



CITY OF
HAYWARD
HEART OF THE BAY

City of Hayward
Sewer System Management Plan

2011 SSMP Audit

March 1, 2011

CITY OF HAYWARD 2011 SSMP AUDIT

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Appendices

Appendix A: 2011 SSMP Audit Checklist

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List of Abbreviations

CY	Calendar Year
CoH, City	City of Hayward
GWDR	General Waste Discharge Requirement
RWQCB	Regional Water Quality Control Board
SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow
SWRCB	State Water Resources Control Board

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1. Introduction

The intent of the audit is to determine whether the SSMP complies with Region 2 and State GWDR requirements, whether the SSMP reflects current City practices, and whether the SSMP is effective in reducing SSOs. The audit fulfills the SSMP Audit requirements of both the RWQCB (Element 10) and the SWRCB GWDR (Element 10). This City of Hayward SSMP audit covers CY 2011. The 2011 SSMP Audit is due to be submitted to the RWQCB by March 15, 2012 along with the Annual Report of SSOs. Annual audits will be kept on file at the City for five years.

2. Regulatory Requirements for SSMP Audits

The summarized requirements for SSMP Audits element of the SSMP are:

RWQCB Requirement:

The City shall conduct an annual audit of its SSMP which includes any deficiencies and steps to correct them (if applicable), appropriate to the size of its system and the number of overflows, and submit a report of such audit along with its annual report by March 15th of the following year.

SWRCB Requirement:

As part of the SSMP, the City shall conduct periodic internal audits, appropriate to the size of its 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 City's compliance with the SSMP requirements, including identification of any deficiencies in the SSMP and steps to correct them.

3. 2011 SSMP Audit

The City conducts an annual audit of its SSMP. The goal of the audit is to determine whether the SSMP complies with current requirements of the GWDR, whether the SSMP reflects current practices, and whether the SSMP is effective in reducing SSOs.

Program effectiveness is evaluated by a review of performance indicators and discussion of SSMP and sewer system improvements.

Program compliance is evaluated by review of SSMP elements using the Audit Checklist. The Audit Checklist includes comments regarding recently completed program updates and recommendations for future actions.

4. SSMP Effectiveness

Performance

Performance indicators, collected as part of Element IX (Monitoring, Measurement, and Program Modifications) have been reviewed to identify patterns and trouble areas needing improvement. Performance indicators for 2009-2011 are summarized in Table 1.

Program and System Improvements

This report describes the City of Hayward's SSMP program audits and its associated tasks. This SSMP audit is being performed to:

- Evaluate the effectiveness of the current SSMP program
- Identify potential weaknesses of the current SSMP program

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- Determine improvement opportunities for modifying the current SSMP program

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

The City of Hayward's Compliance Approach – As Stated in the SSMP

The City will produce internal audits every two years to determine the effectiveness of the SSMP elements and programs. The program audit will include a review of relevant data and trends maintained as part of the SSMP Monitoring and Measurements Program to determine opportunities to improve compliance with the SSMP requirements. A prioritized list of improvement opportunities will be updated as part of the audit program. Improvement Opportunities will be used to prioritize and develop program modifications and will be initiated based on priority and available funding. An overview of SSMP related work completed between audits will be included in the program audit.

The program audit will include a final report reviewing the City of Hayward's performance and identifying findings. The report will be posted on the City's website and will be kept on file.

The City of Hayward Sewer Collection System Description and Performance

The City of Hayward's Sewer Collection System, including trunk sewers consists of approximately 325 miles of gravity sewers ranging from 4 inches to 48 inches in diameter and approximately 4 miles of force mains ranging from 4 inches to 27 inches in diameter for a total of 168 miles. The conveyance system also consists of eight pump stations, one inverted siphons, flow meters, and valve vaults. From January 2009 through January 2011, the City of Hayward's Sewer Collection System has had a total of fourteen (14) SSOs (6 in 2009, 3 in 2010 and 5 in 2011) reported in the California Integrated Water Quality System (CIWQS) as detailed in **Table 1**.

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Table 1: CIWQS Summary of SRCSD's SSOs September 2007-2010

SSO Category	Start Date	SSO Address	SSO Volume	Vol Recovered	Vol Reached Surface Water	SSO Cause
1	01/14/09	27290 Tyrell Ave	7,500	6,500	1,000	Grease
2	06/02/09	22702 Zaballos Ct	60	60	0	Roots
1	06/04/09	27386 Whitman St	3,000	2,900	0	Roots
1	06/08/09	3589 Skyline Dr	3,200	1,600	1,600	Roots
1	10/13/09	1137 Walpert St	3,300	0	3,300	Roots
1	12/28/09	510 Corrine St	2,250	2,000	0	Roots
1	01/20/10	30367 St. Annes Pl	3,000	0	3,000	Grease
1	01/27/10	25837 Gettysburg Ave	9,000	9,000	0	Grease
1	03/20/10	E St and 1st St	2,000	2,000	0	Roots
1	04/02/11	3587 Oakes Dr	4,125	0	0	Roots
1	06/19/11	375 Industrial Py	6,750	100	0	Roots
1	10/08/11	1388 D St	2,000	2,000	0	Vandalism
2	11/23/11	3589 Skyline Dr	500	500	0	Grease
1	11/26/11	3351 Whitestone Ct	190,000*	4,000	186,000	Roots

* *Customer reported spill over holiday weekend (Thanksgiving) to City's Customer Service Phone, leaving message instead of notifying Hayward Police Department Dispatch. City crews were not made aware of spill until two days later. This situation has been addressed by changes in the Customer Service Phone line message notifying the caller to immediately call Police Dispatch for water and sewer emergencies.*

Taken into account the relatively low number of SSO's compared to the miles of sewer mains in Hayward's sewer collection system, the following audit program has been developed for the system.

Audit Tasks

1. Compare SSMP with current operation and maintenance activities and priorities, and update or amend accordingly.
2. Review operation and maintenance philosophy/strategy with Sewer Collection and Utilities Operations & Maintenance field staff.
3. Review maintenance records to ensure that a match exists between operation and maintenance philosophy/strategy and everyday practice.
4. Review condition assessment/rehabilitation philosophy/strategy with Utilities Engineering Section, and ensure that the condition assessment/rehabilitation schedule is current and relevant.
5. Record all findings during the audit process on the attached SSMP Audit Form. This form will be the final audit report for the City of Hayward's Sewer Collection System's performance and improvement opportunities. The report will be kept on file and made available to the public either as a reference or posting on the City's website.

Conclusion

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The City of Hayward's existing SSMP elements and programs, after being updated are effective for its type of collection system.

With five SSO events in 2011, the City's performance is comparable to other districts with similar size collection systems, however Hayward has a higher SSO volume compared to comparable Cities. The SSO event with the largest spill volume would have been much less severe were it not for the customer leaving a message on a voice mail instead of following the voice mail instructions to call Hayward Police Department dispatch to report the SSO. This allowed the spill to continue for two days before Utilities staff was notified.

To reduce the chance of future SSOs going unreported in this manner, the City used this event as a learning experience. The voicemail message at the Customer Service Line has been updated, informing the customer at the start of the message to notify the Hayward Police Dispatch at 293-7000 if the call is regarding a sewer overflow.

The remaining SSO's are attributed to roots, grease and old deteriorating piping. To address these issues, the City has scheduled any deteriorating mains for replacement. The City also recently completed a major cleaning and televising project of all of the City's easement sewer mains on Hayward Boulevard and Fairway Park. These lines are scheduled for root treatment in April 2012.

Additionally, the sewer mains running under Mission Blvd. are being televised and cleaned for the Route 238 Corridor Improvement Project in preparation for the repaving of Mission Boulevard.

The City has also scheduled 11 separate main repairs on lines where televising has determined that the mains are impacted by root intrusion so severe it has caused joint offsets and line backups. These repairs will begin in June 2011.

The SSMP and the City's operation and maintenance strategies are essential elements used to manage, operate, and maintain all parts of the sewer collection system, and are continually being evaluated and improved upon. Although this audit identified several improvement opportunities, most of the updates of the SSMP are administrative in nature, and do not detract from the effectiveness of the SSMP.

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Improvement Opportunities

The following improvement opportunities have been identified based on this audit.

SSMP Section	Updates	Date Updated
Goals	No changes, chapter still relevant to organization's mission.	03/30/12
Organization	Updated contact info, assignments and org chart due to Department re-org.	03/30/12
Legal Authority	No changes, chapter still relevant to organization's mission.	03/30/12
Operation & Maintenance	Updated CIP info, High Frequency Main Cleaning schedule, training rosters and equipment lists.	03/30/12
Design & Performance Provisions	Updated with current Standard Details and Sanitary Sewer Mains and Appurtenance Construction Specs.	03/30/12
Overflow Emergency Response Plan	Updated notification info, SSO Response Plan and CIWQS SSO Discharger Work Book.	03/30/12
Fats, Oils, & Grease (FOG) Control Program	No changes, chapter still relevant to organization's mission.	03/30/12
System Evaluation & Capacity Assurance Plan	No changes, chapter still relevant to organization's mission.	03/30/12
Monitoring, Measurement & Program Modifications	No changes, chapter still relevant to organization's mission.	03/30/12
SSMP Program Audits	Included Calendar Year 2011 SSMP Audit.	03/30/12
Communication Program	New chapter, Included info on radio communication devices, employee phone info and customer outreach efforts with regards to building sewer maintenance responsibilities..	03/30/12

5. SSMP Compliance

The Audit Checklist is used to demonstrate the City's compliance with Region 2 and State GWDR requirements for sanitary sewer systems. The audit checklist indicates whether each SSMP element is compliant, describes recent revisions or updates and recommends future actions to maintain effective SSMP elements that reflect current City practices. The Audit Checklist, completed for CY 2011, is included in **Appendix A**.

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Element	Title	Requirement	Compliant	Current	Comments
I	Goals	Reduce, prevent, and mitigate SSOs	Y	Y	No changes, chapter still relevant to organization mission.
II	Organization	Designate Legally Responsible Official (LRO)	Y	Y	Updated to reflect 2011 staff changes.
		Organization Chart	Y	Y	Updated to reflect 2011 staff changes.
		Names and phone numbers for key personnel	Y	Y	Updated to reflect 2011 staff changes.
		Chain of communication for reporting SSOs	Y	Y	<p>Updated to reflect 2011 staff and process changes in the reporting procedure. An SSO that occurred over a holiday weekend was reported by a customer leaving a voice mail on the CS line. The event didn't get reported to Utilities until the following Monday @ 11:00 AM. The CS Hotline. goes through a list of options for the customer, and at the end of the message, the customer was directed to hang up and call Hayward Police Dispatch if this was an emergency. The customer didn't contact the Hayward Police Dispatch for this event.</p> <p>The CS line message has been updated to state at the start of the message if the customer is reporting water or sewer emergency, immediately hang up and call Hayward Police Dispatch at 293-7000.</p>
III	Legal Authority	Prevent illicit discharges to sanitary sewer system	Y	Y	No changes recommended.

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Element	Title	Requirement	Compliant	Current	Comments
	Legal Authority (cont'd)	Require sewers and connection be properly designed and constructed	Y	Y	No changes recommended.
		Ensure access for inspection, maintenance, and repairs	Y	Y	No changes recommended.
		Limit discharge of FOG and debris that may cause blockages	Y	Y	No changes recommended.
		Ability to inspect FOG producing facilities	Y	Y	No changes recommended.
		Enforce violations of the City ordinances	Y	Y	No changes recommended.
IV	O&M Program	Maintain up-to-date maps of the sanitary sewer system	Y	Y	Electronic maps are continually updated. CCTV inspection data is used to improve quality.
		Adequate planning, resources and budget to support effective sewer system management and long term goals	Y	Y	No changes recommended.
		Describe routine preventive maintenance program	Y	Y	Updated with current PM schedules.
		Document completed preventive maintenance	Y	Y	No changes recommended.
		Adequate I/I monitoring	Y	Y	No changes recommended.
		Rehabilitation and replacement plan that identifies and prioritizes sanitary sewer system defects	Y	Y	Updated with 2013-2015 CIP info..
		Provide regular technical training for sewer system staff	Y	Y	Collections Crew attend CWEA training regularly.. Management staff attends BACWA-CS regularly.
		Require contractors to provide training for their workers who work in the City's sewer system facilities	Y	Y	No changes recommended.
		Maintain equipment inventory	Y	Y	No changes recommended.
		Maintain critical spare part inventory	Y	Y	No changes recommended.

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Element	Title	Requirement	Compliant	Current	Comments
	O&M Program (cont'd)	Outreach to plumbers and contractors	Y	Y	Sewer Lateral Responsibilities door hangers developed to address maintenance responsibilities for laterals and appurtenances on customer property.
V	Design and Performance Provisions	Design and construction standards for new sanitary sewer system facilities	Y	Y	Updated with current Sewer Standard Details.
		Design and construction standards for repair and rehabilitation of existing sanitary sewer system facilities	Y	Y	Updated with current PW Standard Specs for Sewer Mains.
		Procedures for the inspection and acceptance of new sanitary sewer system facilities	Y	Y	Updated with current PW Standard Specs for Sewer Mains.
		Procedures for the inspection and acceptance of repaired and rehabilitated sanitary sewer system facilities	Y	Y	Updated with current PW Standard Specs for Sewer Mains.
VI	Overflow Emergency Response Plan (OERP)	Procedures for the notification of primary responders	Y	Y	Updated with new City of Hayward SSO SOP, SSO determination flow charts, notification information, & Reporting Procedures.
		Procedures for the notification of regulatory agencies	Y	Y	All call-out lists recently updated and distributed to City departments and satellite cities.
		Program to ensure appropriate response to all SSOs	Y	Y	Updated with new City of Hayward SSO SOP, SSO determination flow charts, notification information, & Reporting Procedures.

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Element	Title	Requirement	Compliant	Current	Comments
	O.E.R.P. (cont.)	Proper reporting of all SSOs	Y	Y	Updated with new City of Hayward SSO SOP, SSO determination flow charts, notification information, & Reporting Procedures.
		Procedure to ensure City staff are aware of and follow OERP	Y	Y	New SSO SOP distributed to all staff, reviewed periodically and updated as required.
		Procedure to ensure City staff are trained in the OERP procedures	Y	Y	New SSO SOP distributed to all staff, reviewed periodically and updated as required.
		Procedure to ensure contractor personnel are trained in the OERP procedures	Y	Y	No changes recommended.
		Procedures to address emergency operations such as traffic and crowd control	Y	Y	Classes in traffic control scheduled for all staff. Periodic training will be scheduled.
		Program to prevent the discharge of sewage to surface waters	Y	Y	Updated with new City of Hayward SSO SOP, SSO determination flow charts, notification information, & Reporting Procedures.
		Program to minimize or correct the impacts of any SSOs that occur	Y	Y	Updated with new City of Hayward SSO SOP, SSO determination flow charts, notification information, & Reporting Procedures.
		Program of accelerated monitoring to determine the impacts on surface waters of any SSOs that occur	Y	Y	Updated with new City of Hayward SSO SOP, SSO determination flow charts, notification information, & Reporting Procedures.
VII	FOG Control Program	Identification of "hot spots" with FOG-related problems	Y	Y	No changes recommended.

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Element	Title	Requirement	Compliant	Current	Comments
	FOG Control Program (cont.)	Public outreach program that promotes the proper disposal of FOG	Y	Y	No changes recommended.
		Plan for the disposal of FOG generated within the City's service area	Y	Y	No changes recommended.
		Demonstrate that the City has allocated adequate resources for FOG control	Y	Y	No changes recommended.
		Program of preventive maintenance for sanitary sewer system facilities that have FOG-related problems	Y	Y	No changes recommended.
VIII	System Evaluation and Capacity Assurance Program (SECAP)	Identification of elements of the sanitary sewer system that experience or contribute to SSOs caused by hydraulic deficiencies	Y	Y	No changes recommended.
		Established design criteria that provide adequate capacity	Y	Y	Master Plan ensures that sewer system capacity is adequate to serve existing and future development.
		Short term CIP that addressed known hydraulic deficiencies	Y	Y	No changes recommended.
		Long term CIP that provides for future capacity needs	Y	Y	No changes recommended.
		Procedures that provide for the analysis, evaluation, and prioritization of hydraulic deficiencies	Y	Y	No changes recommended.
		The short and long term CIPs include schedules for the correction of each identified hydraulic deficiency	Y	Y	Completed phasing study for CIP capacity project Peabody-Walters Relief Sewer in 2011.
IX	Monitoring, Measurement, and Program Modifications (MMPM)	Maintain relevant information to establish, evaluate, and prioritize SSMP activities	Y	Y	No changes recommended.
		Monitor implementation of the SSMP	Y	Y	No changes recommended.
		Measure, where appropriate, performance of the elements of the SSMP	Y	Y	No changes recommended.

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Element	Title	Requirement	Compliant	Current	Comments
	MMPM (cont.)	Assess success of the preventive maintenance program	Y	Y	No changes recommended.
		Update SSMP program elements based on monitoring or performance	Y	Y	No changes recommended.
		Identify and illustrate SSO trends	Y	Y	No changes recommended.
X	SSMP Program Audits	Conduct periodic audits	Y	Y	Audits are performed annually.
		Record results of the audit in a report	Y	Y	Audits are performed annually.
		Record changes made and/or corrective actions taken	Y	Y	Audits are performed annually.
XI	Communications Program	Communicate with the public regarding the preparation of the SSMP	Y	Y	Updated. No previous info existed.
		Communicate with the public regarding SSMP performance	Y	Y	Updated. No previous info existed.
		Communicate with satellite sewer systems	Y	Y	The City communicates regularly with neighboring cities and districts.