APPENDIX Z

Miscellaneous

Memo to SSMP April 17, 2014

Subject: Sanitary Sewer Overflow Risks due to City of Los Angeles Sanitary Sewer Outfall to Glendale Sewer System at Rock Glen and the 2 Fwy.

Back ground: by Maurice O. - Synopsis of the arrangement between the two cities.

The City of Glendale has always assumed that the Los Angeles sewer line connecting to the Glendale sewer system on Rock Glen was maintained by the City of Los Angeles within their City limits. Despite being told by Charles Pierson (in the field) that Los Angeles does not maintain the sewer line under the 2 freeway, a follow-up discussion by Maurice Oillataguerre (Sr. Env. Prg. Specialist) and Kent Carlson (L.A. Sewer Supervisor) confirmed that Los Angeles has always maintained this section of sewer in the city limits of Los Angeles (under the 2 freeway up to the first manhole in Glendale). In fact Mr. Carlson looked at his sewer cleaning records and stated that the sewer line was cleaned a month prior to the stoppage, which occured on August 28, 2013.

Mr. Carlson was told that the CCTV followup inspection revealed large amounts of grease entering the City of L.A.'s 10" sewer under the 2 freeway. More importantly, Mr. Carlson was also told (by Maurice) that a large metal band was found inside of the Glendale sewer system downstream of the stoppage. After retrieving the metal band, wastewater personnel gave the band to Maurice, who inspected it and determined that it was part of the Los Angeles flow metering equipment on Rock Glen. Maurice and Roy Rodriguez (Wastewater Crew Supervisor) inspected the Los Angeles manhole where the City of Los Angeles ADS Flow Meter is located the flow meter was scene floating in the flow line of the manhole outside of its metal band. After contacting Charles Pierson and letting him know about the broken flow meter. Maurice and Roy reinspected the manhole a few days later. The flow meter and broken band (missing the piece retrieved by Glendale Wastewater staff) were seen hanging from a manhole rung with a very large accumulation of rags/toilet paper in the flow line of the manhole. Maurice contacted Kent Carlson and asked him to call out a Vactor truck immediately to remove the large accumulation of debris due to his concern of it causing another backup downstream in Glendale. Maurice inspected the manhole the next day with April Fitzpatrick (Deputy Director of Public Works) and saw that the debris was removed by the City of Los Angeles.

August 2013 SSO Lesson's Learned and Follow-up by C of G- by John H.

1. Recovery in the receiving storm drain system was hampered by the existence of a rectangular cross-section drain in Chevy Chase resulting in low recovery percentages compared with what would have been possible had crews had a circular cross-section to work with.

Follow-Up: Trace the route of the SSO from the 8/28/13 recovery point upstream to the receiving catch basins at Lincoln and Rock Glen in an effort to find a circular cross-section to aid in future downstream recovery operations and document. **Traced system on 4/16/14**-rectangular cross section along entire path followed by this overflow (Villagran and McCloskey).

August 2013 SSO Lesson's Learned and Follow-up by C of G- by John H.

2. To prevent damage to the City of LA Flo-Meter referenced in Background (above), WW Section Staff installed stencils w/ warning information about the existence of an upstream flow-meter under the street level covers for both manholes in Glendale. See Photo's attached.

City of Los Angeles Point (s) of Contact- by John H.

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M. Oillataguerre

J.N. Hicks

SIGN : IN SHERT : 8/9/12

SSMP REFRESHER TRAINING
PRINT NAME SUNATURE
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2) ARMIN RETES
3) DAVED MARTENEZ ODPORT
a) James E. GARGA ED
5) Dan Hardgrove (1)
6) DAVID MASSIE (DAM)
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9) Nery Villagran
10) Bryan P. Orton
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Sewer System Management Plan Overview Including Sewer Overflow Response Plan

August 2012

Historical Background

- Filter to Y2K
- January 4, 2001-EPA leaves Notion of Proposed Rule Malong for DMOM
- January 20, 2001-incoming Bush Administration calls for "Regulatory Review Plan."
- May 2005- California Issues- Obligation Systems-Waste Disonarge Requirements (WDR)

Historical Background (cont.)

- May 2009: Enrolled Agencies with greater than 100K population must have a complemensive SSMP
- August 2006 Glendare Certifics its ISSMP
- Eleven years after the proposed federal rule making was halled by the Bush Administration there has been no change in the status of the SSO proposed rule which contained CMCM.

SSMP Elements 1. Frogram Goal 2. Grganizational Structure 3. Legal Authority 4. Operations and Maintenance Program 5. Design and Performance Program 6. Over low En eigency Response Plan 7. FOG Central Program 8. System Evaluation and expactly Assurance Plan 5. Memilioning, Measurements and Program Medifications 10. SSMP Audite. 11. Communication Program Responsible Forder: PM for available Program Response Soften Memorary Soften PM (Communication Program) Response Soften Westerner Soften PM (Communication Program) PM (Commu

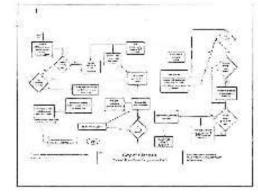
1. Program Goal

"Woal: The goal of the SSMP is to provide a plan and schedule to properly manage, querale, and maintain all parts of the sanitary sever system. This will help reduce and provent SSOs, as well as mitigate any SSOs that do occur."

2. Organizational Structure	*
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Names and contact information for those	
responsible for implementing various portions of the SSMP.	
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Chain of communication for reporting SSC/s	

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Operations & Maintenance Program (cont.)	
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8. Overflow Emergency Response Plan	W
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responders and regulatory agencies.	
- A program to answe appropriate response Programs (grandifying gulborites when gubic.)	
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7. FOG Control Program

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8. System Evaluation and Capacity Assurance Plan (SECAP)

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 - It was progressed storm a real weeking event.
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9. Monitoring, Measurement and Program	
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9. Monitoring, Measurement and Program	
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10.SSMP Program Audits

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11. Communication

- The Enrollee shall communicate on a regular basis with the public on:
 - Downing reast implementation and performance of the SGRP.
- The communication system shall provide the public the opportunity to provide input to the Empileer as the program is developed and implemented.

Parket wood & the text on mile

Acconyct Glossary

- CMOM-Capacity Management Operations and Mandenance
- SSMP-Sewer System Management Plan.
- WDR- Waste Discharge Requirements
- . FOG Fate Oils and Grease

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City of Glendale Sewer System Management Plan

Volume 1

April

2009

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ABBREVIATIONS/ACRONYMS

Abbreviation Definition

BMP Best Management Practices
CIP Capital Improvement Program

CLA City of Los Angeles

CMMS Computerized Maintenance Management System

CWEA California Water Environment Association

FOG Fats, Oils and Grease

FSE Food Service Establishment

I/I Inflow and Infiltration

IEC Infrastructure Engineering Corporation MRP Monitoring and Reporting Program

NPDES National Pollutant Discharge Elimination System

O&M Operation and Maintenance
PM Preventive Maintenance

Specific, Measureable, Attainable, Relevant, and

SMART Trackable

SORP Sewer Overflow Response Plan SSMP Sewer System Management Plan

SSO Sewer System Overflow

SWRCB State Water Resources Control Board

WDR Waste Discharge Requirement



City of Glendale Sewer System Management Plan April 2009 Page 16 of 39

EXECUTIVE SUMMARY

On May 2, 2006, after several years of public discussion and planning, the State Water Resources Control Board (SWRCB) adopted Order No. 2006-0003, a General Waste Discharge Requirement (WDR) for all publicly owned sanitary sewer collection systems in California with more than one (1) mile of sewer pipe. The goal of Order No. 2006-0003 is to provide a consistent statewide approach for reducing Sanitary Sewer Overflows (SSOs) by requiring that:

- 1. In the event of an SSO, all feasible steps be taken to control the released volume and prevent untreated wastewater from entering storm drains, creeks, etc.
- 2. If an SSO occurs, it must be reported to the SWRCB using an online reporting system developed by the SWRCB.
- 3. All publicly owned collection system agencies with more than 1 mile of sewer pipe in the State must develop a Sewer System Management Plan (SSMP).

This critical component of Order No. 2006-0003 is the development of a Sewer System Management Plan (SSMP). There are eleven specific "milestones" identified in the schedule that relate to the elements required in the WDR. The eleven milestones include:

- 1. SSMP Development Plan and Schedule
- 2. Goals and Organization Structure
- 3. Legal Authority
- 4. Operation and Maintenance Program
- 5. Design and Performance Standards
- 6. Overflow Emergency Response Program
- 7. Fats, Oils and Grease Control Program
- 8. System Evaluation and Capacity Assurance Plan
- 9. Monitoring, Measurement, and Program Modifications
- 10. SSMP Program Audits
- 11. Communication Program





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The following SSMP has been developed by the City of Glendale (City) in order to comply with the WDR in each of these milestones. Moreover, the SSMP meets all requirements of the WDR while at the same time serving as a valuable reference tool for City staff. The City established the following goals during the development of this SSMP:

- Ensure those responsible for accomplishing this mission are available to achieve it by reducing the number of work hours lost to accidents and mishaps, through proper selection and training of personnel and safe execution of all maintenance activities.
- 2. Eliminate preventable sanitary sewer overflows that close down beaches.
- 3. Minimize preventable sanitary sewer overflows.
- 4. Reduce gallons of sanitary sewage that contact water ways from preventable sanitary sewer overflows.
- 5. Increase ratio of Preventive maintenance expenditure to emergency maintenance expenditure.
- 6. Optimize use of post-work inspection.
- Protect the City's large investment in the sanitary sewer collection system.
 Extend the system's useful life by proactively correcting structural deficiencies identified during the course of all preventive maintenance activities.
- 8. Reduce reporting compliance errors to zero.

These SSMP goals are supported by documentation and modification procedures that will assist City staff as they implement the SSMP and complete the SSMP goals on a year by year basis. The goals are ambitious, but due to the pro-active and forward-looking management of the sewer system already practiced by the City, they mainly represent an enhancement in the documentation and review of sewer system management activities that are already performed by City staff. As such, these goals are appropriate and achievable.

These procedures will allow the sewer system to maintain reliability and capacity into the future, and will allow the City to meet its strategic sewer system goals for decades into the future.





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CHAPTER 1. PROHIBITIONS AND PROVISIONS

The State Water Resources Control Board (SWRCB) Order No. 2006-0003 mandates that the City of Glendale (City) comply with the following discharge prohibitions and provisions.

1.1 PROHIBITIONS

To meet the provisions contained in Division 7 of the California Water Code and regulations adopted there under, the City is required to comply with the following prohibitions:

- Any SSO that results in a discharge of untreated or partially treated wastewater to waters of the United States is prohibited; and,
- Any SSO that results in a discharge of untreated or partially treated wastewater that creates a nuisance as defined in California Water Code Section 13050(m) is prohibited.

In any enforcement action, the Regional Board will consider the efforts of the City to contain, control, and clean up sewage spills from its collection system in accordance with Section 13327 of the California Water Code. The City will make every effort to contain sewage spilled from its collection systems and to prevent the sewage from entering storm drains and surface water bodies. The City will also make every effort to prevent sewage from discharging from storm drains into flood control channels and open ditches by blocking the storm drainage system and by removing the sewage from the storm drains. The use of the storm drain pipe system to contain the sewage by blocking the drain pipes, and recovering and cleaning up the spilled sewage, in order to prevent the sewage from being discharged to a surface water body is not a violation of the prohibitions listed above.

1.2 Provisions

As stated in Order No. 2006-0003, the City must meet the following fifteen (15) provisions:

- 1. The City must comply with all conditions of Order No. 2006-0003. Any noncompliance with Order No. 2006-0003 constitutes a violation of the California Water Code and is grounds for enforcement action.
- 2. It is the intent of the State Water Board that sanitary sewer systems be regulated in a manner consistent with the general WDRs. Nothing in the general WDRs shall be:





City of Glendale Sewer System Management Plan April 2009 Page 19 of 39

- a. Interpreted or applied in a manner inconsistent with the Federal Clean Water Act, or supersede a more specific or more stringent state or federal requirement in an existing permit, regulation, or administrative/judicial order or Consent Decree;
- b. Interpreted or applied to authorize an SSO that is illegal under either the Clean Water Act, an applicable Basin Plan prohibition or water quality standard, or the California Water Code;
- c. Interpreted or applied to prohibit a Regional Water Board from issuing an individual NPDES permit or WDR, superseding this general WDR, for a sanitary sewer system, authorized under the Clean Water Act or California Water Code; or
- d. Interpreted or applied to supersede any more specific or more stringent WDRs or enforcement order issues by a Regional Water Board.
- 3. The City shall take all feasible steps to eliminate SSOs. In the event that an SSO does occur, the City shall take all feasible steps to contain and mitigate the impacts of an SSO.
- 4. In the event of an SSO, the City shall take all feasible steps to prevent untreated or partially treated wastewater from discharging from storm drains into flood control channels or waters of the United States by blocking the storm drainage system and by removing the wastewater from the storm drains.
- 5. All SSOs must be reported in accordance with Section G of the general WDRs
- 6. In any enforcement action, the State and/or Regional Water Boards will consider the appropriate factors under the duly adopted State Water Board Enforcement Policy. And, consistent with the Enforcement Policy, the State and/or Regional Water Boards must consider the City's efforts to contain, control, and mitigate SSOs when considering the California Water Code Section 13327 factors. In assessing these factors, the State and/or Regional Water Boards will also consider whether:
 - a. The City has complied with the requirements of Order No. 2006-0003, including requirements for reporting, developing and implementing a SSMP;





City of Glendale Sewer System Management Plan April 2009 Page 20 of 39

- b. the City can identify the cause or likely cause of the discharge event;
- c. There were no feasible alternatives to the discharge, such as temporary storage or retention of untreated wastewater, reduction of inflow and infiltration, use of adequate backup equipment, collecting and hauling of untreated wastewater to a treatment facility, or an increase in the capacity of the system as necessary to contain the design storm event identified in the SSMP. It is inappropriate to consider the lack of feasible alternatives if the City does not implement a periodic or continuing process to identify and correct problems.
- d. The discharge was exceptional, unintentional, temporary, and caused by factors beyond the reasonable control of the City;
- e. The discharge could have been prevented by the exercise of reasonable control described in a certified SSMP for:
 - i. Proper management, operation and maintenance;
 - ii. Adequate treatment facilities, sanitary sewer system facilities, and/or components with an appropriate design capacity, to reasonably prevent SSOs (e.g., adequately enlarging treatment or collection facilities to accommodate growth, infiltration and inflow (I/I), etc.);
 - iii. Preventive maintenance (including cleaning and fats, oils, and grease (FOG) control);
 - iv. Installation of adequate backup equipment; and
 - v. Inflow and infiltration prevention and control to the extent practicable.
- f. The sanitary sewer system design capacity is appropriate to reasonably prevent SSOs.
- g. The City took all reasonable steps to stop and mitigate the impact of the discharge as soon as possible.
- 7. When a sanitary sewer overflow occurs, the City shall take all feasible steps and necessary remedial actions to 1) control or limit the volume of untreated or partially treated wastewater discharged, 2) terminate the discharge, and 3) recover as much of the wastewater discharged as possible for proper disposal, including any wash down water.





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The City shall implement all remedial actions to the extent they may be applicable to the discharge and not inconsistent with an emergency response plan, including the following:

- a. Interception and rerouting of untreated or partially treated wastewater flows around the wastewater line failure;
- b. Vacuum truck recovery of sanitary sewer overflows and wash down water:
- c. Cleanup of debris at the overflow site;
- d. System modifications to prevent another SSO at the same location;
- Adequate sampling to determine the nature and impact of the release;
 and
- f. Adequate public notification to protect the public from exposure to the SSO.
- 8. The City shall properly manage, operate, and maintain all parts of the sanitary sewer system owned or operated by the City, and shall ensure that the system operators (including employees, contractors, or other agents) are adequately trained and possess adequate knowledge, skills, and abilities.
- 9. The City shall allocate adequate resources for the operation, maintenance, and repair of its sanitary sewer system, by establishing a proper rate structure, accounting mechanisms, and auditing procedures to ensure an adequate measure of revenues and expenditures. These procedures must be in compliance with applicable laws and regulations and comply with generally acceptable accounting practices.
- 10. The City shall provide adequate capacity to convey base flows and peak flows, including flows related to wet weather events. Capacity shall meet or exceed the design criteria as defined in the City's System Evaluation and Capacity Assurance Plan for all parts of the sanitary sewer system owned or operated by the City.
- 11. The City shall develop and implement a written Sewer System Management Plan (SSMP) and make it available to the State and/or Regional Water Board upon request. A copy of this document must be publicly available at the City's office and/or available on the internet. This SSMP must be approved by the City's Board of Directors at a public meeting.





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- 12. In accordance with the California Business and Professions Code sections 6735, 7835, and 7835.1, all engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. Specific elements of the SSMP that require professional evaluation and judgments shall be prepared by or under the direction of appropriately qualified professionals, and shall bear the professional(s)' signature and stamp.
- 13. The mandatory elements of the SSMP are specified below. However, if the City believes that any element of this section is not appropriate or applicable to the City's sanitary sewer system then this should be noted in the SSMP. The SSMP must be approved by the deadlines listed in Order No. 2006-0003.

Sewer System Management Plan (SSMP)

- a. Goal
- b. Organization
- c. Legal Authority
- d. Operation and Maintenance Program
- e. Design and Performance Provisions
- f. Overflow Emergency Response Plan
- g. FOG Control Program
- h. System Evaluation and Capacity Assurance Plan
- i. Monitoring, Measurement, and Program Modifications
- j. SSMP Program Audits
- k. Communication Program
- 14. Both the SSMP and the City's program to implement the SSMP must be certified by the City to be in compliance with the requirements set forth above and must be presented to the City's Board of Directors for approval at a public meeting. The City shall certify that the SSMP, and subparts thereof, are in compliance with the general WDRs within the time frames identified in the time schedule provided in subsection D.15, below.





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In order to complete this certification, the City's authorized representative must complete the certification portion in the Online SSO Database Questionnaire by checking the appropriate milestone box, printing and signing the automated form, and sending the form to:

State Water Resources Control Board Division of Water Quality Attn: SSO Program Manager P.O. Box 100 Sacramento, CA 95812

The SSMP must be updated every five (5) years, and must include any significant program changes. Re-certification by the Board of Directors of the City is required in accordance with D.14 when significant updates to the SSMP are made. To complete the re-certification process, the City shall enter the data in the Online SSO Database and mail the form to the State Water Board, as described above.

15. The City shall comply with these requirements according to the legislated schedule. This time schedule does not supersede existing requirements or time schedules associated with other permits or regulatory requirements.





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CHAPTER 2. GOALS AND ORGANIZATIONAL STRUCTURE

The Goals portion of this chapter describes the long-term mission and short-term goals adopted by the City for the wastewater collection system. The long-term mission guides the overall operational goals of the City concerning the wastewater collection system. The City's goals are SMART (Specific, Measurable, Attainable, Relevant, and Trackable) goals whose progress can be monitored and audited as required by the WDR. As these goals are accomplished, they can be replaced by newer goals that support the long-term collection system mission of the City. The Organizational Structure portion of this chapter describes the personnel and chains of authority and communication that will implement the wastewater collection system goals of the City.

2.1 MISSION AND GOALS

The City of Glendale's wastewater collection system must provide reliable conveyance of wastewater from source to treatment, now and into the future. In support of this purpose, the City has adopted the following mission and goals for the wastewater system.

2.1.1 Mission

The City will provide the highest quality sanitary sewer collection system services to the citizens of Glendale in a safe, environmentally responsible and efficient manner. We will strive to balance the City's need for a highly capable and reliable collection system with the need to control the cost of doing so.

To measure performance of the above mission, the following goals have been established for the City of Glendale Wastewater Maintenance Section.

2.1.2 Goals

- Ensure those responsible for accomplishing this mission are available to achieve it by reducing the number of work hours lost to accidents and mishaps, through proper selection and training of personnel and safe execution of all maintenance activities.
- Eliminate preventable sanitary sewer overflows that close down beaches.
- 3. Minimize preventable sanitary sewer overflows.
- 4. Reduce gallons of sanitary sewage that contact water ways from preventable sanitary sewer overflows.
- 5. Increase ratio of Preventive maintenance expenditure to emergency maintenance expenditure.





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- 6. Optimize use of post-work inspection.
- 7. Protect the City's large investment in the sanitary sewer collection system. Extend the system's useful life by proactively correcting structural deficiencies identified during the course of all Preventive maintenance activities.
- 8. Reduce reporting compliance errors to zero.
 - 2.2 Organizational Structure (Appendix A)

The organization structure identifies the responsible or authorized representative of the City, as described in Section J of the WDR. It identifies the administrative and maintenance positions responsible for implementing specific measures in the SSMP with up-to-date descriptions, responsibilities of personnel, and authority for each position. The organization structure includes a chain of communication for reporting SSO's and lines of authority with contact information.

Compliance Summary

The organizational structure of the City is displayed in the <u>SSMP Organization Flow Chart</u>. The flow chart and the corresponding document, SSMP Development & Implementation Personnel, listing the detailed job description, name and phone number of the person currently filling each position on the Organization Flow Chart can be viewed in Appendix A. The current detailed Sewer Overflow Response Plan (SORP) can be found in Appendix B. This outlines details in executing the proper steps in dealing with an SSO. Also contained in Appendix B are the Overflow Emergency Response Flow Chart and the SSO Reporting Flow Chart. These flow charts contain an overview and specific order of tasks to be completed in dealing with an SSO and how to determine the proper reporting.





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CHAPTER 3. OVERFLOW EMERGENCY RESPONSE PLAN

The City's Overflow Emergency Response Plan addresses those mandatory SSMP provisions outlined in Section D, 13 (vi) Overflow Emergency Response Plan of SWRCB Order No. 2006-0003, as well as the Notification Requirements in SWRCB Order No. WQ 2008-0002-EXEC.

The City has developed and implemented an overflow emergency response plan that identifies measures to protect public health and the environment, thereby satisfying Section D, 13 (vi) Overflow Emergency Response Plan of SWRCB Order No. 2006-0003 by including:

- (1) Proper notification procedures so that primary responders and regulatory agencies are informed of all Sanitary Sewer Overflows (SSOs) in a timely manner;
- (2) A program to ensure an appropriate response to all overflows;
- (3) Procedures which 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 Monitoring and Reporting Program (MRP). All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable regional water boards Waste Discharge Requirements (WDR's) or National Pollution Discharge Elimination System (NPDES) permit requirements. The SSMP should identify the officials who will receive immediate notification:
- (4) Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;
- (5) Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and
- (6) A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters of the United States and to 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.





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The City's SORP also complies with the additional notification requirements outlined in SWRCB Order No. WQ 2008-0002-EXEC:

- (1) In the event of a sewage discharge that results in a discharge to a drainage channel or a surface water, the City shall, as soon as possible, but not later than two (2) hours after becoming aware of the discharge, notify the State Office of Emergency Services, the local health officer or directors of environmental health with jurisdiction over affected water bodies, and the Los Angeles Regional Water Quality Control Board.
- (2) As soon as possible, but no later than twenty-four (24) hours after becoming aware of a discharge to a drainage channel or a surface water, the City shall submit to the Los Angeles Regional Water Quality Control Board a certification that the State Office of Emergency Services and the local health officer or directors of environmental health with jurisdiction over the affected water bodies have been notified of the discharge.

3.1 COMPLIANCE SUMMARY

The City has outlined specific measures to protect public health and the environment in their SORP found in Appendix B. These procedures contain a plan for responding and reporting to SSOs which includes, but is not limited to, the following:

- Descriptions, responsibilities and authorities for each management, administrative and maintenance position responsible for responding to and reporting an SSO.
- Procedures for receiving SSO notification and immediately notifying first responders of the SSO.
- Procedures to rapidly mobilize; contain any SSO; and diagnose, report on, and relieve its cause.
- Procedures to provide emergency operations, such as traffic control, in the event of an SSO.
- Procedures for reporting all SSOs to the On-Line SSO Reporting System.
- Procedures to post the proper signs to warn the public of potential contamination hazards.
- Procedures to restore the environment to the condition that existed before the SSO occurred.





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The City conducts internal training sessions to ensure familiarity with these procedures and prepare staff for an SSO event, from initial notification to SSO report documentation, including any necessary emergency activities, such as traffic control or sign posting.

Through these documents and programs, the City has developed and implemented an overflow emergency response plan that identifies measures to protect public health and the environment, thereby satisfying Section D, 13 (vi) Overflow Emergency Response Plan of SWRCB Order No. 2006-0003:

- (1) Section III of the City's SORP outlines the proper SSO response and notification procedures so primary responders are informed of all SSOs in a timely manner. The City of Glendale Overflow Emergency Response Flowchart summarizes the decisions and procedures of the SORP;
- (2) Sections III, IV, V, VI, VII and VIII of the City's SORP contain procedures to ensure an appropriate response to all overflows;
- (3) In order to comply with the procedures which ensure prompt notification to appropriate regulatory agencies and other potentially affected entities of all SSOs that potentially affect public health or reach the waters of the State in accordance with the Monitoring and Reporting Program (MRP), the City maintains a SSO Reporting Flow Chart, that is referenced in Section IX of the SORP. The Senior Environmental Programs Specialist is the authorized representative for the City, as described in Section J of SWRCB Order No. 2006-2003. Accordingly, he will oversee the SWRCB On-Line Reporting and enter the SSO information into the online reporting system (CIWQS). The Wastewater Maintenance Superintendent will make all other regulatory agency notifications. This ensures that all regulatory agencies are informed of all SSOs in a timely manner;
- (4) In order to comply with the required formal documentation of a training program, such as internal training sessions conducted to ensure familiarity with these procedures and prepare staff and contractor personnel for an SSO event; IEC is suggesting that a section is added to the SORP with a regimented procedure to implement proper training on all SSO notification and documentation. This section will be addressed in the Chapter 6 dealing with Operation and Maintenance;
- (5) Procedures to address emergency operations, such as traffic control and other necessary response activities, are addressed in Sections III.C.3 and III.C.4 of the City's SORP; and





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(6) Sections III.C.5 through III.C.7 of the City's SORP ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters of the United States and to minimize or correct any adverse impact on the environment resulting from the SSOs.

Provisions of the City's SORP that comply with SWRCB Order No. WQ 2008-0002-EXEC, are contained in Section XI of the City's SORP:

- (1) In the event of a sewage discharge that results in a discharge to a drainage channel or a surface water, the Wastewater Maintenance Superintendent shall, as soon as possible, but no later than two (2) hours after becoming aware of the discharge, notify the State Office of Emergency Services, Los Angeles County Health Department (for discharges that enter L.A. River), Long Beach City Health Department (for significant spills into L.A. River that may affect City of Long Beach) and the Los Angeles Regional Water Quality Control Board.
- (2) Notification to the Los Angeles Regional Water Quality Control Board would be followed-up within 24 hours by phone, fax or email, and would also specify that the State Office of Emergency Services, Los Angeles County Health Department and Long Beach Health Department have already been notified.

3.2 COMPLIANCE DOCUMENTS

The following documents allow the City to comply with the overflow and emergency response plan requirements of the WDR, and are attached as appendices.

- Sewer Overflow Response Plan, City of Glendale, Last Updated: November 2008, Appendix B.
- SSO Field Worksheet, City of Glendale. Last Updated: June 2008.
 Appendix B.
- Overflow Emergency Response Flowchart, City of Glendale. Last Updated: November 2008. Appendix B.
- SSO Reporting Flowchart. City of Glendale. Last Updated: November 2008. Appendix B.

3.3 DOCUMENT DESCRIPTION

A description for each compliance document listed above is described below:

3.3.1 Sewer Overflow Response Plan (Appendix B)





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The City of Glendale maintains a plan for responding and reporting to SSOs in their SORP. The purpose of these procedures is to minimize the impact of SSO's to the public and the environment. This response plan is a guideline for the standard operating procedures in the event of a SSO, and is reviewed periodically to ensure that all corrective measures are being taken.

3.3.2 SSO Field Worksheet (Appendix B)

The SSO Field Worksheet ensures that the plan and procedures described in the Sewer Overflow Response Plan are implemented in the field. This worksheet also assists field personnel in gathering the data required for later documentation and reporting.

3.3.3 Overflow Emergency Response Flowchart (Appendix B)

The Overflow Emergency Response Flowchart summarizes the City's SORP. In addition, it serves as a guide to the decisions that must be made in the course of responding to an SSO within the City.

3.3.4 SSO Reporting Flowchart (Appendix B)

The SSO Reporting Flowchart serves as a summary guide for the data that must be gathered, the decisions that must be made, and the reporting that must be done in order to comply with relevant requirements.





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CHAPTER 4. LEGAL AUTHORITY

The City will demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that is possesses the necessary legal authority to:

- (1) Prevent illicit discharges into its sanitary sewer system (examples may include I/I, stormwater, chemical dumping, unauthorized debris and cut roots, etc.).
- (2) Require that sewers and connections be properly designed and constructed.
- (3) Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the City.
- (4) Limit the discharge of Fats, Oils, and Grease (FOG) and other debris that may cause blockages.
- (5) Enforce any violation of its sewer ordinances.

4.1 COMPLIANCE SUMMARY

The City is regulated by several agencies of the United States Government and the State of California, pursuant to the provisions of Federal and State Law. Federal and State Laws (including, but not limited to: 1) Federal Water Pollution Control Act, commonly known as the Clean Water Act (33 U.S.C. Section 1251 et seq); 2) California Porter Cologne Water Quality Act (California Water Code section 13000 et seq.); 3) California Health & Safety Code sections 25100 to 25250; 4) Resource Conservation and Recovery Act of 1976 (42 U.S.C. Section 6901 et seq.); and 5) California Government Code, Sections 54739-54740) grant to the City the authority to regulate and/or prohibit, by the adoption of an ordinance, and by issuance of control mechanisms, the discharge of any waste, directly or indirectly, to the City's sewerage facilities. Said authority includes the right to establish limits, conditions and prohibitions; to establish flow rates or prohibit flows discharged to the City's sewerage facilities; to require the development of compliance schedules for the installation of equipment systems and materials by all users; and to take all actions necessary to enforce its authority, whether within or outside the City's boundaries, including those users that are tributary to the City or within areas for which the City has contracted to provide sewerage services.

The City accepts an agreed upon flow amount from the City of Los Angeles and this flow is under the Municipal Code of the City of Los Angeles (CLA); which has strict legal requirements. Through a series of Ordinances and Resolutions adopted by the Board of Directors, internally developed Plans and Requirements, as well as legal





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authority of CLA; the City possesses the necessary legal authority required by Section D, 13 (iii) Legal Authority of SWRCB Order No. 2006-0003:

- (1) The City prevents illicit discharges into its sanitary sewer system (including, but not limited to, garbage, chemical dumping, greases and unauthorized debris) through Section 13.40.250 of the Glendale Municipal Code, 1995, and Section 64.30 of the Los Angeles Municipal Code.
- (2) The City requires that connections be properly designed and constructed in *Section 13.40.020* of the Glendale Municipal Code, 1995. The specific implementation documents for proper, design, construction, inspection, and maintenance will be addressed in subsequent sections of this SSMP.
- (3) The City ensures access for maintenance, inspection or repairs for portions of the lateral owned or maintained by the City through *Ordinance 5606* of the Glendale Municipal Code, 1995.
- (4) The City limits the discharge of Fats, Oils, and Grease (FOG) and other debris that may cause blockages through Section 13.40.250 of the Glendale Municipal Code, 1995, and Section 64.30 of the Los Angeles Municipal Code.
- (5) The City enforces any violation of its sewer ordinances in accordance with *Article III. Sec. 1* of *The Charter* in the Glendale Municipal Code, 1995, and *Section 11.00* of the Los Angeles Municipal Code.

4.2 Compliance Documents

The following documents allow the City to comply with the Legal Authority requirements of the WDR, and are attached as appendices:

- Excerpts of The Municipal Code of the City of Glendale, California, Adopted by the Council of the City of Glendale, 1995, Appendix C.
- Ordinance 5606 of the Municipal Code of the City of Glendale, California,
 Adopted by Council of the City of Glendale, April 29 2008, Appendix D.
- Excerpts of The City of Los Angeles Municipal Code, 6th Ed., Adopted by the City of Los Angeles, 2008, Appendix E.

4.3 DOCUMENT DESCRIPTIONS

Each of the following documents provides a portion of the City's Legal Authority, as required in Section D, 13 (iii) Legal Authority of SWRCB Order No. 2006-0003.





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4.3.1 Excerpts of The Municipal Code of the City of Glendale, CA (Appendix C)

These excerpts of the Glendale Municipal Code, adopted by the Council of the City of Glendale in 1995, include the *Article III* of *The Charter* and *Section 13.40*. *The Charter* provides the City the right and power to make and enforce all laws and regulations in respect to municipal affairs. *Section 13.40* of the Glendale Municipal Code includes all provisions involving the sewer system, such as, compliance, connection maintenance, use of sewers and industrial waste disposal.

Section 13.40.250 of the Glendale Municipal Code, 1995, prohibits the dumping of any liquid waste containing chemicals, greases, oil, tar or other matter or material which would by reason of precipitation or settlement clog or obstruct any sewer, drain or catch basin.

Section 13.40.020 of the Glendale Municipal Code, 1995, states that every connection to the City's Sanitary Sewer System must be made in the manner and with such materials as are required by the specifications of the City for public sewers. Specific City specification will be discussed in Chapter 7 regarding Design and Performance Provisions.

4.3.2 Ordinance 5606 of the Municipal Code of the City of Glendale, CA (Appendix D)

Adopted by the Council of the City of Glendale on April 29, 2008, this ordinance amends and adds certain provisions to the Glendale Municipal Code, 1995, relating to trespass and relating to obstructing, impeding or interfering with city business. The sections of the code that were amended or added to, are *Section 9.20.700* and *Section 9.20.100*.

4.3.3 Excerpts of The City of Los Angeles Municipal Code, 6th Ed., (Appendix E)

These excerpts of the City of Los Angeles Municipal Code, adopted by the City of Los Angeles in 2008, include the *Section 11.00* and *Section 64.30*. *Section 11.00* provides the City of Los Angeles the right and power to make and enforce all laws and regulations in respect to municipal affairs; while *Section 64.30* prohibits the dumping of any liquid or solid waste which would by reason of precipitation or settlement clog or obstruct any sewer, drain or catch basin. With these sections, the City of Los Angeles will ensure that the waste water entering from their city into Glendale, meets the proper restrictions for content.





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Chapter 5. Fats, Oils and Grease (FOG) Control Program

The City's Fats, Oils and Grease Control Program addresses those mandatory SSMP provisions outlined in Section D, 13 (vii) FOG Control Program of SWRCB Order No. 2006-0003.

The FOG Control Program described herein includes elements that have been in place in the City of Glendale for many years. These longstanding elements are a testament to the pro-active management provided by the City of Glendale for the sanitary sewer system. As part of this SSMP effort, the City looked for ways to streamline and improve these FOG control elements. The results of this analysis are goals to

- 1. Implement, using cooperation between the City of Glendale Fire Department personnel and City sanitary sewer Operations and Maintenance personnel, a stronger grease interceptor program. The City's Industrial Waste Pretreatment Program provides strong legal authority for requiring the installation, maintenance, and documentation of grease interceptors for non-residential waste producers. More consistency in enforcing and systematically documenting this process will keep FOG out of the sanitary sewer system.
- 2. Increase the amount of educational information provided to sanitary sewer customers, especially those with Industrial Waste Discharge Permits.

Both of these goals serve to control FOG before it reaches the sanitary sewer system. The FOG Control Program demonstrates the City's pro-active approach to management of the sanitary sewer system, as well as the City's desire to innovate and grow.

The City's FOG Control Program helps reduce the amount of Fats, Oils and Grease discharged to the sanitary sewer system, by including:

- (1) A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area and a list of acceptable disposal facilities.
- (2) Legal authority to prohibit discharges to the system and identify measures to prevent SSO's and blockages caused by FOG.
- (3) Requirements to install grease removal devices, design standards for the removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements.





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- (4) Authority to inspect grease producing facilities, enforcement authorities, and sufficient staff to inspect and enforce the FOG ordinance.
- (5) Identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section.
- (6) Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified.
- (7) Implementation of a plan and schedule for a public education outreach program that promotes proper disposal of FOG.

5.1 COMPLIANCE SUMMARY

To reduce the amount of Fats, Oils and Grease discharged to the City's sanitary sewer system, the City of Glendale has developed a FOG control program. The City is currently in the process of updating aspects of that program. The City identifies non-residential sewer customers through its Industrial Waste Pretreatment Program. This program includes Food Service Establishments (FSEs) and industrial customers that might contribute FOG to the sanitary sewer system. Non-residential customers must complete an Industrial Waste Discharge Permit application in order to receive sewer service. This application includes a wastewater sewerage plan showing sewers and associated facilities for the handling of industrial wastewater from the point of origin to the public sewer connection, and identification of all wastewater generation processes. When applicable, additional plans containing spill containment systems and/or flow measurement systems (including grease interceptors) are required and included in the plans.

The City of Glendale Fire Department administers this Industrial Waste Pretreatment Program. Inspectors for the City of Glendale Fire Department have the authority to enter facilities with Industrial Waste Discharge Permits, inspect flow and constituent control devices (including grease interceptors), and inspect maintenance records. Once per year, the fire department provides City Operation and Maintenance (O&M) staff an updated list of customers with Industrial Waste Pretreatment Permits for grease interceptors.

In an effort to limit the impact of Fats, Oils, and Grease that do reach the sanitary sewer system, the City identifies problem areas within the system that require more frequent cleaning. These lines are cleaned as part of the "Trouble Spot" list that the City maintains, or as part of the yearly "Restaurant Run" that is completed by City O&M staff each December. Lines on the "Trouble Spot" list are cleaned with frequencies of up to once per month depending on the determination of City staff.





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Because the City of Glendale recognizes that partnership with its sanitary sewer customers is the best way to limit the FOG that enters the sanitary sewer system, the City has developed letters that it sends to customers and to plumbing professionals with the intent of educating them on FOG control during waste discharge and maintenance. These letters can be seen in Appendix I. During the development of this SSMP, the City developed an educational mailer to increase the public education outreach program. This mailer is intended to be sent to customers during the billing process.

In summary, the City maintains a FOG Control Program which meets the requirements of Section D, 13 (vii) FOG Control Program of SWRCB Order No. 2006-0003:

- (1) Disposal information is provided to contractors upon request.
- (2) The City possesses the legal authority to prohibit discharges to the system to prevent SSO's and blockages caused by FOG through the *Glendale Municipal Code*, 1995, specifically Section 13.40.250. Moreover, the *Glendale Municipal Code Sections* 13.40.300 13.40.410 identifies all non-residential flow, including flow from FSEs and industries likely to produce grease, as industrial wastes. Under the Industrial Waste Pretreatment Program established in these sections, the City is granted the right to impose control and inspection on such industrial waste flow.
- (3) As part of the permit process required for industrial waste customers under the Industrial Waste Pretreatment Program, the City may require grease removal devices such as clarifiers and grease interceptors, may require maintenance and management of such devices, and may specify the recordkeeping required for this maintenance and management. The design standards for such devices are contained in the City's Design and Performance Provisions.
- (4) Under the Glendale Municipal Code Section 13.40.410, the City has the right to inspect the grease removal devices and maintenance records as described above. City of Glendale Fire Department personnel are assigned to these inspections as part of their health and safety inspections. The fire department maintains a list of facilities with grease interceptors in the City of Glendale for such inspections. Once per year, the fire department provides an updated list to City O&M staff.

In keeping with the City's commitment to constantly update policies and procedures to provide the best service possible to its sanitary sewer





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customers, the City has set a goal as part of this SSMP to increase the strength of requirements for grease interceptors and for maintenance and documentation standards for grease interceptors. The purpose of this goal is to shift some emphasis from dealing with FOG after it has entered the sanitary sewer system to more stringent prevention of FOG in the sanitary sewer system.

- (5) The City identifies and maintains sections of the sanitary sewer system that are particularly subject to FOG accumulation and blockages. These sections are placed on the "Trouble Spots" list if necessary. These sections are cleaned at frequencies ranging from twice per year to 12 times per year, depending upon the assessment of City O&M staff. Sections subject to FOG that are not placed on the "Trouble Spots" list are cleaned once per year during the month of December during the "Restaurant Runs."
- (6) The City identifies industrial waste dischargers who are contributing to FOG-susceptible areas of the sanitary sewer system and sends them a letter reminding them of the requirements of their Industrial Waste Discharge Permit. This correspondence encourages them to work with City staff to control FOG discharges or be subject to fines or billing for maintenance.
- (7) The City has already developed a public education program that promotes proper disposal of FOG. This program consists of letters sent to customers and plumbing professionals that describe proper FOG disposal and that educates plumbing professionals on proper maintenance techniques to prevent FOG and other blockages from being swept into City sanitary sewer lines. In order to increase the amount of information available to customers, the City has developed an instructional mailer to be included in billing correspondence once per year. In addition, all of the information in the education program can be found at http://www.ci.glendale.ca.us.

5.2 Compliance Documents

The following documents are attached as appendices in order support the City's Fats, Oils and Grease (FOG) Control Program, thereby allowing the City to comply with the FOG Control Program requirements of the WDR:

- Excerpts of The Municipal Code of the City of Glendale, California related to FOG, Adopted by the Council of the City of Glendale, 1995, Appendix F.
- o Restaurant List, City of Glendale, Appendix G.
- o "Sewer Trouble Spot Work List" Sample, City of Glendale, August 2008,





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Appendix H.

- Letter to Grease Discharger and Grease Control Handout, City of Glendale, Appendix I.
- Letter to Plumbers, City of Glendale, Appendix I.
- Public Outreach Program for FOG Control, Infrastructure Engineering Corporation, March 20, 2009, Appendix I.

5.3 DOCUMENT DESCRIPTION

A description for each compliance document listed above is described below:

5.3.1 Excerpts of The Municipal Code of the City of Glendale, CA related to FOG (Appendix F)

These excerpts of the Glendale Municipal Code, adopted by the Council of the City of Glendale in 1995, include *Section 13.40.250*, which prohibits the dumping of any liquid waste containing chemicals, greases, oil, tar or other matter or material which would by reason of precipitation or settlement clog or obstruct any sewer, drain or catch basin. Further, *Sections 13.40.300 – 13.40.410* identify all non-residential flow, including flow from FSEs and industries likely to produce grease, as industrial wastes. Under the Industrial Waste Pretreatment Program established in these sections, the City is granted the right to impose control and inspection on such industrial waste flow.

5.3.2 Restaurant List (Appendix G)

City of Glendale Fire Department personnel are assigned to inspection grease producing facilities as part of their health and safety inspections. The fire department maintains a list of facilities with grease interceptors in the City of Glendale for such inspections. Once per year, the fire department provides an updated list to City O&M staff.

5.3.3 Sewer Trouble Spot Work Lists (Appendix H)

The City maintains excel spreadsheets for each month containing information on "Sewer Trouble Spots" and the cleaning and inspection activities performed to maintain these areas.

5.3.4 Letter to Grease Discharger and Grease Control Handout (Appendix I)

The City distributes letters to grease producing facilities along with a list of grease control suggestions to remind them of the requirements of their Industrial Waste





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Discharge Permit. This correspondence encourages them to work with City staff to control FOG discharges or be subject to fines or billing for maintenance.

5.3.5 Letter to Plumber (Appendix I)

The City distributes letters to customers and plumbing professionals describing proper FOG disposal and maintenance to prevent FOG and other blockages from being swept into City sanitary sewer lines.

5.3.6 Public Outreach Program for FOG Control (Appendix I)

IEC has developed this technical memorandum with suggestions for proper FOG management. This information is intended for use in an instructional mailer that the City will include in billing correspondence once a year. In addition, information on the FOG education program can be found at http://www.ci.glendale.ca.us.





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CHAPTER 6. OPERATION AND MAINTENANCE PROGRAM

The City's Operating and Maintenance Program addresses those mandatory SSMP provisions outlined in Section D, 13 (iv) Operation and Maintenance Program of SWRCB Order No. 2006-0003.

The City's Operation and Maintenance Program encompasses the following components:

- (1) An up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves.
- (2) Routine Preventive operation and maintenance activities by staff, 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 Preventive Maintenance (PM) program includes a system to document scheduled and conducted activities, such as work orders.
- (3) 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 includes 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 focuses 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 includes a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan includes a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan.
- (4) Training on a regular basis for staff in sanitary sewer system operations and maintenance.
- (5) Equipment and replacement part inventories, including identification of critical replacement parts.

6.1 COMPLIANCE SUMMARY

The City's Operation and Maintenance (O&M) Program includes an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves. These maps are based upon the City of Glendale's Sanitary Sewer Geographical Information System (GIS). The data within the GIS is updated regularly by GIS department staff.





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Routine preventive maintenance (PM) of the City's gravity mains is continual, with specific O&M crews responsible for specific Maintenance Districts within the City. The PM program aims for routine maintenance of each main in the City at least once every 30 months. The City maintains a log of all maintenance activity using Daily Schedule Templates, which include the location of pipes cleaned and inspected and any relevant remarks observed during the cleaning, as well as required follow-up activities. Cleaning in each Maintenance District is reviewed on a daily basis to ensure that the 30-month pace is maintained, and adjustments are made where necessary. Overall progress is tracked visually on a large map in the Maintenance Shop.

Problem area gravity mains, listed in the Sewer Trouble Spot Work Lists, are cleaned as frequently as the maintenance staff determine necessary in order to maintain full working order of the main. The City also cleans gravity mains subject to Fats, Oils and Grease (FOG) accumulation at a minimum of once per year during the December "Restaurant Runs." The City has identified areas that are highly susceptible to root blockage and uses chemical treatment to maintain these areas.

City O&M staff observe gravity mains and manholes during routine cleaning, and conduct localized video inspections on 20% of the lines cleaned as part of the PM QA/QC process. During localized video inspections, pipes and manholes are reviewed for structural damage. When such damage is found, the pipe or manhole is placed on the City's Infrastructure Repair List and given a City-specific ranking (A/B/C) based on the observed overall condition. The Infrastructure Repair List is evaluated by the City's Engineering Department, and Capital Replacement Projects are developed to replace damaged infrastructure. These projects are funded annually through the Engineering Department's budget.

The City provides on-going, in-house technical, job skills and safety training for its Staff using California Water Environment Association (CWEA) guidelines. The City also performs additional in-house training including confined space entry and rescue drills and is planning on compiling these training programs a supplemental training manual. Additionally, the City conducts internal training sessions to ensure familiarity with emergency overflow procedures for responding and prepare staff for an SSO event, from initial notification to SSO report documentation, including any necessary emergency activities, such as traffic control or sign posting. A list of Crew Training and Certification Paths is maintained by the City.

The City has identified critical sanitary sewer replacement parts for its sanitary sewer system and maintains an inventory of such parts.





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In summary, the City maintains a Operation and Maintenance Program which meets the requirements of Section D, 13 (iv) Operation and Maintenance Program of SWRCB Order No. 2006-0003:

- (1) The City maintains an up-to-date GIS map of their sanitary sewer system, including all gravity line segments and manholes, pumping facilities, pressure pipes and valves; a sample of the maps is shown in Appendix J.
- (2) Routine preventive maintenance (PM) of the City's gravity mains is continual, with specific O&M crews responsible for specific Maintenance Districts within the City. The PM program aims for routine maintenance of each main the City once every 30 months. The City maintains a log of all maintenance activity using Daily Schedule Templates and reviews cleaning progress on a daily basis to ensure that the required pace is maintained, and make adjustments where necessary. Daily activity is documented in Sewer Line Maintenance and Inspection Forms. Samples of the Sewer Line Maintenance and Inspection forms, one blank and one showing proper documentation, can be seen in Appendix K. Overall progress is tracked visually on a large map in the Maintenance Shop.

Problem area gravity mains, listed in the Sewer Trouble Spot Work Lists, are cleaned as frequently as the maintenance staff determine necessary in order to maintain full working order of the main. City O&M staff add trouble spots to the list as problem areas are identified in the field. A sample of the Sewer Trouble Spot Work Lists can be seen in Appendix H. The City also cleans gravity mains subject to Fats, Oils and Grease (FOG) accumulation at a minimum of once per year during the December "Restaurant Runs." The "Restaurant Run" work is documented in worksheets shown in Appendix L.

The City has identified tree root blockages as a high priority concern with respect to SSOs in the City of Glendale. The City has identified areas that are highly susceptible to root blockage and prioritized these areas by risk. A yearly budget is established for Chemical Root Treatment, and root-prone areas are dosed with chemical treatment in order of priority until the budget is exhausted. The Fiscal Year 2007-2008 root control program can be seen in Appendix M.

(3) City O&M staff observe gravity mains and manholes during routine cleaning, and conduct localized video inspections on 20% of the lines cleaned as part of the PM QA/QC process. The lines selected for video inspection are selected by field crews at the end of each day, or are selected randomly by





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supervisors. During localized video inspections, pipes and manholes are reviewed for structural damage. When such damage is found, the pipe or manhole is placed on the City's Infrastructure Repair List and given a City-specific ranking:

- o A Repair ASAP: Collection System Failure Imminent
- B Repair within next 12 months at next budgeted contractual pipe repair.
- C Repair at the discretion of the Engineering Department.

The Infrastructure Repair List is evaluated by the City's Engineering Department, and Capital Replacement Projects are developed to replace damaged infrastructure. These projects are funded annually through the Engineering Department's budget. An example of the Infrastructure Repair List can be seen in Appendix N. A goal of this SSMP is to increase the communication between the Engineering Department and Operations and Maintenance Staff after repair projects have been completed.

(4) The City provides on-going in house technical, job skills and safety training for its Staff using California Water Environment Association (CWEA) guidelines. These guidelines can be seen in Appendix O. The City also performs additional in-house training including confined space entry and rescue drills and is planning on compiling these training programs into a supplemental training manual. The notes from these training sessions can be seen in Appendix P.

Additionally, the City conducts internal training sessions to ensure familiarity with emergency overflow procedures for responding and prepare staff for an SSO event, from initial notification to SSO report documentation, including any necessary emergency activities, such as traffic control or sign posting. A list of Crew Training and Certification Paths is maintained by the City. This record can be seen in Appendix P.

In order to consistently educate maintenance staff with the fundamentals skills required to maintain and operate the wastewater system, all staff are required to complete a two-volume self-study course. The course, which is produced by the Office of Water Programs at California State University, Sacramento, uses *Operations and Maintenance of Wastewater Collection Systems, Volumes I and II* as a text. The introduction to Volume I can be seen in Appendix Q.





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(5) The City has identified critical sanitary sewer replacement parts for its sanitary sewer system and maintains an inventory of such parts. The list of this critical inventory can be seen in Appendix R.

6.2 COMPLIANCE DOCUMENTS

The following documents, attached as appendices, support the City's Operation and Maintenance Program, thereby allowing the City to comply with the Operation and Maintenance Program requirements of the WDR:

- Sample Maps of the City's Sanitary Sewer System, including all gravity line segments and manholes, pumping facilities, pressure pipes and valves, City of Glendale, Appendix J.
- Sewer Line Maintenance and Inspection Forms, City of Glendale, March 2009, Appendix K.
- "Sewer Trouble Spot Work Lists" Sample, City of Glendale, August 2008, Appendix H.
- "Restaurant Run" Documentation, City of Glendale, Appendix L.
- "Chemical Root Control" Spreadsheet, City of Glendale, September 16, 2008, Appendix M.
- o Infrastructure Repair Lists, City of Glendale, Appendix N.
- CWEA Collection System Maintenance Certification Handbook, California Water Environment Association, 2007-2008, Appendix O.
- Confined Space Entry and Rescue Drill Program and Notes, City of Glendale, Appendix P.
- Crew Training and Certification Paths, City of Glendale, September 8, 2008,
 Appendix P.
- Operations and Maintenance of Wastewater Collection Systems, Volume I Introduction, Office of Water Programs, California State University, Sacramento, Appendix Q.
- Sewer Pipe Inventory, City of Glendale, September 2008, Appendix R.

6.3 DOCUMENT DESCRIPTIONS

A description for each compliance document listed above is described below:

6.3.1 Sample Map of the City's Sanitary Sewer System (Appendix J)





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The City maintains an up-to-date Geographic Information System (GIS) database of their sanitary sewer system, including all gravity line segments and manholes, pumping facilities, pressure pipes and valves. This database was utilized to create this map of the City's wastewater facilities.

6.3.2 Sewer Line Maintenance and Inspection Forms (Appendix K)

The City maintains a log of all maintenance activity using Sewer Line Maintenance and Inspection Forms and reviews cleaning progress on a daily basis to ensure that the required pace is maintained, and make adjustments where necessary. Included in these records is the location of pipes cleaned and inspected and any relevant remarks observed during the cleaning, as well as required follow up activities.

6.3.3 "Restaurant Run" Documentation (Appendix L)

The City documents the yearly Restaurant Runs, which are maintenance and cleaning runs performed once per year in order to prevent FOG build-up in the collection system.

6.3.4 "Sewer Trouble Spot Work Lists" Spreadsheet Sample (Appendix H)

The City maintains excel spreadsheets for each month containing information on "Sewer Trouble Spots" and the cleaning and inspection activities performed to maintain these areas.

6.3.5 "Chemical Root Control" Spreadsheet (Appendix M)

The City has identified areas that are highly susceptible to root blockage and uses chemical treatment to maintain these areas. These cleaning activities are logged into this excel spreadsheet

6.3.6 Infrastructure Repair Lists (Appendix N)

During localized video inspections, pipes and manholes are reviewed for structural damage. When such damage is found, the pipe or manhole is placed on the City's Infrastructure Repair List and given a City-specific ranking (A/B/C) based on the observed overall condition. The Infrastructure Repair List is evaluated by the City's Engineering Department, and Capital Replacement Projects are developed to replace damaged infrastructure. These projects are funded annually through the Engineering Department's budget.





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6.3.7 CWEA Collection System Maintenance Certification Handbook (Appendix O)

The City provides on-going, in-house technical, job skills and safety training for its Staff using California Water Environment Association (CWEA) guidelines. This booklet contains subject matter for the collection system maintenance tests, education and experience requirements, selected study references, and certification policies.

6.3.8 Confined Space Entry and Rescue Drill Program and Notes (Appendix P)

The City provides training on confined space entry and rescue drills according to this program and maintains a list of comments and follow-up items.

6.3.9 Crew Training and Certification Paths (Appendix P)

The City maintains a list of the training completed by staff. Included is the length of service, volume of CWEA training completed, date of completion, and CWEA grade of each staff member.

6.3.10 Operations and Maintenance of Wastewater Collection Systems, Volume I Introduction (Appendix Q)

The introduction to the two-volume text used as the basis for a self-study course explains the material introduced and covered. The self-study course is required of all operations and maintenance staff.

6.3.11 Sewer Pipe Inventory (Appendix R)

The City has identified critical sanitary sewer replacement parts for its sanitary sewer system and maintains an inventory of such parts.



CHAPTER 7. DESIGN AND PERFORMANCE PROVISIONS

The City's Design and Performance Provisions addresses those mandatory SSMP provisions outlined in Section D, 13 (v) Design and Performance Provisions of SWRCB Order No. 2006-0003. The City's Design and Performance Provisions encompass the following components:

- (1) 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.
- (2) Procedures and standards for inspecting and testing the installation of new sewers, pumps and other appurtenances and for rehabilitation and repair projects.

7.1 COMPLIANCE SUMMARY

The City requires that all new sanitary sewer systems, pump stations and other appurtenances as well as the rehabilitation and repair of existing sewer facilities, be designed and constructed in accordance with the City of Glendale Sanitary Sewer Manual and Standards, which references the Standard Specifications for Public Works Construction (Greenbook), published by Public Works Standards, Inc.

Procedures and standards used for inspecting and testing the installation of new sewers and other appurtenances, and for rehabilitation and repair projects, are in Section 307-5 of the *Greenbook*. Specifically, all City-owned sewer facilities are left uncovered until the City Engineer has completed inspection and testing in accordance with the *Greenbook*.

The City maintains Design and Performance Provisions which meet the requirements of Section D, 13 (v) Design and Performance Provisions of SWRCB Order No. 2006-0003:

- (1) The City utilizes the City of Glendale Sanitary Sewer Manual and Standards, which references the Standard Specifications for Public Works Construction (Greenbook) for design and construction standards and specifications for the installation of new sanitary sewer systems, pumps and other appurtenances, and for the rehabilitation and repair of existing sanitary sewer infrastructure.
- (2) The City utilizes procedures and standards for inspecting and testing the installation of new sewers, pumps and other appurtenances and for rehabilitation and repair projects, that are in accordance with the *Standard Specifications for Public Works Construction (Greenbook)*, specifically Section 307-5. All City-owned sewer facilities are left uncovered until the City Engineer completes the inspection.

7.2 COMPLIANCE DOCUMENTS

The following documents are attached as appendices in order support the City's Design and Performance Provisions, thereby allowing the City to comply with the Design and Performance Provisions requirements of the WDR:

 Sanitary Sewer Manual and Standards, Department of Public Works, City of Glendale, Appendix S.

The following documents are readily available to the general public, and have therefore not been attached as appendices:

 Standard Specifications for Public Works Construction (Greenbook), Public Works Standards, Inc., 2006.

7.3 DOCUMENT DESCRIPTIONS

A description for each compliance document listed above is described below:

7.3.1 Sanitary Sewer Manual and Standards (Appendix S)

The Sanitary Sewer Manual and Standards summarizes and outlines policy, practices and procedures that have been developed to increase the efficiency and uniformity of sewer design. Its purpose is to inform and instruct employees about the current standards of practice.

7.3.2 Standard Specifications for Public Works Construction, (Greenbook)

The *Greenbook*, formally known as the *Standard Specifications for Public Works Construction*, is widely used by cities and counties from Santa Barbara County to San Diego County. Publication of the *Greenbook* is under the oversight of Public Works Standards, Inc, a nonprofit mutual benefit corporation. It contains all the latest standards and recommendations that have been researched and approved by a 25-member committee, with representatives from the American Public Works Association, the Associated General Contractors of California, the Engineering Contractors Association, and the Southern California Contractors Association.

CHAPTER 8. SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

The City's System Evaluation and Capacity Assurance Plan addresses those mandatory SSMP provisions outlined in Section D, 13 (viii) System Evaluation and Capacity Assurance Plan of SWRCB Order No. 2006-0003.

The City has prepared and implemented a Capital Improvement Program (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. The City's System Evaluation and Capacity Assurance Plan encompasses the following components:

- (1) 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 provides 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.
- (2) Design Criteria Where design criteria do not exist or are deficient, undertake the evaluation identified in (1) above to establish appropriate design criteria.
- (3) 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 programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.
- (4) Schedule the City has developed a schedule of completion dates for all portions of the CIP developed in (1)-(3) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D. 14.

8.1 COMPLIANCE SUMMARY

The City maintains a System Evaluation and Capacity Assurance Plan which meets the requirements of Section D, 13 (viii) System Evaluation and Capacity Assurance Plan of SWRCB Order No. 2006-0003:

- (1) The City's *Final Wastewater Master Plan Update*, attached as Appendix T, includes wastewater flow projections and a hydraulic analysis of all City-owned gravity mains. The analysis, performed with an H₂0Map Sewer hydraulic model, includes estimates of peak dry and wet weather flows, and outlines a Capital Improvement Program to mitigate projected deficiencies in the Existing, Future (2030) time increment. Sanitary Sewer Overflows were not allowed to exit the system during the hydraulic analysis.
- (2) The City's *Final Wastewater Master Plan Update (Section 3.4)* summarizes the appropriate design criteria necessary to ensure sufficient capacity, as well as preserve the estimated lifecycle of wastewater infrastructure.

- (3) The City has established a short- and long-term Capital Improvement Program (CIP) to address projected hydraulic deficiencies. Section 5.2 of the July 2007 Final Wastewater Master Plan Update discusses the City's CIP. Additionally, the City maintains a 10-year Sewer CIP as shown in Appendix U. The CIP is included includes projected cost estimates, alternatives analysis and project prioritization, with funding anticipated through the City's General Fund.
- (4) The City has developed their CIP, as presented above, and plans to review and update it every five years.

8.2 Compliance Documents

The following documents support the City's System Evaluation and Capacity Assurance Plan, thereby allowing the City to comply with the System Evaluation and Capacity Assurance Plan requirements of the WDR:

- Final Wastewater Master Plan Update, Kennedy/Jenks Consultants, July 2007, Appendix T.
- o 10-Year Capital Improvement Program, City of Glendale, 2009, Appendix U.
 - 8.3 DOCUMENT DESCRIPTIONS

A description for each compliance document listed above is described below:

8.3.1 Final Wastewater Master Plan Update (Appendix R)

Kennedy/Jenks Consultants completed this July 2007 update of the Wastewater Master Plan. The focus of this Wastewater Master Plan Update is to perform a hydraulic evaluation of Glendale's wastewater facilities to establish a prioritized capital improvement program. The hydraulic evaluation is conducted through the development and calibration of a computerized hydraulic model. The model is used to evaluate the capacity of the existing and future system so that a comprehensive capital improvement program can be prepared. This activity has been necessitated by recent downtown development and the associated Downtown Specific Plan developed by the City. The objectives of this Master Plan are to:

- Develop a calibrated hydraulic model of the wastewater system.
- Input the anticipated future land use conditions on the wastewater system, and evaluate the existing system's capability to convey existing and ultimate flows.
- o In concert with City staff, develop appropriate design criteria for the evaluation of the system.
- o Prepare cost estimates of the necessary improvements.
- Document this information in a letter report of findings in the form of a 2007 Wastewater Master Plan Update.

Through the conduct of these objectives, the general purpose for this planning effort is to asses those areas within the City that may be capacity limited facilities and provide a methodical plan for the improvement of these identified areas.

The analysis, performed with an H₂0Map Sewer hydraulic model, includes estimates of peak dry and wet weather flows, and outlines a Capital Improvement Program to mitigate projected deficiencies in

the Existing, Future (2030) time increment. Specific sections in the *Final Wastewater Master Plan Update* include:

- Introduction
- o Existing Wastewater System
- o Wastewater Flows and Design Criteria
- Wastewater System Evaluation
- Wastewater System Improvement Costs
 - 8.3.2 10-Year Capital Improvement Program (Appendix S)

The City's Capital Improvement Program provides cost estimates of the proposed projects through the 10-Year time increment.

CHAPTER 9. MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS

The City's Monitoring, Measurement, and Program Modifications addresses those mandatory SSMP provisions outlined in Section D, 13 (ix) Monitoring, Measurement, and Program Modifications of SWRCB Order No. 2006-0003.

The City's Monitoring, Measurement, and Program Modifications encompass the following components:

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

9.1 COMPLIANCE SUMMARY

The City tracks the location and cause of all SSOs, blockages, and gravity main hot-spots. The City maintains a log of all maintenance activity using Daily Schedule Templates, which includes the location of pipes cleaned and inspected and any relevant remarks observed during the cleaning, as well as required follow up activities.

In order to monitor the implementation and measure the effectiveness of the SSMP, the City tracks several performance indicators, including:

- Location of all SSOs over the past 12 months;
- Number of SSOs over the past 12 months, distinguishing between dry weather overflows and wet weather overflows:
- Volume distribution of SSOs (e.g. number of SSOs < 100 gallons, 100 to 999 gallons, 1,000 to 9,999 gallons, > 10,000 gallons);
- Volume of SSOs that was contained in relation to total volume of SSOs;
- SSOs by cause (e.g. roots, grease, debris, pipe failure, pump station failure, capacity, other);
- Number of stoppages over the past 12 months;
- Stoppages by cause;
- Number of Interceptors inspected over the past 12 months;
- Percentage of Interceptors inspected over the past 12 months;
- Miles of gravity mains cleaned over the past 12 months;
- Percentage of total gravity mains cleaned over the past 12 months;

- Number of lost work hours in sanitary sewer operations and maintenance crews.
- Number of SSOs leading to beach closures.
- o Planned and unplanned maintenance expenditures.
- Post-work inspection percentages.
- Reporting compliance errors.

In order to keep the SSMP up to date, the City has assigned a staff member to review the SSMP annually. The Wastewater Maintenance Superintendent is the staff person tasked with this job. In addition to tracking the above performance indicators, the Wastewater Maintenance Superintendent will review all sections of the SSMP for effectiveness and timeliness. Collection system personnel will also be consulted annually to review the effectiveness of the SSMP, and help identify potential areas for improvement.

In summary, the City maintains a Monitoring, Measurement, and Program Modifications which meets the requirements of Section D, 13 (ix) Monitoring, Measurement, and Program Modifications of SWRCB Order No. 2006-0003:

- (1) The City monitors the implementation of the SSMP, and measures the effectiveness of each element by SSMP by developing and tracking performance indicators on an annual basis;
- (2) By tracking performance indicators, the City is able to assess the success of their preventive maintenance program;
- (3) The City has assigned the Wastewater Maintenance Superintendent as the staff person responsible for reviewing the SSMP annually, in order to update all program elements as appropriate. In addition to tracking the above performance indicators, the Wastewater Maintenance Superintendent will review all sections of the SSMP for effectiveness and timeliness. Collection system personnel will also be consulted annually to review the effectiveness of the SSMP, and help identify potential areas for improvement;
- (4) The City tracks the frequency, location and volume of all SSOs.

CHAPTER 10. SSMP PROGRAM AUDITS

The City's SSMP Program Audits addresses those mandatory SSMP provisions outlined in Section D, 13 (x) SSMP Program Audits of SWRCB Order No. 2006-0003.

The City is required to 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 City's compliance with the SSMP requirements identified in Section D, 13 of SWRCB Order No. 2006-0003, including the identification of any deficiencies in the SSMP and steps to correct them.

10.1 COMPLIANCE SUMMARY

The City will conduct an internal audit of their SSMP every two years, and focus on the effectiveness of the SSMP and the City's compliance with the SSMP requirements of Order No. 2006-0003. The audit will include, but may not be limited to, the following:

- Any significant changes to components of the SSMP, including but not limited to, Legal Authority, FOG Control Program or Overflow Emergency Response Plan.
- Any significant changes to the referenced compliance documents, presented as Volume II
 of the Sewer System Management Plan.
- SSMP implementation efforts over the past two years;
- A description of additions and improvements made the sanitary sewer collections system during the past two years;
- A description of the additions and improvements planned for the upcoming two years, with an estimated schedule for implementation.
- Strategies to correct deficiencies, if identified, will be developed by the responsible City division.

10.2 COMPLIANCE DOCUMENTS

There are no compliance documents for this section.

10.3 DOCUMENT DESCRIPTIONS

There are no document descriptions for this section.

CHAPTER 11. COMMUNICATION PROGRAM

The City's Communication Program addresses those mandatory SSMP provisions outlined in Section D, 13 (xi) Communication Program of SWRCB Order No. 2006-0003.

The City should 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 City as the program is developed and implemented. The City shall also create a plan of communication with systems that are tributary and/or satellite sanitary sewer system.

10.4 COMPLIANCE SUMMARY

The City will communicate on a regular basis with interested parties on the implementation and performance of this SSMP. The communication program allows interested parties to provide input as the program is developed and implemented.

The City made a Draft version of the SSMP available to the public, allowed time for review, and invited public comments at a City Council meeting on April 28, 2009, thereby allowing for public input. Additionally, the City's website (www.ci.glendale.ca.us) presents information about on-going efforts, as well as meeting agendas and minutes.

10.5 COMPLIANCE DOCUMENTS

There are no compliance documents for this section.

10.6 DOCUMENT DESCRIPTIONS

There are no compliance documents for this section.