



SSO- WDR Compliance Workshop Electronic Reporting: Reporting Requirements & Tips

Sewer System Management Plan Chapter

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Introduction

This chapter provides a brief overview of the GWDR requirements for an SSMP and provides some suggested content that could be included in a SSMP. This is a guidance document only and is not intended as a template for an SSMP. Each agency will need to develop a site specific Plan that includes all mandatory “elements” per 2006-0003-DWQ or specific reasons why certain elements are not applicable to your system. Ultimately your city or agency must gain approval of your SSMP by your governing board at a public meeting. A Communication Program (mandatory element) should also help you in gaining local stakeholder acceptance in the development, implementation and performance of your SSMP.

There are eleven required elements for an SSMP. The numbering and titles are shown as they appear in the GWDR. The required elements are:

- I. Goals
- II. Organization
- III. Legal Authority
- IV. Operations and Maintenance Program
- V. Design and Performance Provisions
- VI. Overflow Emergency Response Plan
- VII. FOG Control Program
- VIII. System Evaluation and Capacity Assurance Plan
- IX. Monitoring, Measurement, and Plan Modifications
- X. SSMP Program Audits
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SSMP Requirements and Suggested Content

The GWDR requirements and the suggested content for each of the elements of the SSMP are presented below.

Section I. Goals

GWDR Requirement:

The collection system agency must develop goals to properly manage, operate, and maintain all parts of its wastewater collection system in order to reduce and prevent SSOs, as well as to mitigate any SSOs that occur.

Suggested SSMP Content:

The standards for the operation and maintenance of a wastewater collection system are to properly operate and maintain all portions of the collection system, to report overflows, and to respond effectively to any overflows that may occur. The collection system agency goals should be at a high level that meets the requirements.

A sample SSMP goal statement is:

The goals of the agency's SSMP are:

1. To properly manage, operate, and maintain all portions of the Agency's wastewater collection system.
2. To provide adequate capacity to convey the peak wastewater flows.
3. To minimize the frequency of SSOs.
4. To mitigate the impacts that are associated with any SSO that may occur.
5. To meet all applicable regulatory notification and reporting requirements.

This element of the SSMP is typically less than one page in length.

Section II. Organization

GWDR Requirement:

The collection system agency's SSMP must identify:

- (a) The name of the responsible or authorized representative;
- (b) The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program. Include lines of authority as shown in an organization chart or similar document with a narrative explanation; and
- (c) The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable (such as County Health Officer, County Environmental Health Agency, Regional Water Board, and/or State Office of Emergency Services (OES)).

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Suggested SSMP Content:

The requirements for this element of the SSMP can be satisfied by clearly identifying the individuals who are responsible for implementing the SSMP, responding to overflows, and reporting overflows. Responsible staff should be identified by name and position. This can be accomplished by simple statements of responsibility. Simplified organization charts are helpful in demonstrating reporting hierarchies.

Supplementary information, such as contact information, can be placed in an appendix so that it can be updated without the need to update the SSMP.

This element of the SSMP is typically less than two pages in length.

Section III. Legal Authority

GWDR Requirement:

The collection system agency must demonstrate, through collection system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:

- (a) Prevent illicit discharges into its wastewater collection system (examples may include infiltration and inflow (I/I), storm water, chemical dumping, unauthorized debris and cut roots, etc.);
- (b) Require that sewers and connections be properly designed and constructed;
- (c) Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency;
- (d) Limit the discharge of fats, oils, and grease and other debris that may cause blockages, and
- (e) Enforce any violation of its sewer ordinances.

Suggested SSMP Content:

This element of the SSMP should consist of a comparison of the current agency code (e.g. Municipal Code, District Code) to the requirements listed above. The SSMP should identify the areas where specific and/or additional legal authorities, including enforcement, are required. The SSMP should outline the steps and the schedule that the agency will follow in putting the requisite legal authorities in place.

Section IV. Operations and Maintenance Program

GWDR Requirement:

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

- (a) Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable storm water conveyance facilities;
- (b) Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders;

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- (c) Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;
- (d) Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained; and
- (e) Provide equipment and replacement part inventories, including identification of critical replacement parts.

Suggested SSMP Content:

This element of the SSMP includes several major programs and activities. The SSMP approach to each of the programs and activities is:

Collection System Maps – Describe the current collection system mapping and inventory efforts. If a mapping system is in place, describe the activities that will be undertaken to keep the maps current and/or correct errors. If no mapping system is in place, describe the approach and schedule that will be followed to prepare collection system maps that are adequate to support the management, planning, operation, and maintenance of the collection system.

O&M Activities – Describe the O&M activities that constitute the collection system operation and maintenance program. The activities should include “hot spot” sewer cleaning, routine sewer cleaning (maximum cleaning frequency for every sewer in the collection system), pump station inspection and maintenance, investigation (e.g. odor complaints), inspection (e.g. CCTV and visual), and response to service calls.

Rehabilitation and Replacement Plan – Describe the completed, current, or planned activities to assess the condition of the collection system assets (gravity sewers, force mains, pump stations, etc.) and describe how that information will be used to assign priority and schedule rehabilitation and replacement projects. This description should include the current or planned multi-year capital improvement program and the approach that will be used to update the capital improvement program as needed.

Training Program - Describe the current or planned training program to get and keep collection system workers at the skill level that is required to provide proper operation and maintenance. If the program is just being planned, describe the approach and schedule for implementation..

Equipment and Replacement Parts – Describe the identified equipment and replacement parts needs (including critical spare parts), the current activities to ensure that adequate equipment and repair parts are available, and the methods that will be used to ensure that adequate equipment and replacement parts will be available in the future.

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Section V. Design and Performance Provisions

GWDR Requirement:

- (a) Design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems; and
- (b) Procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

Suggested SSMP Content:

This element of the SSMP should consist of the development of standards for the design, construction, inspection, testing, and acceptance of new, rehabilitated, or repaired portions of the collection system. In the event that the agency already has standards in place, then the SSMP requirement can be met by documenting the review of those standards.

Section VI. Overflow Emergency Response Plan

GWDR Requirement:

The collection system agency shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

- (a) Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;
- (b) A program to ensure appropriate response to all overflows;
- (c) Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, regional water boards, water suppliers, etc...) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the MRP. All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDR or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification;
- (d) Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;
- (e) Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and
- (f) A program to ensure that all reasonable steps are taken to contain untreated wastewater and prevent discharge of untreated wastewater to waters of the United States and minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

Suggested SSMP Content:

This element of the SSMP consists of both the contingency plan and the procedures for responding to an overflow event. Current procedures are the best starting point whether or not they are in written form.

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A suggested outline for the contents of the Overflow Emergency Response Plan is:

- Overflow Detection
- Initial Response
- Recovery and Clean-up (Mitigation)
- Public Access and Warning
- Water Quality Sampling and Analysis
- Investigation and Documentation
- Regulatory Notification
- Regulatory Reporting
- Equipment
- Training

Supplementary information, such as contact information, can be placed in an appendix so that it can be updated without the need to update the SSMP.

Section VII. Fats, Oils, and Grease (FOG) Control Program

GWDR Requirement:

The collection system agency shall evaluate its service area to determine whether a FOG control program is needed. If the collection system agency determines that a FOG program is not needed, the collection system agency must provide justification for why it is not needed. If FOG is found to be a problem, the collection system agency must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. The FOG source control program shall include the following as appropriate:

- (a) An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;
- (b) A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area;
- (c) The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;
- (d) Requirements to install grease removal devices (such as traps or interceptors) design standards for the grease removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements;
- (e) Authority to inspect grease producing facilities, enforcement authorities, and whether the District has sufficient staff to inspect and enforce the FOG ordinance;
- (f) An identification of sewer system sections subject to FOG blockages and establish a cleaning maintenance schedule for each section; and
- (g) Development and implementation of source control measures, for all sources of FOG discharged to the sewer system, for each sewer system section identified in (f) above.

Suggested SSMP Content:

The development of the FOG Control Program is a two step process. The first step is to determine the nature and extent of the FOG problems within your agency's collection system. The second step is to select the elements of a FOG Control Program that would address the identified problems/problem areas.

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An analysis of current FOG “hot spot” sewer cleaning along with the history of FOG-related stoppages and overflows can be used to identify whether or not the agency has a FOG problem. Agencies that do not have a FOG problem (e.g. few if any FOG-related stoppages or overflows, few if any FOG “hot spots”) can use the information from this analysis to justify not having a FOG Control Program.

Agencies that have FOG-related problems can use the information from the analysis to identify whether it is from commercial, high density residential or low density residential sources. A FOG Source Control program is warranted to reduce the contribution of FOG from commercial sources. FOG Source Control programs may include:

- Identification of “hot spot” areas of the collection system,
- Identification of food service establishments in those “hot spot” areas,
- Administrative controls (permitting) for potential grease dischargers,
- Requirement to install grease removal equipment,
- Encouragement to follow best management practices (minimize grease entering the sewer),
- Periodic inspections to ensure the grease removal equipment is properly installed and maintained, and
- Enforcement actions for commercial dischargers to either discharge grease that causes a problem or fails to maintain their grease removal equipment.

Residential FOG problems may benefit from frequent sewer cleaning, repair of defects that cause grease to accumulate, outreach to property managers (high density residential sources), and/or outreach to property owners/tenets in low density residential areas upstream of the problem sewer(s).

Section VIII. System Evaluation and Capacity Assurance Plan

GWDR Requirement:

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

- (a) **Evaluation:** Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events;
- (b) **Design Criteria:** Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria; and
- (c) **Capacity Enhancement Measures:** The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction

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- programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.
- (d) **Schedule:** The Collection system agency shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a)-(c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements.

Suggested SSMP Content:

This element of the SSMP includes several major programs and activities. Most of the requirements would be satisfied by a recent collection system master plan. The SSMP approach to each of the programs and activities is:

Capacity Evaluation – Describe the methods used to identify areas/assets in the collection system that lack sufficient capacity to convey an appropriate peak flow. In small collection systems this may include a spreadsheet model. In larger collection systems this may include the development of an appropriate design storm and the use of a hydraulic model. In either case, the sewers that have been identified as not being capable of conveying peak flows should be verified by maintenance history or observation during peak flow events.

Identification of Capacity Needs – Describe the approach that will be used to take the results of the capacity evaluation to produce a prioritized list of capacity improvement projects.

Project Schedule – The project schedules should be integrated into the multi-year capital improvement program that addresses both condition-related and capacity-related projects.

Section IX. Monitoring, Measurement, and Plan Modifications

GWDR Requirement:

The collection system agency shall:

- (a) Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities;
- (b) Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP;
- (c) Assess the success of the preventative maintenance program;
- (d) Update program elements, as appropriate, based on monitoring or performance evaluations; and
- (e) Identify and illustrate SSO trends, including: frequency, location, and volume.

Suggested SSMP Content:

The SSMP process is based on the continuous improvement approach. This element of the SSMP should include the identification and tracking of a few key performance indicators that will be used to measure to progress of the SSMP implementation and the performance of the agency's collection system. Examples of key performance indicators include:

- Service calls, blockages, and SSOs over the past 12 months,
- SSO events by cause (e.g. roots, grease, debris, other,
- Volume of SSOs and volume contained,

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Annual maintenance production by activity compared to plan (e.g. quantity of sewers cleaned vs. planned).

The SSMP is a good place to document the historical performance of the selected key performance measures.

Section X. SSMP Program Audits

GWDR Requirement:

The collection system agency shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the your agency's compliance with the SSMP requirements, including identification of any deficiencies in the SSMP and steps to correct them.

Suggested SSMP Content:

This element of the SSMP should identify the person responsible for conducting the internal audit, the scope of the audit, the audit work product, and the schedule for the audit.

Section XI. Communication Program

GWDR Requirement:

The collection system agency shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the collection system agency as the program is developed and implemented. The collection system agency shall also create a plan of communication with systems that are tributary and/or satellite to the collection system agency's sanitary sewer system.

Suggested SSMP Content:

This element of the SSMP can be met by providing public notification that the agency is preparing an SSMP. Many agencies are choosing to meet this requirement by placing notices on their website.

Agencies with satellite collection systems should identify the responsible persons for each of the satellite collection systems and develop a process for periodic communication and coordination during the preparation of the SSMP.

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SSMP Preparation Deadlines

The schedule for preparation of the elements of the SSMP, including the six month extension occasioned by the agreement between CWEA and the SWRCB is:

Task	Completion Dates			
	Population Served > 100,000	Population Served between 100,000 and 10,000	Population Served between 10,000 and 2,500	Population Served < 2,500
SSMP Development Plan and Schedule	8/1/07	11/1/07	2/1/08	5/1/08
Section I Goals	11/1/07		5/1/2008	
Section II Organization				
Section VI Overflow Emergency Response Plan	11/1/08	5/1/09	11/1/09	2/1/10
Section III Legal Authority				
Section IV Operation and Maintenance Program				
Section VII FOG Control Program	5/1/09	8/1/09	5/1/10	8/1/10
Section V Design and Performance Provisions				
Section VIII System Evaluation and Capacity Assurance Plan				
Section VIII Monitoring Measurements and Plan Modification				
Section X SSMP Program Audits				
Section XI Communication Program				
Final SSMP				