is in good condition, without any of the above listed defects, the likelihood of exfiltration is very low.

EFFECTIVENESS

Guidance 8.1.3: To facilitate measuring effectiveness, an agency should develop Key Performance Indicators, such as:

- EXAMPLE: Has the agency assessed the collection system capacity-related problems? Measured by annual review of all inspection data (CCTV) including spill events where there was evidence of capacity issues, including periodic reviews of visual manhole inspection and flow/level sensor data during wet weather events.
- EXAMPLE: Has the agency reviewed/assessed lift/pump station inspection and condition assessment, air release valves (if applicable), force main conveyance system (if applicable) including alignment inspections/route walks?

## 8.2. Capacity Assessment and Design Criteria

REQUIREMENTS[15]

*"The Plan 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.

*The capacity assessment must consider:*

- *Data from existing system condition assessments, system inspections, system audits, spill history, and other available information.*
- *Capacity of flood-prone systems subject to increased infiltration and inflow, under normal local and regional storm conditions.*
- *Capacity of systems subject to increased infiltration and inflow due to larger and/or higher-intensity storm events as a result of climate change.*
- *Increases of erosive forces in canyons and streams near underground and aboveground system components due to larger and/or higher-intensity storm events.*
- *Capacity of major system elements to accommodate dry weather peak flow conditions, and updated design storm and wet weather events; and*
- *Necessary redundancy in pumping and storage capacities."*

COMPLIANCE

Guidance 8.2.1: To comply with this requirement, an agency can consider the following:

[15] See Attachment D, Section 8.2 of Reissued WDR (pages D-8 and D-9)

- Establish plans to abate major sources that contribute to the peak flows associated with sewer spills. This may include inflow and infiltration (I&I) and illicit connections/discharges (e.g., storm drain connected to the system).

Guidance 8.2.2: To comply with this requirement, an agency should:

- Look at the changes that have occurred and evaluate the collection system assuming the trends will continue. Consider how these potential issues will impact your collection system. This includes evaluating areas experiencing increased erosive forces and recommend potential mitigation strategies.
- Evaluate available technologies and strategies including redundancy with pumping, backup power generation, storage and other equipment deemed appropriate by the agency.
- Establish a timeline for completion of asset analysis.
    - Some endeavors may be challenging and costly. Timelines need to be established to address issues before they become problems.
    - A funding program will have to be formulated/developed and implemented.

Guidance 8.2.3: To comply with this requirement, an agency should consider the following:

- Pipes are sized to convey sewer flows today and into the future, based on factors such as historic and current flow rates zoning designations and anticipated buildout of development projects. In addition to these known and projected flows, the sewer system will receive storm water and ground water via inflow and infiltration.
- The pipe needs to allow for the additional flows. Below are considerations to determine the appropriate capacity.
    - Dry-weather peak flow conditions that cause or contribute to spill events. Is the system experiencing hydraulic deficiencies during dry weather peak flows?
    - The appropriate design storm(s) or wet weather events that causes or contributes to spill events. The design storm is a computerized event that is used to determine how the pipes will perform when storm flows are added to model. If the model suggests the pipes are appropriately sized and system surcharging occurs during storm events, then the selected design storm should be re-evaluated. Each agency is responsible to determine the appropriate design storm for their system.
    - The capacity of key system components. Key system component components include such things as large volume trunk or interceptor lines, large volume pump stations, facilities near surface waters, and retention basin(s) to handle peak flows.

IMPLEMENTATION

Guidance 8.2.4: To facilitate implementation, an agency can consider the following:

- Develop and implement a system evaluation procedure to address all the above requirements.

EFFECTIVENESS

Guidance 8.2.5: To facilitate measuring effectiveness, an agency should develop Key Performance Indicators, such as:

- •EXAMPLE: Develop a hydraulic model that determines pipe capacity requirements for current system and future (30-year buildout used for this example only).
  - Number of capacity-related spills or surcharge condition during the audit period?
  - Has the system responded to rain events as indicated by the hydraulic model?
  - Has there been any changes to zoning designations (residential, commercial, industrial)?
  - Rain event trends: Has there been changes in rain event occurrences, intensity, and duration?
  - Has the system experienced more inflow/infiltration than predicted/expected that may require an update to existing flow data/studies to consider abatement of new sources?

## 8.3. Prioritization of Corrective Actions

REQUIREMENTS[16]

*"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

Guidance 8.3.1: To comply with this requirement, an agency can consider the following:

- Develop and implement a system corrective action procedure to address all the above requirements.

IMPLEMENTATION

Guidance 8.3.2: To facilitate implementation, an agency can consider the following:

- Utilize all available data for prioritizing corrective actions considering severity/consequences of potential spills relying on data obtained in sub-element 8.1-8.2 above.
- 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

Guidance 8.3.3: To facilitate measuring effectiveness, an agency should develop Key Performance Indicators, such as:

- EXAMPLE: Has the agency adhered to its system evaluation/condition assessment efforts? Measured by annual review and update of system inspections/evaluations procedures.

[16] See Attachment D, Section 8.3 of Reissued WDR (page D-9)

- EXAMPLE: Has the agency adhered to its prioritization/corrective actions for sewer repair and capacity improvement projects? Measured by annual review and agency prioritization/corrective actions procedures.

## 8.4 Capital Improvement Plan

REQUIREMENTS[17]

*"The capital improvement plan must include the following items:"*

- *Project schedules include completion dates for all portions of the capital improvement program.*
- *Internal and external project funding sources for each project.*
- *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

Guidance 8.4.1: To comply with this requirement, an agency can consider the following:

- Develop and implement a system capital improvement plan to address all the above requirements.

IMPLEMENTATION

Guidance 8.4.2: To facilitate implementation, an agency can consider developing the following:

- Develop a capital improvement plan that lays out financing and timing for projects within both the short-term (within the next 2-3 years) and long-term (within the next 5-10 years).
- Joint coordination between operation and maintenance staff should be ensured depending on the agency, including coordination between engineering staff, consultants, and operations staff during all phases of planning, design, and construction for all capital improvement projects, Interagency coordination with other impacted utility agencies.
- For portions of the system with defects and/or capacity issues identified in sections 8.1-8.3 above, develop a capital improvement plan (CIP) and/or a repair and replace (R&R) plan to address all defects and/or capacity issues.
- Capital project schedules should be included, along with anticipated completion dates for all portions of the capital improvement program. Timelines can and should be adjusted based on changing priorities. However, reasons for deviation from the plan should be documented.
- Internal and external project funding sources must be identified for each project (refer to Attachment D, Section 8.4). Funding for large, unexpected projects can be a burden on budgets and reserves. Having foresight and resourcing money today for tomorrow's project is key to the timely completion of the project.
- Holding regular coordination meetings that include all providers and stakeholders helps to keep the project on track and resolve issues that may arise in a timely manner.

[17] See Attachment D, Section 8.4 of Reissued WDR (page D-9)

EFFECTIVENESS

Guidance 8.4.3: To facilitate measuring effectiveness, an agency should develop Key Performance Indicators, such as:

- EXAMPLE: Has the agency's capital improvement plan been adhered to?
- Is there an annual review of the Capital Improvement Plan by all necessary individuals including both Engineering and Operations?

## Supplemental Information – Element 8

RESILIENCE

To provide resilience for this element, an agency should consider identifying or developing resilience indicators, such as:

ADDITIONAL RELATED SEWER SYSTEM MANAGEMENT PLAN REQUIREMENTS

In addition to the above guidance, an agency should also consider addressing the following related "Specifications" requirements in the Reissued WDR:

- **Specifications 5.6 ("System Resilience")**
- **Specifications 5.10 ("System Capacity")**

ADDITIONAL GUIDANCE

- See Appendix 4

COMMON WDR VIOLATIONS

To help reduce potential violations for noncompliance, an agency should avoid the following common violations:

- ✓ 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, Program Modifications

REQUIREMENTS[18]

*"The Plan must include an Adaptive Management section that addresses Plan-implementation effectiveness and the steps for necessary Plan improvement, including:*

- *Maintaining relevant information, including audit findings, to establish and prioritize appropriate Plan activities.*
- *Monitoring the implementation and measuring the effectiveness of each Plan Element.*
- *Assessing the success of the preventive operation and maintenance activities.*
- *Updating Plan procedures and activities, as appropriate, based on results of monitoring and performance evaluations; and*
- *Identifying and illustrating spill trends, including spill frequency, locations, and estimated volumes."*

COMPLIANCE

Guidance 9.1: To comply with this requirement, an agency can consider the following:

- Develop an adaptive management program to address implementation and assess effectiveness of system operations and performance.
- Address findings from most recent audit.
- Implement an Adaptive Management process that facilitates decision making in the face of uncertainty.
- Maintain relevant system performance and spill information at all levels of the sewer program in a way that can be practically evaluated.
- Monitor historic spill and system performance trends.
- Monitor work program effectiveness and adapt or adjust as necessary, document changes in most recent agency internal audit.
- The Agency must incorporate the findings from its most recent audit. This includes specific actions, steps, projects, and schedules for addressing necessary improvements needed, including planned commitments before the next agency audits and Sewer System Management Plan updates are due.

IMPLEMENTATION

Guidance 9.2: To facilitate implementation, an agency can consider the following:

[18] See Attachment D, Section 9 of Reissued WDR (page D-9)

- Maintaining relevant information and historical presentation, including audit findings, to establish and prioritize activities.
  - Systematic collection of data and storage of data in a manner that it is readily available for analysis is paramount. Storing data in a database is optimal for reporting and data analysis. Storing the data on paper in large volume is cumbersome and difficult to analyze.
- Monitoring the implementation and measuring the effectiveness of each plan element.
- This can be accomplished by:
  - Developing Key Performance Indicators for all Plan elements to help measure effectiveness.
  - Periodic Sewer System Management Plan review meetings to ensure that the plan is being carried out, ensuring staff specified in Element 2 are included/documented in reviews.
  - Graphing historical system performance and spill performance results to assist with evaluating effectiveness (and comply with Attachment D, Section 9).
- Assessing the success of the preventive operation and maintenance activities.

  Measuring actual outcomes against intended outcomes can be facilitated by annual review of the Sewer System Management Plan goals and objectives. (Caution – An agency's goal could be to reduce spills, and one of the objectives to accomplish the goal is to inspect (CCTV) 20% of the system each year. Hitting the mark inspecting 20% of the system may not be the right measure if the objective of inspecting (CCTV) 20% of the system is not appropriate based on an increase in an agency's spill rate.)
- Updating Plan procedures and activities, as appropriate, based on results of monitoring and performance evaluations.
- The Sewer System Management Plan is required in Attachment D to be a "living document," which means it is continually edited and updated (and edits maintained/included in the Change Log). Periodic review is the key. Periodic Sewer System Management Plan review meetings are recommended for ensuring the Plan is being implemented and carried out.
- Identifying and illustrating spill trends, including spill frequency, locations, and estimated volumes. As previously stated, maintaining data in a manner that can be reviewed and evaluated makes the data more valuable (see Specifications 5.11, Agency Spill Performance Report).
- If an Enrollee has jurisdiction over any portion of sewer laterals, tables, or graphs can separate the lateral spills from mainline spills to normalize data and allow for more accurate comparisons with other Enrollees Common Violations (from the 2015 Guidance Manual)

EFFECTIVENESS

Guidance 9.3: To facilitate measuring effectiveness, an agency should develop Key Performance Indicators, such as:

- Are trends being monitored and corrective action taken as necessary?

- Have Key Performance Indicators been developed to measure the effectiveness of each Sewer System Management Plan element?
- Has a plan and schedule been established to address audit findings/deficiencies?
- Have changes been made to work programs and procedures because of program assessments?

## Supplemental Information – Element 9

RESILIENCE

To provide resilience for this element, an agency should consider identifying or developing resilience indicators, such as:

- Develop key performance indicators to measure effectiveness of the Sewer System Management Plan.
- Perform periodic reviews of the Sewer System Management Plan to help ensure the plan is being properly implemented.
- Develop and adhere to a timeline to correct deficiencies found during the audit process.
- Periodically evaluate work programs to help ensure effectiveness.

ADDITIONAL RELATED SEWER SYSTEM MANAGEMENT PLAN REQUIREMENTS

In addition to the above guidance, an agency should also consider addressing the following related "Specifications" requirements in the Reissued WDR:

- **Specifications 5.11 ("System Performance Analysis")**

ADDITIONAL GUIDANCE

- See Appendix 4

COMMON WDR VIOLATIONS

To help reduce potential violations for noncompliance, an agency should avoid the following common violations:

- ✓ 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.

# Element 10 – Internal Audits

REQUIREMENTS[19]

*"The Plan shall include internal audit procedures, appropriate to the size and performance of the system, for the Enrollee to comply with section 5.4 (Sewer System Management Plan Audits) of this General Order."*

- Specifications 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 System Database per the requirements in section 3.10 (Sewer System Management Plan Audit Reporting Requirements) of Attachment E1 of this 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 Enrollee's sewer system operators must be involved in completing the audit. At 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."

COMPLIANCE

Guidance 10.1: To comply with this requirement, an agency can consider the following:

- Consider the size and complexity of an agency's collection system in crafting the scope of its audits.
  - Audits can be performed by agency staff or by utilizing consultants.
    - If performed in-house, consider utilizing staff from different departments to help ensure objectivity.
- Ensure the audit addresses compliance, implementation, and effectiveness of all elements of the Sewer System Management Plan.

[19] See Attachment D, Section 10 of Reissued WDR (page D-10)

- Compliance: (The act of meeting regulations) This Ensure all elements and sub-elements are addressed. Full compliance is the goal.
- Implementation: (Putting the Plan into effect): To properly implement the plan, the agency should be performing as described in the plan. In other words, the agency must "do what they say they would do."
- Effectiveness: (The degree to which the desired result was achieved). Each element, and in some cases the sub elements in the Sewer System Management Plan needs to be evaluated for effectiveness. Key Performance Indicators (KPIs) and historical performance results should be utilized to address effectiveness.

IMPLEMENTATION

Guidance 10.2: To facilitate implementation, an agency can consider the following:

- At a minimum, an audit must evaluate the agency's compliance, Sewer System management implementation, and its effectiveness in preventing spills.
- Identify Sewer System Management Plan deficiencies in addressing ongoing (meaning spill continue to occur) spills and discharges to waters of the State. If established goals are not being met and outcomes are not as intended, then the Sewer System Management Plan is deficient, at least in part.
- Once the audit findings have been determined, distribute findings to operations staff; allow ample time for review; and hold a meeting to discuss and document outcomes of discussion.
- Include findings, recommended corrective actions, input from collection system operations staff, and a proposed schedule to address identified deficiencies.

Identify necessary modifications to the Sewer System Management Plan to correct deficiencies.

- The Enrollee submits a complete audit report in CIWQS that includes:
  - Agency Sewer System Management Plan 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

Guidance 10.3: To facilitate measuring effectiveness, an agency should develop Key Performance Indicators, such as:

- Have audits been performed as required?
- Have the audits assessed compliance, implementation, and effectiveness?
- Have deficiencies been identified?
- Has a plan and schedule to rectify the deficiencies been established?
- Were all past Sewer System Management Plan internal audit findings and schedules met and incorporated into Sewer System Management Plan update?
- Was the Sewer System Management Plan Change Log regularly maintained, as necessary?

## Supplemental Information – Element 10

RESILIENCE

To provide resilience for this element, an agency should consider identifying or developing resilience indicators, such as:

- Periodically evaluate key performance indicators to assess effectiveness of each Plan element.
- Evaluate previous audit to ensure deficiencies have been rectified.
- Calendar the audit due dates and complete the audit on time.
- Prepare for announced/unannounced compliance inspections by regulators and be proactive with preparing all required audits by completing the State Water Board Pre-Inspection Questionnaire (see Appendix 6). Agencies wishing to be proactive by viewing an example Water Board inspection report assessing compliance against the Reissued WDR can find a publicly-available example here. As an additional reminder, agencies need to plan ahead and be diligent to avoid violations for failure to complete Pre-Inspection Questionnaires (if requested by the Water Boards) or complete Audits on time. Attachment E1 (section 3.10) requires an agency to update CIWQS and notify its Regional Water Board if an Audit is not completed as required by the Reissued WDR.

ADDITIONAL RELATED SEWER SYSTEM MANAGEMENT PLAN REQUIREMENTS

In addition to the above guidance, an agency should also consider addressing the following related "Specifications" requirements in the Reissued WDR:

- **Specifications 5.4 ("Sewer System Management Plan Audits")**

ADDITIONAL GUIDANCE

- See Appendix 4

COMMON WDR VIOLATIONS

To help reduce potential violations, an agency should avoid the following common violations:

- ✓ 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

REQUIREMENTS[20]

*"The Plan must include procedures for the Enrollee 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, update of its Plan, including opportunities for public input to Plan implementation and updates.*
- *Owners/operators of systems that connect into the Enrollee's system, including satellite systems, for system operation, maintenance, and capital improvement-related activities."*

COMPLIANCE

Guidance 11.1: To comply with this requirement, an agency can consider the following:

- Developing communication procedures to ensure adequate public communication for sewage spills that resulted in closure of public areas or impacted drinking water sources, and during the Plan development, implementation, and updates.
- Developing communication procedures to ensure adequate communication with system owners/operators connecting to the agency's collection system for related operations, maintenance, and capital improvement activities.

IMPLEMENTATION

Guidance 11.2: To facilitate implementation, an agency can consider the following:

- Communicating with the public for spills and discharges resulting in closures of public areas or that enter a drinking water source.
  - Post signs informing people to remain out of the affected area, agency name and contact information should be included.
  - Cordon off the affected area to the extent feasible.
  - If the risk to public health is high, station personnel to ensure nobody enters the affected area.
  - Communicate with the public, as needed.
- There are various ways to communicate with the public. All agencies provide notice for board or council meetings. When the Sewer System Management Plan is updated and approved by the governing entity, there will be an opportunity for public comment.
- Public outreach is an opportunity to communicate with the public (including property owners, contractors, plumbers, and food service establishments) about consumer items that contribute to pipe blocking and the importance of immediate notification to agency for sewer problems. Include information on such things as: kitchen best practices, what not to flush, sewer problem notification procedures ("Call Us First.")

[20] See Attachment D, Section 11 of Reissued WDR (page D-10)

- Post the Sewer System Management Plan on the agency website and invite comment. Issue newsletters or mailers informing the public anytime an action is taken, it is a public record.
- Satellite agencies and privately-owned systems that discharge to your system must be aware of your agency sewer use requirements. The agency sewer use code or ordinance should be distributed to satellite and private discharges. Agencies should hold periodic meetings (e.g., annually) to discuss any issues and ensure compliance as a discharger, including review of necessary emergency response procedures for responding to and mitigating spills.
- There are times when the service charge rates must be increased, which can cause adverse reactions from the agency's customers and can sometimes result in poorly received publicity. The Sewer System Management Plan can be a tool to explain and demonstrate what is involved in operating a sewage collection system.

EFFECTIVENESS

Guidance 11.3: To facilitate measuring effectiveness, an agency should develop Key Performance Indicators, such as:

- Does the agency place all Sewer System Management Plan action items on the agenda for regular counsel/board meetings?
- Does the agency have signage, or other means, readily available to notify the public of environmental or public risk factors related to a sewage spill?
- Does the agency regularly communicate/document interactions with other systems connected to an agency's sewer system?
    - Does communication include emergency response contact information, pre-storm preparations, mutual aid agreements, etc.?
- Was the public afforded the opportunity to provide input as the program was being implemented?
- Does the agency perform outreach to residential customers?

## Supplemental Information – Element 11

RESILIENCE

To provide resilience for this element, an agency should consider identifying or developing resilience indicators, such as:

- Use the Sewer System Management Plan as a tool to communicate with the public how the agency is managing the system.
- Maintain a consistent presence with the public in the service area by attending community events or issuing periodic newsletters or other communications to the public.
- Make it clear and easy for the public to contact the agency and review the Sewer System Management Plan and appropriate supporting documents.

ADDITIONAL GUIDANCE

- See Appendix 4

COMMON WDR VIOLATIONS

To help reduce potential violations for noncompliance, an agency should avoid the following common violations:

- ✓ 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.

# LIST OF APPENDICIES

Appendix 1 (Key Regulatory Changes for Sewer System Management Plan Development/Updates)

| 2006 WDR (rescinded) | 2022 WDR (current) | 2022 Changes | Summary of Key 2022 WDR Changes |
|---|---|---|---|
| 1. Goal<br>Provision D.13(i) | 1. Goal and Introduction<br>Att. D-6, Spec. 5.2 | Many | • Implementation of SSMP as "living document."<br>• Enforcement of development, update, and implementation.<br>• Narratives for regulatory context, assets, updated sewer map(s). |
| 2. Organization<br>Provision D.13(ii) | 2. Organization<br>Attachment D-6, Spec. 5.1 | Few | • Name of Legally Responsible Official.<br>• Enhanced details on LRO training and experience requirements. |
| 3. Legal Authority<br>Provision D.13 (iii) | 3. Legal Authority<br>Attachment D-6 | Few | • Collaboration with storm drain agencies; easement accessibility agreements. |
| 4. O/M Program<br>Provision D.13 (iv) | 4. O/M Program<br>Attachment D-6 | Many | • Procedures for maintaining/providing Water Board access to sewer map(s)<br>• Enhanced training/WDR, drills/skilled vol. est., CIWQS reporting; scheduling system in place. |
| 5. Design and Performance Provisions<br>Provision D.13 (v) | 5. Design and Performance Provisions<br>Attachment D-6 | Few | • Few changes. |
| 6. Overflow Emergency Response Plan<br>Provision D.13 (vi) | 6. Spill Emergency Response Plan<br>Attachment D-6 | Many | • Numerous upgrades to notification, monitoring, reporting, record keeping, definitions.<br>• Staff/contractor requirements for implementation, removing/cleaning sewage from drainage conveyance systems not impacting beneficial uses/receiving waters.<br>• Coordination/collaboration with storm drain agencies (prior, during, after) spills.<br>• Post-spill assessments, annual assessment, implement containment tech/practices.<br>• Requires annual certification in Annual Report that plan is up-do-date. |
| 7. Fats, Oils, and Grease Control Program<br>Provision D.13 (vii) | 7. Sewer Pipe Blockage Control Program<br>Attachment D-6 | Few | • Plan/schedule for pipe-blocking substances.<br>• Commercial controls/authority to inspect, "hot spot" program, source controls. |
| 8. System Evaluation and Capacity Assurance Plan<br>Provision D.13 (viii) | 8. System Evaluation, Capacity Assurance, and Capital Improvements<br>Attachment D-6 | Many | • Implementation of capital improvements.<br>• 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.<br>• More information for capacity assessments, inspections, audits.<br>• Capacity of flood-prone systems subject to inflow/infiltration.<br>• Increases in erosive forces, pumping redundancy, prioritization of corrective actions. |

| 2006 WDR (rescinded) | 2022 WDR (current) | 2022 Changes | Summary of Key 2022 WDR Changes |
|---|---|---|---|
| | | | • Enhanced coordination (operations/maintenance/engineering, other utilities). |
| 9. Monitoring, Measurement, and Program Modifications Provision D.13 (ix) | 9. Monitoring, Measurement, and Program Modifications Attachment D-6 | Few | • Adaptive management/implementation effectiveness (Key Performance Indicators)<br>• Update plan procedures/activities based on monitoring/performance evaluations. |
| 10. SSMP Audits | 10. Internal Audits Attachment D-6 | Few | • Completed every 3 years (vs. every 2 years), input from operators, and cert/upload/LRO. |
| 11. Communication Program Provision D.13 (xi) | 11. Communication Program Attachment D-6 | Few | • Enhanced communications procedures (public/owners/operators connected to sewers). |

| 2006 WDR (rescinded) | 2022 WDR (current) | 2022 Changes | Summary of Key 2022 WDR Changes |
|---|---|---|---|
| Legally Responsible Official | Designation of LRO Spec. 5.1 (pg. 18) | 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.<br>• 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 Provision D.11 (pg. 9) | SSMP Development and Implementation Spec. 5.2 (pgs. 18-19) | 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)." |
| Certification of System Management Plan + Updates Provision D.14 (pg. 15) | Certification of SSMP and Updates Spec. 5.3 (pg. 19) | Major | • Legally Responsible Official must certify/upload SSMPs to CIWQS. |
| SSMP Internal Audits Provision D.13(x) (pg. 14) | SSMP Development and Update Spec. 5.4 (pgs. 19-20) | Minor | • Audits of SSMPs every 3 years (vs. every 2 years under 2006 WDR).<br>• 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.<br>• 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 |

| 2006 WDR (rescinded) | 2022 WDR (current) | 2022 Changes | Summary of Key 2022 WDR Changes |
|---|---|---|---|
| | | | deficiencies. |
| SSMP Updates<br>Provision D.14 (pg. 15) | Six-Year SSMP Update<br>Spec. 5.5 (pgs. 21) | Minor | • Agencies must update their SSMPs and include a summary of revisions based on Audit findings every 6 years (vs. every 5 years under 2006 WDR). |
| N/A | System Resilience<br>Spec 5.6 (pg. 22) | N/A | • Agencies must include and implement system-specific procedures to proactively prioritize O/M, condition assessments, and repair/rehabilitation. |
| Notif, Monit, Report., Records<br>2013-0058-EXEC | Notif, Monit, Report., Records<br>Attachment E1 | Major | • Numerous changes throughout; adds one new spill category (Category 4); new reporting requirements for systems with enrollee-owned laterals. |
| Collection System Questionnaire | Annual Report | Minor | • Streamlined (fewer) reporting fields; requires uploading of spill performance charts; includes options for adding comments and/or attaching doc(s) to elaborate on answers. |
| N/A | Sanitary Sewer System Service Area Boundary Map | Major | • New requirements (Specifications 5.14) for uploading an electronic boundary map (required between July1 to Dec 31, 2025, for all continuing enrollees). |
| N/A | Pre-Insp. Questionnaire | Major | • Requires agencies to provide pre-inspection information to State and Regional Water Board staff through the completion of a Questionnaire (see Provisions 6.4.2). |

| SEWER SYSTEM MANAGENT PLAN CHANGE LOG | | | |
|---|---|---|---|
| **Date** | **Responsible Person/Title** | **Description of Activity/Change** | **Initials** |
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| ANNUAL COMPLIANCE CHECKLIST (Reissued WDR) | | | |
|---|---|---|---|
| **Target Date** | **Due Date** | **Action Items (CY2024-2025)** | **Completion Date** |
| Jan 2024 | Due FEB 1, 2024 | Cat 4 / Non-Cat 1 Laterals Spills (<50 gallons) | ☐ _____ |
| March 2024 | Due APRIL 1, 2024 | SERP (review/update prior to completing Annual Report) | ☐ _____ |
| March 2024 | Due APRIL 1, 2024 | Annual Report (draft/final/ upload by LRO) | ☐ _____ |
| May 2024 | Due JUNE 5, 2024 | SERP (annual review/assess effectiveness/update) | ☐ _____ |
| 2024 | Check SWRCB Website with WDID | SSMP 3-Year Audit (initiate audit/draft report) | ☐ _____ |
| 2024/2025 | Check SWRCB Website with WDID | SSMP 3-Year Audit (final report/certify/upload by LRO) | ☐ _____ |
| 2025/2026 | Check SWRCB Website with WDID | 2025 SSMP Update (initiate review/draft new SSMP) | ☐ _____ |
| 2025/2026 | Check SWRCB Website with WDID | 2025 SSMP Update (final report/certify/upload by LRO) | ☐ _____ |
| Jan 2025 | Due FEB 1, 2025 | Cat 4 / non-Cat 1 Laterals Spills (<50 gallons) | ☐ _____ |
| March 2025 | Due APRIL 1, 2025 | SERP (review/update prior to completing Annual Report) | ☐ _____ |
| March 2025 | Due APRIL 1 2025 | Annual Report (draft/final/ upload by LRO) | ☐ _____ |
| May 2025 | Due JUNE 5, 2025 | SERP Annual Review/assess effectiveness/update | ☐ _____ |
| July 2025 – Dec 2025 | Due DEC 31, 2025 (continuing enrollees) | Electronic Sanitary Sewer System Service Area Boundary Map | ☐ _____ |

# *Newly-Reissued*
# Statewide Sanitary Sewer Systems General Order
## *Effective June 5, 2023*

Diana Messina, P.E., Regulatory Manager
State Water Resources Control Board

April 26, 2023 Roseville Training Event



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## *Today's Regulatory Presentations*


**Initial 15 minutes – *Address information overload***

**December 2022**

- **The State Water Board reissued the Statewide Sanitary Sewer Systems General Order in its entirety**
- **Order becomes effective on June 5, 2023**
  - ***Everything is <u>not</u> due on June 5th***
- **Walk-thru Upcoming Compliance Items for Existing Enrollees**
  - **Due prior to June 5, 2023**
- **Overview of Longer-term Compliance**

*Sit back, listen, ask questions, provide your examples.*
*Copy of presentation will be made available to all attendees*



2

# *Today's Regulatory Presentations*


**Later Presentation**
***Get into the weeds with needed clarification***

- **"Regulatory Basics"**
- **Overview of the Reissued Order**
  - To understand the high-level changes and increased enforceability
  - To understand the Order Organization - Identifying Critical Sections
- **Why the Spill Emergency Response Plan is a Short-term compliance item?**
- **Examine approaches to the expanded Legally Responsible Official Designation**
- **Open Question and Answer Forum**

*Sit back, listen, ask questions, provide your examples.*
*Copy of presentation will be made available to all attendees*



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# Short-Term Compliance Due Dates For Existing Enrollees

| | |
|---|---|
| **April 5 – June 4, 2023** (60-day window) | Item 1: Electronic Continuation of Regulatory Coverage to Reissued Order<br>Current Legally Responsible Official Certifies in California Integrated Water Quality System (CIWQS) |
| **June 5, 2023** | Reissued Order is In Effect<br>2006 and 2013 Orders are rescinded |
| **Due by June 5, 2023** | Item 2: Existing SSMP must be uploaded into CIWQS<br>Item 3: Spill Emergency Response Plan must be updated for implementation<br>Item 4: All Spill Reporting per Reissued Order<br>Item 5: Legally Responsible Official per Reissued Order |



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# Short Term Compliance

**April 5 – June 4, 2023**

Item #1: Electronic Continuation of Regulatory Coverage to Reissued Order

IMPORTANT!!!

90 and *60-day Notices issued to all LROs in CIWQS records*

*Staff available today to assist an LRO in continuing coverage today!*

*Please spread the word to other agencies!*

*If missed:*

- *Full loss of regulatory coverage starting June 5th until a full application package is submitted and approved*
- *Potential enforcement for no coverage*
  - *(Note – compliance records are now electronic)*

CALIFORNIA WATER BOARDS State Water Resources Control Board

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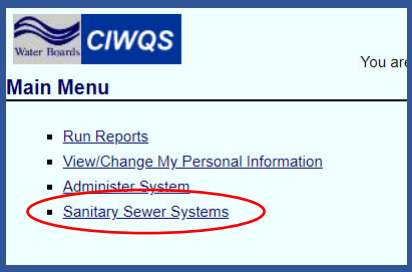
# To Certify Continuation of Existing Regulatory Coverage

(Available since April 5th in CIWQS)

Current Legally Responsible Official logs into established CIWQS account

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# To Certify Continuation of Existing Regulatory Coverage
(Available since April 5th in CIWQS)

- Collection System Annual Report ?
  Pertinent information regarding your collection system.
- Sewer System Management Plan Update ?
  Certify Sewer System Management Plan completion
- Reporting New Spill ?
  Submit Individual Spill Reports.
- Reporting New Private Lateral Sewage Discharge ?
  Submit Individual Private Lateral Sewage Discharge Reports.

Continuation of Existing Regulatory Coverage Certification
(must be completed by June 4, 2023)

7

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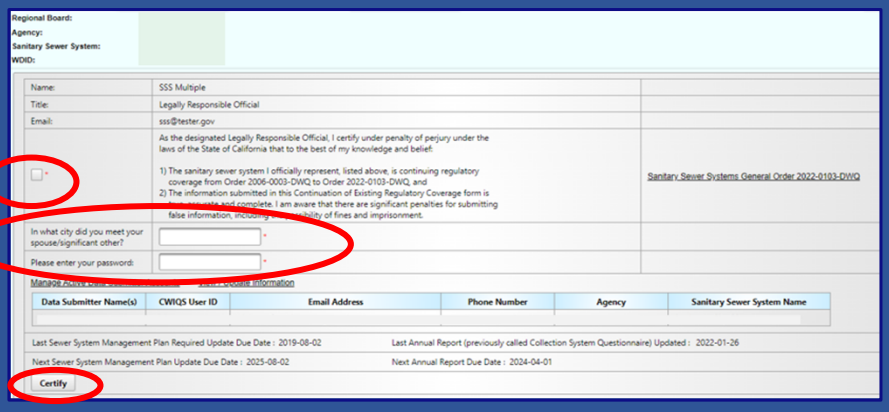
# To Certify Continuation of Existing Regulatory Coverage

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## Confirmation Message and Email
## Continuation of Existing Regulatory Coverage

- Collection System Annual Report ?
  Pertinent information regarding your collection system.
- Sewer System Management Plan Update ?
  Certify Sewer System Management Plan completion
- Reporting New Spill ?
  Submit Individual Spill Reports.
- Reporting New Private Lateral Sewage Discharge ?
  Submit Individual Private Lateral Sewage Discharge Reports.

2023-04-26 10:07:45 [LRO Name] certified that the [Enrollee Name] is continuing regulatory coverage from General Order 2006-0003-DWQ to General Order 2022-0103-DWQ

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## Short Term Compliance by June 5, 2023

Item #2: Existing Sewer System Management Plan (aka SSMP) must be uploaded into CIWQS

(If files size too big – insert link to online SSMP)

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State Water Resources Control Board

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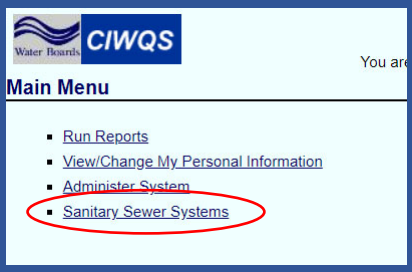
# Uploading Existing Sewer System Management Plan
## Available since April 5th in CIWQS

Current Legally Responsible Official logs into established CIWQS account

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# Upload Existing Sewer System Management Plan documents
## Available since April 5th in CIWQS


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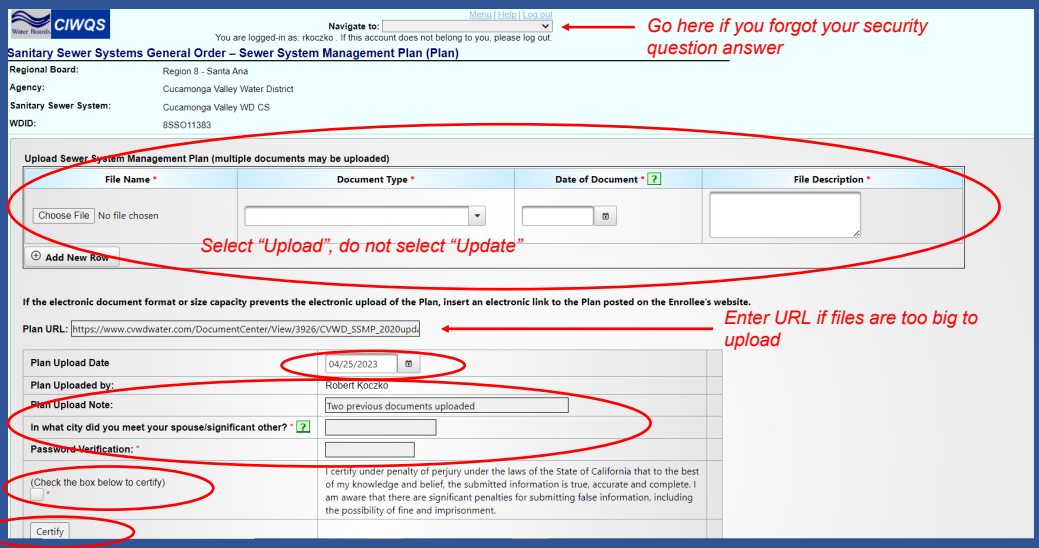
# Upload Existing Sewer System Management Plan documents

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## Short Term Compliance by June 5, 2023

Item #3: Spill Emergency Response Plan must be updated and implemented

*(Not required to be submitted to CIWQS)*

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## Short Term Compliance by June 5, 2023

Item #4: Legally Responsible Official Designation in CIWQS per expanded qualifications in reissued Order

*Questions for Audience*

*How many LROs here today?*

*How many LROs have viewed if they meet expanded qualifications in reissued Order?*

*How many enrollees here have concern that they will not be able to comply with the new LRO qualifications?*

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## Longer Term Compliance

*(preparation is key)*

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## Preparing for Longer-Term Compliance

| | | |
|---|---|---|
| February 1, 2024<br><br>April 1, 2024 | Annual Reporting of Cat 4 and Lateral Spills<br><br>First Annual Report Submittal with 10-year performance graph | • Annual Report replaces existing Questionnaire |
| 2024 or 2025 | End of Audit Period<br><br>Audit Reports due 6 months later | • Audit to identify gaps in SSMP<br>• Audit Report to be Uploaded into CIWQS |
| July – Dec 2025<br><br>2025 or 2026 | Service Area Boundary Map<br><br>Sewer System Management Plan Update | Both to be uploaded into CIWQS<br><br>Updated Plan w/ additional system-specific elements required in Attachment E |



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## More Details

*In next presentation*



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# *Diving Deeper Into the Newly-Reissued*
# Statewide Sanitary Sewer Systems General Order
***Effective June 5, 2023***

Welcome back!
Diana Messina, P.E., Regulatory Manager
State Water Resources Control Board

April 26, 2023 Roseville Training Event



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## *This Presentations*
***Get into the weeds with needed clarification***


- **"Regulatory Basics"**
- **Overview of the Reissued Order**
  - High-level changes and increased enforceability
  - Navigating through the Order - Identifying Critical Sections
- **Why Spill Emergency Response Plan is a critical Short-term compliance item?**
- **The expanded Legally Responsible Official Designation**
- **Open Question and Answer Forum**

*Sit back, listen, ask questions, provide your examples.*
*Copy of presentation will be made available to all attendees*



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# Regulatory Basics

*The Clean Water Act*

*The California Water Code*

*The State Water Resources Control Board*

*The Nine Regional Water Quality Control Boards*

CALIFORNIA WATER BOARDS State Water Resources Control Board





# The 1972 Clean Water Act (CWA)

Federal

.

*1972 - Congress enacted the Clean Water Act*

- *The primary federal law governing water quality*
- *To address pollution in the nation's waters and tributaries.*
- *Prohibits discharge of pollutants to a waters of the United States except as authorized by an NPDES permit*

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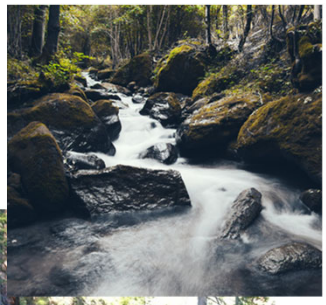

# What is a Water of the United States?

Federal

*A surface waterbody with deemed national importance to the United States:*

- *Oceans, rivers, streams, lakes, creeks, marshes, wetlands, vernal pools, etc.*
- *Considered "jurisdictional" under the Clean Water Act*
- *In the regulatory jurisdiction of the United States Army Corps of Engineers (USACE)*

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State Water Resources Control Board



# Is a Dry Waterbody a Water of the United States?

Federal

Yes. A waterbody that is deemed a water of the U.S. is a water of the U.S. whether or not surface flow exists (surface and subsurface flow)


Many surface waters are hydrologically connected to shallow groundwater

Groundwater feeds surface water when levels are high

Surface water flows feed groundwater when groundwater levels are low


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# California Water Code (WC)

State

*State regulations that regulates pollution discharges to our Waters of the State.*

## *Surface waters*

- *Pacific Ocean*
- *Rivers, streams and creeks*
- *Manmade infrastructure conveying natural flows,*
- *Vernal pools, marshes and wetlands,*
- *Washes and Sloughs*
- *Lagoons and Estuaries*
- *Other*

**Waters of the U.S. (federal surface waters) are a subset of Waters of the State**

## *Groundwater*

Statewide Sanitary Sewer Systems General Order

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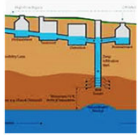
## How would a sewage spill enter groundwater?

1. Through engineered infrastructure specifically designed to maximize infiltration of stormwater



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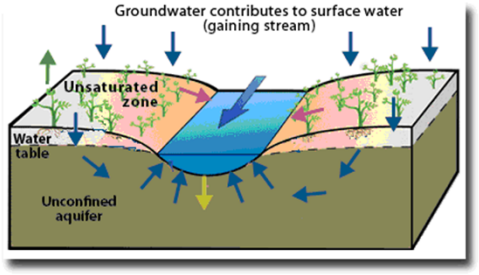
## How would a sewage spill enter groundwater?

2. Through a hydrologically connected surface water body
   - A gaining stream
   - A losing stream




CALIFORNIA WATER BOARDS State Water Resources Control Board

# What are the State Water Resources Control Board and Nine Regional Water Quality Control Boards

**10 Governor-appointed Boards established by the Water Code**

The State Water Board

- Regulates statewide water quality, water rights and drinking water


The Nine Regional Water Boards

- Regulate water quality within own region (primary watershed)
- Enforce State Water Board statewide Orders

Statewide Sanitary Sewer Systems General Order

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# Nine Regional Water Quality Control Boards

- Nine Regional Water Boards
  - Regulate water quality within own region (primary watershed)
  - Enforce Statewide Orders and their Regional Water Board Orders
    - Per 2017 State Water Board Enforcement Policy


Statewide Sanitary Sewer Systems General Order 30

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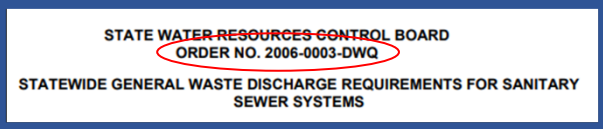
# How are Sewage Spills Regulated?

*Per Water Code Authority*

- State Water Board adopts statewide Waste Discharge Requirements (WDRs or General Order)
- Nine Regional Water Boards enforce the statewide Order
  - In 2006


STATE WATER RESOURCES CONTROL BOARD
ORDER NO. 2006-0003-DWQ

STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR SANITARY SEWER SYSTEMS

Item 8. *It is the State Water Board's intent to gather additional information on the causes and sources of SSOs to augment existing information and to determine the full extent of SSOs and consequent public health and/or environmental impacts occurring in the State.*

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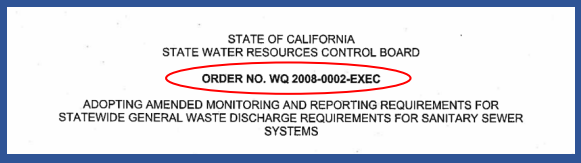
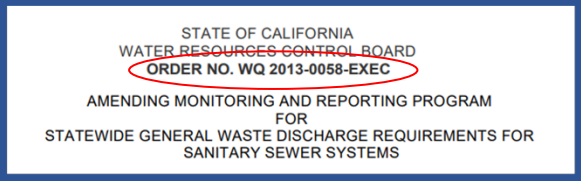
# How are Sewage Spills Regulated?

*Per Water Code Authority*

- In 2008


STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
ORDER NO. WQ 2008-0002-EXEC
ADOPTING AMENDED MONITORING AND REPORTING REQUIREMENTS FOR STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR SANITARY SEWER SYSTEMS

- In 2013


STATE OF CALIFORNIA
WATER RESOURCES CONTROL BOARD
ORDER NO. WQ 2013-0058-EXEC
AMENDING MONITORING AND REPORTING PROGRAM FOR STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR SANITARY SEWER SYSTEMS

Item 10. *Based on over six years of implementation of the SSS WDRs, the State Water Board concludes that the February 20, 2008 MRP must be updated to better advance the SSO Reduction Program objectives, assess compliance, and enforce the requirements of the SSS WDRs.*

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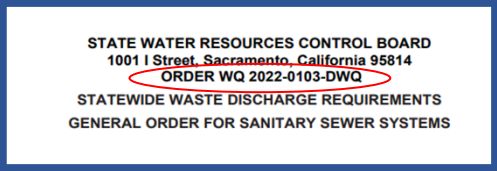
# State Water Board *Reissued* the Statewide Order Regulating Sewage Spills

- Dec 2022


STATE WATER RESOURCES CONTROL BOARD
1001 I Street, Sacramento, California 95814
ORDER WQ 2022-0103-DWQ
STATEWIDE WASTE DISCHARGE REQUIREMENTS
GENERAL ORDER FOR SANITARY SEWER SYSTEMS

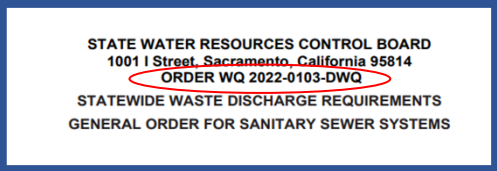
Section 3. Findings addressing, at minimum:

- Water Code Authority to protect waters of the State and their beneficial uses
- Need for Proactive System Management
- Protection of our Drinking Water Supply
- Climate Change Impacts on Infrastructure and Regulatory Programs
- Human Right to Water for all Californians
- Open and accessible data



# *Reissued* Statewide Waste Discharge Requirements (General Order)

- Dec 2022


STATE WATER RESOURCES CONTROL BOARD
1001 I Street, Sacramento, California 95814
ORDER WQ 2022-0103-DWQ
STATEWIDE WASTE DISCHARGE REQUIREMENTS
GENERAL ORDER FOR SANITARY SEWER SYSTEMS

*Continues Existing Regulatory Structure of 2006 Order*

- Effective on June 5, 2023
- 2006 and 2013 Orders currently still in effect
- On June 5, 2023:
  - The 2006 and 2013 Orders are rescinded (no longer in effect)
  - Re-issued Order supersedes the 2006 and 2013 Orders

## *Reissued* Statewide Waste Discharge Requirements (General Order)

The reissued Order is not a new Order:

- Continues regulating the same type of public systems plus private systems, as applicable
- Updates the 17-year-old statewide Order to:
  - Clarifies existing Water Code authority:
    - Addresses spills to waters of the State (surface and groundwater)
    - Addresses climate change impacts on a system-specific level
  - Reduces some spill reporting frequencies
  - Extend audit and planning periods

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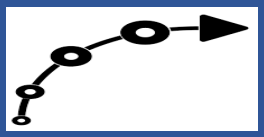
## 16-year Evolution: 2006 - 2022



| Focus of 2006 Order | Expanded Focus of Reissued Order |
|---|---|
| • Clean Water Act<br>  • Spills to waters of the United States<br>• Spill Reports<br>• Development of a Sewer System Management Plan (SSMP) | • Clean Water Act and Water Code<br>  • Spills to waters of the States (includes waters of the U.S.)<br>• Spill Reports<br>• Development and effective implementation of SSMP<br>• Emphasize on "system-specific"<br>• Long-term system resiliency<br>• Adaptability of utility management to address changing impacts |

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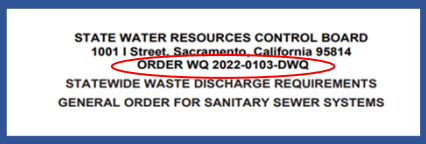
# Enhanced Enforceability




Reissued Order requires:

- Full electronic reporting into CIWQS
  - Spill Reports
  - Audit Reports
  - Sewer System Management Plans
- Enhanced Legally Responsible Official qualifications
- Enhanced Penalty of Perjury clause in CIWQS when electronically submitting reports

*Regional Boards will have electronic CIWQS reports of non-compliance*

*Goal – public transparency of sewer system compliance*



# *High-level Order Changes*

1

High-level *Administrative Changes* in Re-Issued Order

- Structure of Order – One document
- Streamlined transfer of existing Enrollee enrollment
- Expanded scope for regulating privately-owned systems (Regional Boards discretion)
  - Clarification for federally-owned facilities
- Enhanced qualifications for Legally Responsible Official
  - To certify compliance with entire Order



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2

High-level *Regulatory Changes* in Re-Issued Order

- Clarified definition of "Spill"

  *A discharge of sewage from any portion of a sanitary sewer system due to a sanitary sewer system overflow, operational failure, and/or infrastructure failure.*

- Clarified prohibition of sewage to a surface water unless properly cleaned up and reported
- Prohibition of sewage to waters of the State (Full implementation of Water Code compared to only waters of the U.S.)



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3

High-level *System Management* Changes in Re-Issued Order

## Additional SSMP Elements

- Emphasis on:
  - Implementation of effective SSMP
  - Effective Emergency Spill Responses to minimize sewage to waters of the State
  - Examination of system-specific climate change impacts to proactively address causes of future spills
  - Problem system areas identified by condition assessment data and previous spill information
  - Further source control for wipes, rags, debri and other causes of blockage
- Prioritization of capital improvement projects based on data from condition assessments, past spills, etc.

*Note – SSMP Element subjects did not change*
*SSMPs do not need to be re-written*



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High-level *Notification and Monitoring Changes* in Re-Issued Order

- 2-hour CA Office of Emergency Service notification of Category 1 and 2 Spills (>1000 gallons)
- Water quality monitoring within 18 hours of knowledge of spill
- Enhanced data collection of spill observations
- Clarified receiving water monitoring for >50,000 gallon spills to surface waters
- Use of Environmental Laboratory Accreditation Program (ELAP)-certified lab for sample analysis



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High-level *Reporting Changes* in Re-Issued Order

- Full electronic reporting in CA Integrated Water Quality System (CIWQS) for compliance determination
  - Existing Sanitary Sewer Management Plan
  - Individual spill reports
  - Future Audit Reports
  - Sewer System Management Plan Updates
- Reduced reporting frequency of small spills and of spills from agency-maintained laterals
- Annual Report (in place of questionnaire)
  - Includes system-specific spill performance graphs for Enrollee to report system performance
- Longer periods between audits and sewer system management plan updates



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*General Order Organization*

*Identifying Critical Sections*



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## General Order Organization

Informational

Sections for information and clarification only

**Table of Contents**



**Table of Attachments**



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## General Order Organization

Critical sections containing compliance requirements for Enrollees

*Important to understand and implement*

**Table of Contents**



**Table of Attachments**



*For clarification of terms*

*For quick reference*

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## *Let's look at* Section 4. Spill Prohibitions

**Table of Contents**



**Table of Attachments**



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## Section 4. Prohibitions

4.1. Any sewage discharge that has the potential to discharge to surface waters *unless promptly cleaned up and reported*.

**Not all spills violate a Prohibition**

An effective Spill Emergency Response and coordination with storm drainage agency:

- May capture and cleans up entire spill –
  - Eliminating a violation of prohibition
  - Eliminating basis for 3rd party CWA lawsuit
- May minimize amount of sewage to receiving water
  - Potential reduction in monitoring and enforcement

Note – a municipal storm conveyance system is (typically) not a surface water

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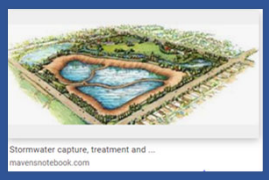
## Section 4. Prohibitions

4.2. Any sewage discharge directly or indirectly through a drainage conveyance system or other route, to waters of the State.

Importance of coordination with local storm drainage agency:

- Know where your spill is going
  - Spills to dedicated groundwater recharge is not a violation of Prohibition 4.1
  - Avoid erroneous report of spill as a federal violation
  - Eliminate potential basis for 3rd party CWA lawsuit

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## Section 4. Prohibitions

4.3. Any sewage discharge that creates a nuisance or condition of pollution.

See definition in Attachment A

**Nuisance**: For the purpose of this General Order, a nuisance, as defined in Water Code section 13050(m), is anything that meets all of the following requirements:

- Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property…;
- Affects at the same time an entire community or neighborhood, or any considerable number of persons…;
- Occurs during, or as a result of, the treatment or disposal of wastes.

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# *Overview of* Section 5. Specifications

**Table of Contents**



**Table of Attachments**



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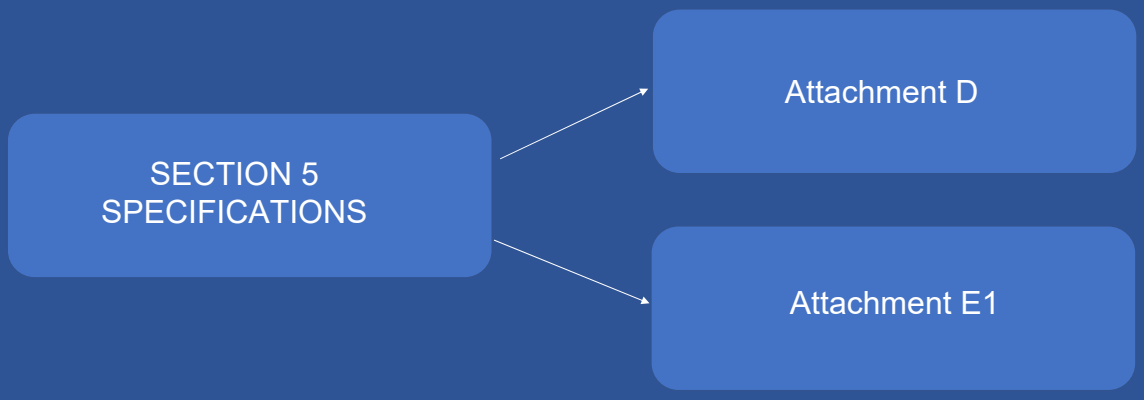
# Section 5 – Provides all Requirements

## Attachments D and E1 - Provide Requirement Details

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## *Be very familiar with these sections*

**Table of Contents**



**Table of Attachments**





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*Quick Overview of*

## Section 5. Specifications

5.1 & 5.8: Designation of a Legally Responsible Official and Data Submitters

5.2 - 5.5: Sewer System Management Plan and Audit requirements

5.6: System Resilience

5.7: Allocation of Resources

5.9: Reporting Certification under penalty of perjury

5.10: System Capacity

5.11: System Performance Analysis (running 10-year)

5.12.: Spill Emergency Response Plan and Remedial Actions

5.13: Spill-specific Notification, Monitoring, Reporting and Recordkeeping Requirements (including Spill Categories)

5.14: Electronic Boundary Map

5.15 - 16: Voluntary Reporting

5.17-10: Other

**IMPORTANT!!!**

*Implementation is "system-specific" (find/count)*

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## *Be familiar with* Updated Spill Categories in Section 5.13.

**Category 1**

Any volume of sewage that discharges to:

- **A surface water**, including a surface water body that contains no flow or volume of water, or
- A drainage conveyance system that discharges to a surface water, when the sewage is not fully captured and returned to the sewer system or disposed of properly.

**Category 2**

A spill of 1,000 gallons or greater that does not discharge to a surface water.

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## Updated Spill Categories in Section 5.13., continued

*(Existing Category 3 separated for reduced reporting of small spills)*

**2006 Order**

**Category 3**

A spill of less than 1000 gallons, that does not discharge to a surface water.

**Reissued Order (2022-0103-DWQ)**

**Category 3**

A spill equal to or greater than 50 gallons, and less than 1000 gallons, that does not discharge to a surface water.

**Category 4**

A spill of less than 50 gallons that does not discharge to a surface water.

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## Notifications, Monitoring, Reporting and Recordkeeping Requirements

- Attachment E1: Contains all detailed requirements per Categories
  *(fully replaces 2013 Order)*
- Attachment E2: Summary of Spill-specific Requirements
- *Five Tables for Quick Reference - with section reference to Attachment E1*

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## Back to Short-Term Compliance Due Dates

## Upcoming Compliance Dates for Existing Enrollees

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## Focus on Short-Term Compliance

| | | |
|---|---|---|
| **April 5 – June 4, 2023** (60-day window) | ✓ Item 1: Electronic Continuation of Regulatory Coverage to Reissued Order | Current Legally Responsible Official Certifies in CIWQS |
| **June 5, 2023** | Reissued Order is In Effect<br>2006 and 2013 Orders are rescinded | |
| **Due by June 5, 2023** | ✓ Item 2: Existing SSMP must be uploaded into CIWQS<br>Item 3: Spill Emergency Response Plan must be updated for implementation<br>Item 4: All Spill Reporting into CIWQS per Reissued Order, Attachment E1<br>Item 5: Legally Responsible Official per Reissued Order | |



## Short Term Compliance by June 5, 2023

Item #3: Spill Emergency Response Plan must be updated and implemented

*(Not required to be submitted to State Water Board)*

# Spill Emergency Response Plan

Must be updated annually to address for prompt detection and response to spills

- Notification of primary responders, regulatory agencies and affected entities
- Coordination with storm drain agencies and other utility agencies
  - Spill containment to prevent/minimize discharge to waters of the State
  - Appropriate clean up per drainage agency standards (and per NPDES permit)

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# Spill Emergency Response Plan

Must address:

- Notification to CalOES, as applicable
- Spill clean up and documentation
- Monitoring and reporting requirements per Spill Category (Attachment E1)
- Collection of spill information for prevention of future spills
- Post-spill assessment of spill response activities
- Other – See Section 6 of Attachment D

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## Why Emergency Response Plan must be Updated Now

*(although a part of the SSMP)*

- A quick effective response:
  - Can prevent a violation of one or more prohibitions
  - Will reduce spill volume to surface waters
  - May prevent sampling requirements
- Local utility agency coordination is a must-have
  - Immediate access to drainage conveyance system
  - Advanced coordination provides immediate action to block and clean up spill
  - Knowing if drainage leads to groundwater infiltration or retention prevents erroneously Category 1 spill reporting
- Documentation provides defense from a 3rd party lawsuit
  - Sewage discharges to groundwater are not a federal violation
- Have an Environmental Laboratory Accreditation Program (ELAP) laboratory

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## Short Term Compliance by June 5, 2023

Item #4: Legally Responsible Official Designation in CIWQS

Attachment A: Definitions

*A Legally Responsible Official is an official representative, designated by the Enrollee, with authority to sign and certify submitted information and documents required by this General Order.*

*- Spill Reports -*
*- Annual Reports (showing system performance) -*
*- Audit Reports -*
*- Sewer System Management Plans -*

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## **Section 5.1**: Legally Responsible Official Designation

The Legally Responsible Official must:

- Have the authority to ensure Enrollee complies with the Order
- Serve as the duly authorized representative

The Legally Responsible Official must:

- Have responsibility over management of the Enrollee's entire sanitary sewer system
- Be authorized to make managerial decisions that govern the operation of the system
  - Including implicit or explicit duty of making major capital improvement recommendations to ensure long-term compliance
- Have direct authority over individuals that:
  - Possess a degree or certificate related to operations and maintenance of sanitary sewer systems, and/or
  - Have professional training and experience related to the management of sanitary sewer systems

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## Why the Expansion of the Legally Responsible Official Qualifications

| Expanded LRO Qualifications | | Expanded Focus of Reissued Order (beyond spill reporting) |
|---|---|---|
| • Have responsibility over management of the Enrollee's entire sanitary sewer system | → | • Development and effective implementation of SSMP |
| • Be authorized to make managerial decisions that govern the operation of the system<br>  • Including making capital improvement recommendations for long-term compliance | → | • Long-term system resiliency<br>• Adaptability of utility management to address changing impacts |
| • Have direct authority over degreed, certified, experienced, trained system personnel | → | • Emphasize on "system-specific" |

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# Why the Expansion of the Legally Responsible Official Qualifications

*In Greater Detail*

| Expanded LRO Qualifications | Expanded Focus of Reissued Order (beyond spill reporting) |
|---|---|
| • Have responsibility over management of the Enrollee's entire sanitary sewer system | • Examination of annual performance and long term spill trends<br>• Examination of system-specific climate change impacts to proactively address causes of future spills |
| • Be authorized to make managerial decisions that govern the operation of the system<br>  • Including making capital improvement recommendations for long-term compliance | • Address problem system areas identified by condition assessment data and previous spill information |
| • Have direct authority over degreed, certified, experienced, and trained system personnel | • Prioritization of capital improvement projects based on data from condition assessments, spills<br>• Further source control for wipes, rags, debris and other causes of blockage |

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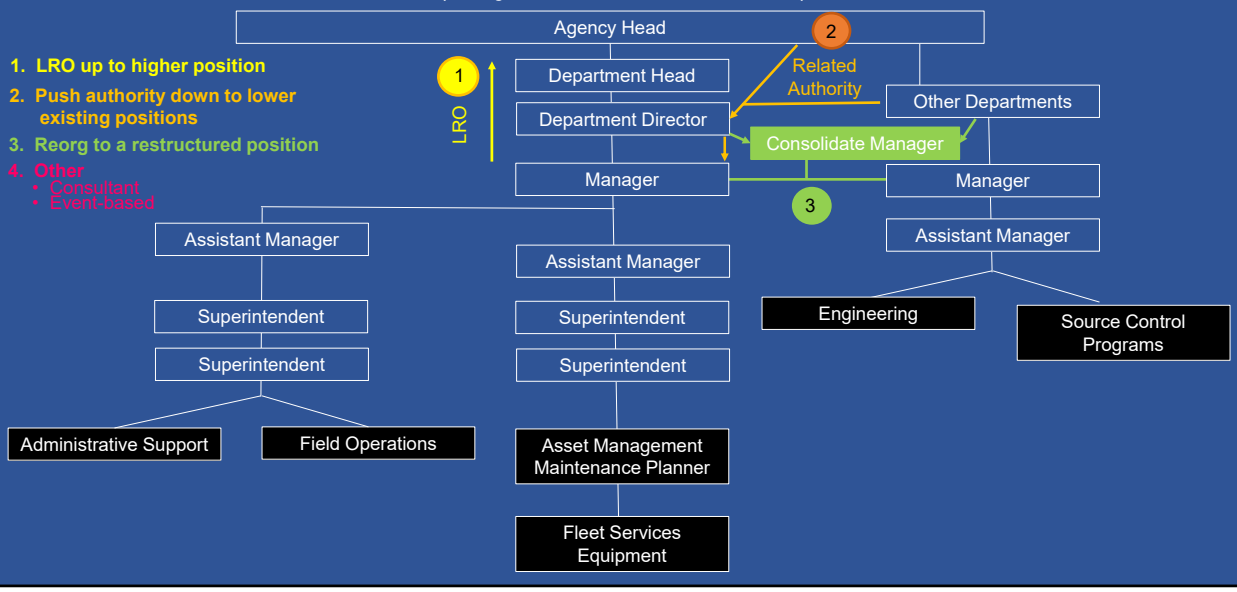
# Examining Potential [Regulation-driven] Options for Legally Responsible Official Designation

*Example Organizational Chart for Discussion Purposes*

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## Longer Term Compliance

*(preparation needed for upcoming due dates)*

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## Longer-Term Compliance

| | | |
|---|---|---|
| February 1, 2024<br><br>April 1, 2024 | Annual Reporting of Cat 4 and Lateral Spills<br>First Annual Report Submittal | Annual Report replaces Questionnaire |
| 2024 or 2025 | End of Audit Period<br><br>Audit Reports due 6 months later | • Audit to identify gaps in SSMP<br>• Audit Report to be Uploaded into CIWQS |
| 2025 or 2026<br><br>July – Dec 2025 | Sewer System Management Plan Update<br><br>Service Area Boundary Map | • Updated Plan w/ additional system-specific elements required in Attachment E<br>• Both to be uploaded into CIWQS |

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Statewide Sanitary Sewer Systems General Order

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# Plan **Audit** Due Dates for Existing Enrollees

| Population that Served as Basis for Initial SSMP Due Date | Required Plan Audit Due Dates per Order 2006-0003-DWQ | | | | | | End of current 3-year Audit period* |
|---|---|---|---|---|---|---|---|
| > 100,000 | 5/2/2011 | 5/2/2013 | 5/2/2015 | 5/2/2017 | 5/2/2019 | 5/2/2021 | 5/2/2024 |
| 100,000 to 10,000 | 8/2/2011 | 8/2/2013 | 8/2/2015 | 8/2/2017 | 8/2/2019 | 8/2/2021 | 8/2/2024 |
| 10,000 to 2,500 | 5/2/2012 | 5/2/2014 | 5/2/2016 | 5/2/2018 | 5/2/2020 | 5/2/2022 | 5/2/2025 |
| < 2,500 | 8/2/2012 | 8/2/2014 | 8/2/2016 | 8/2/2018 | 8/2/2020 | 8/2/2022 | 8/2/2025 |

** The Audit Report is due within six months after the end of the required 3-year audit period.*

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# **Sewer System Management Plan** Update Due Dates for Existing Enrollees

| Population that Served as Basis for Initial SSMP Due Date | Original Required Plan Due Date | Required Plan Update Due Date | Required Plan Update Due Date | Upcoming (6-year) Plan Update Due Date |
|---|---|---|---|---|
| > 100,000 | 5/2/2009 | 5/2/2014 | 5/2/2019 | 5/2/2025 |
| 100,000 to 10,000 | 8/2/2009 | 8/2/2014 | 8/2/2019 | 8/2/2025 |
| 10,000 to 2,500 | 5/2/2010 | 5/2/2015 | 5/2/2020 | 5/2/2026 |
| < 2,500 | 8/2/2010 | 8/2/2015 | 8/2/2020 | 8/2/2026 |

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# Sewer System Management Plan Crosswalk

Attachment D of General Order

Enrollee-specific Audit (2024 or 2025) to identify gaps for Plan Update (2025 or 2026)

| Existing General Order | Reissued General Order |
|---|---|
| 1.Goal | 1. Sewer System Management Plan Goal and Introduction |
| 2. Organization | 2. Organization |
| 3. Legal Authority | 3. Legal Authority |
| 4. Operations and Maintenance Program | 4. Operation and Maintenance Program |
| 5. Design and Performance Goals | 5. Design and Performance Provisions |
| 6. Overflow Emergency Response Plan | 6. Spill Emergency Response Plan |
| 7. Fats, Oils, and Grease (FOG) Control Program | 7. Sewer Pipe Blockage Control Program |
| 8. System Evaluation and Capacity Assurance Plan | 8. System Evaluation, Capacity Assurance and Capital Improvements |
| 9. Monitoring, Measurement, and Program Modifications | 9. Monitoring, Measurement and Program Modifications |
| 10. Sewer System Management Plan (SSMP) Program Audits | 10. Internal Audits |
| 11. Communication Program | 11. Communication Program |

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# Electronic Service Area Boundary Map

*To be submitted between July – Dec 2025*


- Detailing the boundary of the Enrollee's service area
- Mapping specifications on State Water Board program webpage by June 5, 2023
- The Legally Responsible Official shall submit the geospatial data:
  - Starting July 1, 2025, and no later than December 31, 2025

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# *Training and Customer Assistance taking place statewide...*


- Water Board staff will continue to assist in professional training of regulations:
  - California Water Environment Association
    - Develop and deliver cost-effective interactive online trainings
  - Order implementation workshops
- Looking to Consultants and Industry associations to
  - Develop guidance documents
  - Conduct Order implementation training events
  - Assist Enrollees to stay in ongoing compliance



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# Thank you

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**https://www.waterboards.ca.gov/water_issues/programs/sso/**

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**SanitarySewer@waterboards.ca.gov**

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**ELEMENT 1 (Goal)**

*"An Enrollee should develop a single comprehensive goal or several broad goals that reflect the Enrollee's commitment to all aspects of the sanitary sewer system and are unique to the infrastructure and performance of the Enrollee. These Goals should speak directly to the enhanced performance and protection of the environment from the effects of SPILLs. These goals should reflect the Enrollee's operating philosophy, should be implementable, and should be supported by the monitoring and measurement metrics included in Element 9 of the SSMP. Generally, Enrollees should select one or more goals appropriate to the Enrollee, which it considers to be adequate to meet the regulatory requirements of the SSS WDR."*

**ELEMENT 2 (Organization)**

*"The intent of the Organization element is to identify persons, by name, responsible for implementing the SSMP, responding to SPILL events, and meeting the SPILL reporting requirements, including drafting, and certifying reports and providing other information required by the CIWQS Online Database."*

**ELEMENT 3 (Legal Authority)**

*"An Enrollee can use its applicable legal authority to require system users and customers to meet performance standards, maintain user-owned assets such as laterals, and pay penalties for non-compliance with Enrollee regulations. The legal authority can also be used to specify what assets are the responsibility of the Enrollee or private users and customers, and to specify the amount and process for issuing penalties for violations of the Enrollee ordinances and agreements. The specific type of legal authority available to Enrollees varies significantly depending on the legal designation of the Enrollee - for example, sanitary district, wastewater district, utility district, general purpose city, charter city - since State law differs for these various entities."*

**ELEMENT 4 (Operations and Maintenance)**

- *"An Enrollee should carefully evaluate the information to be included in the SSMP to assure that they are following those processes or procedures, and that they are not creating responsibilities that the field crew or office staff is not capable of achieving.*
- *Maintain up-to-date maps i) Field crews can be consulted and asked to note errors or discrepancies*
- *Describe operation and maintenance activities of staff and outside service contractors*
- *Describe schedules at a high level for regular maintenance and more frequent cleaning ("hot spots")*
- *Document/schedule regular inspections with utilization of data driving O/M and capital activities*
- *Identify and prioritize system deficiencies and implement system for ratings/rankings with focus on system vulnerabilities and risks*
- *Implement "Short Term" and "Long Term" actions*
- *Include Capital Improvement Plan and funding for the future*
- *Provide training for staff and contractors on a regular basis*
- *Keep equipment/replacement part inventories and ID critical parts/inventories/ensure up-to-date"*

**ELEMENT 5 (Design and Performance Provisions)**

- *"Adopt design and construction standards for all collection system infrastructure elements including pipelines, manholes, pump stations, siphons, air relief valves, etc.*
- *Ensure through plan checking, inspections, and testing that all new and rehabilitated sewer projects are designed and built to standard specifications.*
- *For each new sewer project, a properly designed set of sewer plans, consistent with the standard specifications, are then submitted to an Enrollee for review and approval.*
- *Construction standards provide detail necessary for a sewer contractor to properly construct a new sewer, a lift station, or to rehabilitate existing assets.*
- *Once sewer projects are designed properly and contractor has approved construction plans/specs, the Enrollee ensures project is properly constructed before acceptance of O/M responsibilities.*
- *Construction approval is performed by an inspector visiting the construction site to ensure work is done properly including written records and final acceptance/authorization."*

**ELEMENT 6 (Overflow Emergency Response Plan)**

- *"Enrollees should have internal notification procedures so response and mitigation efforts to minimize the effects of the SPILL are completed in a timely manner.*
- *Enrollees should adequately address various types of overflows and to perform reasonable SPILL response activities to contain the overflow and to minimize the impact to the environment.*
- *Enrollees should adequately train their employees to understand and follow the OERP. The training should include emergency operations, such as traffic and crowd control as well as procedures for volume estimation and SPILL start time determinations. Periodic field drills and exercises should be considered to assure that field crews practice under actual conditions especially where agencies have very few or no spills.*

**ELEMENT 7 (Fats, Oils, and Grease Control Program)**

- *Outreach program in place*
- *Disposal methods (have locations for all FOG facilities)*
- *Legal authority in place*
- *Requirements to install grease removal devices in place*
- *Inspection and enforcement authority in place*
- *Collection system maintenance/related practices to minimize FOG*
- *Source control program to minimize FOG into collection system*

**ELEMENT 8 (System Evaluation and Capacity Assurance Program)**

- *Implement Master planning procedures*
- *Describe the techniques used for evaluating capacity in all infrastructure for spills due to in pipes, pump stations or other appurtenances*
- *Describe current infrastructure design criteria including system design storm, peaking factors for pipe and pump station design, impacts of I/I on the system*
- *Describe capacity Enhancement Measures*
- *Describe an appropriate schedule for projects prepared in CIP*

**ELEMENT 9 (Monitoring, Measurement, and Program Modifications)**

- *Discuss how an Enrollee maintains relevant information and data related to SSMP activities, monitors the implementation of SSMP Elements, and measures the effectiveness of its SSMP Elements.*
- *Develop system for assessing preventive maintenance ("PM") program effectiveness and potential modifications to program elements*
- *Collection of meaningful data*
- *Relevant performance indicators indicating success or failure for meeting established goals should be selected/tracked on a regular basis*
- *If an Enrollee has jurisdiction over any portion of sewer laterals, tables or graphs can separate the lateral spills from mainline spills to normalize data for allow for more accurate comparisons with other Enrollees*

**ELEMENT 10 (Sewer System Management Plan Audits)**

- *Once the audit is complete, the Enrollee must prepare an audit report. MRP Section E requires that audit reports be kept on file for a minimum of five (5) years and be made available to SWRCB or RWQCB staff upon request. These audit reports could be appended to the SSMP in a separate appendix.*
- *The purpose of the audit is to evaluate the effectiveness of the SSMP and its Elements and to determine the compliance of the Enrollee with the SSMP requirements. The audit must identify any deficiencies in the SSMP, and any corrective actions taken or to be taken.*
- *The Enrollee should consider the purpose of the internal audit before conducting the evaluation. As previously stated, the core purpose of the audit is to evaluate the effectiveness of the SSMP and demonstrate compliance with the SSMP requirements. However, it may be beneficial for the*
- *Enrollee to demonstrate its successes in achieving goals or other benchmarks that the Enrollee may establish.*
- *Some Enrollees may consider conducting additional informal evaluations of their collection systems and operations that would not be included as part of the audit. Consult with legal counsel on what information discovered during an audit needs to be a part of the audit report.*

(Element 10 continued)

- *The SSMP audit may be used as a tool to aid the Enrollee in evaluating the performance of its system and operations. The audit may also be used to ensure the Enrollee's practices are consistent with the SSMP (including its references and SOPs).*

- *An Enrollee can utilize the audit process to conduct several other program evaluations. Examples of these evaluations include review of CIWQS system data to assure conformance with Enrollee's other records; SPILL files and records contained therein for conformance with recordkeeping requirements, and completion of the latest version of the SWRCB's Collection System Questionnaire annually. Conducting program evaluations during the audit process can aid the Enrollee in preparing for a field inspection or locating needed information and responding to a SWRCB or RWQCB request for information in a timely manner.*

- *The SSS WDR requires an SSMP audit report to be developed. Enrollees may want to consult with legal counsel to determine what information resulting from the internal audit evaluation is confidential and how the results of that evaluation should be presented in the SSMP audit report. Because Section J of the SSS WDR states that all reports shall be certified by the LRO, the Enrollee should consider this requirement in relation to the audit report. These audit reports can also be attached as an Appendix to the SSMP or be easily locatable on the Enrollee's website.*

- *SWRCB and RWQCB staff utilize SSMP audit reports during inspections to determine compliance with the SSS WDR, the adequacy of the system operations and management, and the level of effort taken by the Enrollee in reducing SPILLs. They also use this information to prioritize which Enrollees they may inspect, to identify key areas to focus on for enforcement actions, and to determine the need for future regulatory changes. How the information is conveyed in the audit report may affect the level of scrutiny the Enrollee receives.*

**ELEMENT 11 (Communication)**

- *Numerous ways exist to communicate with the public, including the following that could be considered by Enrollees*:
- *Quarterly newsletters*
- *Enrollee website*
- *Board/City Council Meetings*
- *Flyers in billings to satellite agencies*
- *Flyers in billings to the ratepayers/customers*
- *During Public Outreach events*
- *During crew interactions with the public*
- *Creating an Advisory Council for citizens to share information with the public.*
- *While some large Enrollees have communications officers, this is not required. However, it is recommended that a person should be designated as the Enrollee's spokesperson when media inquiries are made, particularly in times of emergency (e.g., during a large SPILL event).*

Appendix 5 (Operations-Maintenance Program Supplement)

The SSMP must include measures to prevent discharges to the environment by ensuring the Agency maintain in good working order, and operate as designed, any facility or treatment and control system designed to contain sewage and convey it to a treatment plant.

**Cleaning Program:** The purpose of a sewer cleaning program is to clean line segments for proactively preventing blockages/operational problems or spills. Agencies should evaluate, design, and implement systematic a cleaning program based on its site-specific needs for proactively preventing blockages, operational problems or spills. This must also include critical areas requiring more frequent cleanings ("hot spot" locations). The Agency must ensure it has a sufficient program in place to comply with this requirement.

**Pipeline Inspection Program:** The purpose of a sewer pipeline inspection program (CCTV) is to inspect all gravity sewer pipelines within the sewer system on a routine basis for assessing/documenting pipe conditions to help identify areas needing attention to proactively prevent blockages/operational problems or spills. An agency should develop and implement a systematic pipeline inspection program based on site-specific needs to comply with this requirement.

**Manhole Inspection Program:** The purpose of a manhole inspection program is to ensure viability of access to all collection system assets for preventive maintenance and emergency responses to proactively help prevent blockages/operational problems or spills. The Agency should consider and implement a systematic approach to comply with this requirement.

**Lift/Pump Station Inspection Program:** The purpose of a sewer lift station inspection program is to routinely inspect the Agency's station (including sub-assets at stations) for ensuring ongoing reliability for continuously and effectively conveying sewage flows to a wastewater treatment plant to help proactively prevent operational failures and spills. The Agency should determine its inspection frequency and operational checklists for performing and analyzing station data for proper operations, documenting pump run times, and inspecting the sites for any issues of concern noted by operations staff.

**Pipe Repair Program:** The purpose of the pipe repair program is to complete spot repairs within the collection system to help proactively prevent blockages/operational problems or spills. The Agency should have a program for documenting and scheduling ongoing repairs and may wish to contract-out larger jobs requiring more complex equipment and supplemental support for the agency.

**Easement Maintenance Program:** The purpose of an easement maintenance program is to maintain year-round access to all sewer assets within easement areas for maintenance, repair, and emergency access. The Agency should develop a system-wide program for ensuring all easement areas are inspected/maintained for always facilitating efficient access.

**Monitoring:** The Agency should strongly consider implementing available technologies for continuous monitoring of sewer flows/levels in the system where deemed necessary for proactively preventing blockages, operational problems, or spills.

**Air Release Valve Program:** The purpose of air release valve maintenance programs is to ensure the proper function and reliability of air release valves within a system. Regular inspection and maintenance helps identify and address issues before they lead to valve failure, which could disrupt system operation or result in a spill. Properly maintained valves operate more efficiently, allowing for effective release of air and optimal performance of the system.

**Root Control:** The purpose of a root control program is to proactively mitigate problems with roots before they can cause blockages, damage to pipes, backups, overflows, leaks, and disruptions to sewer services. Roots thrive in the sewer atmosphere because it provides an ideal environment for their growth. Additionally, limited green space in urban areas has caused roots to seek water and nutrients at greater depths, leading them to invade sewer pipes. With the onset of watering restrictions and drought across the state, sewer systems provide a consistent water source and nutrients, making it an attractive environment for roots to grow and thrive. Addressing root intrusion in sewer systems demands a proactive and comprehensive approach by an agency for mitigating potential damages and disruptions they can cause. By identifying root-prone areas, understanding root trends, and implementing effective mitigation strategies such as preventive measures, mechanical and chemical treatments, and regular maintenance schedules, agencies can safeguard sewer systems from blockages, backups, and environmental hazards. Furthermore, providing adequate education and training ensures that operators are equipped with the knowledge and skills necessary to execute these strategies safely and efficiently. Through diligent management and collaboration (including appropriate inspection/testing of new sewers), agencies can effectively control root intrusion and maintain the functionality and longevity of sewer infrastructure, thereby protecting public health and the environment.

**Fats, Oils, and Grease Control:** Sewer system control for Fats, Oils, and Grease are crucial for sewer agencies due to its risks, such as blockages, spills, and environmental harm. Therefore, implementing a comprehensive FOG control program is vital to maintain infrastructure integrity, prevent failures, and safeguard community health. Developing a comprehensive FOG Control Program begins with these critical points:

- *Legal Authority* – Legal authority is crucial for a Fats Oils and Grease (FOG) control program in sewers for several reasons. Legal authority allows the establishment of regulations and standards governing the disposal of fats, oils, and grease by Food Service Establishments (FSEs) and residents. These regulations are achieved through a FOG Ordinance in the Agency or District's Municipal Code. These regulations clarify acceptable practices and consequences for non-compliance, ensuring uniformity and fairness in enforcement. Additionally, legal authority empowers agencies to inspect and monitor compliance, enforce penalties for violations, and implement corrective measures when necessary. Ultimately, legal authority provides the framework and tools needed to effectively manage fog in sewers, protect public health, prevent environmental pollution, and maintain the integrity of sewer systems.

- *Design and Construction Standards* – Design and construction standards are crucial for an effective fats, oils, and grease (FOG) control program. Adherence to agency

standards ensures that grease removal devices are adequately sized, properly sloped, and have been approved by the agency for use in their system. In addition, the Design and Construction standards should include provisions for installation, inspection, and the testing criteria required for acceptance into the agency's system. By incorporating FOG control measures into sewer design and construction standards, agencies can proactively address FOG-related issues, protect public health, and preserve the functionality of their sewer infrastructure.

- *Evaluating and Permitting* – The purpose of a waste discharge permit for food service establishments is to regulate and monitor the discharge of wastewater, mainly wastewater containing fats, oils, and grease (FOG), into the sewer system. Understanding the FSE and its potential impacts on the agency's sewer system begins with assessing the FSE, the equipment in its food prep area, and the grease removal device installed. The initial assessment also allows the agency to gather contact information and all agency-required data to populate its recordkeeping database before issuing a permit to the FSE. By obtaining a waste discharge permit, FSEs agree to comply with regulations to control FOG and other contaminants in their wastewater. The permit also serves as a mechanism for sewer agencies to monitor and enforce compliance with its FOG Ordinance. Agencies may conduct inspections, sampling, and audits to ensure that food service establishments meet their permits' terms and take appropriate measures to prevent FOG-related issues such as sewer blockages and overflows.

- *Inspection, Monitoring, and Enforcement* – Sewer agencies use inspections to verify proper maintenance and servicing of grease removal devices in food service establishments and adherence to discharge permit requirements. Regular inspections promote awareness of FOG control among restaurant owners and staff, fostering a culture of compliance and accountability. By consistently monitoring grease removal devices, sewer agencies can track their performance and ensure they are maintained and serviced as required. Proper maintenance and servicing prevent FOG from entering the sewer system, causing blockages and sewer spills. By taking enforcement actions, the agency effectively communicates to the FSE the importance of preventing FOG from entering the sewer system and the consequences of non-compliance. Furthermore, educational outreach can complement the sewer agency's monitoring and enforcement efforts by informing FSEs about the significance of FOG control and offering guidance on best management practices. The combination of inspection, monitoring, and enforcement enables sewer agencies to decrease FOG in their sewer system effectively.
- *Collection and Disposal* – Proper collection, storage, and disposal of FOG generated by FSEs. Sewer agencies should describe in their FOG ordinance prohibitions their requirements for proper storage and disposal of yellow grease from kitchen deep fryers and automatic grease removal devices. The FOG ordinance should prohibit FSEs from disposing of waste cooking oil into the public sewer or storm drain. Instead, all cooking oil waste must be collected and stored correctly in receptacles such as rendering bins, barrels, or drums for recycling or other acceptable disposal methods

- *Kitchen Best Management Practices (Kitchen BMPs)*– Kitchen BMPs are practices that FSEs can follow, which significantly reduce the amount of FOG discharged. The practices are relatively easy to implement and require little to no cost. All FSEs shall

implement BMPs acceptable to the sewer agency in their operations. Part of the permit is the requirement that every FSE trains its employees on proper methods of FOG disposal. The training should include the implementation of BMPs. Each facility should maintain a record or log showing who received training and have this available for review by the sewer agency. Examples of typical BMPs that an FSE can implement are explaining that FOG is a problem when washed down the drains, scraping and dry wiping of plates and utensils before washing, and proper disposal of cooking oil and grease. As a best practice, FSEs should post BMPs and educational materials in conspicuous locations throughout their facility.

- *Education and Public Outreach* – For several reasons, public education and outreach are crucial for a successful fats, oils, and grease control program. Most residents don't realize the impact of improper disposal of materials into the sewer systems. Education raises awareness about the problem and the importance of proper disposal, changing behavior patterns with simple actions they can take to prevent FOG from entering the sewer system. Involving the community in FOG control efforts fosters a sense of responsibility and ownership over local sewer infrastructure. Engaged communities are more likely to participate in FOG control programs and support related initiatives. Educating the public about regulations regarding FOG disposal helps ensure compliance because when residents understand the reasons behind the rules, they are more likely to adhere to them. Preventing FOG-related sewer blockages and spills through education can lead to significant cost savings for sewer agencies regarding maintenance, repairs, and clean-up efforts. Overall, public education and outreach play a vital role in raising awareness, changing behavior, fostering community engagement, ensuring compliance, protecting the environment, and promoting the sustainability of FOG control programs.

- *Recordkeeping* – With comprehensive recordkeeping, sewer agencies can monitor FSE compliance with FOG ordinances and identify those needing guidance or enforcement. Valuable data on FOG-related problems, such as the maintenance frequency of grease removal devices, sewer blockages caused by FOG, and the effectiveness of outreach campaigns, can be obtained through recordkeeping. Recordkeeping helps sewer agencies evaluate the success of their FOG program and find ways to enhance it. Additionally, maintaining precise records acts as legal documentation in situations involving disputes or enforcement actions related to FOG compliance. These records are crucial for demonstrating due diligence and defending regulatory decisions, as they provide evidence of compliance efforts, inspection findings, enforcement actions and communications with FSEs

SEWER COLLECTION SYSTEM

# PRE-INSPECTION QUESTIONNAIRE

**Version 4.0**

# Table of Contents

# PART 1 — DESCRIPTION

This Sewer Collection System Pre-Inspection Questionnaire (Questionnaire) includes questions specific to the requirements in the Sanitary Sewer System Waste Discharge Requirements Water Quality Order No. 2022-0103-DWQ (hereafter SSS WDRs).

All the questions in this Questionnaire must be answered by the Enrollee, per Provision 6.4.2 of the SSS WDRs, to demonstrate how the agency is complying with the SSS WDRs.

# PART 2 — INSTRUCTIONS

1. Complete all questions **in** the Questionnaire.
2. Have the Legally Responsible Official (LRO) sign the last page of this Questionnaire.
3. Electronically submit the Questionnaire by the deadline and to the contacts outlined in the Notice of Inspection.

# PART 3 — REQUIRED INFORMATION

## 1. DOCUMENTATION

**Please ensure that all required documentation is uploaded to the California Integrated Water Quality System (CIWQS) database as required by the SSS WDRs. These documents include the most up to date Sewer System Management Plan (SSMP), SSMP audits, updated annual report, sanitary sewer overflow (SSO) reporting information, and so forth.**

## 2. NARRATIVE

2.1. Please provide a narrative description of efforts taken to reduce sanitary sewer overflows (SSOs).

2.2. Please provide a narrative description of your rehabilitation and replacement plan identifying and prioritizing system deficiencies, and short- and long-term actions addressing deficiencies.

2.3. In response to question 2.2, please provide all sewer system rehabilitatin and replacement records for the past three (30 years.

## 3. SEWER SYSTEM ASSETS

General System Information

3.1. Collection System Waste Discharge ID number (WDID) and Collection System Name:

3.2. Collection System Main Point(s) of Contact (name, title, address, email, and telephone number):

3.3. What is the approximate size of the service area served by the sewer collection system for your agency, in square miles?

3.4. Please describe the terrain within your agency's sewer service area (Mountainous, Hilly, Flat, Valley, etc.)?

3.5. Please specify what percentage of the collection system's flow comes from residential, commercial, industrial, and institutional sources.

3.6. What is the total mile of easements within your sanitary sewer system?

3.7. What is your total gravity sewer system cleaning production in miles/year?

3.8. What is your total force main and other pressure systems cleaning production in miles/year?

3.9. How many air relief valves (ARVs) are located throughout the sewer collection system?

3.10. How many siphons are located throughout the sewer collection system?

3.11. Does your agency have any permanently installed flow monitor(s) in the collection system?

3.12. If yes to question 3.11 above, please specify the total number of monitor(s) installed.

3.13. Does your agency own any separately enrolled collection systems?

3.14. If yes to question 3.13, which collection system(s) does your agency own?

i. Collection System name(s):

ii. Collection System WDID(s):

3.15. Do any upstream collection systems discharge into this collection system?

3.16. If yes to question 3.15, which collection system(s) discharge into this collection system?

i. Upstream Collection System name(s):

ii. Upstream Collection System WDID(s):

Pumping Facility Assets

3.17. Has your agency conducted a risk assessment for each pumping station?

3.18. How many of these assets have redundant pipelines installed?

3.19. How many pump stations have dedicated emergency stand-by power generators located onsite?

3.20. Has your agency developed written standard and emergency operating procedures for major sewer assets covering power and/or pumping failure(s) to minimize SSOs?

3.21. Has your agency identified critical spare parts for each asset?

3.22. For question 3.21, does your agency maintain the spare parts identified for each asset?

3.23. How many facilities are located within 100 feet of a surface water, creek, or drainage channel?

3.24. How many are located within 20 feet of a storm drain inlet?

3.25. How many pump stations are equipped with audible and/or visual alarms located in public view to expedite notification to your agency in the event of an SSO?

3.26. How many pump stations are equipped with an Auto Dialer Alarm System(s) for detecting pump failure and/or high wet well levels?

3.27. How many pump stations have a supervisory, control and data acquisition system (SCADA) installed and operational?

3.28. For question 3.27, how many can be remotely operated?

3.29. How many pump stations display emergency notification signage, including agency contact information, in public view to expedite notification to your agency in the event of an SSO?

3.30. Does your agency implement vandalism control efforts to discourage unauthorized access and/or vandalism to these assets?

3.31. How many pump stations have built-in pumping bypass capability for emergency use?

3.32. How many pump stations have electrical power connections installed to allow for the use of portable emergency generators?

Force Main Sewer Assets

3.33. How many sewer force mains are owned by your agency?

3.34. For the assets in question 3.33, has your agency conducted a risk assessment for each asset?

## 4. FINANCIAL INFORMATION

Funding Sources and Revenues

4.1. Does your agency utilize an Enterprise Fund for services provided to the public?

4.2. If yes to question 4.1, what is the estimated annual revenue generated from this fund?

4.3. If no to 4.1, what is the current balance of funds available for your sewer system?

4.4. Please provide a brief description of all sewer collection system funding source(s) (e.g., sewer user fees, annual budget allocation, property taxes, etc.).

4.5. What is your agency's current average monthly household user fee for sewage collection only?

4.6. For question 4.5 above, specify the last date that sewer fees were increased by your local governing board.

4.7. Has your local governing board approved any future sewer use fee increase(s)?

## 5. LOCAL SEWER USE ORDINANCE

**Skip to Section 5 if no Ordinance.**

5.1. Does the Ordinance give your agency the authority to inspect grease producing facilities?

5.2. Does the Ordinance provide your agency with proper authority to issue notices of violation (NOVs)?

5.3. If yes to question 5.2, how many NOVs has your agency issued in the past 3 years?

5.4. Does the Ordinance provide your agency with proper authority to issue enforcement penalties for violators?

5.5. If yes to question, 5.4, how many enforcement penalties has your agency issued in the past 3 years?

5.6. Does the Ordinance provide your agency with the proper authority to ban connections and/or disconnect services for violators?

5.7. If yes to question 5.6, how many actions has your agency taken in the past 3 years?

5.8. Does the Ordinance provide your agency with the authority to limit future development and/or building?

5.9. If yes to question 5.8, how many actions has your agency taken in the past 3 years?

## 6. CAPITAL IMPROVEMENT PLAN

6.1. How long is the CIP planned out for (e.g., 5 years, 10 years, etc.)?

6.2. How are emergency repairs prioritized?

6.3. If not included in the CIP, please provide a breakdown of what money is being spent on (e.g., pipeline replacements, pump station upgrades, etc.).

6.4. What is the projected date of your next CIP update?

## 7. OPERATIONS AND MAINTENANCE PROGRAM

### Computerized Maintenance Management System (CMMS)

7.1. Does your agency use a CMMS to generate work orders and track sewer maintenance, operations, and management information?

7.2. If yes to question 7.1, is CMMS data used for ongoing strategies to eliminate/reduce SSOs?

7.3. If yes to question 7.1, is the CMMS data used to evaluate cleaning production rates?

7.4. If yes to question 7.1, does your agency use the CMMS information to provide data for tracking system trends, problems and/or performance?

7.5. If no to question 7.1, does your agency have a different method in place to provide data for tracking system trends, problems and/or performance?

### Inspections, Operations, and Management Activities

7.6. What is the total number of focused problem areas ("hot spots") located throughout the collection system?

7.7. What percentage of all gravity sewers under your agency's responsibility have been visually inspected with Closed-Circuit Television (CCTV) to date?

7.8. Specify most recent date of completion for answer listed in 6.7 above.

7.9. What percentage of CCTV video listed in answer 6.7 above has been reviewed and ranked?

7.10. What is your agency's planned CCTV inspection production scheduled for the next fiscal year (miles)?

7.11. What is your agency's planned total gravity sewer collection system cleaning production in the next fiscal year (miles)?

7.12. Does your agency have a method in use for reviewing and analyzing force main sewers and their components?

7.13. Does your agency have a program to inspect and maintain air relief valves (ARVs)?

7.14. How many ARVs are not accessible for inspection/maintenance?

7.15. What was the total number of ARVs exercised and cleaned in the previous fiscal year?

7.16. What is the total number of ARVs planned to be exercised and cleaned in the next fiscal year?

7.17. What is the total number of public access points (manholes, lamp holes, rod holes, etc.) inspected in the previous fiscal year?

7.18. What is the total number of public access points (manholes, lamp holes, rod holes, etc.) scheduled to be inspected in the next fiscal year?

7.19. Does your agency visually inspect pipeline routes at least annually; after major storms, earthquakes, or other events that could damage these assets; to check for sink holes or leaks along force main(s)?

7.20. How many above ground crossings (if applicable) were inspected in the previous fiscal year?

7.21. How many siphons (if applicable) were inspected in the previous fiscal year?

7.22. Does your agency have a process to identify areas subject to excess hydrogen sulfide corrosion?

7.23. Does your agency have a formal pipe grading process in place to identify pipe discontinuities?

7.24. Does your agency require video (CCTV) inspections before and after cleaning to measure the effectiveness of these activities?

7.25. Does your agency video (CCTV) inspect pipes after all SSO(s)?

7.26. Does your agency conduct smoke, dye, or other tests to check for illicit connections?

7.27. If yes to question 7.26, how many miles of sewer system were tested in the previous fiscal year?

7.28. Does your agency have formal agreements in place to increase resources through established mutual assistance agreements with other agencies/contractors for wet weather episodes or for SSO response activities?

7.29. Does your agency have a program in place to identify areas with inflow and infiltration (I/I)?

7.30. If yes to question 7.29, estimate the total number of miles identified by this program. [# or Unknown]

7.31. Does your agency have an active root control program in place?

7.32. If yes to question 7.31, please list the type(s) of control efforts in place (e.g., chemical, mechanical, etc.).

7.33. If your agency uses chemical(s) for root control, please list chemical(s) used.

Fats, Oils and Grease

7.34. Does your agency have a commercial FOG program in place?

7.35. If no to question 7.34, has your agency justified in its SSMP why a FOG program is not needed?

7.36. If yes to question 7.34, does your agency have a FOG Ordinance separate from the sewer use ordinance?

7.37. If yes to question 7.34, approximately how many food service establishments (FSEs) such as restaurants, schools, hospitals, jails, and convalescent homes are subject to FOG control.

7.38. If yes to question 7.34, what is the total number of FSE permits issued for FOG control?

7.39. If yes to question 7.34, what is the total number of FSE FOG inspectors?

7.40. If yes to question 7.34, how many FSE FOG inspections were conducted in the previous fiscal year?

7.41. If yes to question 7.34, how many FSE FOG enforcement action(s) were initiated in the previous fiscal year?

7.42. If yes to question 7.34, how many FSE FOG inspections are planned for the next fiscal year?

7.43. Does your agency have a residential FOG program in place?

Sewer Contract Services

7.44. Does your agency retain contract service(s) for sewer collection system maintenance, operations, and/or management?

7.45. If yes to question 7.44, for services, please provide some basic information about these services in the table below:

| Contractor Name | Description (cleaning, root control, repairs, etc.) | Frequency of Contract | Budget (annual $) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

## 8. SSO EMERGENCY RESPONSE PROGRAM

8.1. Does your agency's SSO Emergency Response Plan incorporate procedures for pump stations/force main sewers?

8.2. Does your agency have a dispatcher(s) within your agency to handle, dispatch and document incoming complaints from your sewer system customers?

8.3. Does your agency have standard operating procedures (SOPs) in place to test and document, at least once per year, the performance of its after-hours emergency notification system(s)?

8.4. Does your agency provide and document any scenario based SSO emergency response simulation training for collections staff at least on an annual basis to ensure staff are properly trained and prepared in the event of an SSO?

8.5. If yes to 8.4, does this training include practical exercises including researching SSO start times and calculating the SSO volume spilled and recovered?

8.6. Do your emergency operating procedures (EOPs) include requirements to determine the impact of an SSO, including accelerated or additional environmental monitoring?

## 9. COLLECTIONS STAFFING AND TRAINING

9.1. What is the total number of dedicated sewer maintenance crews in place at your agency?

9.2. For question 9.1, how many staff are typically in each maintenance crew?

9.3. Does your agency require collections staff to review the SSS WDRs and the agency's SSMP at least annually?

9.4. Does your agency provide initial and recurrent training to appropriate staff regarding your agency's SSO Emergency Response Plan and O&M programs?

9.5. If yes to 9.4, what is the total number of individuals trained in the previous fiscal year?

9.6. For contracted sewer services, do your contracting specifications contain specific language requiring initial and recurrent training of contractor staff regarding your agency's SSO Emergency Response Plan and O&M programs?

## 10. MAJOR EQUIPMENT INVENTORY

10.1. How many combination truck(s) (hydro flush/vacuum models) are owned and/or leased by your agency?

10.2. How many hydro flusher(s) are owned and/or leased by your agency?

10.3. How many mechanical rodder(s) are owned and/or leased by your agency?

10.4. How many video (CCTV) inspection system(s) are owned and/or leased by your agency?

10.5. How many utility truck(s) are owned and/or leased by your agency?

10.6. How many portable sewage pump(s) are owned and/or leased by your agency?

10.7. How many portable generator(s) are owned and/or leased by your agency?

10.8. Does your agency own equipment designed to block the storm drain system (e.g., sandbags, waddles, absorbent socks, etc.), in an emergency, to prevent untreated or partially treated wastewater from reaching surface waters?

## 11. EXTERNAL COMMUNICATIONS PROGRAM

11.1. Does your agency have a program in place for communicating with and receiving input from the public regarding the development, implementation, and performance of its SSMP?

11.2. Does your agency have a program in place for communicating with upstream or downstream satellite sewer system(s) connected to its collection system?

## 12. NOTIFICATION, REPORTING, AND RECORD KEEPING

12.1. Does your agency maintain a list and description of all sewer-related complaints from customers for the past 5 years, including calls received after normal working hours?

12.2. If yes to question 12.1, does this include information for privately owned sewer laterals?

12.3. How many complaints were received in the previous fiscal year?

12.4. How many complaints were responded to?

12.5. Does your agency have a quality assurance/quality control (QA/QC) procedure in place for review of technical information collected by field staff prior to certification of the SSO report(s) in the Water Board's online reporting system (CIWQS) by the Legally Responsible Official(s)?

12.6. Does your agency require crews to take photos of all SSOs?

12.7. Does your agency have a procedure(s) in place for collecting field information to assist in determining the actual SSO start time?

12.8. Does your agency use SOPs to estimate SSO volume spilled, recovered, and not recovered, including estimation of cleanup water used?

12.9. Does your agency regularly update initial reports given to the California Emergency Management Agency, local health department, and Regional Board as information develops regarding SSOs requiring notification?

## 13. SSO REDUCTION PERFORMANCE AND MONITORING PROGRAM

13.1. Does your agency have a process in place to collect data to monitor performance of its SSMP and efforts in reducing SSOs?

13.2. If yes to question 13.1, does your agency use the data collected to update SSMP program elements?

13.3. Does your agency generate SSO reduction performance metric(s) for its collection system for use in future planning?

13.4. Does your agency hold post-SSO briefings with collections staff, management and others involved, to evaluate root cause of SSOs and document service changes necessary to be prepared in responding to SSOs in the future?

13.5. Does your agency pursue investigation of upstream satellite(s) or potential illicit dischargers as part of the SSO cause determination process?

13.6. Does your agency adjust sewer collection system cleaning interval(s) for problem areas based on review and analysis of each past SSO?

13.7. How many of the SSOs over the past 12 months were preventable through more proactive maintenance?

13.8. How many of the SSOs over the past 5 years occurred at repeat locations?

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**14. DECLARATION**

***I, _____, the approved Legally Responsible Official (LRO) of collection system (name and Waste Discharge ID#) _____ certify under penalty of law that based on my inquiry of the person or persons who manage this system, or those persons directly responsible for gathering the information, the information in this Pre-Inspection Questionnaire (Version 4.0) is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine or imprisonment, for knowing violations.***

_____ _____

**Legally Responsible Official Signature** **Date**

Appendix 7 (References and Common Industry Acronyms)

## REFERENCES

| | | | |
|---|---|---|---|
| 1. | SWRCB website | Online resource | Guidance documents, training videos |
| 2. | SWRCB online spill reduction library | Online resource | SWRCB Spill Reduction Library |
| 3. | SSMP Development Guide | Online resource | SSMP supporting guidance and recommendations |
| 4. | CSUS Office of Water Programs | Widely-distributed industry Standard publications and online courses | Training resources covering collection system administration, management, operations; best practice recommendations for managers and staff |
| 5. | BMP SSO Reduction Strategies | Widely-distributed industry Standard publication | Spill reduction strategies covering key work programs for managers/operators at smaller systems. |
| 6. | California Water Environment Association (CWEA) | Industry training and resources | Dedicated Sanitary Sewer WDR webpage/resources |
| 7. | DKF Solutions Group<br>Fischer Compliance | Reissued WDR Training Resources | Extensive resources for Legally Responsible Officials (LROs), Managers, Supervisors, Data Submitters, and Field Operators (online classes, in-person workshops, customized agency trainings, publications). |

## COMMON INDUSTRY ACRONYMNS

| | |
|---|---|
| BMP | Best Management Practices |
| CIWQS | California Integrated Water Quality System |
| CCTV | Closed Circuit Television |
| CIP | Capital Improvement Program |
| CIPP | Cured in Place Pipe |
| CIWQS | California Integrated Water Quality System (State Water Board Online Spill Database) |
| CMMS | Computerized Maintenance Management System |
| EPA | US Environmental Protection Agency |
| FOG | Fats, Oils and Grease |
| FSE | Food Service Establishment |
| GCD | Grease Control Device |
| GIS | Geographic Information System |
| GM | General Manager |
| I & I | Inflow and Infiltration |
| LRO | Legally Responsible Official |
| MRP | Monitoring and Reporting Program |
| NPDES | National Pollutant Discharge Elimination System |
| RWQCB | Regional Water Quality Control Board |
| SCADA | Supervisory Control and Data Acquisition |
| SERP | Overflow Emergency Response Plan |
| SOP | Standard Operating Procedure |
| SSMP | Sewer System Management Plan |
| WDR | Waste Discharge Requirements (General Wastewater Discharge Requirements, "Reissued WDR" issued by the State Water Board, Order No. 2022-0103-DWQ) |
| SWRCB | State Water Resources Control Board (Statewide Spill Reduction Program Management) |
| WDID | Waste Discharge ID Number |