

**City of San Clemente**

**SANITARY SEWER  
MANAGEMENT PLAN**




**Updated June 2014**

**SANITARY SEWER MANAGEMENT PLAN  
(SSMP)**

**2014 Update**

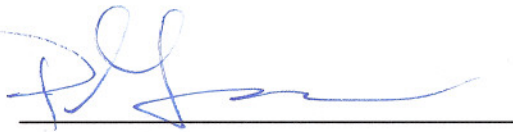
**City of San Clemente  
Utilities Division**

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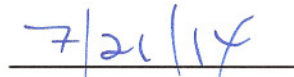
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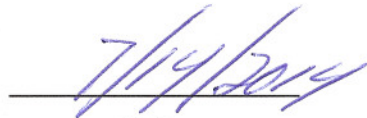


**Date**

**Approved:**



**James Kaylor  
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**Date**

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**July 8, 2014**

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## Abbreviations

BMP	best management practice
CIP	Capital Improvements Plan
CIU	categorical industrial user
CIWQS	California Integrated Water Quality System (SSO reporting)
FOG	fats, oils, and grease
GIS	geographic information system
I&I	inflow and infiltration (also known as I/I)
O&M	operation and maintenance
OES	State of California Office of Emergency Services
Regional Board	California Regional Water Quality Control Board, San Diego Region
SIU	significant industrial user
SOCWA	South Orange County Wastewater Authority
SSMP	Sanitary Sewer Management Plan
SSO	sanitary sewer overflow
State Board	State Water Resources Control Board

# EXECUTIVE SUMMARY

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Statewide standards and requirements for sewer system operation and the prevention and reporting of sanitary sewer overflows (SSOs) were established in 2006 by the State Water Resources Control Board within Order No. 2006-0003.DWQ. Order No. 2006-0003-DWQ requires the reporting of SSOs through a statewide electronic reporting system, and requires sewer agencies to maintain and update Sanitary Sewer Management Plans (SSMPs) that address the following eleven SSMP elements, including:

1. establishing measurable goals,
2. developing an SSMP organization structure,
3. demonstrating legal authority to regulate the sewer system and sewer dischargers,
4. implementing a preventative operations and maintenance program,
5. implementing and enforcing sewer design standards,
6. implementing an overflow emergency response program,
7. regulating discharges of fats, oils and grease (FOG) to the sewer,
8. providing for adequate sewer system capacity,
9. monitoring SSO prevention performance,
10. performing periodic internal SSO audits, and
11. communicating SSMP development and implementation with the public.

The existing City of San Clemente SSMP was approved by the City Council and submitted to the State in 2009. The City's 2009 SSMP brought together in a unified document a number of long-standing City of San Clemente operations or programs directed toward preventing SSOs, including in part:

- the City's program of scheduled preventative inspection and maintenance of sewer mains and pump stations,
- the City's ongoing program for identifying sewer mains deemed to have an elevated risk for blockage from roots or grease, and providing increased frequency of inspection and cleaning of such mains,
- the City's program for maintaining and enforcing sewer design standards,

- the City's emergency sewer spill response program, and
- the City's capital improvements plan and ongoing assessment of sewer system capacity and rehabilitation needs.

Order No. 2006-0003-DWQ requires that the SSMP be updated every five years and be prepared by a registered engineer. As part of the process to update the City's 2009 SSMP, the City evaluated all elements of the 2009 SSMP, the City's 2009 *SSO Prevention Plan*, and the City's 2009 *SSO Emergency Response Plan*. The review included evaluating SSMP goals, assessing past sewer system performance, assessing conformance with stated SSMP goals and objectives, and identifying any SSMP program changes that have occurred or are necessary to improve SSO performance.

On the basis of this review, it is concluded that no significant program changes are required in the City's SSMP, in the City's *SSO Prevention Plan*, or in the City's *SSO Emergency Response Plan*. While no significant revisions are required, a number of minor revisions to the SSMP, *SSO Prevention Plan*, and *SSO Emergency Response Plan* are incorporated into the 2014 SSMP update to address:

- current City staffing, contact information, and staff organization,
- recent and proposed capital improvement and sewer collection facilities upgrades,
- minor operational or procedural changes implemented by the City aimed toward improving SSO prevention and response actions, and
- changes in state-wide SSO notification, reporting, water quality monitoring, record-keeping requirements established by the State Board in 2013 with the adoption of Order No. WQ-2013-0058-EXEC.

Provision D.14 of Order No. 2006-0003-DWQ requires that SSMP recertification by the governing board (City Council) is required when significant program updates to the SSMP are implemented. Because this SSMP update (including associated updates of the City's *SSO Prevention Plan* and *SSO Emergency Response Plan*) does not entail any significant program revisions, the updated SSMP has been reviewed and approved by the City Manager and Utilities Division management.

Table EX-1 summarizes requirements within the eleven mandated SSMP elements, and summarizes the City's compliance with the state-wide SSMP requirements. As documented herein, the City's SSO prevention efforts comply with all mandated SSMP requirements.

**Table EX-1**  
**Summary of Compliance with SSMP Requirements**

SSMP Element	Requirement	Means of Compliance
1. SSMP Goals	Develop measureable goals	The City has developed measurable and attainable goals, including reducing the annual number of SSOs and the volume of sewage annually spilled. The City has also developed specific goals for the number of miles of sewer line annually inspected and cleaned.
2. Organization	Develop SSMP organizational structure	The City has identified staff responsible for implementing the SSMP. The Utilities Manager supervises SSMP Plan development and implementation under the direction of the City Council, City Manager, and Public Works Director.
3. Legal Authority	Maintain legal authority to prevent illicit discharges	As a general law city, the City of San Clemente has the legal authority to construct, operate, maintain, and regulate discharges to its sewer system. Under the City's Municipal Code, the City establishes requirements for discharge to the sewer, establishes types of prohibited dischargers, and establishes the authority for enforcing discharge standards.
	Demonstrate legal authority to require proper sewer design and construction	The City's Municipal Code sets forth the legal authority for the City to regulate the design and construction of sewer collection facilities. The Municipal Code empowers the City Engineer to develop, update, and enforce design standards.
	Demonstrate legal authority to maintain agency access to sewers	The City's Municipal Code provides the City with authority to have access to the sewer for inspecting, sampling, monitoring, repairing, or investigating sewer conditions or sewer discharges.
	Demonstrate legal authority to limit discharges that may cause sewer blockage	The City's Municipal Code implements discharge prohibitions against substances that may cause sewer line blockage.
	Demonstrate legal authority to enforce violations	The City's Municipal Code provides authority to enforce violations through a variety of remedies.
4. Operations and Maintenance	Maintain up-to-date map of the sewer collection system	The City maintains up-to-date maps of the collection system. A master electronic version of the City's sewer system map is maintained on the City's computer network, and copies are backed up electronically.
	Maintain a preventative maintenance program	The City's preventative maintenance program is documented in the City's <i>SSO Prevention Plan</i> . In accordance with the <i>SSO Prevention Plan</i> , the City maintains a scheduled program for sewer main inspection and cleaning, and pump station inspection and maintenance.
	Maintain a rehabilitation and replacement program	Facility rehabilitation and replacement needs are evaluated annually as part of the City's capital improvement plan (CIP).
	Provide regular staff training	The City maintains an ongoing education program to ensure up-to-date training for personnel. The training program is documented in the City's <i>SSO Prevention Plan</i> .
	Maintain inventory of equipment and spare parts	The <i>City's SSO Prevention Plan</i> documents the City's program for maintaining an inventory of equipment and spare parts.
5. Design and Performance Standards	Maintain standard design and construction specifications for sewer facilities	Design, construction, inspection, and testing standards for sewer construction and rehabilitation are established in the City's "Standard Provisions and Standard Drawings for the Construction of Sewer Facilities" and "Engineering Division Technical Standards".
	Maintain procedures for inspection and testing for sewer facilities construction	The City's "Standard Provisions" and "Technical Standards" establish provisions for inspection and testing constructed or rehabilitated sewer facilities.



**Table EX-1**  
**Summary of Compliance with SSMP Requirements**

SSMP Element	Requirement	Means of Compliance
6. Overflow Emergency Response Plan	Ensure timely SSO detection and notification to response crews	The City's <i>SSO Emergency Response Plan</i> documents the City's procedures and methods for timely SSO detection and crew notification. The City's reporting system that ensures that SSO reports/calls from the public to the City's SSO hot line or to law or fire authorities are routed to Utilities Division management. An emergency response crew is designated as being "on call" during non-business hours to respond to SSO reports.
	Ensure appropriate responses to SSOs	The City maintains adequate staffing and equipment for responding to SSOs. The City's <i>SSO Emergency Response Plan</i> documents the City's staffing, equipment, and procedures for appropriate SSO response.
	Ensure prompt notification to regulators	The City's <i>SSO Emergency Response Plan</i> documents the City's procedures and staff responsibilities for regulatory agency notification. The City implements notification and reporting procedures in accordance with requirements of State Board Order Nos. 2006-2003-DWQ and WQ-2013-0058-EXEC.
	Provide staff emergency training	The City maintains an ongoing education program to ensure up-to-date training for response personnel that includes orientation training, specialized training, drills, test exercises, professional development training, and cross-training.
	Maintain emergency procedures for traffic and crowd control	The City maintains appropriate staffing, equipment, and interagency coordination to ensure traffic and crowd control. The City's <i>SSO Emergency Response Plan</i> documents the City's equipment, staffing, and emergency procedures.
	Maintain procedures to minimize SSO impacts	The City's <i>SSO Emergency Response Plan</i> documents the City's procedures for SSO containment, cleanup, monitoring, and restoration. The City maintains adequate staffing, equipment, and training to implement required spill containment, cleanup, monitoring, and restoration.
7. Fats, Oil and Grease (FOG) Control	Implement public education program for FOG	FOG-related education materials are posted on the City's web site and distributed to customers. The City has also conducted public education targeting proper disposal of waste automotive oil.
	Implement FOG disposal plan	When applicable, the City provides dischargers with a list of FOG pumpers, disposal firms, and grease recyclers.
	Demonstrate legal authority to regulate FOG dischargers	The Municipal Code provides the City with authority to regulate discharges of FOG to the sewer. The Municipal Code also authorizes the City to implement measures to prevent FOG-related sewer blockages.
	Implement grease removal requirements and best management practices	The City requires grease control devices for all food establishments or facilities with kitchen equipment that have the potential to produce FOG. The City has implemented design standards for grease interceptors. The City has also developed and requires implementation of best management practices (BMPs) for grease removal.
	Identify sewer sections subject to FOG blockage	The City has identified sections of the sewer system that may have an elevated risk for FOG-related blockage. The City has implemented accelerated sewer inspection and cleaning schedules for these at-risk sewer sections.
Develop FOG source control measures	The City has developed and implemented FOG source control measures which include requiring grease interceptors, increasing discharger cleaning of interceptors, implementing BMPs, and enforcing compliance with Municipal Code discharge standards.	

**Table EX-1**  
**Summary of Compliance with SSMP Requirements**

SSMP Element	Requirement	Means of Compliance
8. System Evaluation and Capacity Assurance	Identify and evaluate hydraulic deficiencies within the sewer collection system	The City's 1995 Wastewater Master Plan evaluated peak wastewater flows in each of the sewer collection tributary areas and identified facility improvements required to meet these peak needs. Flow and facility recommendations in the 1995 master plan remain valid, as land use has largely remained as projected and unit sewer flows are lower than projected due to water conservation and slower-than-projected development rates. Facility recommendations in the master plan have been implemented, and all sewer mains and pump stations within the sewer system are adequately sized to handle peak flows.
	Implement appropriate capacity sizing and design criteria	The City maintains adequate capacity assurance design criteria. Flow estimation criteria are conservative, as water conservation has reduced unit flow generation rates within the City.
	Identify required capacity enhancement measures and develop a schedule to implement the required measures	The City has already implemented capacity enhancement measures as part of past capital improvement plan projects. No additional capacity enhancement measures are currently required.
9. Monitoring, Measurement and Program Modification	Maintain relevant data and information	The City maintains data on a variety of relevant performance parameters, including SSO location, volume, containment, cause, detection, response, and a number of computed statistical parameters.
	Measure the effectiveness of each SSMP element	The City collects data for a number of monitoring performance parameters to assess the effectiveness of SSMP elements. The City maintains a database of the performance parameters.
	Assess success of preventative maintenance program	The City collects data and analyzes statistics for a number of monitoring performance parameters to assess the preventative maintenance program.
	Update SSMP elements based on monitoring information	The City has identified a number of potential program modifications that could be implemented should monitoring data indicate the need for revision of SSMP program elements. The SSMP can be updated whenever needed, or as part of program audits conducted as part of Element 10.
	Collect data to identify SSO trends	The Utilities Division collects data from a number of monitoring performance parameters to assess SSO causes, locations, and trends. Utilities Division managers continually evaluate the collected data. In-depth periodic evaluation of the data will occur on a biannual basis as part of the SSMP audit.
10. SSMP Audits	Conduct internal periodic audits to assess SSMP performance	The City will schedule and conduct internal audits on a biannual basis to assess SSO monitoring information and SSMP effectiveness. The audit will identify SSMP deficiencies and recommended improvements. Modifications to the City's SSO preventative procedures will be implemented where so indicated by the monitoring data.
11. Communication Program	Develop and implement a program to communicate with the public on SSPM development and implementation	The 2009 SSMP development effort included items before the City Council at publicly noticed meetings that provided the public and stakeholders with the opportunity for input. The City has posted FOG control, SSO, and SSMP information for public review on the City's web site. The City's Capital Improvements Program (CIP) and Utilities Division budget/operations are discussed at City Council meetings where the public have an opportunity for input. City Council agendas and support documents are made available for download on the City's web site and are available for review at the City Clerk's office and the City Library.

# **INTRODUCTION**

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***City of San Clemente SSMP***

# INTRODUCTION

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*Overview - The City of San Clemente Sanitary Sewer Management Plan (SSMP) is developed in accordance with requirements established in State Water Resources Control Board Order No. 2006-0003-DWQ and Order No. WQ-2013-0058-EXEC. This 2014 update of the City's SSMP describes the City's programs to minimize the potential for sanitary sewer overflows (SSOs). This SSMP is organized to document how the City's SSO prevention and response efforts comply with each of the eleven SSMP elements mandated by State Board Order No. 2006-0003-DWQ, as revised by Order No. WQ-2013-0058-EXEC.*

**Sanitary Sewer Management Plan (SSMP) Requirements.** Statewide requirements that regulate sanitary sewer overflows (SSOs) are established by the State Water Resources Control Board (State Board) within Order No. 2006-0003-DWQ and Order No. WQ-2013-0058-EXEC. Order No. 2006-0003-DWQ was adopted in 2006 and prohibits SSOs, requires the reporting of SSOs through a statewide electronic reporting system, and requires sewer agencies to maintain and update Sanitary Sewer Management Plans (SSMPs). State Board Order No. WQ-2013-0058-EXEC was adopted in 2013 and establishes revised statewide monitoring, reporting, and record keeping requirements for SSOs.

In accordance with the Orders, SSMPs are to be updated every five years and must be prepared by a registered engineer. SSMPs are required to address the following elements:

***Element 1 - Goal.*** The SSMP must identify goals directed toward implementing a plan and schedule to properly manage, operate, and maintain the sewer system to prevent, reduce, and mitigate SSOs.

***Element 2 - Organization.*** The SSMP must include (1) the designated agency representative, (2) the organization structure (including names and contact information) for implementing the SSMP, and (3) the chain of command for reporting SSOs.

***Element 3 - Legal Authority.*** The SSMP must cite the agency's legal authority to (1) prevent illicit discharges to the sewer system, (2) require proper design and maintenance of sewers, (3) insure access for maintenance and repairs, (4) limit discharges of substances that may cause sewer line blockages, and (5) enforce sewer ordinances.

***Element 4 - Operation and Maintenance (O&M) Program.*** The SSMP must develop and maintain (1) up-to-date maps of the sewer system, (2) a sewer cleaning program and schedule, including prioritizing known problem areas, (3) procedures to inspect and identify facilities requiring rehabilitation, repair, or replacement, and (4) an operator training program.

***Element 5 - Design and Performance Provisions.*** The SSMP must address the agency's construction standards and procedures for testing and inspecting the installation of sewers, pump stations, and other appurtenances.

***Element 6 - Overflow Emergency Response Plan.*** The SSMP must address (1) notification of regulators, (2) SSO responses, (3) notification of affected agencies, (4) staff knowledge and training, (5) emergency operations (including traffic control), and (6) mitigation and monitoring.

***Element 7 - FOG (Fats, Oil, and Grease) Control Program.*** The SSMP must include an evaluation whether a FOG source control program is required. If FOG is found to be a problem, the SSMP must develop a FOG control program that (if appropriate) includes (1) an implementation and public outreach program, (2) a FOG disposal plan, (3) FOG prohibitions, (4) a grease trap control plan, (5) an inspection and enforcement program, (6) FOG blockages assessments, and (7) a source control program.

***Element 8 - System Evaluation and Capacity Assurance Plan.*** The SSMP must include a Capital Improvements Program (CIP) that (1) assesses hydraulic capacity needs under peak flow conditions and (2) identifies facilities and programs required to update facilities capacity, reduce inflow and infiltration, and provide system redundancy.

***Element 9 - Monitoring, Measurement, and Program Modifications.*** The SSMP must include a monitoring plan to (1) measure the effectiveness of the SSMP and preventative maintenance measures, (2) update program elements on the basis of collected information, and (3) assess SSO trends.

***Element 10 - SSMP Program Audits.*** Periodic internal audits of the SSMP must occur at least once each two years, and an audit report must be prepared and kept on file.

***Element 11 - Communications Program.*** The agency must have a program to allow for public input and communication relative to the SSMP. The agency must also have a plan of communication with any agencies that contribute tributary flow to the sewer system.

**Purpose of SSMP Update.** The existing City of San Clemente SSMP was approved by the City Council on July 7, 2009, and submitted to the State Board in July 2009 in compliance with the requirements of Order No. 2006-0003-DWQ. Order No. 2006-0003-DWQ requires that SSMPs be reviewed and updated on a frequency no greater than every five years. As part of the process to update the City's 2009 SSMP, the City evaluated all elements of the 2009 SSMP, included evaluating SSMP goals, assessing past sewer system performance, assessing conformance with stated SSMP goals and objectives, and identifying any SSMP program changes that have occurred or are necessary to improve SSO performance.

On the basis of this review, it is concluded that no significant program changes are required in the City's SSMP, in the City's *SSO Prevention Plan*, or in the City's *SSO Emergency Response Plan*. While no significant program changes are required, this 2014 SSMP update addresses revised statewide SSO notification, reporting, water quality monitoring, record-keeping requirements established by State Board Order No. WQ-2013-0058-EXEC. The 2014 SSMP update also includes a number of minor revisions or updates directed toward addressing:

- current City staffing, contact information, and staff organization,
- recent and proposed capital improvement and sewer collection facilities upgrades, and
- minor operational or procedural changes implemented by the City aimed toward improving SSO prevention and response actions.

Additionally, the 2014 SSMP update includes several minor program modifications directed toward improving conformance with SSMP requirements and goals, including the need to:

- evaluate and re-assign SSMP organizational responsibilities whenever changes are made to Utilities Division staffing or organizational structure,
- coordinate pretreatment program responsibilities among Utilities Division units and the South Orange County Wastewater Authority, and
- ensure that formal SSMP audits are completed on schedule.

**Organization of SSMP.** This 2014 SSMP update is organized around the eleven required elements mandated by State Board Order No. 2006-0003-DWQ. Within each SSMP element, specific requirements of Order No. 2006-0003-DWQ are cited, and the City's compliance with these requirements are documented. As documented herein, the City of San Clemente's long-standing efforts to minimize the potential for SSOs comply with each of the eleven SSMP elements mandated by State Board Order No. 2006-0003-DWQ. Additionally, this 2014 SSMP update addresses revised SSO monitoring, reporting, and record-keeping requirements established by the State Board in 2013 within Order No. WQ-2013-0058-EXEC.

**SSMP Preparation.** This updated SSMP was prepared by Michael R. Welch, Ph.D., P.E. under the direction of City of San Clemente Utilities Manager James Kaylor and Wastewater Operations Supervisor Robert Gamble. Questions or comments concerning this SSMP should be directed to the Utilities Manager at:

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**Element 1**  
**GOALS**

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***City of San Clemente SSMP***

# 1. GOALS

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*Overview - This SSMP element identifies the goals the City has established for the planning, management, operation and maintenance of the City's sewer collection system. Specific attainable and measurable goals are developed to achieve the state-wide overarching objective of minimizing SSOs and reducing impacts from SSOs that do occur.*

## 1.1 Requirements

Provision D.13 (i) of State Board Order No. 2006-0003-DWQ establishes the following overarching SSMP goal:

- (i) *The Goal of the SSMP is to provide a plan a schedule to properly manage, operate, and maintain all parts of the sanitary sewer system. This will help reduce and prevent SSOs, as well as mitigate any SSOs that do occur.*

As a first step in SSMP development, State Board Order No. 2006-0003-DWQ requires sewer system operators to identify specific attainable SSMP goals to achieve this state-wide overarching goal.

## 1.2 SSMP Goals

**Utilities Division Mission.** The City's sanitary sewer system is operated and maintained by the Utilities Division. The Utilities Division also operates the City's water and storm drainage systems. The mission of the Utilities Division is to "insure uninterrupted water, sewer, and drainage service to all our customers that meets all regulatory requirements."



In accomplishing this mission, the Utilities Division endeavors to protect public health, protect the environment, avoid personal injury, and avoid/minimize property damage.

**City of San Clemente SSMP Goals.** In support of the Utilities Division mission, the City in its 2009 SSMP developed a series of specific attainable SSMP goals for operation and maintenance of the City's sewer system. As part of this 2014 SSMP update, the City has reviewed and affirmed the following goals for operation of the City's wastewater system:

**Goal 1:** Reduce the number of SSOs and the annual volume of SSO flows.

**Goal 2:** Provide adequate sewer system capacity to convey peak flows.

**Goal 3:** Continue the City's ongoing program of sewer main television inspection to assess pipe integrity and inflow/infiltration by providing for:

- Annual inspections of portions of the City's sewer system that are downstream from commercial grease dischargers (10.2 miles of sewer main).
- Annual inspections of portions of the City's sewer system that have a history or potential for root damage (6.9 miles of sewer main).
- Triennial inspections of all other City sewer mains.

**Goal 4:** Continue the City's ongoing program of cleaning sewer mains by providing for:

- Quarterly cleanings of portions of the City's sewer system that are downstream from commercial grease dischargers (10.2 miles of sewer main).
- Quarterly cleanings of portions of the City's sewer system that have a history or potential for root damage (6.9 miles of sewer main).

**Goal 5:** Continue the City's ongoing program of sewer pump station inspection by inspecting pump stations a minimum of three times per week.

**Goal 6:** Maintain and improve remote monitoring/alarm systems at each of the City's sewer pump stations.

This updated SSMP supplements and support these goals and documents guidelines and procedures that support Utilities Division programs to:

- prevent SSOs,
- minimize impacts from SSOs, and
- provide for proper planning, maintenance, and operation of sewer collection and conveyance facilities.

**Element 2**  
**ORGANIZATION**

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***City of San Clemente SSMP***

## 2. ORGANIZATION

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*Overview - This SSMP element identifies responsibilities for implementing the SMMP. The City of San Clemente Utilities Manager is the City's authorized representative in wastewater collection system matters and SSMP development. The Utilities Manager supervises SSMP Plan development and implementation under the direction of the City Council, City Manager, and Public Works Director. The City Engineer is responsible for reviewing plans and specifications for public works projects.*

### 2.1 Requirements

Provision D.13 (ii) of State Board Order No. 2006-0003-DWQ requires that sewer agencies identify staff responsibilities for implementing the SSMP, as follows:

(ii) *The SSMP must identify:*

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

### 2.2 SSMP Organization and Roles

This section presents the organization and roles of City staff in implementing and maintaining the SSMP.

**Organizational Structure.** Attachment A presents the City's organizational structure for implementing the SSMP, including the organizational structure within the Utilities Division. Attachment B presents the current personnel filling the management positions shown in the City's organizational charts and telephone contact numbers for these management personnel.

**Key SSMP Positions.** The following positions within the City's organizational structure have key roles in developing and implementing the SSMP:

- *City Council.* The City Council governs the City of San Clemente, and establishes policies, priorities, and funding levels for public works operations and facilities.
- *Boards and Commissions.* Boards and commissions may be established by the City Council to provide advice on policy or other issues.
- *City Manager.* The City Manager manages operations within the City in accordance with City Council directives, and advises the City Council on budget, financing, operations, and other issues related to public works and utilities management/operation.
- *City Attorney.* The City Attorney advises the Council and City Manager on legal issues, and as directed provides support to City staff on the legal authority, development, and enforcement of City regulations and codes.
- *Public Works Director/City Engineer.* The Public Works Director/City Engineer is in charge of public works within the City. The Public Works Director/City Engineer advises the City Manager and City Council on engineering and public works issues, including those related to capital improvements planning, and the construction, operation, and maintenance of the City's wastewater system.
- *Assistant City Engineer - Utilities/CIP.* The Assistant City Engineer supervises review of plans and specifications for public works projects and supervises an engineering staff that includes construction inspectors and staff who maintain up-to-date maps of City sewer facilities. The Assistant City Engineer also prepares six-year CIP budgets (current budget year plus five years), manages CIP construction projects, and monitors Utilities Division Operations.
- *Utilities Manager.* The Utilities Manager supervises all facilities and operations within the City's water and wastewater systems, including water conveyance and storage, wastewater collection, wastewater treatment, and recycled water use. The Utilities Manager is in charge of staffing, facilities, equipment, scheduling, and budgeting for all Utilities Department activities. The Utilities Manager supervises SSMP Plan development and implementation and is responsible for submitting certification of compliance with SSMP tasks to the State. The Utilities Manager is also responsible for scheduling and completing SSMP audits required under Element 10. Additionally, the Utilities Manager is responsible for evaluating and (if necessary)

re-assigning SSMP organizational responsibilities whenever changes are made to Utilities Division staffing or organizational structure. The Utilities Manager is further responsible for coordinating or delegating pretreatment program responsibilities among Utilities Division wastewater and water quality units, the South Orange County Wastewater Authority and/or contracted personnel.

- *Utilities Operations Supervisor - Wastewater.* The Utilities Operations Supervisor - Wastewater (also known as Wastewater Operations Supervisor) supervises sewer system operations, equipment, supplies, budgeting, and scheduling. The Wastewater Operations Supervisor is in charge of sewer line inspection, operation, and maintenance. The Wastewater Operations Supervisor assists the Utilities Manager in developing the SSMP, is the primary contact and supervisor in responding to SSOs, and is responsible for reporting SSOs to the State Office of Emergency Services. The Wastewater Operations Supervisor is also responsible for ensuring that lead collection system operators notify the Assistant City engineer of any field repairs, maintenance, rehabilitation work, or field-noted discrepancies that require revision of existing City sewer collection system maps.
- *Utilities Operations Supervisor - Electrical/Mechanical.* The Utilities Operations Supervisor - Electrical Mechanical (also known as Equipment Operations Supervisor) supervises all electrical and mechanical equipment system operations, personnel, supplies, budgeting and scheduling. The Equipment Operations Supervisor also oversees the operation and maintenance of sewer collection pump stations. Additionally, the Utilities Operations Supervisor - Electrical/Mechanical is authorized to oversee preparation of and certify compliance with SSO reports submitted to the State via the California Integrated Water Quality Systems (CIWQS) Database pursuant to requirements established in State Board Order Nos. 2006-0003-DWQ and WQ-2013-0058-EXEC.

**Authorized Representative.** The Utilities Manager is the City's authorized representative in all wastewater collection system matters and SSMP development. The Utilities Manager is authorized to certify compliance with mandated SSMP tasks. Attachment B presents contact information for the City of San Clemente Utilities Manager.

### **2.3 SSO Reporting Chain of Command**

The City maintains an updated *SSO Emergency Response Plan* (see Attachment D) which documents procedures for responding to SSOs. The City's chain of command for responding to SSOs is presented in Attachment D. Attachment D also presents contact information for the responsible parties addressed in the SSO reporting chain of command. As noted above, the Wastewater Operations Supervisor is responsible for reporting SSOs to the State and other applicable agencies.

**Element 3**  
**LEGAL AUTHORITY**

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***City of San Clemente SSMP***

## 3. LEGAL AUTHORITY

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*Overview - As a general law city formed under the California Government Code, the City of San Clemente has the legal authority to construct, operate, maintain, and regulate discharges to its sewer system. The City has established sewer construction, operation, and use requirements within the San Clemente Municipal Code. Under regulations established within the Municipal Code, the City maintains the legal authority to (a) prevent illicit discharges to the sewer system, (b) require that sewers be properly designed and constructed, (c) ensure access for maintenance or repair, (d) limit the discharge of substances that may cause blockage, and (e) enforce violations of the City's Municipal Code.*

### 3.1 Requirements

Provision D.13 (iii) of State Board Order No. 2006-0003-DWQ establishes the following legal authority requirements for sewer agencies:

- (iii) *Legal Authority. Each Enrollee must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:*
  - (a) *Prevent illicit discharges into its sanitary sewer system (examples may include I/I, stormwater, chemical dumping, unauthorized debris and roots, etc.);*
  - (b) *Require that sewers and connections be properly designed and constructed;*
  - (c) *Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency;*
  - (d) *Limit the discharge of fats, oils, and grease or other debris that may cause blockage; and*
  - (e) *Enforce any violation of its sewer ordinances.*

### 3.2 Legal Authority Overview

**General Law City.** The City of San Clemente is a general law city formed in 1928 under the provisions of the *California Government Code*. As set forth in Title 4 of the *California*

*Government Code* (Sections 38900-38902), general law cities have the power to acquire, construct, operate, and maintain sewer systems, and to establish and enforce regulations associated with the construction, operation, funding, or maintenance of the sewer system facilities.

**San Clemente Municipal Code.** Regulations regarding the construction, operation, and use of the City's sewer facilities are set forth in the *San Clemente Municipal Code* (hereinafter Municipal Code). Title 13 of the Municipal Code addresses public services. Title 13, Chapter 24 (13.24) of the Municipal Code sets forth regulations regarding prohibited sewer discharges, sewer construction, sewer inspection, sewer connections, and sewer system fees and charges. Title 13, Chapter 28 (13.28) of the Municipal Code establishes waste discharge pretreatment and system source control regulations. Title 13, Chapter 30 (13.30) of the Municipal Code establishes regulations regarding the discharge of fats, oils, and grease (FOG) and the regulation of food service establishments and FOG dischargers. The City's Municipal Code is available for download at: <http://ci.san-clemente.ca.us/sc/standard.aspx?pageid=20>.

**City Relationship to SOCWA.** *California Government Code* Sections 55080-55093 allow public agencies to enter into agreements providing for the joint construction and maintenance of public works. The City is a member of the South Orange County Wastewater Authority (SOCWA), a joint powers agency formed by the City and adjoining agencies to operate joint wastewater collection, treatment, and disposal facilities.

The City of San Clemente Water Reclamation Plant (San Clemente WRP) discharges treated wastewater to the SOCWA San Juan Creek Ocean Outfall. The San Clemente WRP discharge to the SOCWA ocean outfall is regulated under a NPDES permit issued to SOCWA. While the City maintains and operates sewer collection facilities, the City's Municipal Code provides that SOCWA is the lead agency responsible for ensuring compliance with NPDES requirements and ensuring compliance with federal industrial pretreatment requirements.

**Access and Control of Wastewater Facilities.** With one exception, all wastewater collected by the City of San Clemente is derived from a service area that is exclusively within the incorporated area of the City. The City maintains direct authority over and control of these facilities under Title 13, Chapters 24, 28, and 30 of the Municipal Code.

The only wastewater discharged to the City's collection system from outside the incorporated area of the City is from San Mateo Campground within San Onofre State Beach, which is operated by the State of California Parks Department. An interagency service agreement sets forth responsibilities and authorities of the two agencies for the discharge of California Parks Department wastewater to the City's sewer system. The agreement also delineates responsibilities among the two agencies for inspecting, operating, and maintaining sewer connection facilities between the Parks Department and the City. The City maintains



authority to regulate and control discharges from the Parks Department to the City's system, and to respond to and correct/terminate SSOs that occur within the City's incorporated area.

Portions of the incorporated area of the City of San Clemente are located outside the sewer service area of the San Clemente WRP. The Santa Margarita Water District and South Coast Water District are responsible for providing water and sewer service within these portions of the City of San Clemente.

**Delegation of Authority within City.** Municipal Code Chapter 13.24 (Sewer Service System) designates the City Engineer as being responsible for regulating and enforcing sewer system design, construction, connection, inspection, and repair.

Municipal Code Section 13.24.020 designates the City Manager (with SOCWA oversight) as being responsible for determining the acceptability of wastewater discharges and the adequacy of collection, treatment, and disposal systems available to accept the sewer discharges. Chapter 13.28 (Waste Discharge Pretreatment and Source Control Program) provides the City Manager with authority and responsibility for interpreting, regulating and enforcing sewer discharge and industrial pretreatment discharge regulations. Section 13.28.110 of the Municipal Code provides that:

*13.28.110 For purposes of this chapter, whenever any authority or power is granted to or a duty imposed on the City Manager, that authority or power may be exercised or that duty may be performed by a person authorized or designated by the City Manager.*

Section 13.30 of the Municipal Code authorizes the Utilities Manager or a designated representative to issue discharge permits, inspect dischargers, and interpret and enforce regulations relating to discharges by food service establishments or FOG generators.

Organizational responsibilities within the City for ensuring compliance with SSO regulations and the Municipal Code are set forth in Element 2 of this SSMP. Organization charts for the City are presented in Attachment A. In accordance with this organizational structure, the Utilities Manager (acting under the delegated authority of the City Manager) coordinates with SOCWA to ensure effective regulation and enforcement of sewer use rules within the City's service area.

Compliance with specific legal authority requirements of Order No. 2006-0003-DWQ are summarized in the following sections.

### **3.3 Authority to Prevent Illicit Discharges**

The Municipal Code identifies illicit and prohibited discharges to the City's sewer system and provides the City Manager with authority to prevent such discharges. Discharges prohibited under the Municipal Code include substances that cause:

- fire or explosion,
- corrosive damage,
- obstruction of flow,
- treatment pass-through or inhibition,
- endangerment of health or safety,
- impairment of sewer facility maintenance or operation,
- sludge or treatment residue,
- petroleum or cutting oils,
- illicit discharge of transported or trucked wastes, or
- any discharge that would violate any public or regulatory agency requirement.

### **3.4 Authority to Require Proper Design and Construction**

The Municipal Code sets forth the legal authority for the City to regulate the design and construction of sewer collection facilities, and provides the City Engineer with responsibility to regulate such design and construction. The Municipal Code empowers the City Engineer to develop, update, and enforce design standards.

As discussed in Element 5 of this SSMP, the City has established standard design and performance standards for the design, construction, inspection, and approval of sewer facilities.

### **3.5 Authority to Ensure Public Agency Access**

In regulating the design and construction of sewers, the City Engineer is responsible for determining the locations of sewer mains, manholes, and cleanouts. The City Engineer considers right-of-way or easement requirements and public agency access in regulating construction, repair, or maintenance of sewers. As part of this review, the City Engineer requires adequate rights-of-way or easements be recorded for public sewer lines constructed on lands not owned by the City.

The following provisions of the Municipal Code address access to sewer facilities for purposes of inspection, sampling, or investigating sewer discharges:

*13.28.660 Right of Entry.*

*Persons of occupants of premises where wastewater is created or discharged shall allow the City, its inspectors or representatives, reasonable access during the normal working day to all parts of the wastewater generating and disposal facilities for the purpose of inspection and sampling the same.*

*13.28.540 Monitoring and metering facilities.*

*(E) The City shall at all times be provided clear and uninterrupted access to monitoring or metering facilities locations.*

- 13.28.570 *Inspection and Monitoring.*  
*Any temporary or permanent obstruction to safe and easy access to the facility to be inspected and/or sampled shall be promptly removed by the user at the written or verbal request of the City and shall not be replaced.*
- 13.30.050(C) *Each Operator of a Food Service Establishment operating under a City-issued Discharge Permit shall make its place of business, equipment, and operations available for immediate inspection upon the request of an Authorized Inspector.*

### **3.6 Authority to Limit Discharges that Cause Sewer Line Blockage**

The City of San Clemente's Municipal Code sets forth the City's authority to limit discharges to the sewer system that may cause sewer line blockage. Section 13.24.010(A) of the City's Municipal Code states:

- 13.24.010(A) *No person shall dump any slip, plaster, liquid clay, or clay residue of any kind from pottery manufacturing establishments, dump any gasoline, solvents, oil drainings or other petroleum products, animal or vegetable fats or any residue, or material into the sewer lines of the City that might cause stoppage in such lines.*

Section 13.28.160(A) of the City's Municipal Code implements the following additional prohibitions regarding the prevention of sewer line blockage:

- 13.28.160(A) *No use shall discharge a quality or quantity of wastes or wastewater to the public sewer which causes or will cause, either alone or by interaction with other substances:*
3. *Any solid or viscous substance in amounts that will cause obstruction of flow or physical damage to sewage facilities.*
  7. *Impairment of the effective maintenance or operation of any sewage facilities.*
  11. *Conditions which violate any statute, rule, regulation, or ordinance of any public agency or regulatory agency having jurisdiction over the discharge of wastewater through the public sewer.*

Section 13.30.040(B) establishes the following general prohibition related to sewer line blockage:

- 13.30.040(B) *No Operator of a Food Service Establishment shall discharge or cause to be discharged into the Public Sewer System any Fats, Oils, or Grease that exceeds a concentration level approved by the Utilities Manager or that may accumulate and/or cause or contribute to blockages in the Public Sewer System or within the Sewer Lateral which connects the Food Service Establishment to the Public Sewer System.*

As noted, per Section 13.24.020(C) of the Municipal Code, the City Manager or his or her designee is responsible for determining the acceptability of wastewater for discharge to the City's sewer system. As depicted in the City's organization charts (see Attachment A), responsibility for this determination is delegated through the City Manager and Director of Public Works to the Utilities Manager.

### 3.7 Authority to Enforce Violations

Powers to enforce compliance with sewer discharge regulations are established in Section 13.28.120 of the Municipal Code. In accordance with the provisions of the 13.28.120(A) of the Municipal Code, actions that may be taken by the City in enforcing compliance include:

- issuing notice of noncompliance forms,
- issuing notice of violation forms,
- issuing administrative orders (probation, show cause, or cease and desist orders),
- petitioning the courts for injunction or civil penalties,
- signing criminal complaints,
- suspending or revoking wastewater discharge permits,
- terminating services, or
- administrative complaints.

Article IX of the Municipal Code establishes specific enforcement provisions for the City's industrial discharge pretreatment program. As provided within the Municipal Code, an escalating range of enforcement actions are available to the City in regulating sewer use and sewer system discharges. Article IX of the Municipal Code also:

- identifies required enforcement actions in response to specific types of violations,
- identifies specific civil liability penalties,
- sets forth criminal penalties, and
- establishes an appeal process and appeal requirements.

The Municipal Code provides the Utilities Manager or designated representative with responsibility for enforcing regulations relating to FOG discharges. Section 13.30.080 of the Municipal Code establishes specific enforcement provisions governing food service establishments and discharges of FOG, and establishes a range of escalating enforcement actions for FOG noncompliance, including:

- issuance of Notices of Noncompliance (which may include fines or penalties),
- issuance of Compliance Schedule Orders,
- discharge permit suspensions,
- discharge permit revocation,
- emergency service termination,
- civil liability,
- administrative civil penalties, and
- criminal penalties.

Section 13.30.080 of the Municipal Code addresses the appeal process and appeal requirements for FOG discharges, and Section 13.30.090 of the Municipal Code describes the judicial review process for appeal of FOG compliance decisions.

**Element 4**  
**OPERATIONS AND**  
**MAINTENANCE PROGRAM**

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***City of San Clemente SSMP***

## 4. OPERATIONS AND MAINTENANCE PROGRAM

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*Overview - The City of San Clemente implements a SSO Prevention Plan that documents policies, procedures and guidelines for updating the City's sewer facilities maps, scheduling and performing facilities inspections, scheduling and performing preventative maintenance, evaluating and implementing required facilities rehabilitation and replacement, managing assets, and responding to public reports or complaints. The City's SSO Prevention Plan complies with the system mapping requirements, preventative maintenance requirements, rehabilitation and replacement requirements, training requirements, and equipment/spare parts requirements established within State Board Order No. 2006-0003-DWQ.*

### 4.1 Requirements

Provision D.13 (iv) of State Board Order No. 2006-0003-DWQ requires sewer agencies to develop and maintain an operations and maintenance program:

- (iv) *The SSMP must include those elements listed below that are appropriate and applicable to the Enrollee's system:*
  - a. *Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities;*
  - b. *Describe routine preventative operation and maintenance activities by staff and contractors, including a system for scheduled regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders;*
  - c. *Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular TV and visual inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduled rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects.*

*Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvements plan.*

- d. Provide training on a regular basis for staff in sewer system operations and maintenance, and require contractors to be appropriately trained; and*
- e. Provide equipment and replacement part inventories, including identification of critical replacement parts.*

## **4.2 Operations and Maintenance Overview**

The City of San Clemente maintains a *SSO Prevention Plan* that documents procedures, policies, and guidelines for mapping updates, operator training, inspection, operations and maintenance, assets management, and facilities rehabilitation and replacement. The most recent version of the City's *SSO Prevention Plan* was updated in July 2014 (Attachment C). The City's *SSO Prevention Plan* includes:

- a range of inspection and preventative maintenance activities for sewer mains, manholes, pump stations, force mains, and other appurtenant facilities,
- a system for encouraging public awareness and for responding to public tips or information regarding required sewer system maintenance,
- a system to track past sewer spills or overflows, and identify trends in the performance of operations and facilities,
- analysis of individual sewer spills or overflow events, and the identification and evaluation of additional potential preventative measures,
- routine scheduled inspection of sewer collection facilities,
- identification of reaches of sewer mains subject to an increased risk of grease-related or root-related blockages,
- an ongoing program to evaluate collection system operations and inspection needs,
- a training program,
- an ongoing program to continually evaluate collection system physical facilities, and
- a capital improvements program that (1) prioritizes needs for rehabilitation, replacement, or upgrade of sewer collection facilities, (2) sets forth long-term implementation plans and funding needs for the required facilities, and (3) is based on a rate structure and/or system of financing that financially supports the required long-term facilities upgrades or replacements.

The Utilities Manager is responsible for ensuring that the *SSO Prevention Plan* is periodically reviewed and revised.

### 4.3 Compliance with O&M Requirements

**Up-to-Date Sewer System Map.** The Engineering Department maintains an up-to-date atlas of maps showing current sewer system facilities. As documented in the City's updated SSO Prevention Plan, the City's sewer system facilities master maps are revised whenever:

- sewer service facilities (sewer mains, manholes, and pump stations) are connected within newly developed areas of the City's sewer service area,
- existing sewer collection facilities are modified or upgraded as part of the City's Capital Improvements Plan,
- existing sewer collection facilities are modified or upgraded as part of repairs, rehabilitation, or maintenance work,
- City staff or contractors identify discrepancies on existing maps,
- City staff or contractors identify descriptions or map designations that could be misinterpreted, or
- City staff or contractors identify additional information what would be useful to include on the maps.

The Operations Supervisor - Wastewater is responsible for coordinating with the collections system lead operator to ensure that the Assistant City Engineer is notified of any field repairs, maintenance, rehabilitation work, or field-noted discrepancies that require revision of existing City sewer collection system maps. The Engineering Department under the direction of the Assistant City Engineer is responsible for entering information from certified as-built plans on new sewer mains or the replacement, rehabilitation, repair, or relocation of existing mains.

The City's up-to-date sewer maps are prepared in electronic format and printed copies of the sewer system atlas are carried by work crews and SSO response crew vehicles. The sewer system maps show:

- the map version date,
- distance scales, street names, and access notes,
- names and locations of wastewater pump stations,
- diameters, directions of flow, lengths (to scale), and construction materials for gravity sewer mains,
- the locations, identification numbers, and invert depths of manholes,
- diameters, directions of flow, lengths (to scale), construction materials, and pressure ratings for force mains, and
- locations of ancillary sewer collection facilities (e.g. siphons, valves, etc.).



A master electronic version of the City's sewer system map is maintained on the City's computer network, and copies are backed up weekly. The City is in the process of converting its sewer maps to a geographic information system (GIS) format.

In addition to up-to-date sewer system maps, the City also maintains up-to-date maps showing the locations of underground storm drains. Maps showing the location of storm drain facilities are available to field personnel that respond to SSOs. The City updates maps of storm drain facilities when new storm drain facilities are implemented, when existing facilities are modified, and when field crews indicate discrepancies in the existing storm drain maps.

**Preventative Operations and Maintenance Activities.** As documented in Chapter 3 of the City's updated *SSO Prevention Plan* (Attachment C), the City's preventative operations and maintenance (O&M) program includes:

- a scheduled program of pump station inspections,
- scheduled maintenance of pump stations,
- a scheduled program of sewer main inspections (both visual and video inspection), and
- a scheduled program of sewer main cleaning.

Pump stations are inspected a minimum of three times per week. Additionally, Utilities Division personnel can remotely monitor pump station performance at the City's wastewater pump stations using the City's SCADA (supervisory control and data acquisition) system. The SCADA system also provides 24-hour alert to Utilities Division personnel when anomalous conditions are detected in any of the City's wastewater pump stations.

Preventative maintenance procedures and schedules for pump stations are established, in part, on the basis of manufacturer's maintenance recommendations, the type and age of pump station equipment, the type of pump and motor controls employed, pump station flows, and past maintenance and operation history.

As discussed in Section 3.4 of the *SSO Prevention Plan* (Attachment C), the City designates sewer main reaches that may have an elevated risk of grease-related or root-related sewer main blockages. Areas with such elevated risk are identified on the basis of (1) known grease dischargers, (2) results of prior inspections, (3) location of trees, (4) past SSO history, and (5) sewer main sizes, slopes and velocities,

The City has implemented quarterly inspection and cleaning of sewer mains in segments designated as potentially being at risk due to grease dischargers or roots. The City maintains a schedule of annual cleaning of City's sewer main segments not designated in the grease-risk or root-risk categories. Video inspection of City mains along segments not within the grease or root risk categories are completed at approximately four to five year cycles.

The Utilities Division encourages public participation, information, and feedback in monitoring activities that may affect the proper operation of publicly-owned facilities. The City maintains a telephone hotline (949-366-1553) to receive public reports or complaints on the operation of sewer collection facilities. All sewer-related reports from the public are immediately routed to appropriate Utilities Division managers for action. Additionally, Utilities Division managers are notified when such utilities-related reports are received by other City Departments.

**Rehabilitation and Replacement Plan.** As documented in Chapter 4 of the City's *SSO Prevention Plan* (Attachment C), the City develops and annually updates a six-year Capital Improvements Plan (CIP) to plan and budget for six years of future capital improvement projects. Utilities Division managers identify and prioritize long-term facilities improvements to lessen the potential for SSOs. As part of this prioritization process, Utilities Division management review existing facilities capacities and performance, existing wastewater flows and flow projections, master planning documents, and input from field personnel. In assessing replacement and rehabilitation needs and priorities, the Utilities Division management considers:

- prior master planning analyses and recommendations,
- the age of existing structures and facilities,
- the rated capacity of existing facilities,
- the age, condition, and anticipated life-span of equipment and controls,
- observed peak flows and projected peak flows,
- anticipated future capacity needs,
- construction materials used in the existing facilities and the anticipated longevity of the materials,
- the observed internal and external condition of sewer collection facilities,
- soil conditions (including corrosion potential or soil movement potential),
- the potential for erosion,
- access considerations, materials availability, and the potential difficulty of repair in the event of failure of the facility,
- previous operations and maintenance problems, past operating history, or past failures or breaks,
- reserve capacity and equipment and existing reliability provisions, and
- the location of facilities, watercourses that could be affected by failure and potential for SSO-related impacts.

On the basis of the above evaluations, Utilities Division management each year:

- identifies and analyses new facilities needs, rehabilitation needs, or facility replacement needs,
- reevaluates CIP needs identified or planned during prior years, and
- develops an updated prioritization list and schedule of CIP projects using a five-year planning window.

As part of assessment assessing facilities rehabilitation and replacement needs, Utilities Division management also assess overall system capacity needs (see Element 8 of this SSMP). CIP recommendations developed by Utilities Division management are submitted to City management and elected officials for review and approval. The approved CIP is used by the City in establishing budget and funding needs for the City's wastewater operations.

Recently completed rehabilitation, replacement, or upgraded projects are summarized within the City's *SSO Prevention Plan* (see Appendix 2 within Attachment C). Rehabilitation, replacement, or capacity improvement projects contained within the City's current CIP are also presented within the *SSO Prevention Plan* (see Appendix 3 within Attachment C). As shown in the appendices to Attachment C, most of the CIP projects improve the reliability of the City's sewer collection system and minimize the potential for SSOs. CIP costs include costs for planning, design, construction, and construction inspection.

As discussed in Element 8 of this SSMP, Utilities Division operations and facilities improvements are funded through an enterprise fund. Revenues for the enterprise fund are provided through sewer rates, connection chargers, and fees. As part of City's CIP process, the City establishes a CIP fund within its budget to reserve sufficient resources to fund planned CIP facilities for each year of the six-year planning window. The reserve fund also includes a contingency for unplanned replacement and rehabilitation expenditures. Long-term sewer rates are established by the City to support both operating expenses and the long-term CIP funding needs.

**Sewer System Operations Training.** As documented in Section 3.3 of the *SSO Prevention Plan* (Attachment C), training for Utilities Division personnel is the responsibility of the Utilities Manager, Wastewater Operations Supervisor, and Equipment Operations Supervisor. City crews are trained to perform inspections, perform system checks, and to operate and maintain wastewater collection facilities and equipment.

The City maintains an ongoing operator education program to insure up-to-date training. Additionally, the City encourages employee enrollment at local community colleges and training provided by national professional societies and/or pollution-prevention organizations. Additional training includes:

- orientation training and mentorship,
- drills and test exercises,
- technical training and certification,
- professional development training,
- safety training, and
- other specialized training.

**Equipment and Parts Inventories.** As documented in Section 3.5 of the *SSO Prevention Plan* (Attachment C), the City utilizes asset management software to manage the maintenance and repair of all of the City's wastewater treatment and collection assets. The asset management software identifies scheduled maintenance and repair activities, and is used to track repair/maintenance histories of equipment and pipelines. The City is in the process of updating the asset management software to improve system efficiency and usefulness.

As part of the Utilities Division maintenance management program, management personnel evaluate inventory needs for critical components and spare parts. The City maintains an inventory of critical components which include (1) spare pipes sections and fittings, (2) spare parts, components, and fittings for pump stations, and (3) spares for repair and response equipment. Table 4-1 (page 4-8) summarizes critical components and parts maintained in the City's inventory.

In establishing the required inventory of critical components and spare parts, Utilities Division management assesses supplies, components, and equipment necessary to allow for simultaneous repairs in two locations. Critical components and spare parts are identified on the basis of:

- historic parts/components inventories and use patterns,
- manufacturer's recommendations,
- design engineer recommendations,
- past failure history, likelihood of failure and risk associated with failure,
- number of units in service requiring the parts/components,
- operating experience and recommendations from field crews,
- preventative maintenance schedules,
- parts/components availability from suppliers and time required to receive delivery,
- cost (including delivery cost),
- parts/components availability from adjoining agencies, and
- contingency/portable equipment needs.

Through mutual assistance programs, the City also maintains the ability to exchange or borrow pipe sections, fittings, or other resources from adjoining agencies. The Utilities Division also maintains an inventory of emergency repair components and equipment, including flexible connectors, sleeves, and other fittings. Further, Utilities Division managers maintain a list of suppliers for critical components, along with anticipated emergency delivery times.

**Table 4-1  
Summary of Critical Components and Spare Parts in Inventory**

Category	Critical Components and Parts
Sewer Mains & Appurtenances	<ul style="list-style-type: none"> <li>• spare pipe sections for all common sewer pipe diameters</li> <li>• seals and fittings for common pipe diameters</li> <li>• manhole fittings, covers, and manhole repair supplies</li> <li>• emergency repair components and equipment, including flexible connectors, sleeves, and other fittings</li> </ul>
Pump Stations	<ul style="list-style-type: none"> <li>• spare pump seals, gaskets, fittings, and hardware</li> <li>• spare pump impellers and bearings</li> <li>• spare motors</li> <li>• spare controls, connections, circuit-breakers, switches, and electrical components</li> </ul>
Tools and Emergency Equipment	<ul style="list-style-type: none"> <li>• spare repair equipment and tools</li> <li>• spare communication devices</li> <li>• back-up utility and repair/response vehicles</li> <li>• back-up generating power</li> <li>• facilities and portable equipment to effect emergency by-pass pumping at pump stations</li> <li>• other equipment and supplies required for responding to SSOs</li> </ul>

**Element 5**  
**DESIGN AND**  
**PERFORMANCE**  
**PROVISIONS**

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***City of San Clemente SSMP***

## **5. DESIGN AND PERFORMANCE PROVISIONS**

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*Overview - The City of San Clemente establishes standards for the design and construction of sewer collection facilities, including plan preparation and submittal requirements, standard design criteria, standard drawings, standard specifications, construction requirements, testing requirements, and inspection and testing requirements. The City's design and construction standards/specifications and testing/inspection requirements comply with requirements established in State Board Order No. 2006-0003-DWQ.*

### **5.1 Requirements**

Provision D.13 (v) of State Board Order No. 2006-0003-DWQ requires that sewer agencies implement design and performance standards, as follows:

- (v) *Design and Performance Provisions:*
  - (d) *Design and construction standards and specifications for the installation of new sanitary sewer systems, pump station and other appurtenances, and for the rehabilitation and repair of existing sanitary sewer systems, and*
  - (e) *Procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.*

### **5.2 Overview of Design and Inspection Standards**

As discussed in Section 3.4 of this SSMP, the Municipal Code empowers the City Engineer to develop, update, and enforce design standards. In accordance with this authority, the City Engineer establishes sewer design and performance standards within "Standard Provisions and Standard Drawings for the Construction of Sewerage Facilities" (hereinafter Standard Provisions).

Additional technical standards and general construction notes are presented in "Engineering Division Technical Standards" (hereinafter Technical Standards). A current version of the City's Standard Provisions and Technical Standards are available for download on the City's web site. at: <http://san-clemente.org/sc/download.aspx?pageid=388>.

The City requires that new sewer collection facilities be designed and constructed in accordance with the Standard Provisions. The City also requires that repairs or rehabilitation work on existing sewer collection facilities be designed and constructed in accordance with the Standard Provisions. The Standard Provisions and Technical Standards address:

- the preparation of construction drawings and specifications for sewer facilities,
- design criteria and materials specifications,
- procedures for the review of construction drawings and specifications by the City Engineer,
- the construction of new or rehabilitated sewer facilities, and
- City inspection, testing, review, and approval of constructed sewer facilities.

The Standard Provisions apply to all design and construction work performed on City sewers, including work performed by the City, by other government agencies, or by private contractors.

**Plan Submittal.** Per Section V of the Standard Provisions, plans and specifications for all sewer system work must be submitted to the City Engineer both in hard copy format and digital graphic GIS (geographic information system) format.

The City Engineer reviews the plans and specifications for conformance with the Standard Provisions and Technical Standards. Per authority established in the City's Municipal Code, the City Engineer maintains the final decision regarding interpretation of the Standard Provisions, and may require modification or redesign of sewer facility plans or specifications to ensure conformance with the Standard Provisions and Technical Standards.

### **5.3 Design and Construction Standards**

The City's Standard Provisions and Technical Standards establish design criteria, standard specifications, and standard drawings for common sewer facilities. The Standard Provisions and Technical Standards also set forth plan preparation, plan review, inspection, and testing procedures and methodology.

**Design Criteria for Estimating Flows.** General sewer system design criteria are established in Section II of the City's Standard Provisions. Design criteria are established for



estimating average and peak wastewater flows. The Standard Provisions establish wastewater unit flow factors for a variety of land uses and applications, including:

- residential land use (based on dwelling unit density),
- commercial land use, mixed use land use, industrial sites, heavy industrial sites, restaurants/bars, auto repair facilities, and churches (based on square footage of structures),
- auto service stations (based on number of stations),
- hotels, motels, resorts, theaters, hospitals, and schools (based on rated occupancy), and
- auto sales, golf courses, sports complexes, and utilities (based on gross acreage).

Unit flow factors established within the Standard Provisions are, in part, based on observed flow generation rates measured as part of the City's *Wastewater Master Plan*. The unit flow generation rates established within the Standard Provisions are also based on unit flow generation rates published by national professional organizations, as modified by local experience.

**Design Criteria for Sizing Sewer Facilities.** The Standard Provisions also establish design standards that govern sizing and design of sewer mains, including criteria that specify:

- minimum sewer main sizes,
- maximum depth of flow,
- sewer main minimum velocities,
- minimum pipeline slopes (per size of pipe),
- minimum residential sewer lateral connection sizes,
- minimum commercial/industrial lateral connection sizes,
- minimum lateral connection slopes, and
- manhole requirements.

The Standard Provisions establish design criteria for sewer manholes, including manhole diameters, access openings, and construction methods/materials. The City's Technical Standards set forth additional sewer design criteria including easement requirements, minimum sewer cover, and marking requirements for sewer laterals.

**Standard Specifications.** Section III of the Standard Provisions establishes standard specifications for construction materials for sewer system construction or rehabilitation. Standard specifications are established for:

- sewer gravity main and pressure main pipe, including vitrified clay pipe), heavy wall polyvinyl chloride (PVC) pipe, and ductile iron pipe,
- bolts and nuts,

- concrete and mortar,
- precast concrete manholes, including reinforcement materials, grade rings, steps, and holes,
- sealing of precast manhole sections, including cement-mortar grout, epoxy grout, and plastic joint sealing compounds,
- manhole frames and covers, including materials and dimensions, bearing surfaces, covers, and coatings,
- interior liner/coating, including materials, coating thickness, and installation methods,
- exterior waterproofing, including materials, surface preparation requirements, and
- pipe casing, including materials, joints, and reinforcement.

In addition to establishing sewer system construction materials specifications, the City's Standard Provisions incorporates by reference specifications set forth in the latest edition of *Standard Specifications for Public Works Construction* (latest edition) published by the Building News, Inc. To avoid potential conflicts, Section I of the City's Standard Provisions sets forth a "Precedence of Documents" to be used to ensure compliance with:

- applicable regulatory agency requirements,
- City Municipal Code requirements,
- City Engineer requirements, and
- standard specifications set forth in the latest editions of the *Uniform Building Code*, *Uniform Plumbing Code*, *Uniform Mechanical Code*, and *American Disabilities Act Handbook*.

**Standard Drawings.** Section II of the City's Standard Provisions establishes requirements for the preparation of drawings and notes. Section V of the Standard Provisions present standard drawings for common sewer collection facilities. Standard drawings are established for:

- pipe separation: sewers from non-domestic or domestic water mains
- standard manholes,
- manhole base plans,
- manhole frames and covers,
- drop connections to standard manholes,
- lateral sewer connections,
- pipe supports for perpendicular crossings,
- sewer saddle wye and cut-in wye connections for sewer laterals,
- sewer clean-outs,
- pipe bedding trench backfill and roadway repair,
- anchor blocks for pipes in slopes greater than 30 percent, and
- pipe casings.

## 5.4 Installation, Testing, Inspection and Approval Procedures

The City's Standard Provisions and Technical Standards comply with requirements established in Provision D.13 (v) of State Board Order No. 2006-0003-DWP for inspection and testing of sewer collection facilities.

Per Section IV of the City's Standard Provisions, inspection by the City Engineer is required (but not limited to) for the following work related to sewer system construction or rehabilitation:

- traffic plan and control,
- surveying,
- earthwork,
- clearing and grubbing or pavement removal,
- trenching and shoring,
- pipe bedding,
- pipe laying and joints,
- construction of structures,
- video taping of all constructed sewers,
- placing and compacting of backfill,
- sewer cleaning,
- deflection testing of sewers,
- air testing of sewers,
- paving or grading over trenches,
- adjusting manhole covers to grade, and
- final inspection.

City inspectors receive training in knowledge of City standards, construction inspection requirements, construction techniques, and safety. Contractors are not allowed to proceed with any phase of work until the previous phase has been inspected and approved by the City. The contractor is required to repair, reconstruct, replace or otherwise make acceptable any work found by City Engineer to be not in accordance with the City's standards. Materials inspection and testing requirements established in the Standard Provisions include:

- reviewing and approving the source of supply for materials,
- reviewing/approving materials tests furnished by contractors and manufacturers, and
- obtaining samples of materials from the contractor or manufacturer for independent testing.

The City's Standard Provisions establish testing and inspection provisions for evaluating the air tightness of sewer lines, pipe deflection (Mandrel tests) under loading, and the water tightness of manholes.

**Element 6**  
**OVERFLOW EMERGENCY  
RESPONSE PLAN**

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*City of San Clemente SSMP*

## 6. OVERFLOW EMERGENCY RESPONSE PLAN

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*Overview - The City of San Clemente maintains and updates a SSO Emergency Response Plan that documents policies, procedures and guidelines for SSO detection, notification, response, monitoring, cleanup and restoration, and record-keeping. The City's SSO Emergency Response Plan complies with emergency response requirements established within State Board Order Nos. 2006-0003-DWQ and WQ-2013-0058-EXEC for responder notification, SSO response, agency notifications, training, crowd and traffic control, and spill control.*

### 6.1 Requirements

Provision D.13 (vi) of State Board Order No. 2006-0003-DWQ requires sewer agencies to develop and implement an overflow emergency response plan:

- (vi) Each Enrollee shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, the plan must include the following:*
  - a. Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;*
  - b. A program to ensure an appropriate response to all overflows;*
  - c. Procedures to ensure prompt notification to appropriate regulatory agencies and other potential affected entities (e.g. health agencies, Regional Water Boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach water of the State in accordance with the MRP. All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDRs or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification.*
  - d. Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;*
  - e. Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and*

- f. *A program to ensure that all reasonable steps are taken to contain 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.*

Appendix A to State Board Order No. WQ-2013-0058-EXEC defines SSO categories and establishes monitoring and reporting procedures for each category. Table 6-1 (page 6-3) summarizes updated SSO monitoring and reporting requirements established under Order No. WQ-2013-0058-EXEC.

## **6.2 SSO Emergency Response Plan**

The City of San Clemente maintains a *SSO Emergency Response Plan* that documents procedures, policies, and guidelines for SSO detection, notification, response, monitoring, cleanup and restoration, and record-keeping. The most recent version of the City's *SSO Emergency Response Plan* was updated in July 2014 (see Attachment D).

**Responsibility for Plan Updates.** The Utilities Manager is responsible for ensuring that the *SSO Emergency Response Plan* is periodically reviewed and revised to incorporate up-to-date SSO policies and procedures and to incorporate experience gained by Utilities Division personnel in preventing and responding to past SSO events.

**Plan Supervision.** As set forth in the City's *SSO Emergency Response Plan*, all SSO response actions are directed by an Onsite Supervisor. For all SSOs within the City's wastewater system, the designated Onsite Supervisor (unless otherwise designated by the Utilities Manager) is the Wastewater Operations Supervisor. When the Wastewater Operations Supervisor is on vacation or are otherwise unavailable, the Utilities Manager designates an experienced Utilities Division staff member to serve as the on call Onsite Supervisor responsible for responding to and taking charge of SSO response efforts.

When Utilities Division staff arrive at the SSO scene in advance of the designated Onsite Supervisor, the senior onsite Utilities Division staff member assumes the duties of the Onsite Supervisor until the Wastewater Operations Supervisor arrives.

## **6.3 Compliance with Agency Requirements**

The City's *SSO Emergency Response Plan* complies with each of the requirements set forth within State Board Order Nos. 2006-0003-DWQ and WQ-2013-0058-EXEC.

**Table 6-1  
Summary of Spill Categories and Reporting Requirements  
State Board Order No. WQ-2013-0058-EXEC<sup>1</sup>**

Element	Requirement of Order No. WQ-2013-0058-EXEC <sup>1</sup>	Method
Notification <sup>2</sup>	<ul style="list-style-type: none"> <li>Within two hours of becoming aware of any Category 1 SSO<sup>6</sup> greater than or equal to 1,000 gallons discharged to surface water or spilled in a location where it probably will be discharged to surface water, notify the California Office of Emergency Services (Cal OES) and obtain a notification control number.</li> </ul>	Call Cal OES at: (800) 852-7550
Reporting <sup>3</sup>	<ul style="list-style-type: none"> <li>Category 1 SSO<sup>6</sup>: Submit draft report within three business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date.</li> <li>Category 2 SSO<sup>7</sup>: Submit draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar 3days of the SSO end date.</li> <li>Category 3 SSO<sup>8</sup>: Submit certified report within 30 calendar days of the end of month in which SSO the occurred.</li> <li>SSO Technical Report: Submit within 45 calendar days after the end date of any Category 1 SSO in which 50,000 gallons or greater are spilled to surface waters.</li> <li>“No Spill” Certification: Certify that no SSOs occurred within 30 calendar days of the end of the month or, if reporting quarterly, the quarter in which no SSOs occurred.</li> <li>Collection System Questionnaire - update and certify every 12 months</li> </ul>	Enrollee's legally responsible officials must enter SSO data into the CIWQS Online SSO database at <a href="http://ciwqs.waterboards.ca.gov/">http://ciwqs.waterboards.ca.gov/</a>
Water Quality Monitoring <sup>4</sup>	<ul style="list-style-type: none"> <li>Conduct water quality sampling within 48 hours after initial SSO notification for Category 1 SSOs<sup>6</sup> in which 50,000 gallons or greater are spilled to surface waters.</li> </ul>	Water quality results are required to be uploaded into CIWQS for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.
Record Keeping <sup>5</sup>	<ul style="list-style-type: none"> <li>SSO event records.</li> <li>Records documenting Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to the SSMP.</li> <li>Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters.</li> <li>Collection system telemetry records if relied upon to document and/or estimate SSO Volume.</li> </ul>	Self-maintained records shall be available during inspections or upon request.

<sup>1</sup> Order No. WQ-2013-0058-EXEC became effective on September 9, 2013.

<sup>2</sup> Notification procedures are established in Section B of Attachment A to Order No. WQ-2013-0058-EXEC.

<sup>3</sup> Reporting procedures are established in Section C of Attachment A to Order No. WQ-2013-0058-EXEC.

<sup>4</sup> Water quality monitoring procedures are established in Section D of Attachment A to Order WQ-2013-0058-EXEC.

<sup>5</sup> Record keeping procedures are established in Section E of Attachment A to Order No. WQ-2013-0058-EXEC.

<sup>6</sup> Category 1 spill is defined as a discharge of untreated or partially treated wastewater of any volume resulting from an enrollee's sanitary sewer system failure or flow condition that (1) reaches surface water and/or reaches a drainage channel tributary to a surface water; or (2) reaches a Municipal Separate Storm Sewer System (MS4) and is not fully captured and returned to the sanitary sewer system or not otherwise captured and properly disposed. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin.

<sup>7</sup> A category 2 SSO is defined as a discharge of untreated or partially treated wastewater of 1,000 gallons or greater resulting from an enrollee's sanitary sewer system failure or flow condition that does not reach surface water, a drainage channel, or a MS4 unless the entire SSO discharged to the storm drain system is fully recovered and properly disposed.

<sup>8</sup> A category 3 SSO is defined as all other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.

**Primary Responder Notification.** The City's *SSO Emergency Response Plan* (see Attachment D) documents procedures for ensuring the availability of response teams and ensuring notification of primary responders. Section 2 of the *SSO Emergency Response Plan* documents means for identifying and responding to SSOs from sewer main breaks, blockages or surcharging, or from pump station failure or surcharging. Section 2 also documents the City's reporting system that ensures that SSO reports/calls from the public to the City's SSO hot line or to law or fire authorities are routed to Utilities Division management.

All Utilities Department workers are available via cell phone/radio communications during all business hours. During business hours, Utilities Department supervisors can quickly mobilize SSO response crews by either (1) routing crews already in the field to the response site or (2) directing crews at Utilities Division offices/yards to the response site. A senior-level wastewater supervisor and an emergency response crew is scheduled as being on call and available during all non-business hours. If initial assessment indicates the need for more crews than are on call, Utilities Division senior-level supervisors are empowered to authorize overtime and mobilize any required off-duty personnel to respond to the SSO.

**Appropriate Responses to SSOs.** The City's *SSO Emergency Response Plan* (see Attachment D) documents procedures for responding to SSOs. Section 3 of the City's *SSO Emergency Response Plan* documents personnel and equipment available for SSO response. Section 4 of the City's *SSO Emergency Response Plan* sets forth procedures for ensuring appropriate responses to SSO reports. The City's SSO procedures:

- require initial responders to make the appropriate notifications to Utilities Division management,
- require initial responders to classify the spill,
- require that telephone notification is provided to the Office of Emergency Services within two hours of the detection of any Category 1 SSO, and that a notification control number is obtained from the Office of Emergency Services (OES),
- identify means of securing control of the SSO site perimeter,
- identify means of ensuring traffic control and safety,
- identify means of spill containment, diversion, and recovery for a variety of possible SSO causes,
- require proper posting and signage to warn the public of contaminated areas,
- identify available means for correcting the problem that caused the SSO and terminating the SSO,
- ensure appropriate monitoring and testing,
- address required site clean-up and restoration, and
- document required follow-up actions, notifications and record keeping.



**Agency Notification Procedures.** Section 4.3 of the City's *SSO Emergency Response Plan* (Attachment D) details notification procedures utilized by the Utilities Division. In accordance with requirements of Order No. WQ-2013-0058-EXEC, the City's *SSO Emergency Response Plan* addresses procedures for telephone notification of any Category 1 SSO to the OES within two hours of discovery of the discharge. Such telephone notification shall include providing OES with any requested information and obtaining from OES a notification control number. OES, in turn, will notify local public health agencies and response agencies. The *SSO Emergency Response Plan* procedures include required reporting of all Category 1, 2, and 3 SSOs in the State of California Online California Integrated Water Quality System (CIWQS) Database.

**Emergency Training.** The Utilities Manager is responsible for ensuring that Utilities Division supervisors and response crews are properly informed and trained for implementation of the SSO response policies and procedures documented in the *SSO Emergency Response Plan*. Under the Utilities Manager, the Utilities Division maintains ongoing mentoring and training programs for SSO response crews. As detailed in Section 3.2 of the City's *SSO Emergency Response Plan* (Attachment D), this ongoing program includes:

- orientation training and mentorship,
- specialized training,
- drills and test exercises,
- professional training and certification, and
- encouragement of cross-training and professional development training.

Scheduled tests and training include notification drills, communication drills, equipment testing and exercising, and operator training.

**Crowd and Traffic Control.** The City's *SSO Emergency Response Plan* (Attachment D) documents procedures for ensuring control of spill sites and crowds. Section 4.4 of the *SSO Emergency Response Plan* assigns the Onsite Supervisor with responsibility to secure the site and maintain crowd control. City response crews are required to carry equipment for securing the site, ensuring that the public is kept from the site, and ensuring that the public does not interfere with response crew actions. The Onsite Supervisor is responsible for contacting Utilities Division management to secure additional staffing if required.

If the potential exists for traffic to be impacted by spill response actions or parked vehicles, the Onsite Supervisor is responsible for supervising traffic diversion so as to ensure the safety of the public and response crews. City response crews are required to carry equipment and signage for diverting traffic. The Onsite Supervisor is responsible for contacting the Sheriff's Department if additional crowd control is required, if the public is interfering with response effort, or law enforcement assistance is required for ensuring the safety of the public or the response team.

**Spill Containment Procedures.** Spill containment and termination is a priority for crews responding to SSOs. The City's *SSO Emergency Response Plan* (see Attachment D) documents procedures for ensuring containment of spills, diversion and/or recovery of spills, and terminating spills.

The Onsite Supervisor is responsible for determining appropriate measures for spill containment, based on spill volume, location of downstream manholes or other collection facilities, location of storm drains, and natural terrain. Section 4.5 of the City's *SSO Emergency Response Plan* identifies potential containment strategies to be implemented by the City's response crews, which include:

- using Vactor trucks to vacuum the spill,
- using sandbags rubber dams, or other portable flow barriers to prevent the flow from entering storm drains or drainage channels,
- diverting the spill by pumping around the overflow point or sewer break point back into the sewer system,
- diverting the spill by berms or sandbags back into the sewer system,
- diverting or retaining the spill in a hollow, swale, or low area for subsequent recovery, and/or
- constructing a temporary dam or dike to contain the spill for subsequent recovery.

Where applicable, City response crews may also be able to use existing streamflow diversion facilities (normally used by the City to divert non-storm runoff to the sanitary sewer to protect local beaches).

Once spill containment is assured, City response crews focus on eliminating the source or cause of the SSO and terminating the spillage. Section 4.7 of the City's *SSO Emergency Response Plan* documents strategies for terminating spills due to sewer main failures, blockages, surcharges or terminating spills related to pump station failure or surcharge.

**Element 7**  
**FATS, OIL AND GREASE (FOG)**  
**CONTROL PROGRAM**

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*City of San Clemente SSMP*

## 7. FATS, OIL AND GREASE (FOG) CONTROL PROGRAM

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*Overview - The City maintains a public outreach program that promotes proper disposal of fats, oils, and grease (FOG) by industry, commercial establishments, and residential users. The City maintains the legal authority to establish, monitor, and enforce FOG-related prohibitions, discharge limits, and treatment requirements. The City requires grease interceptors or other applicable pretreatment for FOG generators (unless waived for cause) and requires dischargers to properly dispose of or recycle FOG. The City has identified sewer main reaches that have an elevated risk of FOG-related blockage and has implemented accelerated inspection and maintenance schedules within these reaches to minimize the potential for SSOs.*

### 7.1 Requirements

Provision D.13 (vii) of State Board Order No. 2006-0003-DWQ requires sewer agencies to determine if a program to control FOG (fats, oils and grease) is required, and to develop and implement a FOG control program if it is required:

- (vii) Each Enrollee shall evaluate its service area to determine whether a FOG control program is needed. If an enrollee determines that a FOG program is not needed, the Enrollee must provide justification for why it is not needed. If FOG is found to be problem, the Enrollee must prepare and implement a FOG control program to reduce the amount of these substances discharged to the sanitary sewer system. This plan shall include the following, as appropriate:*
  - g. An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;*
  - h. A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within the sanitary sewer system service area;*

- i. The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;*
- j. Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements;*
- k. Authority to inspect grease-producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance;*
- l. An identification of sanitary sewer section subject to FOG blockages, and establishment of a cleaning and maintenance schedule for each section; and*
- m. Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (f) above.*

## **7.2 Overview of FOG Control**

The sanitary sewer system tributary to the San Clemente WRP is operated and maintained by the Utilities Division. As discussed in Element 3 of this SSMP, the City coordinates with SOCWA for implementing the City's industrial waste pretreatment program. Pretreatment responsibilities within the Utilities Division are currently split among personnel in the wastewater and water quality units. The Operations Supervisor - Wastewater is responsible for coordinating pretreatment activities between the Utilities Division units and SOCWA.

The City's Municipal Code establishes prohibitions against FOG-related sewer line blockages, and establishes a local limit for the discharge of FOG. The Municipal Code also provides SOCWA and the City with authority to:

- evaluate and regulate the discharge of substances (including FOG) which may lead to sewer line blockage,
- develop and implement required pretreatment facilities and design standards, and enforce discharger compliance with the standards,
- inspect FOG generating facilities and enforce compliance with FOG limits established within or pursuant to the Municipal Code, and
- take other actions necessary to prevent the potential for sewer main blockage.

As part of the City's FOG program, the Utilities Division conducts video inspections of all sewer mains and maintains a database of FOG-related blockages, grease buildups, and required sewer cleanings. On the basis of this information, the City designates sewer main reaches that are considered to have an increased risk of FOG-related blockage. For such at-risk sections, the City conducts quarterly cleaning and more frequent video monitoring.

### 7.3 Compliance with FOG Requirements

The City's FOG control program complies with the requirements established in Provision D.13 (vii) of State Board Order No. 2006-0003-DWP.

**Public Education Program.** The City has developed and implemented a public education outreach program to promote proper disposal of FOG, enhance public awareness of FOG issues, and promote proper recycling of oil and grease. Key elements of the City's FOG public outreach program include (1) a program to educate commercial and residential users, and (2) an outreach program directed toward proper handling of waste automotive oil.

*Outreach to Commercial and Residential Users.* The City's outreach to commercial and residential users includes web-based and printed education literature on FOG issues, proper FOG disposal, and FOG BMPs. The literature is posted on the City's website and highlights the fact that grease is the most common cause of pipe blockages. The FOG education literature stresses such household BMPs such as:

- not discharging oil or grease down garbage disposals, drains, or toilets,
- solidifying household cooking oils and grease with cat litter or coffee grounds, and placing the solidified grease into sealed containers for disposal with solid waste,
- scraping leftover food and grease into the trash,
- wiping grease from cooking pans with paper towels prior to washing, and disposing of the paper towels with solid waste,
- placing paper towels over the sink drain basket when washing greasy pans to catch grease and food particles,
- the need for periodic inspection/maintenance of sewer laterals, and
- the need to call the City before cleaning private laterals so the City can remove any debris that is pushed into the public sewer line from cleaning the lateral.

*Waste Oil Education.* The City also maintains a public outreach program directed toward educating the public on proper disposal and recycling of automotive oil. This outreach program includes the development and distribution of literature on proper procedures for waste oil recycling and publishing lists of facilities where automotive oil can be returned for recycling. This information is posted on the City's website. Additionally, waste oil recycling signs and information are posted at participating oil recycling facilities.

As a further outreach tool, the City makes plastic waste oil recycling containers available to the public for use in recycling waste oil. The containers contained instructions on oil recycling and contact information for a list of recycling facilities.

**FOG Disposal Program.** The Utilities Division maintains a list of commercial grease recycling firms that specialize in pumping grease interceptors and recycling the waste grease. The City makes this list available to commercial users upon request.

The City's website presents recommended BMPs for proper handling and disposal of household waste grease and oil. As noted above, the public outreach information on the City's website recommends that household oils and grease be poured into containers for disposal with solid waste. The City's website also provides contact information for the public to use for addressing questions concerning proper disposal of household waste grease and oil.

As further noted, the City's outreach program provides locations of facilities within the City where used automotive oil can be recycled. The City's website also provides a list of statewide locations for automotive oil recycling.

**Legal Authority.** The City maintains and exercises the authority to prohibit or regulate FOG discharges to the sewer. The City also maintains the authority to identify and implement measures to prevent SSOs and blockages.

As discussed within Element 3 of this SSMP, the City's Municipal Code prohibits the discharge of FOG or other substances which may cause stoppage or blockage of sewer lines. Section 13.28.300 of the Municipal Code establishes a specific local limit of 300 mg/l for oil and grease.

The Municipal Code empowers the City Manager (or his/her designee) responsibility for determining the acceptability of wastewater for discharge to the City's sewer system. In determining the acceptability of wastes, the Municipal Code specifies that the City Manager (or his/her designee) consider effects on the public, sewer collection facilities and maintenance, public and private property, the environment, and nuisance conditions.

The Municipal Code requires users to provide wastewater pretreatment facilities that incorporate best practicable technology to comply with established discharge provisions, standards, and local limits. The Municipal Code authorizes the City to review and approve such pretreatment devices, and requires the City Engineer to develop, update, and enforce design standards for sewer collection and sewer discharge facilities.

Section 13.30.050 of the Municipal Code requires food service establishments and FOG generators to obtain a discharge permit that requires installation and proper operation of grease removal facilities, implementation of waste oil collection or recycling, implementation of FOG BMPs and BMP training.

**Grease Removal Requirements.** Pursuant to authority established in the Municipal Code, the City requires pretreatment for the removal of FOG. Grease control devices are required for all food establishments or facilities with kitchen equipment that have the potential to produce grease. Grease interceptors are required except in circumstances where the City determines that site restrictions make it impractical to install interceptors. In such circumstances, the City may require alternative grease control devices and/or implementation of grease prevention BMPs.

The city may also require grease interceptors for automotive or other maintenance facilities designated by the City as representing a threat for the discharge of FOG.

*Grease Interceptor Requirements.* In accordance with design standards established by the City, grease interceptors are required to have:

- a minimum capacity of 750 gallons, and be sized in accordance with the most recent Uniform Plumbing Code adopted by the City,
- a sample box, with a sanitary tee inside the sample box on the outlet side,
- a vent,
- a running trap,
- two-way cleanout-s prior to the connection to the sewer lateral,
- a manhole at each internal baffle, with no more than 10 feet between manholes,
- no hidden internal baffles,
- grade rings that are grouted and sealed, and
- lids that are traffic sealed.

The City requires that the interceptors and all associated connections be inspected and approved by the City prior to backfill. Additionally, the City requires that all interceptors be filled with water for leak detection prior to backfill.

*Grease and Oil BMPs.* Section 13.30.050 of the Municipal Code requires food service establishments and FOG generators to:

- implement a series of specified kitchen management BMPs,
- maintain an employee BMP training program, and
- post BMP signs at the establishment.

Table 7-1 (page 7-6) presents FOG-related BMPs mandated by Section 13.30.050 of the Municipal Code. In addition to specifying required BMPs within the Municipal Code and within discharge permits issued to food service establishments and FOG generators, the City also lists the required grease removal BMPs at the City's website.



**Table 7-1  
Kitchen Best Management Practices (BMPs) Mandated by the Municipal Code**

Required FOG Control Kitchen Best Management Practices <sup>1</sup>
<ul style="list-style-type: none"> <li>• Dispose of food waste and fatty scraps into the trash or garbage bin, not down the sink, use of plastic trash bags to prevent leaks and odor, double-bagging of waste that has the potential to leak in trash bins, and ensuring that trash bins are covered when not in use and the trash hauler is notified if the bin is leaking.</li> <li>• Dry wipe or scrape pots, pans, dishware, floor mats, and work areas to remove grease and food scraps before washing and disposal in the trash.</li> <li>• Install removable screens on all drainage pipes in food preparation areas, maintain screens in the sink and floor drains in a clean condition and in good repair, and to dispose of removed solids in the trash, not down the drain.</li> <li>• Dispose of grease and oil from cooking equipment (pots, pans and fryers) by pouring waste oil and yellow grease into covered containers (drums, barrels) for storage and recycling, to provide a weather proof storage area (covered shelter) and secondary containment capable of capturing 110% of any liquid grease or oil that is stored from the primary container, and to use a licensed waste hauler or recycling facility to dispose of liquid grease and oil before the container is full.</li> <li>• Clean and wash floor mats in a utility mop sink connected to an interceptor, if present, to empty mop water into a sink or drain connected to a grease interceptor, if present, and to refrain from emptying mop or wash water into storm drains.</li> <li>• Clean hoods and filters as frequently as is necessary to maintain good operating condition, to ensure that each hood discharge fan contains a grease guard around the fan's discharge point on the rooftop and to use a licensed waste hauler to dispose of grease collected from cleaning hoods and filters.</li> <li>• Clean existing Grease Traps as frequently as is necessary to keep them free of food residues and hardened Fats, Oils, and Grease, and to inspect Grease Traps for leaking seams and pipes.</li> <li>• Place absorbent materials, such as paper towels or pads, under fryer baskets and other areas where grease may drip or spill during cooking, frying, or during the transfer of grease to storage or disposal containers.</li> <li>• Maintain a spill kit accessible for use by employees, including absorbent pads, granular absorbent or equivalent absorbing material, and paper towels, and to require the use of the spill kit to clean up spilled Fats, Oils, and Grease.</li> <li>• Refrain from pumping or discharging water hotter than 140°F through a Grease Control Device.</li> <li>• Post signs provided by City to show kitchen best management practices (BMPs) in food preparation, dishwashing, and maintenance areas.</li> </ul>

<sup>1</sup> FOG-control BMPs mandated for food service establishments and other permitted FOG generators under Section 13.30.050(H) of the Municipal Code.

**Authority to Inspect and Enforce FOG Compliance.** The City's Municipal Code establishes the City's authority to inspect FOG dischargers and enforce FOG limits. Sections 13.28.570 and 13.30.050 of the Municipal Code provide the City with authority to inspect and monitor sewer users to ensure compliance with applicable discharge standards, discharge permit standards, local limits, and sewer discharge regulations. Section 13.28.660 provides City staff with right to entry for sewer user inspections and monitoring. Section 13.28.120 and Article IX of the Municipal Code provides the City with authority to enforce compliance with:

- discharge prohibitions, standards, and requirements established within the Municipal Code, or
- discharge policies, design standards, and other requirements established by the City pursuant to authorities established within the Municipal Code.

**Inspection and Enforcement Staffing.** The City coordinates with SOCWA for ensuring compliance with federal industrial discharge pretreatment requirements governing Categorical Industrial Users (CIUs) and Significant Industrial Users (SIUs). Food service and automotive dischargers which not subject to federal regulation as CIUs or SIUs are regulated by the City in accordance with provisions established in the City's Municipal Code. Duties for inspecting and regulating potential FOG dischargers are currently split within the Utilities Division wastewater and water quality units, and are supervised under the Operations Supervisor - Wastewater.

**Facilities Susceptible to FOG Blockage.** As set forth in the City's *SSO Prevention Plan* (see Attachment C), the City's preventative sewer system operations and maintenance includes:

- a program of regularly scheduled visual inspections of manholes and television video inspections of sewer mains,
- maintaining a database of observed instances of root damage and observed instances of FOG-related problems identified through the inspections,
- maintaining a database of past SSO events,
- evaluating each reach of the City's sewer collection system and identifying sewer main reaches that are determined to represent an increased risk for FOG-related blockages or blockages related to vegetation or tree roots, and
- regularly updating of the evaluation of sewer line reaches to assess the risk of FOG-related or root-related sewer main blockages.

*Designation of At-Risk Sewer Sections.* As documented in the City's *SSO Prevention Plan* (see Attachment C), the City has designated approximately 10.2 miles of sewer mains as having increased risk of FOG-related blockage. The City has designated an additional 6.9 miles of sewer mains as having an increased risk of root-related blockage.

*Increased Sewer Inspection and Cleaning.* For areas deemed to have an elevated risk of FOG-related or root-related blockages, the City's *SSO Prevention Plan* establishes a schedule of increased frequency of sewer inspection and cleaning. The City endeavors to achieve biannual or triennial visual or television inspections of all City sewer mains. The City targets annual (or more frequently if needed) visual/television inspections of manholes and sewer mains in areas designated as having an increased risk of FOG-related blockage or root-related blockage.

The City also increases the frequency of sewer main cleaning in areas designated as having an increased risk of FOG-related or root-related blockage. The City schedules at least quarterly cleaning of sewer mains in areas designated as having an elevated risk for FOG-related or

root-related blockages. Based on results from ongoing television video inspections, the City may also target cleaning problem sewer reaches more frequently than quarterly.

As described in the City's SSO Prevention Plan, if warranted the City may also implement special studies to identify FOG sources, identify and evaluate potential means of FOG controls, or identify facilities improvements required to minimize the potential for FOG-related blockages.

**Element 8**  
**SYSTEM EVALUATION**  
**AND CAPACITY**  
**ASSURANCE PLAN**

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***City of San Clemente SSMP***

## 8. SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

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*Overview - Ultimate peak wastewater flows have been estimated within each of the drainage areas within the San Clemente WRP service area. Wastewater collection and pump station facilities have been designed and constructed within each of the drainage areas to accommodate the ultimate peak flows. The City maintains adequate wastewater flow/capacity design criteria, and no modification of the City's design criteria are required to comply with SSMP requirements of State Board Order No. 2006-0003-DWQ. Because existing wastewater collection facilities provide adequate capacity for handling anticipated ultimate peak wastewater flows, no additional capacity enhancement measures are required in order for the City to comply with capacity assurance requirements of Order No. 2006-0003-DWQ.*

### 8.1 Requirements

Provision D.13 (viii) of State Board Order No. 2006-0003-DWQ requires that sewer agencies implement design and performance standards, as follows:

- (viii) System Evaluation and Capacity Assurance Plan: The Enrollee shall prepare and implement a capital improvement plan (CIP) that will provide hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event. At a minimum, the plan must include:*
  - (f) Evaluation: Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events,*
  - (g) Design Criteria: Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria,*

- (h) *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, and*
- (i) *Schedule: The Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a) - (c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D.14.*

## **8.2 Capacity Evaluations**

The City of San Clemente's sewer system is designed and constructed to provide adequate capacity to handle anticipated average and peak wastewater flows.

**Master Plan Evaluation of Flows.** The sewer service area tributary to the San Clemente WRP consists of seven topographic drainage areas. As documented within the *SSO Prevention Plan*, projections for peak ultimate wastewater flows within each of the seven drainage areas has been developed within the City's *Wastewater Master Plan*. Peak ultimate wastewater flows are projected in the *Wastewater Master Plan* on the basis of buildout of zoned lands, observed wastewater flow generation rates, and observed peak flow factors.

As also documented in the City's *SSO Prevention Plan* (Attachment C), wastewater facilities needs and wastewater flow projections presented in the City's 1995 *Wastewater Master Plan* remain valid and conservative, as:

- a significant majority of the sewer service area of the San Clemente WRP was already build out in 1995,
- zoning and designated land use densities have remained largely as they were in 1995,
- one significant planned development within the City remains undeveloped, and
- unit flow generation values within the City's service area are lower than projected in 1995 due to increased water conservation.

With an additional margin of safety provided by water conservation and slower-than-projected development rates, the City's 1995 *Wastewater Master Plan* continues to provide Utilities Division managers with a useful tool for assessing wastewater collection facilities needs for ultimate projected wastewater flows.

**Master Plan Capacity Evaluations.** The *Wastewater Master Plan* evaluated facilities needs required for handling projected ultimate peak wastewater flows within each of the tributary drainage areas. On the basis of these facilities evaluations, the *Wastewater Master*

*Plan* identified a prioritized list of recommended pump station, trunk sewer, and sewer main upgrades and improvements.

The City has implemented the capacity upgrade recommendations set forth in the *Wastewater Master Plan*. Within the past decade, the City has rehabilitated or implemented upgrades to each of its ten wastewater pump stations. With these upgrades, each pump station is capable (see Table 2-2 within Attachment C) of handling projected ultimate peak wastewater flows with one pump out of operation.

The City has also implemented upgrades to major trunk sewers and sewer mains. With these completed capital improvements, sewer main and pump station facilities within each of the seven tributary areas are capable of handling projected peak ultimate wastewater flows.

Because existing wastewater collection facilities are sized to handle peak ultimate wastewater flows, no long-term or short-term capacity-related capital improvements within the City's sewer collection system are required. The City, however, continues to assess capacity needs and upgrades (along with replacement/rehabilitation needs) as part of its annual CIP process.

**Ongoing CIP Evaluations.** The City develops and annually updates a six-year Capital Improvements Plan (CIP) to plan and budget for capital improvement projects in the upcoming year and five future years. As part of the annual CIP review, Utilities Division managers identify and prioritize long-term facilities improvements to lessen the potential for SSOs.

Within this prioritization process, Utilities Division management review existing facilities capacities and performance, existing wastewater flows and flow projections, master planning documents, past SSO experience, facilities inspection reports, and recommendations from field personnel. In assessing capacity upgrades and replacement/rehabilitation needs and priorities, Utilities Division management considers:

- prior master planning analyses and recommendations,
- the age, condition, and projected lifespan of existing facilities, equipment, or instrumentation,
- the rated capacity of existing facilities and anticipated future capacity needs,
- observed peak flows and projected peak flows,
- soil conditions and the potential for erosion,
- access considerations,
- materials availability and the potential difficulty of repair in the event of failure of the facility,
- previous maintenance problems, past operating history, or past failures or breaks,
- the location of facilities, and
- watercourses or beneficial uses that could be affected by SSO-related impacts.

On the basis of the above evaluations, Utilities Division management each year:

- identifies and evaluates new facilities needs, rehabilitation needs, and facility replacement needs,
- reevaluates CIP needs identified or planned during prior years, and
- develops an updated prioritization list and recommended schedule of CIP projects for the upcoming year and the subsequent five years (six-year planning window).

CIP recommendations developed by Utilities Division management are submitted to City management and the City Council for review and approval. The approved CIP is used by the City in establishing budget and funding needs for the City's wastewater operations. CIP costs include costs for planning, design, construction, and construction inspection.

Appendix 2 to Attachment C presents a list of CIP projects implemented within the past six years. Appendix 3 to Attachment C presents a list of currently planned CIP projects.

**Facilities Adequacy.** As a result of past system improvements, all major trunk lines, all tributary trunk lines, and all pump stations within each of the City's seven tributary drainage areas maintain adequate capacity to handle peak ultimate wastewater flows. With the completed facilities improvements, no capacity-related shortcomings currently exist within the City's collection system. As noted, the City maintains a margin of safety in assuring adequate capacity, as observed wastewater flows continue to trend lower than flows projected within the master plan.

### **8.3 Adequacy of Design Criteria**

The City of San Clemente maintains appropriate design criteria for estimating wastewater flows and designing and constructing wastewater collection facilities.

**Flow Estimation Criteria.** As discussed in SSMP Element 5, the City's Standard Provisions establish standard wastewater unit flow factors that are, in part, based on observed wastewater flows generated within the City.

The Standard Provisions also establish peak flow factors for determining peak wastewater flows. The required peaking factors are based on a comparison of average and peak wet weather sewer flows observed within the City. The City's *Wastewater Master Plan* documents that these with peaking factors are consistent with peaking factors observed in other locations within Orange County.

As a result of the City's ongoing water conservation efforts, per capita unit wastewater generation rates within the City are currently below the approximately 90 gallons per capita



per day rate documented within the City's *Wastewater Master Plan*. Because of these water conservation efforts, an extra factor of capacity assurance safety is incorporated into the unit flow generation rates established in the Standard Provisions.

The current flow estimation criteria established within the Standard Provisions are thus conservative, and are adequate for ensuring adequate sewer system capacity. Consequently, no changes in the City's flow generation standards are required.

**Sewer Sizing Criteria.** As documented in SSMP Element 5, the City's Standard Provisions establish sewer design criteria that address required sewer sizes, flow velocities, maximum depth of flow, slopes, and lateral connection sizes.

The City's sewer design criteria are in accordance with standard sewer slope, depth of flow, velocity and size criteria set forth in standard sewer design manuals and handbooks developed by professional organizations. The City's sewer design criteria are also in accordance with the normal standard of practice in use within Southern California. Additionally, the criteria have been vetted as part of sewer flow projections and modeling work conducted within the City's *Wastewater Master Plan*. Further, operations experience of the City's wastewater collection facilities (which have been constructed in accordance with sizing, slope, and other design criteria set forth in the Standard Provisions) does not indicate any deficiencies within the City's sewer sizing or design criteria.

#### **8.4 Capacity Enhancement Measures and Schedule**

As documented within the City's *SSO Prevention Plan* (Attachment C), all capacity-related enhancement recommendations presented in the City's *Wastewater Master Plan* have been implemented. Trunk sewers and sewer mains within the San Clemente WRP service area have adequate capacity to handle projected ultimate peak flows, and all pump stations are capable of handling projected peak flows with one pump out of service. No additional capacity enhancement measures are required in order to meet projected ultimate peak flow demands

**Ongoing Evaluations.** As documented in Chapter 4 of the City's updated *SSO Prevention Plan* (see Attachment C), the City annually assesses capacity and rehabilitation/replacement needs as part of its CIP evaluations. Utilities Division managers also continually assess the potential for changed conditions (e.g. changes in wastewater flows, new development or sewer users, peak flow timing, infiltration and inflow trends) that may require re-evaluation of system flows and facilities capacity needs. If these ongoing evaluations indicate the potential for peak wastewater flows in excess of those addressed in the existing master plan, Utilities Division management will take actions to update the sewer system master plan and facilities needs to reflect the changes in wastewater flow trends.

**Element 9**  
**MONITORING,  
MEASUREMENT AND  
PROGRAM MODIFICATIONS**

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*City of San Clemente SSMP*

## 9. MONITORING, MEASUREMENT AND PROGRAM MODIFICATIONS

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*Overview - The City of San Clemente's SSMP complies with the monitoring and measurement provisions of State Board Order No. 2006-0003-DWQ. The City monitors a number of performance parameters in order to assess the effectiveness of the SSMP. From this monitoring, Utilities Division staff can identify causes of SSOs, and evaluate the effectiveness of SSO detection and response procedures. Results from the performance monitoring are also used to determine how the SSMP elements may be modified to limit the potential for future SSOs.*

### 9.1 Requirements

Provision D.13 (ix) of State Board Order No. 2006-0003-DWQ requires that the sewer agency monitor and measure SSMP effectiveness and update program elements as necessary:

- (ix) *Monitoring, Measurement, and Program Modifications. The Enrollee Shall:*
  - (j) *Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities,*
  - (k) *Monitor the implementation, and where appropriate, measure the effectiveness of each program element,*
  - (l) *Assess the success of the preventative maintenance program,*
  - (m) *Update program elements, as appropriate, based on monitoring of performance evaluations, and*
  - (n) *Identify and illustrate SSO trends, including frequency, location, and volume.*

### 9.2 SSMP Monitoring Program

The City of San Clemente's SSMP complies with monitoring and measurement provisions of State Board Order No. 2006-0003-DWQ, and utilizes the collected monitoring information to, in part:

- measure the effectiveness of SSO prevention actions,
- assess SSMP prioritization needs,
- identify the sources/causes of SSOs,
- evaluate preventative maintenance needs,
- evaluate CIP and rehabilitation/replacement needs,
- evaluate SSO detection and response needs, and
- determine how SSMP elements may be modified to further limit the potential for the occurrence of SSOs.

The Utilities Division maintains records and reports of all SSOs that occur within the San Clemente WRP service area, including information documenting:

- the SSO location,
- the cause or causes of the SSO,
- the amount of sewage spilled and amount contained/recovered,
- means of spill detection,
- duration of the spill,
- response actions,
- cleanup and restoration actions,
- reports made to regulatory authorities, and
- measures implemented to prevent recurrence.

The City also maintains certified records all SSO reports filed with the State Board and Regional Board, along with original monitoring instrument recordings, service call records, work orders, and SSO response actions.

As documented in the City's *SSO Prevention Plan* (Attachment C), the Utilities Division maintains activity records that document performance and implementation measures, including preventative inspections and maintenance of pump stations, inspections and cleaning of sewer mains, and inspections and maintenance of sewer collection facilities. As part of these activity records, the City maintains records on:

- inspection findings,
- preventative maintenance or repair actions taken,
- field crew notes and recommendations,
- pump station logs,
- future inspection needs and preventative maintenance actions required,
- customer complaints/notifications and City responses, and
- needs for additional information, testing, analysis or data management.

The Wastewater Operations Supervisor is responsible for maintaining records of SSOs and sewer main inspection, repair, and maintenance. The Equipment Operations Supervisor is responsible for maintaining records on pump station operations, inspections, repair, and maintenance.

### **9.3 Measurement of Effectiveness**

**Monitoring Performance Parameters.** Table 9-1 (page 9-4) summarizes monitoring performance parameters used to assess SSMP effectiveness. In assessing SSMP effectiveness, Utilities Division managers use performance monitoring information to evaluate trends in the number, location, cause, and volume of SSOs. Other monitoring performance parameters assess the effectiveness of SSO detection and response actions. In total, the monitoring performance parameters allow the City to evaluate the performance of each element of the SSMP, including

- discharge regulation and
- operation and maintenance activities,
- design and performance provisions,
- emergency response actions,
- FOG control and regulation,
- system capacity,
- infiltration/inflow prevention, and
- rehabilitation/replacement needs for facilities and equipment.

**Evaluation Schedule.** As set forth in Element 10 of this SSMP, biannual audits will be conducted to evaluate SSMP effectiveness. Because a relatively low number of SSOs occur within the City, a sufficiently robust database may not be available as part of the biannual audits to allow for formal statistical evaluation or correlation of SSO data. In this event, Utilities Division managers will review available data to determine if any SSO trends are identifiable and will determine whether modification of SSMP elements are required.

**Table 9-1**  
**Monitoring Performance Parameters**

Category	Monitoring Parameter	Objective of Monitoring		
		Assess Effectiveness of SSO Program	Assess Causes of SSOs	Assess Effectiveness of SSO Responses
Number of Events	Total number of SSOs	●		
	Number of wet weather SSOs	●	●	
	Number of dry weather SSOs	●	●	
	Number of SSOs by cause	●	●	
	Number of SSOs in designated FOG-risk areas	●	●	
	Number of SSOs in designated root-risk areas	●	●	
	Number of SSOs from pump stations	●	●	
Spill Volumes	Volume spilled by SSOs per year	●		
	Volume spilled during wet weather	●	●	
	Volume spilled during dry weather	●	●	
Computed Parameters	Average volume spilled per SSO	●		
	Percent of spill volume contained and recovered	●		●
	Wet weather SSOs vs. precipitation <sup>1</sup>	●	●	
	Number of SSOs vs. time of year <sup>1</sup>	●	●	
	Number of SSOs vs. frequency of inspection <sup>1</sup>	●	●	
	Number of SSOs vs. frequency of cleaning <sup>1</sup>	●	●	
	Number of SSOs vs. diameter of sewer main <sup>1</sup>	●	●	
	Number of SSOs vs. sewer main slope <sup>1</sup>	●	●	
	Number of SSOs vs. age of sewer main <sup>1</sup>	●	●	
Detection and Response	Contained and recovered volumes of SSO flows	●		●
	Average time from spill to detection	●		●
	Average time from detection to response team arrival	●		●
	Average time from arrival to spill termination	●		●
System Improvements	Miles of sewer mains cleaned annually	●		
	Miles of sewer mains video inspected annually	●		
	Percent of sewer mains (by length) cleaned annually	●		
	Percent of sewer mains (by length) cleaned annually	●		
	Miles of sewer lines rehabbed/replaced annually	●		

<sup>1</sup> Bar chart frequency histogram plot showing number of SSOs vs. listed parameters.

## 9.4 Program Modifications

**Evaluation of Preventative Maintenance Needs.** As documented in the City's *SSO Prevention Plan* (Attachment C), the City employs a variety of SSO prevention measures, including inspection, preventative maintenance, FOG control and regulation, root control, and public education. Utility Division managers update preventative inspection, cleaning, and maintenance schedules and actions as required on the basis of sewer inspection results, past operating history, and recommendations from field crews.

Utilities Division managers will on an ongoing basis evaluate the SSMP monitoring parameters to assess the effectiveness of the City's SSO prevention operations and preventative maintenance measures. A variety of measures are available to the City should the monitoring information indicate the need for SSMP modifications. Table 9-2 (page 9-7) summarizes available preventative responses should the City's SSMP monitoring indicate potential SSO trends related to FOG, roots, vandalism, pump station operation, and other causes. Depending on the results of the monitoring, an SSMP update or update of the City's *SSO Prevention Plan* may be required to reflect needed changes in operations, inspections, and preventative maintenance programs.

**Evaluation of Response/Detection Needs.** SSMP monitoring data may also be used to assess the effectiveness of SSO detection and response. Utilities Division managers will assess SSMP monitoring parameters to evaluate the potential for improvement in SSO detection or response, and to determine which strategies or improvements may be most effective in improving SSO detection or response. Utilities Division managers will also evaluate the data to determine if an SSMP update or changes to the City's *SSO Emergency Response Plan* (Attachment D) are warranted.

**Evaluation Responsibilities.** The Wastewater Operations Supervisor and Utilities Manager are responsible for evaluating the performance parameters to assess SSMP effectiveness, identify SSO sources and trends, and identify required changes in SSO preventative measures, and required SSMP modifications. Utilities Division managers will also be responsible for determining if outside contractor assistance is required to support the evaluation of SSMP monitoring performance parameters.

**Table 9-2  
Potential Monitoring Trends and Responses**

Potential Monitoring Trend	Potential Response to Monitoring Trend
SSOs occur during wet weather	<ul style="list-style-type: none"> <li>• Increase Infiltration and inflow testing and enforcement</li> <li>• Accelerate manhole seal replacement program</li> <li>• Revise video inspection frequencies</li> <li>• Reassess at-risk areas for inflow and infiltration</li> <li>• Revise sewer design flow or peaking factor criteria</li> <li>• Revise CIP and rehabilitation/replacement schedules</li> <li>• Update SSMP and/or <i>SSO Prevention Plan</i></li> </ul>
SSOs are caused by FOG	<ul style="list-style-type: none"> <li>• Increase inspection/regulation of FOG dischargers</li> <li>• Revise FOG control procedures or regulations</li> <li>• Revise FOG-risk designations of sewer mains</li> <li>• Revise sewer main cleaning frequencies</li> <li>• Revise sewer main inspection frequencies</li> <li>• Update SSMP and/or <i>SSO Prevention Plan</i></li> </ul>
SSOs are caused by roots	<ul style="list-style-type: none"> <li>• Revise root-risk designations of sewer mains</li> <li>• Revise sewer main cleaning frequencies</li> <li>• Revise sewer main inspection frequencies</li> <li>• Update SSMP and/or <i>SSO Prevention Plan</i></li> </ul>
SSOs are caused by vandalism	<ul style="list-style-type: none"> <li>• Upgrade manhole security</li> <li>• Upgrade pump station security</li> </ul>
SSOs occur at pump stations	<ul style="list-style-type: none"> <li>• Revise pump station inspection frequencies or procedures</li> <li>• Upgrade SCADA/alarm/warning equipment and systems</li> <li>• Improve operator training</li> <li>• Upgrade pump station security</li> <li>• Increase parts inventory and/or parts accessibility</li> <li>• Upgrade emergency generation equipment</li> <li>• Update SSMP and/or <i>SSO Prevention Plan</i></li> <li>• Revise CIP and rehabilitation/replacement schedule</li> </ul>
SSOs are caused by debris	<ul style="list-style-type: none"> <li>• Revise sewer main cleaning frequencies</li> <li>• Revise sewer main inspection frequencies</li> <li>• Update SSMP and/or <i>SSO Prevention Plan</i></li> </ul>
SSOs are caused by pipe failure	<ul style="list-style-type: none"> <li>• Revise sewer main inspection frequencies</li> <li>• Revise CIP and rehabilitation/replacement schedule</li> </ul>
Inadequate Detection or Response	<ul style="list-style-type: none"> <li>• Modify <i>SSO Emergency Response Plan</i> provisions</li> <li>• Upgrade detection equipment or procedures</li> <li>• Modify staffing or staff on-call requirements</li> <li>• Upgrade response equipment</li> <li>• Improve response training</li> <li>• Increase interagency coordination and/or resource sharing</li> </ul>



**Element 10**  
**SSMP PROGRAM AUDITS**

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*City of San Clemente SSMP*

## 10. SSMP PROGRAM AUDITS

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*Overview - The City of San Clemente Utilities Division will conduct an audit of the SSMP a minimum of every two years. The audit will assess the effectiveness of the SSM and assess compliance with State Board Order No. 2006-0003-DWQ. The audit will also identify any SSMP deficiencies or recommended revisions, and will present a plan and schedule for correcting the deficiencies. The SSMP will be updated by the City a minimum of once every five years.*

### 10.1 Requirements

Provision D.13 (x) of State Board Order No. 2006-0003-DWQ requires that the collection system agency implement a program of periodic audits of the SSMP to assess program effectiveness:

- (x) *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.*

### 10.2 Audit Program

**Audit Objectives.** State Board Order No. 2006-0003-DDWQ requires that sewer system operators conduct a biannual audit of the SSMP, appropriate to the size of the sewer system and number of SSOs. Objectives of the SSMP audit are to:

- ensure that all programs associated with the SSMP are implemented and managed appropriately,
- evaluate the effectiveness of the SSMP,
- evaluate the adequacy of the City's record keeping and data management efforts,

- assess overall compliance of the SSMP with requirements of State Board Order Nos. 2006-0003-DWQ and WQ-2013-0058-EXEC,
- identify any deficiencies that require correction,
- present a plan for correcting the noted deficiencies, and
- identify any policy changes that may be needed to ensure effective implementation of the SSMP.

**Need for Formal SSMP Audit.** The City of San Clemente 2009 SSMP established a detailed process for biannual review of the SSMP. Due to several changes in Utilities Division senior management and the low number of SSOs within the City during the past few years, however, the formal audit process set forth in the 2009 SSMP was not implemented and instead the SSMP audit process consisted of periodic informal review of SSMP procedures and effectiveness by Utilities Division staff.

While the number of SSOs reported within the City do not allow for robust statistical evaluation of trends, the City is required under Order No. 2006-0003-DWQ to prepare audit reports and keep the reports on file. To comply with this requirement, the Utilities Division is committed to implementing formal biannual audits that include written reports that assesses conformance of this updated SSMP with applicable regulatory requirements.

**Audit Report.** Table 10-1 (paged 10-3) summarizes SSMP checklist items to be addressed as part of preparing audit reports that evaluate the effectiveness of this updated SSMP. To address the scope presented in Table 10-1, each audit will include:

- collecting and reviewing documents and data related to SSOs, SSO prevention, and SSO responses,
- collecting and reviewing documents on SSMP implementation and operations, and
- conducting interviews with all levels of staff within the Utilities Department.

On the basis of these reviews and interviews, the audit report will be prepared in accordance with requirements of State Board Order No. 2006-0003-DWQ that:

- evaluates the City's SSO prevention efforts and SSMP implementation efforts,
- assesses compliance with SSMP requirements, and
- identifies areas where improvement is required.

The audit report will also identify any required changes in City of San Clemente regulations, policies, procedures, facilities, or operations required to correct any noted deficiencies. The audit report will also develop a schedule for implementing the corrective strategies or measures. As part of this schedule, the audit report will identify the process for formal City review and approval of any such corrective strategies.

**Table 10-1  
SSMP Audit Checklist**

SSMP Element	Audit Checklist Item
Legal Authority	<ul style="list-style-type: none"> <li>Identify any changes in legal authority that has occurred since adoption of the SSMP</li> <li>Review any past legal challenges to the SSMP or to the City's SSMP enforcement actions</li> <li>Assess need for additional FOG-related legal authority</li> <li>Identify legal authority deficiencies and recommended corrective actions</li> </ul>
Operations and Maintenance	<ul style="list-style-type: none"> <li>Identify any O&amp;M changes that have occurred since adoption of the SSMP</li> <li>Evaluate the City's program for identifying FOG- and root-related SSO threats</li> <li>Evaluate adequacy of cleaning/inspection program</li> <li>Evaluate adequacy of pump station maintenance program</li> <li>Evaluate need for update of <i>SSO Prevention Plan</i></li> <li>Identify O&amp;M deficiencies and recommended corrective actions</li> </ul>
Design and Performance Standards	<ul style="list-style-type: none"> <li>Identify changes in design/performance standards that have occurred since adoption of the SSMP</li> <li>Evaluate need for update of design specifications and standards</li> <li>Evaluate need for update of means for estimating dry weather flows and peak flows</li> <li>Identify design/performance deficiencies and recommended corrective actions</li> </ul>
Emergency Response	<ul style="list-style-type: none"> <li>Evaluate adequacy of the City's SSO database, SSO reporting, and SSO response actions</li> <li>Review SSO records, SSO reports, and SSO response times and procedures</li> <li>Evaluate need for update of <i>SSO Emergency Response Plan</i></li> <li>Identify emergency response deficiencies and recommended corrective actions</li> </ul>
FOG	<ul style="list-style-type: none"> <li>Review SSO records and FOG-related SSOs</li> <li>Identify FOG control actions implemented by the City since adoption of the SSMP</li> <li>Evaluate grease interceptor enforcement actions and assess consistency in application of grease interceptor requirements</li> <li>Assess need for discharge permits for major FOG dischargers</li> <li>Assess effectiveness of FOG communications program</li> <li>Identify FOG program deficiencies and recommended corrective actions</li> </ul>
System Evaluation and Capacity Assurance	<ul style="list-style-type: none"> <li>Identify any changes in wastewater planning/flows that that occurred since adoption of the SSMP</li> <li>Identify capacity-related CIP projects that have been implemented since adoption of the SSMP</li> <li>Assess the adequacy of the exiting <i>Wastewater Master Plan</i> for addressing capacity needs</li> <li>Identify capacity evaluation and CIP deficiencies and recommended corrective actions.</li> </ul>
Monitoring and Data Measurement	<ul style="list-style-type: none"> <li>Identify changes in document control procedures implemented since adoption of the SSMP</li> <li>Evaluate adequacy and accessibility of SSO records, cleaning records, and inspection records</li> <li>Evaluate process for identifying FOG- and root-related sewer line blockage threats</li> <li>Statistically evaluate and analyze SSO monitoring performance parameters</li> <li>Identify monitoring, measurement, and data management deficiencies and recommended corrective actions</li> </ul>
Communications	<ul style="list-style-type: none"> <li>Identify changes in the communications program that have occurred since the SSMP was adopted</li> <li>Review public input received</li> <li>Assess public information accessibility and public review opportunities public</li> <li>Identify communications program deficiencies and recommended corrective actions</li> </ul>
Training	<ul style="list-style-type: none"> <li>Evaluate adequacy of training records</li> <li>Evaluate adequacy of SSMP-related staff training program</li> </ul>

Prior to issuing a draft audit report, a preliminary draft version of the audit report will be circulated through all levels of Utilities Division staff for input.

**Data Management Support.** The results of the SSMP audit are dependent on maintaining adequate records relating to SSMP implementation and SSO prevention. As discussed in Element 9 of this SSMP, the Utilities Division maintains reports of a number of monitoring performance parameters related to SSOs and SSO prevention. Additional documents maintained by the Utilities Division related to SSMP implementation and SSO prevention include:

- staff training records and procedures,
- updated map of the City's sewer collection system,
- updated map of the City's storm drain system,
- SSO reports submitted to the Regional Board, including SSO locations, sources, volumes spilled, volumes contained, duration, response and cleanup actions, and measures taken to prevent spill recurrence,
- sewer cleaning logs and sewer cleaning actions,
- sewer inspection reports and video inspection logs,
- maps showing sewer mains that have been determined to have enhanced root- or FOG-related potential for blockage,
- FOG control inspection logs,
- a log of FOG-related enforcement actions,
- pump station inspection and maintenance reports,
- current version of the City's *Wastewater Master Plan*,
- current version of the City's SSMP and attachments,
- current version of the City's *SSO Prevention Plan*,
- current version of the City's *SSO Emergency Response Plan*, and
- CIP evaluations and prioritized list of sewer rehabilitation or replacement projects,

SSMP-related records and documents will be maintained on file for review by regulatory agencies at the Utilities Division office at 380 Avenida Pico, Building N.

### 10.3 Audit Implementation

**Implementation Responsibilities.** The Utilities Manager is responsible for ensuring that the SSMP audit is conducted at a minimum two year interval. In the event the Utilities Manager position is newly filled, the Public Works Director is responsible for informing the

new Utilities Manager of the need to fulfill the SSMP audit requirement. In conducting the audit, the Utilities Manager will be responsible for:

- assigning staff responsibilities for conducting the internal audit,
- determining if outside expertise or contractor support is required for leading or supporting the audit effort,
- maintaining records of the audit,
- ensuring the audit incorporates comments and contributions from all levels of staff within the Utilities Division,
- ensuring that public comments are incorporated into the SSMP audit,
- coordinating plan evaluation and implementation with City officials and other City departments,
- developing and approving a schedule for implementing corrective measures identified within the audit,
- implementing the noted corrective measures, and
- incorporating the results of the audit in staff training.

**Audit Review.** Once completed, a draft audit report will be presented to the Public Works Director and City Manager for review. The draft audit report will also be made available for public review. After receipt of comments, a final version of the audit report will be prepared that summarizes the findings of the audit, presents recommended corrective actions, and presents a schedule for implementing the corrective actions. Where applicable, findings of the audit will be considered and incorporated into the City's budgetary process evaluations and CIP needs assessments.

**SSMP Updates and Governing Body Approval.** Corrective actions recommended within the audit may include the need to modify or revise the SSMP. When required as part of the audit findings, the City will prepare the recommended SSMP revisions for review and approval by the Utilities Manager and City Manager. If significant program modifications are proposed, the proposed SSMP modifications will be presented to the City Council for consideration and adoption. The City may choose to modify the SSMP at any time in response to SSMP audit recommendations, in response to changed conditions or regulations, or in response to experienced learned from implementing the current SSMP.

**Element 11**  
**COMMUNICATION**  
**PROGRAM**

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***City of San Clemente SSMP***

# 11. COMMUNICATION PROGRAM

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*Overview - The City of San Clemente complies with SSMP communication requirements of State Board Order No. 2006-0003-DWQ. The City's SSMP development effort included items before the City Council at publicly noticed meetings that provided the public and stakeholders with the opportunity for input. The City has posted FOG, SSO, and SSMP information for public review on the City's web site.*

## 11.1 Requirements

Provision D.13 (xi) of State Board Order No. 2006-0003-DWQ requires sewer agencies to implement a program to communicate with the public on implementation and performance of the SSMP:

- (xi) Communication Program. The Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of the SSMP. The communication system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented.*

## 11.2 SSMP Development and Implementation

The City of San Clemente's SSMP complies with communications program requirement of State Board Order No. 2006-2003-DWQ.

**City Council Review and Approval.** The SSMP goals, organizational structure, and development schedule were presented to the City Council for approval at City Council meetings in October 2007 and July 2009. Official public notice of the City Council meetings were provided via the normal City Council agenda process. The City Council agenda, SSMP staff report, and SSMP goals, organization, and development schedule information were posted on the City's web site for public review and comment prior to the Council meetings.



Additionally, copies of the SSMP were available for public review at the City Clerk's office and the San Clemente Public Library. The public was offered an opportunity to provide written comment to the Utilities Division on SSMP development issues and to present verbal or written comments at City Council meetings.

**Public Education Programs.** As discussed in Element 7 of this SSMP, the City maintains a number of communication efforts directed toward SSO prevention and FOG control, including:

- developing FOG-related outreach literature, FOG-related BMPs, and grease interceptor requirements and literature to distribute to sewer users and to post on the City's website, and
- conducting an outreach program directed toward educating the public on proper handling of waste automotive oil.

**Communications with Adjoining Agencies.** The City routinely communicates with SOCWA regarding SSO prevention, FOG control, pretreatment compliance, and other aspects of NPDES-regulated activities associated with elements of this SSMP.

The City also communicates with the Santa Margarita Water District and the South Coast Water District regarding sewer system operations, SSO response coordination, information sharing, and resource sharing.

**Public Forum Opportunities.** The public and interested stakeholders have the opportunity to address the City Council and comment on any SSO, wastewater system collection, or SSMP issue at any City Council meeting through the Council's public forum which is held during each City Council meeting.

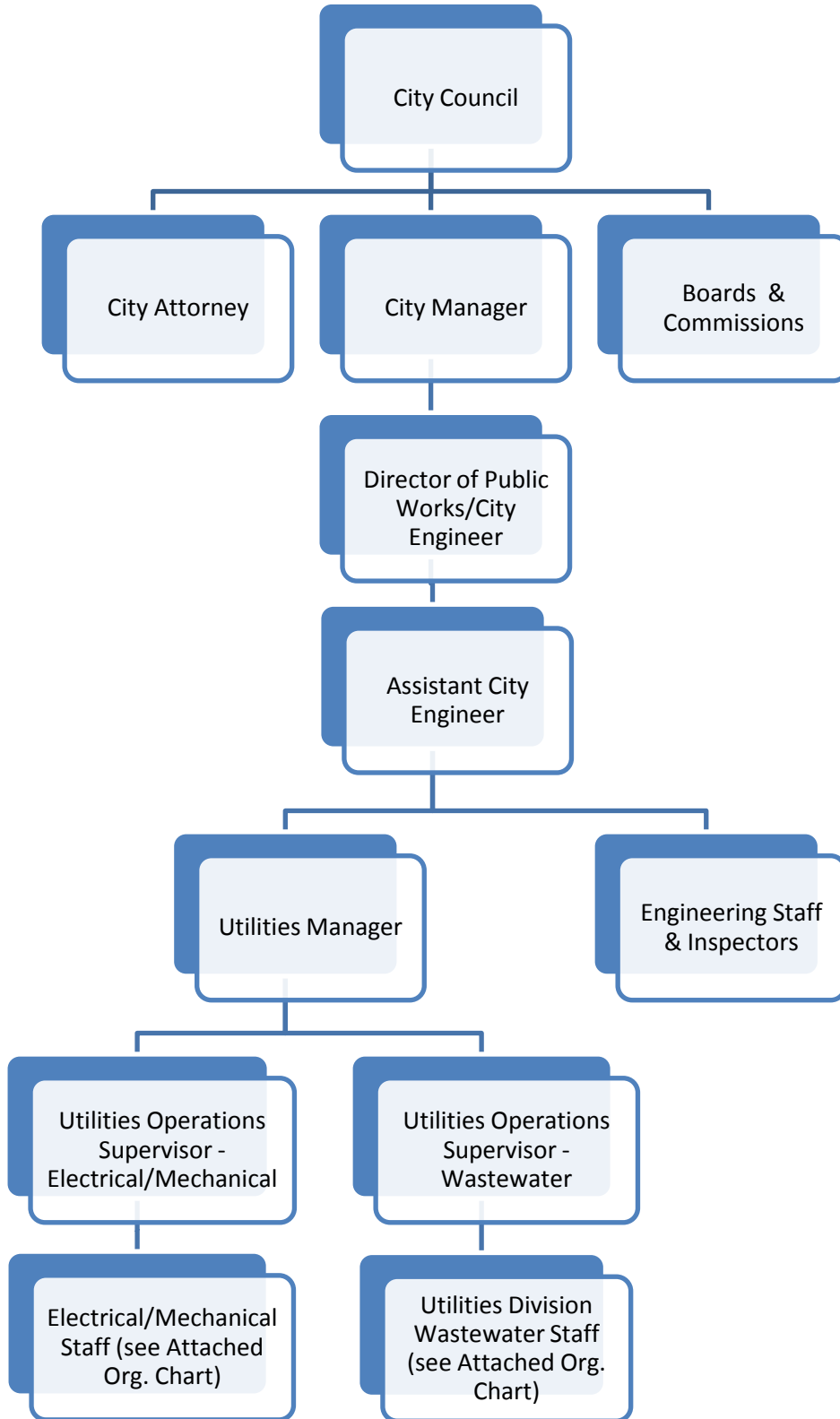
**Periodic SSMP Review and Updates.** As discussed in Element 10 of this SSMP, program audits will be periodically conducted and the results of SSMP audits will be available to the public for review.

In accordance with Provision D.14 of State Board Order No. 2006-0003-DWQ, any significant program changes to the SSMP considered as part of future SSMP updates will be reviewed and formally adopted by the City Council through a process that allows for public comment.

***ATTACHMENT A***  
***City of San Clemente***  
***SSMP Organizational Structure***

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***City of San Clemente SSMP***



**City of San Clemente SSMP Organization Chart**

***ATTACHMENT B***  
***SSMP Staffing and***  
***Contact Information***

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***City of San Clemente SSMP***

## Attachment B

### Current Staffing and Telephone Numbers<sup>1</sup> SSMP Organization Chart

Position	Person	Telephone Number
City Manager	Paul Gudgeirsson	(949) 361-8321
Assistant City Manager	Eric Sund	(949) 361-8341
City Legal Counsel	Jeffrey M. Oderman <sup>2</sup>	(949) 361-8200 <sup>2</sup>
Assistant City Attorney	Ajit Thind <sup>2</sup>	(949) 361-8200 <sup>2</sup>
Public Works and City Engineer	William E. Cameron	(949) 361-6120
Assistant City Engineer	Dave Rebensdorf	(949) 361-6130
Utilities Manager	Jim Kavor	(949) 361-1553 (949) 361-8253
Wastewater Operations Supervisor	Bob Gamble	(949) 361-1553

1 Current staffing as of June 2014.

2 Current contracted legal counsel for the City of San Clemente. The above listed number is for the City of San Clemente City Hall.

***ATTACHMENT C***  
***City of San Clemente***  
***SSO Prevention Plan***

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***City of San Clemente SSMP***

**City of San Clemente**  
**Utilities Division**

**SANITARY SEWER OVERFLOW  
PREVENTION PLAN**



**July 2014 Update**

***SANITARY SEWER OVERFLOW  
PREVENTION PLAN***

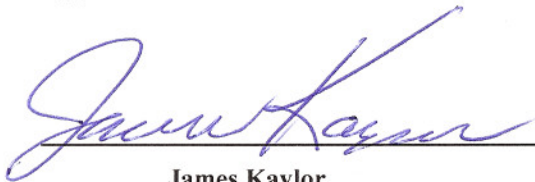
***2014 Update***

***City of San Clemente  
Utilities Division***

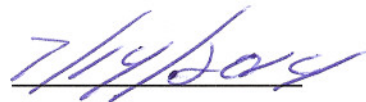
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***Management Approval***

***Approved:***



**James Kaylor  
Utilities Manager**



**Date**

---

***July 8, 2014***



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## List of Abbreviations

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CIP	Capital Improvements Program
EPA	United States Environmental Protection Agency
FOG	fats, oils, and grease
FY	fiscal year
gpm	gallons per minute
mg/l	milligrams per liter
NPDES	National Pollutant Discharge Elimination System (discharge permit)
O&M	operations and maintenance
Regional Board	California Regional Water Quality Control Board, San Diego Region
San Clemente WRP	City of San Clemente Water Reclamation Plant
SCADA	supervisory control and data acquisition
SOCWA	South Orange County Wastewater Authority
SSMP	Sanitary Sewer Management Plan
SSO	sanitary sewer overflow
State Board	State Water Resources Control Board
WRP	water reclamation plant

# Chapter 1

## INTRODUCTION

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### 1.1 Overview of SSO Regulation

Any spill, overflow, or discharge of treated or untreated wastewater from a municipal sewer collection system is defined as a sanitary sewer overflow (SSO). Statewide requirements that regulate SSOs are established by the State Water Resources Control Board (State Board) within Order Nos. 2006-0003-DWQ and WQ-2013-0058-EXEC. Order No. 2006-0003-DWQ prohibits SSOs, requires the reporting of SSOs through a statewide electronic reporting system, and requires sewer agencies to maintain and update Sanitary Sewer Management Plans (SSMPs). State Board Order No. WQ-2013-0058-EXEC was adopted in 2013 and establishes revised statewide notification, monitoring, reporting, and record keeping requirements for SSOs.

### 1.2 Purpose of Plan

This *Sanitary Sewer Overflow Prevention Plan* (hereinafter *SSO Prevention Plan*) documents Utilities Division operation and maintenance procedures, policies, and actions directed toward preventing SSOs from City sewer collection facilities. The updated *2014 SSO Prevention Plan* also summarizes the City's program for rehabilitation and replacement of capital facilities and key equipment.

The updated plan presented herein supersedes sewer collection system operations and maintenance plans and procedures documented in the prior 2009 version of the City's *SSO Prevention Plan*. This 2014 update also incorporates experience gained by Utilities Division staff in preventing SSOs since the plan was previously updated in 2009.

This updated SSO Prevention Plan has been developed and implemented in compliance with State Water Resources Control Board Order Nos. 2006-0003-DWQ and WQ-2013-0058-EXEC. In conjunction with the Sanitary Sewer Management Plan (SSMP) mandated by State Board Order No. 2006-003-DWQ, the City has developed this updated *SSO Prevention Plan* to document the City's policies and actions to minimize the potential for SSOs. Included in the SSMP and *SSO Prevention Plan* are procedures regarding inspection, preventative maintenance,

system operations, public education, training, capital improvements, monitoring and reporting, and forensic assessment. As detailed herein, the City's updated comprehensive SSO prevention activities include:

- a range of inspection and preventative maintenance activities for sewer mains, manholes, pump stations, force mains, and other appurtenant facilities,
- a system for encouraging public awareness and for responding to public tips or information regarding required sewer system maintenance,
- a system to track past sewer spills or overflows and identify trends in the performance of operations and facilities,
- analysis of each sewer spill or overflow event, and the identification and evaluation of additional potential preventative measures,
- routine scheduled inspection of sewer collection facilities,
- identification of reaches of sewer mains subject to an increased risk of blockages due to fats, oils or grease (FOG) or root-related blockages,
- an ongoing program to evaluate collection system operations and inspection needs,
- a training program,
- an ongoing program to continually evaluate collection system physical facilities, and
- a capital improvements program that (1) prioritizes needs for rehabilitation, replacement, or upgrade of sewer collection facilities, (2) sets forth long-term implementation plans and funding needs for the required facilities, and (3) is based on a rate structure and/or system of financing that financially supports the required long-term facilities upgrades or replacements.

### **1.3 Preparation of Plan Update**

This Updated 2014 *SSO Prevention Plan* was prepared by the City of San Clemente Utilities Division under the direction of City of San Clemente Utilities Manager Jim Kaylor and Wastewater Operations Supervisor Bob Gamble. Questions or comments concerning this plan should be directed to the Utilities Manager at:

Mr. Jim Kaylor  
Utilities Manager  
City of San Clemente Utilities Division  
380 Avenida Pico, Building N  
San Clemente, CA 92672  
Tel: (949) 361-8253  
Email: KaylorJ@san-clemente.org

# **Chapter 2**

## **SEWER COLLECTION SYSTEM**

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### **2.1 Wastewater Collection Overview**

**Overview of Service Area.** The wastewater service area tributary to the San Clemente Water Reclamation Plant (San Clemente WRP) is approximately 14.3 square miles. This service area represents approximately 84 percent of the total 17.1 square mile incorporated area of the City of San Clemente. Wastewater service within the remaining portions of the City of San Clemente is provided by the South Coast Water District and Santa Margarita Water District.

The sewer service area tributary to the San Clemente WRP consists of seven topographic drainage areas. Wastewater collected from the seven drainage regions is transported via force mains to two central pump stations where the wastewater is lifted to the San Clemente WRP for treatment.

The San Clemente WRP provides secondary and tertiary treatment. Tertiary treated recycled water from the San Clemente WRP is transported to irrigation reuse sites within the City via a force main network in accordance with requirements established in Regional Board Order No. R9-2003-0123, as modified by Order No. R9-2012-0026.

San Clemente WRP wastewater that receives secondary treatment is discharged via a land outfall to the SOCWA ocean outfall for ocean disposal in accordance with requirements established in Regional Board Order No. 2012-0012 (NPDES CA0107417).

### **2.2 Drainage Regions and Key Trunk Sewers**

Table 2-1 summarizes the seven drainage regions that comprise the Utilities Division wastewater service area. Table 2-1 also identifies key trunk sewers and pump stations that lift wastewater from the drainage regions to the San Clemente WRP. As shown in Table 2-1, key sewer trunk mains serving the seven drainage regions include:

- Camino De Los Mares Trunk (Drainage Region 1),
- Avenida Pico Trunk (Drainage Region 2),
- Frontera Trunk (Drainage Region 3),
- El Camino Real North Trunk (Drainage Region 4),
- San Gabriel Trunk (Drainage Region 5),
- Pacific Coast Highway Trunk (Drainage Region 6), and
- Beach Trunk (Drainage Region 7).

**Table 2-1**  
**Summary of Drainage Regions**  
**San Clemente WRP Wastewater Service Area**

Drainage Region	Name/Major Trunk Sewer	Primary Downstream Pump Station	Drainage Area (acres)
1	Camino De Los Mares Trunk	Main Pump Station <sup>1</sup>	2,490
2	Avenida Pico Trunk	Los Molinos Pump Station <sup>2</sup>	2,585
3	Frontera Trunk <sup>3</sup>	Los Molinos Pump Station <sup>2</sup>	670
4	El Camino Real North Trunk	Main Pump Station <sup>1</sup>	190
5	San Gabriel Trunk	Los Molinos Pump Station <sup>2</sup>	1,075
6	Pacific Coast Highway Trunk	Main Pump Station <sup>1</sup>	705
7	Beach Trunk	Main Pump Station <sup>1</sup>	1,440
Total			9,155

1 Located on Avenida Estacion near Caminito Deshecha, south of intersection of Avenida Pico and El Camino Real.

2 Located immediately south of the intersection of Avenida Pico and Los Molinos.

3 Wastewater collected in the Frontera Trunk dischargers to the Frontera Pump Station, where the wastewater is lifted into an 18-inch main that transports the wastewater to the Los Molinos Pump Station.

Wastewater from each of the seven drainage regions flows to one of two primary pump stations. The Main Pump Station serves Drainage Regions 1, 4, 6, and 7. Wastewater collected in Drainage Regions 2, 3, and 5 flows to the Los Molinos Pump Station. The Main Pump Station and Los Molinos Pump Station lift the collected wastewater to the San Clemente WRP. The following presents a brief summary of facilities within each of the drainage regions.

**Drainage Region 1.** Drainage Region 1 is located within the northwest portion of the City. The Camino de los Mares Trunk (which ranges in diameter from 8 to 18 inches) is the primary trunk sewer within the drainage region. Major branch tributary sewers enter the trunk sewer at Portico del Norte, Camino del Rio, Camino Vera Cruz, Portico del Sur, Calle Nuevo, Calle Vallarta, and Calle Guadalajara. Wastewater from the Camino de los Mares Trunk flows by gravity into the Avenida Vaquero Trunk within Drainage Region 6.

**Drainage Region 2.** Drainage Region 2 serves the eastern portion of the City within the Utilities Division wastewater service area. The Avenida Pico Trunk (18- to 24-inches in diameter) is the primary trunk sewer within Drainage Region 2. Key branch sewers enter the trunk at Avenida La Pata, Calle del Cerro, and Avenida Presidio. The Avenida Pico Trunk flows by gravity to the Los Molinos Pump Station, which lifts the wastewater to the nearby San Clemente WRP.

**Drainage Region 3.** Drainage Region 3 is located east of Interstate 5 between Drainage Regions 1 and 2. Wastewater in the north and western portions of Drainage Region 3 flows by gravity to the Frontera Pump Station via 8-inch-diameter sewer mains along Calle Frontera and Calle Faro. The Frontera Pump Station discharges via a 12-inch-diameter force main into an 18-inch diameter gravity trunk sewer in Calle Frontera, which transports the wastewater to the Los Molinos Pump Station. Wastewater in the north, south and eastern portions of Drainage Region 3 flows by gravity directly to the Los Molinos Pump Station via 18-inch-diameter mains along Calle Frontera, Via Sango, and Camino Los Molinos.

**Drainage Region 4.** Drainage Region 4 includes portions of San Clemente west of Interstate 5 and south of Avenida Pico along El Camino Real. The area is drained by 8-inch and 10-inch-diameter mains located on either side of El Camino Real which combine in Calle Deshecha west of Avenida Pico (near the Main Pump Station). The combined flow is then conveyed to the Main Pump Station via a 12-inch-diameter main. From the Main Pump Station, wastewater is conveyed to the San Clemente WRP for treatment.

**Drainage Region 5.** Drainage Region 5 is primarily located immediately east of and adjacent to Interstate 5 in the southern portion of the City. Wastewater from northeasterly portions of Drainage Region 5 flows via a series of sewer mains ranging from 8 to 15 inches in diameter to the San Gabriel Pump Station. From the San Gabriel Pump Station, wastewater is lifted via an 8-inch-diameter force main into a 15- to 24-inch-diameter gravity trunk sewer along Avenida de la Estrella that flows into the Los Molinos Pump Station for final conveyance to San Clemente WRP. Wastewater from the northwesterly portion of Drainage Region 5 flows by gravity into the Los Molinos Pump Station.

**Drainage Region 6.** Drainage Region 6 is located west of Interstate 5 and north of Avenida Pico. Wastewater from Drainage Region 6 (along with wastewater from Drainage

Region 1) flows into the 24-inch-diameter Pacific Coast Highway Trunk, which in turn flows by gravity into the Main Pump Station for conveyance to the San Clemente WRP.

**Drainage Region 7.** Drainage Region 7 is located primarily west of Interstate 5 in the south portion of the City. Wastewater from the extreme southern part of the City drains toward the Cypress Shores Pump Station, where the wastewater is conveyed via force main to the Beach Trunk which parallels the railroad right-of-way. Wastewater from the remainder (majority) of Drainage Region 7 flows by gravity into Beach Trunk. The Beach Trunk consists of three segments of gravity main, and two intermediate pump stations to lift the wastewater from one segment to the next. The southern portion of the Beach Trunk is a 15-inch-diameter main that flows into the La Rambla Pump Station. Wastewater is lifted by the La Rambla Pump Station into the second segment of the Beach Trunk, which consists of 15- to 21-inch-diameter gravity mains. The second segment of the Beach Trunk flows into the Linda Lane Pump Station, where the wastewater is lifted by the Linda Lane Pump Station into the third segment of the Beach Trunk, which flows into the Main Pump Station for conveyance to the San Clemente WRP for treatment.

### 2.3 Wastewater Pump Stations

Table 2-2 (page 2-5) summarizes wastewater pump stations within the seven drainage regions. As shown in Table 2-2, a total of ten raw sewage pump stations are operational within the San Clemente WRP tributary area. The Main Pump Station and Los Molinos Pump Station are the two largest pump stations. All City wastewater is lifted to San Clemente WRP by the Main Pump Station and Los Molinos Pump Station. The La Rambla and Linda Lane Pump Stations lift sewage along the Beach Trunk. Since 2000, the La Rambla and Linda Lane Pump Stations have been replaced by new and upgraded facilities. Other key regional pump stations within the City's wastewater service area include:

- the Frontera Pump Station (Drainage Region 3),
- the Colina Rodante Pump Station (Drainage Region 3),
- San Gabriel Pump Station (Drainage Region 5), and
- Cypress Shores Pump Station (Drainage Region 7).

Several improvements to these regional pump stations have been implemented in recent years. The Cypress Shores Pump Station was replaced by a new facility in 2007, and the San Gabriel Pump Station has been refitted with new electrical equipment and instrumentation. Additionally, the City in 2013 completed major rehabilitation work at the Los Molinos Pump Station. Improvements or upgrades have also implemented in recent years at the Colombo and Main Pump Stations.



**Table 2-2**  
**Summary of Raw Sewage Pump Stations**  
**San Clemente WRP Wastewater Service Area**

Pump Station <sup>1</sup>	City of San Clemente Drainage Region	No. of Pumps	Pumping Capacity of Each Pump	Projected Ultimate Peak Inflows <sup>2</sup>	Backup Power Available?
La Pata Pump Station	2	4 <sup>4</sup>	120 gpm	<100 gpm <sup>3</sup>	Yes
Frontera Pump Station	3	3	660 gpm	480 gpm	Yes
Colina Rodante	3	3 <sup>5</sup>	410 gpm	< 600 gpm	Yes
San Gabriel Pump Station	5	2	410 gpm <sup>6</sup>	700 gpm	No <sup>7</sup>
Colombo Pump Station	5	2	100 gpm	<50 gpm <sup>8</sup>	No <sup>8</sup>
Los Molinos Pump Station	2,4,5	3	4000 gpm	3110 gpm <sup>9</sup>	Yes
Cypress Shores Pump Station	7	2 <sup>10</sup>	243 gpm	115 gpm	Yes
La Rambla Pump Station	7	2	1300 gpm	1210 gpm	Yes
Linda Lane Pump Station	7	3	1300 gpm	2375 gpm	Yes
Main Pump Station	1,4,6,7	3	5800 gpm	5465	Yes

- 1 City of San Clemente pump station operators can control and change pump station variables from remote locations through an integrated control system.
- 2 Information from *City of San Clemente Wastewater Master Plan* (AKM Consulting Engineers, 1995), updated to reflect improvements implemented by the City since preparation of the master plan.
- 3 La Pata Pump Station serves a small tributary area that includes several industrial/office buildings. Peak ultimate wastewater inflows from the small tributary area are estimated at several dozen gallons per minute (gpm).
- 4 Two additional spare pumps are maintained at the La Pata Pump Station.
- 5 An additional fourth spare pump is also maintained onsite at the Colina Rodante Pump Station.
- 6 With one pump out of service, the San Gabriel Pump Station does not have adequate pumping capacity (580 gpm) for meeting the projected ultimate projected 700 gpm inflows. Excess flows, however, can be diverted to the Beach Trunk in the event of emergency.
- 7 No backup power is available onsite. In the event of power outage, wastewater from the San Gabriel Pump Station is diverted by gravity to the Beach Trunk until a portable generator is transported to the pump station and brought online.
- 8 Only 10 residential homes are tributary to the Colombo Pump Station. As a result, total daily flows to the pump station are less than 3000 gallons, and peak inflows would be on the order of 10 to 25 gpm. While no backup power is available onsite, wet well storage capacity at the Colombo Pump Station is sufficiently large compared to the small wastewater inflows to negate the need for onsite backup electrical power. Additionally, vactor trucks are available to collect and transport pump station flows during periods of power outages.
- 9 Ultimate peak inflows to the Los Molinos Pump Station under existing hydraulic configuration are estimated at 3110 gpm. The ultimate average and peak inflows to the Los Molinos Pump Station will be reduced to 1620 gpm and 2730 gpm, respectively, upon completion of a future planned diversion of a portion of the Drainage Region 3 flows to the Pacific Coast Highway Trunk.
- 10 An additional third spare pump is maintained at the Cypress Shores Pump Station.

Two small regional pump stations comprise the remainder of the ten sewage pump stations within the San Clemente WRP tributary area. The La Pata Pump Station serves a small group of properties in the northeast portion of Drainage Region 2, and the Columbo Pump Station serves ten homes in the north part of Drainage Region 5. Both these sub-regional stations have been recently upgraded. The La Pata Pump Station was replaced by an upsized new facility in 2007, while the Colombo Pump Station has been refitted with new electrical equipment and instrumentation.

As shown in Table 2-2, emergency power exists at eight of the ten City of San Clemente raw wastewater pump stations. The San Gabriel and Columbo Pump Stations are the only pump stations lacking onsite backup power, but the City maintains portable back-up generators that can quickly be transported to these sites. In the event of power outage, wastewater from the San Gabriel Pump Station can be diverted by gravity to the Beach Trunk until a portable generator can be transported to the site. Wet well storage at the Columbo Pump Station is sufficiently large compared to the small wastewater inflows to negate the need for onsite emergency power. Additionally, vactor trucks are available to collect and transport flows from the pump station as necessary during power outages.

In addition to pump stations within the San Clemente WRP sewer collection area shown in Table 2-2, the City also maintains the Liberty Park Pump Station, which is located within the City limits but is outside the tributary area of the San Clemente WRP. The Liberty Park Pump Station conveys wastewater to the Santa Margarita Water District, which provides wastewater service to this portion of the incorporated area of the City of San Clemente.

## **2.4 Treated Effluent Conveyance Facilities**

Treated San Clemente WRP secondary effluent is conveyed to the SOCWA ocean outfall via the 3.8-mile-long San Clemente Land Outfall. The Land Outfall extends from the San Clemente WRP along the Pacific Coast Highway where it connects to the SOCWA Ocean Outfall near San Juan Creek.

An effluent pump station located at the San Clemente WRP conveys disinfected tertiary-treated recycled water to a force main network which conveys recycled water to the San Clemente Municipal Golf Course and the Pacific Golf Course. The force main system also conveys recycled water to various sites for landscape or industrial/commercial use in accordance with requirements established in Regional Board Order Nos. R9-2003-0123 and R9-2012-0026.

# **Chapter 3**

## **PREVENTATIVE OPERATIONS AND MAINTENANCE**

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### **3.1 Overview of SSO Prevention**

As detailed herein, the City's comprehensive SSO prevention program includes the following preventative elements:

- preventative operations and maintenance staffing that includes collection system specialists, pump station specialists, electrical specialists and data management specialists,
- an ongoing staff training program,
- a program of scheduled visual and television video inspection of all City sewer collection facilities,
- a range of preventative maintenance activities for sewer mains, manholes, pump stations, force mains, and other appurtenant facilities,
- a system for encouraging public awareness and for responding to public tips or information regarding sewer maintenance needs,
- a system to track past sewer spills or overflows, and identify trends in the performance of operations and facilities,
- a control and data acquisition system to allow remote monitoring and operation of key facilities,
- analysis of each individual sewer spill or overflow event, and the identification and evaluation of additional potential preventative measures, and
- an ongoing program to continually evaluate collection system operations and preventative maintenance needs.

### 3.2 Operations and Maintenance Staffing

Appendix 1 presents the Utilities Division organization chart for Fiscal Year (FY) 2015. Utilities Division staffing and organization is established to (1) meet normal system operation and maintenance needs, and (2) evaluate and take corrective actions during emergencies. Table 3-1 (page 3-3) summarizes Utilities Division sewer system operations and maintenance personnel. As shown in Table 3-1, Utilities Division personnel involved in operation and maintenance of the City's sewer collection facilities include:

- management personnel,
- laboratory personnel,
- sewer collection system specialists, and
- mechanical and electrical specialists.

The Utilities Division is sufficiently staffed to carry out required sewer system inspections, sewer system cleaning, pump station maintenance, and other required sewer collection system operations and preventative maintenance measures. As documented in the City's updated *SSO Emergency Response Plan*, additional City personnel are also available to assist in responding to SSO events or other emergencies.

### 3.3 Training Program

City of San Clemente Utilities Division personnel are knowledgeable of wastewater collection facilities and operations and receive ongoing training. A number of the Utilities Division management personnel and staff are cross-trained in multiple disciplines,

Training for Utilities Division personnel is the responsibility of the Utilities Manager, Operations Supervisor - Wastewater and the Operations Supervisor - Equipment Maintenance. City crews are trained to perform inspections, perform system checks, and to operate and maintain wastewater collection facilities and equipment. The City maintains an ongoing operator education program to insure up-to-date training. Additionally, the City encourages employee enrollment at local community colleges and training provided by national professional societies and/or pollution-prevention organizations. Ongoing Utilities Division training includes:

- *Orientation Training and Mentorship.* New employees are trained in assigned duties by experienced Utilities Division staff. Supervisors serve as mentors in order to allow newer employees to better understand City wastewater facilities, staffing responsibilities, and wastewater system operations.

**Table 3-1  
 Sewer Collection System Operations and Maintenance Staffing**

Specialty	Title	Number of Available Personnel
O&M Management	Utilities Manager	1
	Operations Supervisor - Wastewater	1
	Operations Supervisor - Equipment Maintenance	1
	Chief Operator (Wastewater)	1 <sup>1</sup>
Electrical	Lead Electrical Technician	1
	Electrician Technicians	2 <sup>1</sup>
	SCADA Tech	1
Mechanical	Chief Mechanic	1 <sup>2</sup>
	Utilities Mechanics	4 <sup>2</sup>
Sewer Collection System Specialists	Collection Systems Chief Operator (Collections Supervisor)	1
	Collection Systems Operators	5
Laboratory & Monitoring	Laboratory Supervisor	1
	Laboratory Technician	1

<sup>1</sup> Electrical and mechanical personnel have operations and maintenance duties both in the wastewater collection system and in the water distribution system.

- *Drills and Test Exercises.* Utilities Division drills and training exercises are periodically conducted by senior Utilities Division staff. Table 3-2 (page 3-4) presents the approximate Utilities Division training frequency for drills and tests. Drills and test exercises directed by senior Utilities Division staff target training for both routine system operations and for emergency responses. Such drills and tests include: notification tests, equipment tests, communication tests, mobility drills, and trouble-shooting training.
- *Professional Training and Certification.* Utilities Division employees are required to achieve professional certifications and encouraged to participate in such professional organizations as Water Environment Federation and California Water Environment Association. Employees are also encouraged to attend training sessions and seminars that relate to sewer system operation, spill prevention, spill containment, and spill recovery.

- *Professional Development.* Professional promotions within the Utilities Division are, in part, based on employee's work performance, professional certifications, and well-rounded knowledge of all facets of the City's wastewater facilities and operations. Employees seeking advancement are thus encouraged to (1) cross-train in areas beyond their normal duties and (2) increase their breadth of knowledge outside their immediate responsibilities.
- *Specialized Training.* Using either Utilities Division staff or outside instructors, Utilities Division personnel receive periodic specialized training duties related to facilities inspection, operations, and maintenance.
- *Safety Training.* The City has developed a Safety Program that sets forth employee safety practices to be used by City employees in conjunction with wastewater pump stations, sewer mains, and other appurtenant wastewater collection facilities. Using either Utilities Division staff or outside instructors, Utilities Division personnel receive periodic safety training in such areas as first aid, safety (including confined space entry and ventilation), fire prevention, traffic control, and equipment operation.

**Table 3-2**  
**Targeted Frequency of Training or Drills**

Test or Drill	Test or Drill Frequency <sup>1</sup>
Notification drills to test mobilization of staff	Quarterly
Interdepartmental and intradepartmental communications exercises	Monthly
Exercise standby pumps	Bi-weekly
Test and exercise emergency power generators	Monthly
Pump station controls and pump stations operations training	As-needed
Test pump station alarms	Weekly
Safety training or drills.	Quarterly
Trouble-shooting exercises on pump controls	Annually
Drills for mobilizing emergency equipment and materials	Annually
Drills to test SSO response actions	Annually

<sup>1</sup> Approximate frequency of test or drill in the absence of SSO events. Actual frequencies may vary depending on SSO history, staff experience, and training needs identified by Utilities Division supervisors.

### **3.4 Facilities Inspection Program**

City of San Clemente wastewater collection facilities are inspected both on a scheduled basis and on an unscheduled (informal) basis. The Collections System Supervisor, under the direction of the Wastewater Operations Supervisor, is responsible for organizing, implementing, and supervising operations and inspections of sewer mains.

Utilities Division staff also inspect the City's raw sewage pump stations on a routine scheduled basis. The Operations Supervisor - Operating Equipment is responsible for organizing, implementing, and supervising the operations and inspections of sewer pump stations.

**Pump Station Inspections.** The City monitors and inspects wastewater pump stations both by onsite inspection and by means of remote monitoring. Table 3-3 (page 3-6) summarizes typical onsite inspection intervals for the City's raw sewage pump stations. As shown in the table, onsite inspections at the City's wastewater pump stations occur at least three times per week. More frequent onsite inspection may occur in response to maintenance needs, operational practices, alarms, or other information.

In addition to onsite inspection of sewage lift stations, City staff can remotely monitor pump station data and operations. As part of the City's SCADA system (supervisory control and data acquisition), Utilities Division staff can remotely monitor via internet connection performance at wastewater pump stations. As part of this system, City staff can remotely monitor and control:

- pump operations and settings,
- wet well liquid levels, and
- alarms and settings.

The SCADA system also provides 24-hour alert to Utilities Division personnel when anomalous conditions are detected in any of the City's wastewater pump stations.

**Sewer Collection Mains.** Scheduled inspections of sewer mains include scheduled television video inspection of City sewer mains, manhole inspections, and visual inspections of facilities by City crews. As shown in Table 3-4 (page 3-7), the City's preventative maintenance program involves scheduled cleaning of all City sewer mains. City personnel conduct both visual inspections and television video inspections of manholes and mains. The City has implemented quarterly inspection and cleaning of sewer mains in segments designated as potentially being at risk due to grease dischargers or roots. Video inspection of City mains along segments not within the grease or root risk categories are completed annually.

**Table 3-3  
 Targeted Pump Station Inspection Schedule**

Pump Station	Minimum Onsite Inspection Schedule <sup>1</sup>	Real-Time Remote Monitoring and Control of Pump Operations, Liquid Levels, and Alarms <sup>2</sup>
La Pata Pump Station	3 times per week	Yes
Frontera Pump Station	3 times per week	Yes
Colina Rodante Pump Station	3 times per week	Yes
San Gabriel Pump Station	3 times per week	Yes
Colombo Pump Station	3 times per week	Yes
Los Molinos Pump Station	3 times per week <sup>3</sup>	Yes <sup>3</sup>
Cypress Shores Pump Station	3 times per week	Yes
La Rambla Pump Station	3 times per week	Yes
Linda Lane Pump Station	3 times per week	Yes
Main Pump Station	3 times per week	Yes
Liberty Park <sup>4</sup>	3 times per week	Yes

- 1 Typical minimum inspection schedule for City of San Clemente raw wastewater pump stations. Includes visual inspection of pumps and pump seals, inspection of pump controls and settings, and other pump station appurtenances. City personnel may inspect facilities at more frequent intervals in response to systems operations data, occurrence of alarms, maintenance needs, or other factors that warrant more frequent inspections.
- 2 In addition to onsite inspections, City personnel also monitor pump station operations through remote monitoring provisions of the City's SCADA system.
- 3 The Los Molinos Pump Station is not connected to the City's SCADA system, but the pump station is located adjacent to the San Clemente WRP and the Utilities Division maintenance building. Utilities Division personnel are thus routinely available for monitoring of pump operations, liquid levels, and alarms.
- 4 As documented on page 2-6, the Liberty Park Pump Station is within the incorporated area of the City but is not within the tributary area of the San Clemente WRP. The Liberty Park Pump Station conveys wastewater flows to the Santa Margarita Water District for treatment, reuse, and disposal.



**Table 3-4  
 Targeted Sewer Inspection and Cleaning Schedule**

Sewer Line Risk Category	Television Video Inspection Schedule	Visual Inspection and Sewer Cleaning Schedule
Potential for Grease Discharges <sup>1</sup> (Approx. 10.2 miles of sewer line)	Annual or As-Needed <sup>2</sup>	Quarterly <sup>1</sup>
Potential for Root Damage <sup>3</sup> (Approx. 5.9 miles of sewer line)	Annual or As-Needed <sup>2</sup>	Quarterly <sup>3</sup>
All other sewer lines <sup>4</sup>	Biannual or Triannual <sup>5</sup>	Annual <sup>6</sup>

- 1 The City has designated approximately 10.2 miles of sewer line as representing a possible risk for grease clogs. Sewer line segments within this risk category are either (1) downstream from known sources such as restaurants or food preparation establishments, (2) in flatter sections of gravity mains that have lower flow velocities, or (3) previous inspections, monitoring, or spill reports have indicated the sewer lines may have an increased potential for grease clogs. The 10.2 miles of sewer line that have been designated in the "grease risk" category are visually inspected and cleaned on a quarterly basis.
- 2 Nominal television video inspection schedule. More frequent video inspection may occur in suspected problem areas as needed.
- 3 The City designates approximately 5.9 miles of sewer line as representing a possible risk from root damage. Sewer line segments within this risk category are either (1) in alignments where trees or other vegetation with significant roots exist, or (2) previous inspections, monitoring, or spill reports have indicated the sewer line may have an increased potential for leaks or clogs due to root damage. The 5.9 miles of sewer lines that have been designated in the "root risk" category are visually inspected and cleaned on a quarterly basis.
- 4 Sewer lines not included within the above "grease risk" or "root risk" categories.
- 5 Sewer mains not within the "grease risk" or "root risk" categories are analyzed by video annually. When combined with the annual video cycle for "grease risk" and "root risk" segments, the City of San Clemente video analyzes approximately 20 miles of sewer line per year.
- 6 Visual inspections of manholes and sewer mains occur as part of the City's ongoing preventative maintenance program to clean sewer lines. The above table lists the nominal sewer cleaning schedule. The City targets annual inspection and cleaning of all sewer lines not in the above "grease risk" or "root risk" categories. If inspections or video analysis indicates that more frequent sewer line inspections or cleaning is required, additional sewer main segments may be placed in the above "grease risk" or "root risk" categories. Recently constructed sewer mains are analyzed via video at the time of construction, and unless grease or root risks are identified, may be inspected and cleaned at less frequent intervals than lines that have been in service for several years.

Unscheduled inspections of City collection facilities may occur at greater frequency than those listed in Table 3-4. Unscheduled inspections may include:

- informal drive-by inspections of manhole covers and other exposed sewer facilities,
- special inspections performed in response to reports of unusual activity or conditions,
- special inspections performed to assess or identify the cause of anomalous operations data,
- inspections associated with any scheduled or unscheduled facilities maintenance,

- investigations of reports or complaints forwarded by the public or other City departments, and
- inspections associated with any special investigations to assess performance of collection system facilities.

### 3.5 Preventative Maintenance Program

The City's preventative maintenance program includes scheduled sewer main cleaning, regularly scheduled pump station maintenance, a program for maintaining inventory of equipment and spare parts, and a program to respond to customer calls or complaints.

**Pump Station Maintenance.** The City maintains a system for scheduled maintenance of wastewater pump stations through its CMMS (Computerized Maintenance Management System). Utilities Division personnel perform preventative maintenance on pumps, motors, controls, and other pump station appurtenances in accordance with the schedules established through the CMMS.

Preventative maintenance procedures and schedules for pump stations are established, in part, on the basis of manufacturer's maintenance recommendations, the type and age of pump station equipment, the type of pump and motor controls employed, pump station flows, and past maintenance and operation history. The City maintains Operations and Maintenance (O&M) manuals for each pump station that document required operations and maintenance procedures. The O&M manuals are also used for purposes of operator training and education.

**Sewer Main Preventative Maintenance.** The CMMS is also used to schedule and track maintenance for sewer collection mains. Table 3-4 (page 3-7) summarizes sewer cleaning schedules for collection mains. The City's two vactor trucks allow City crews to efficiently clean sewer mains through vacuuming, rodding, and/or water jets. The vactor trucks allow City crews to maintain a schedule of quarterly sewer cleaning for sewer main segments identified as representing a special risk due to:

*Grease.* The City has designated approximately 10.2 miles of sewer line as representing a possible risk for grease clogs. Sewer line segments within this risk category are either (1) downstream from known sources such as restaurants or food preparation establishments, (2) in flatter sections of gravity mains that have lower flow velocities, or (3) previous inspections, monitoring, or spill reports have indicated the sewer lines may have an increased potential for grease clogs.

*Roots.* The City designates approximately 5.9 miles of sewer line as representing a possible risk from root damage. Sewer line segments within this risk category are either (1) in

alignments where trees or other vegetation with significant roots exist, or (2) previous inspections, monitoring, or (3) spill reports have indicated the sewer line may have an increased potential for leaks or clogs due to root damage. The City maintains an aggressive program for relining sewer mains that have observed defects caused by root damage. To date, however, video inspections of City sewer mains indicate that most root-related sewer line problems result from root intrusion from private laterals. The City coordinates with individual property owners to address root intrusion problems within private sewer laterals.

In designating sewer main reaches that have the potential for increased risk of blockage from grease or roots, Utilities Division managers:

- maintain a database of observed instances of root damage and observed instances of grease-related problems identified through the inspections,
- maintain a database of past SSO events,
- evaluate each reach of the City's sewer collection system and identifying sewer main reaches that are determined to represent an increased risk for FOG-related blockages or blockages related to vegetation or tree roots, and
- regularly update the evaluation of sewer line reaches to assess the risk of grease-related or root-related sewer main blockages.

The City maintains a schedule of annual cleaning of City's sewer main segments not designated in the grease-risk or root-risk categories.

**Equipment and Parts Inventory.** The City utilizes asset management software to manage the maintenance and repair of the City's wastewater treatment and collection assets. The asset management software identifies scheduled maintenance and repair activities, and is used to track repair/maintenance histories of equipment and pipelines.

As part of the Utilities Division maintenance management program, management personnel evaluate inventory needs for critical components and spare parts. The City maintains an inventory of critical components which include (1) spare pipes sections and fittings, (2) spare parts, components, and fittings for pump stations, and (3) spares for repair and response equipment. Table 3-5 (page 3-10) summarizes critical components and parts maintained in the City's inventory. In establishing the required inventory of critical components and spare parts, Utilities Division management assesses supplies, components, and equipment necessary to allow for simultaneous repairs in two locations. Critical components and spare parts are identified on the basis of:

- historic parts/components inventories and use patterns,
- manufacturer's recommendations,

- design engineer recommendations,
- past failure history, likelihood of failure and risk associated with failure,
- number of units in service requiring the parts/components,
- operating experience and recommendations from field crews,
- preventative maintenance schedules,
- parts/components availability from suppliers and time required to receive delivery,
- cost (including delivery cost),
- parts/components availability from adjoining agencies, and
- contingency/portable equipment needs.

**Table 3-5  
Summary of Critical Components and Spare Parts in Inventory**

Category	Critical Components and Parts
Sewer Mains & Appurtenances	<ul style="list-style-type: none"> <li>• spare pipe sections for all common sewer pipe diameters</li> <li>• seals and fittings for common pipe diameters</li> <li>• manhole fittings, covers, and manhole repair supplies</li> <li>• emergency repair components and equipment, including flexible connectors, sleeves, and other fittings</li> </ul>
Pump Stations	<ul style="list-style-type: none"> <li>• spare pump seals, gaskets, fittings, and hardware</li> <li>• spare pump impellers and bearings</li> <li>• spare motors</li> <li>• spare controls, connections, circuit-breakers, switches, and electrical components</li> </ul>
Tools and Emergency Equipment	<ul style="list-style-type: none"> <li>• spare repair equipment and tools</li> <li>• spare communication devices</li> <li>• back-up utility and repair/response vehicles</li> <li>• back-up generating power</li> <li>• facilities and portable equipment to effect emergency by-pass pumping at pump stations</li> <li>• other equipment and supplies required for responding to SSOs</li> </ul>

*Critical Components for Sewer Main Repair.* The Utilities Division maintains an inventory of spare pipe sections and pipe fittings for common sewer main diameters that comprise the existing collection system. The City also maintains an inventory of manhole fittings, as well as supplies and equipment required to repair damaged manholes.

Through mutual assistance programs, the City also maintains the ability to exchange or borrow pipe sections or fittings from adjoining agencies. The Utilities Division also maintains an inventory of emergency repair components and equipment, including flexible connectors, sleeves, and other fittings. Further, Utilities Division managers maintain a list of suppliers for critical components, along with anticipated emergency delivery times.

*Critical Pump Station Components.* While wastewater pumping facilities have been designed to serve anticipated peak flows with one pump out of service, the Utilities Division policy is to minimize the time pumps are out of service for maintenance. To achieve this goal, the Utilities Division maintains an inventory of critical components and spare parts for pump station operations, including:

- spare pump seals, gaskets, fittings, and hardware,
- spare pump impellers and bearings,
- spare motors, and
- spare controls, connections, circuit-breakers, switches, and electrical components.

Spare parts and components are maintained at the Utilities Division maintenance facility located adjacent to the San Clemente WRP. Common spare parts or components may also be carried in utility vehicles or located at individual pump stations.

*Repair/Response Equipment and Supplies.* The City also maintains an inventory of equipment, components, tools, and parts for use in responding to emergency needs, including:

- spare repair equipment and tools,
- spare communication devices,
- utility and repair/response vehicles,
- back-up generating power,
- facilities and portable equipment to effect emergency by-pass pumping at pump stations, and
- other equipment and supplies required for responding to SSOs.

Table 3-6 (page 3-12) summarizes emergency response equipment available to the City. In addition to this equipment, the City maintains mutual assistance agreements with adjoining agencies which allow the City to borrow additional equipment, supplies, or manpower if necessary to respond to large-scale emergencies.

**Table 3-6  
 City of San Clemente Emergency Response Equipment<sup>1</sup>**

Equipment	Number Available <sup>1</sup>
2100 Series Vactor Truck <sup>2</sup>	2
Tool-equipped maintenance vehicles <sup>3</sup>	41
Portable welders (truck-mounted or portable)	2
Backhoe excavators	1
Traffic control light trailers	2
6-inch portable wastewater pumps <sup>4</sup>	2
Mobile emergency generators <sup>5</sup>	4
Sewer pipe replacement sections	See note <sup>6</sup>
Misc. pipe sleeves, couplings, and other fittings	See note <sup>7</sup>
Misc. pump seals, bearings, and spare parts	See note <sup>8</sup>
Filled sand bags (for dikes, berms, spill containment)	2500

1 City-owned available response equipment. Additional response equipment may be available from adjoining sewer agencies through mutual assistance agreements. Additional equipment may also be available from as-needed contractors, suppliers, or local rental organizations. The City maintains an updated list of emergency contractors.

2 Each Vactor truck is equipped with a positive displacement compressor vacuum system, a 1500-gallon tank, a Vactor Jet 2000 psi water pump, a 800-foot rotating hose reel, and a telescoping boom.

3 Includes pickups, vans, and other Utilities Division vehicles equipped with some or all of the following: tool kits, traffic cones, emergency lights, first aid kits, manhole lifters, sample collection and monitoring equipment, sewer spill posting signs, etc.

4 Each 6-inch portable pump is equipped with 1000 linear feet of discharge hose and 50 linear feet of suction hose. In addition to the 6-inch pumps, the City maintains a number of smaller 2-inch and 3-inch trash or diaphragm pumps.

5 Includes 155-kilowatt, 300-kilowatt, and 350-kilowatt portable generators.

6 Miscellaneous pipe sections for gravity and force mains are stored in the City's Utilities Division maintenance yard and are available for use in the event that sewer main breaks requires replacement of pipe sections.

7 Miscellaneous pipe sleeves and other fittings are maintained in inventory. The Utilities Division establishes a list of critical parts/components on the basis of manufacturer/designer recommendations, past history of failure, operating and use experience, and parts availability.

8 The City maintains a complete inventory of pump seals, bearings, and spare parts required for maintaining and repairing pumping facilities.

### 3.6 FOG Control Program

Recognizing that fats, oil, and grease (FOG) discharges represent a potential threat to clogging sewer lines and creating spills or overflow, the City has implemented a FOG control program. As part of the FOG control program, the City:

- conducts annual inspections of 10.2 miles of sewer mains that are downstream from commercial grease dischargers,
- conducts quarterly cleanings of 10.2 miles of sewer mains that are downstream from commercial grease dischargers,
- requires installation and maintenance of FOG-removal facilities,
- conducts a FOG outreach/education program, and
- maintains records on FOG occurrence in the City's sewer system.

*Grease Removal Requirements.* Pursuant to its Municipal Code, the City requires pretreatment for the removal of FOG. Grease control devices are required for all food establishments or facilities with kitchen equipment that have the potential to produce grease. Grease interceptors are the mandated control device except in circumstances where the City determines that site restrictions make it impractical to install interceptors. In such circumstances, the City may require other grease control devices and/or implementation of BMPs.

The City has developed design standards for grease interceptors. The design standards specify a minimum size (750 gallons) and establish specific construction, sampling, sealing, cleanout, vent, and access requirements. The City requires that the interceptors and all associated connections be inspected and approved by the City prior to backfill. Additionally, the City requires that all interceptors be filled with water for leak detection prior to backfill.

The City may also require grease interceptors for automotive or other maintenance facilities designated by the City as representing a threat for the discharge of FOG.

*Inspection and Enforcement.* The City requires that grease interceptors be maintained, regularly cleaned, and that the recovered grease be transported offsite to an approved grease recycling or disposal facility. The City requires that dischargers maintain records of grease interceptor cleanings and maintenance, and the City inspects these records during onsite inspections. The City enforces compliance with:

- FOG discharge prohibitions, standards, and requirements established within the Municipal Code, or
- FOG discharge policies, design standards, and other requirements established by the Utilities Division pursuant to authorities established within the Municipal Code.

*Additional FOG-Related Controls or Actions.* As noted, the City implements increased sewer main inspection and cleaning in areas designated as having an increased potential for FOG-related blockages. As part of this program of accelerated inspection frequency, the City evaluates the effectiveness of existing FOG source controls and BMPs at each discharger. On the basis of the inspections, the City may take additional FOG control actions, including:

- increasing the frequency of sewer system monitoring in the area,
- implementing additional monitoring or surveillance of FOG dischargers,
- recommending that dischargers implement enhanced FOG-related BMPs,
- requiring dischargers to increase the frequency of grease interceptor cleaning,
- requiring the discharge to modify or expand existing grease interceptor facilities,
- revoking (if applicable) previously issued waivers from installing grease interceptor facilities,
- requiring the FOG generator to produce records on FOG disposal or recycling,
- requiring sewer users to obtain an industrial user permit which imposes special FOG-related source control measures, FOG treatment requirements, monitoring or reporting requirements, or FOG concentration limits, or
- taking enforcement action against the FOG generator to correct non-compliance with FOG requirements established within or pursuant to the Municipal Code.

If warranted the City may also implement special studies to identify FOG sources, identify and evaluate potential means of FOG controls, or identify facilities improvements required to minimize the potential for FOG-related blockages.

*FOG Outreach.* The City has developed and implemented a public education outreach program to promote proper disposal of FOG, enhance public awareness of FOG issues, promote proper recycling of oil and grease, and provide information on options for grease recycling and disposal. Key elements of the City's FOG public outreach program include (1) a program to educate commercial and residential users, and (2) an outreach program directed toward proper handling of waste automotive oil.

The City's outreach to commercial and residential users includes web-based and printed education literature on FOG issues, proper FOG disposal, and FOG BMPs. The literature is posted on the City's website and highlights the fact that grease is the most common cause of pipe blockages. The FOG education literature stresses such household BMPs such as:

- not discharging oil or grease down garbage disposals, drains, or toilets,



- solidifying household cooking oils and grease with cat litter or coffee grounds, and placing the solidified grease into sealed containers for disposal with solid waste,
- scraping leftover food and grease into the trash,
- wiping grease from cooking pans with paper towels prior to washing, and disposing of the paper towels with solid waste,
- placing paper towels over the sink drain basket when washing greasy pans to catch grease and food particles,
- the need for periodic inspection/maintenance of sewer laterals, and
- the need to call the City before cleaning private laterals so the City can remove any debris that is pushed into the public sewer line from cleaning the lateral.

Additionally, City staff can provide commercial establishments with contact information and options regarding grease recycling and disposal.

The City also maintains a public outreach program directed toward educating the public on proper disposal and recycling of automotive oil. This outreach program includes the development and distribution of literature on proper procedures for waste oil recycling and publishing lists of facilities where automotive oil can be returned for recycling. This information is posted on the City's website. Additionally, waste oil recycling signs and information are posted at participating oil recycling facilities. As a further outreach tool, the City makes plastic waste oil recycling containers available to the public for use in recycling waste oil. The containers contained instructions on oil recycling and contact information for a list of recycling facilities.

### **3.7 Data Management & Analysis**

*Maintenance/Inspection Activity Records.* The Utilities Division maintains activity records that document preventative inspections of pump stations, sewer mains, and other sewer collection facilities. As part of these activity records, the City maintains records on:

- inspection findings,
- preventative maintenance or repair actions taken,
- field crew notes and recommendations,
- pump station logs,
- future inspection needs and preventative maintenance actions required, and
- needs for additional information, testing, analysis or data management.

*SCADA Data.* The City also maintains a database of flow and pump stations operations data derived through its SCADA system. The SCADA system allows City personnel to remotely monitor operations and change pump settings. Additionally, the SCADA system provides 24-hour alert to Utilities Division personnel when alarms occur or when other anomalous conditions are detected in any of the City's wastewater pump stations or other wastewater facilities

*SSO Database.* In accordance with reporting procedures outlined in the City's *SSO Emergency Response Plan*, the City maintains records of past SSOs, evaluates probable causes of the SSOs, and maintains records of required corrective actions.

*Data Evaluation.* Utilities Division managers review the activity reports, SCADA data, and SSO database to evaluate trends that may indicate the potential for future spills or overflows. In assessing SSO-related operations and maintenance needs, Utilities Division managers also review and consider:

- observed and projected system flows,
- pump station operations information,
- data derived from the City's SCADA system,
- facilities inspection records and maintenance reports,
- recommendations from field crews,
- recommendations from consultants,
- information provided by regulators,
- records on past SSOs,
- the locations of key facilities and probability of early SSO detection,
- response times for SSO,
- facilities accessibility,
- safety issues,
- trends in vandalism, and
- customer complaints and reports.

When warranted, the analysis may result in the Operations Supervisor-Wastewater or Utilities Manager ordering immediate changes in Utilities Division operational procedures to lessen the potential for spills or overflows, or to improve the effectiveness and timeliness of SSO responses. Additionally, the Operations Supervisor-Wastewater or Utilities Manager may implement required emergency repairs or revisions to physical facilities. On the basis of the data review, the Utilities Manager may also recommend modifications in facilities priorities established in the City's capital improvement plan.

*Preventative SSO Detection.* Utilities Division managers also review available data to evaluate (and if possible, improve) means of SSO detection. SCADA data are periodically assessed to determine potential early warning predictive parameters (e.g. unexplained increases or decreased in flows) that may indicate the potential for conditions that may lead to SSOs. On the basis of this review, Utilities Division operational procedures may be modified to (1) improve SSO detection, (2) improve communication of SSO events to emergency personnel, or (3) improve the effectiveness and timeliness of SSO responses.

Because City of San Clemente sewer collection facilities are typically located in highly-visible areas, reports, complaints, or notifications from the public or from other City departments are valuable in SSO prevention and in sewer collection system maintenance. The Utilities Division encourages public participation, information, and feedback in monitoring activities that may affect the proper operation of publicly-owned facilities. Public assistance is sought in identifying vandalism or unauthorized activities at or near Utilities Division facilities, or in reporting any instances of unusual odors, noises, surface flows, sink holes, or other phenomena that may be associated with operation of the wastewater collection system.

The City maintains a telephone hotline (949-366-1553) to receive information on the operation of public utilities, including sewer collection facilities. The telephone is staffed 24 hours per day, seven days per week. The City provides hotline contact information on the City's web site. Additionally, the Utilities Division telephone number is in the telephone listings and is accessible by dialing "411" for information.

All sewer-related reports from the public are immediately routed to appropriate Utilities Division managers for action. Additionally, Utilities Division managers are notified when such utilities-related reports are received by other City Departments (such as the Beaches, Parks, and Recreation Department) or public safety agencies (such as Orange County Sheriff's Department and Orange County Fire Authority.)

# **Chapter 4**

## **FACILITIES**

### **REHABILITATION**

### **AND REPLACEMENT**

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#### **4.1 Master Planning and Map Updates**

**Master Plan.** Master planning for the City's wastewater system is presented in the *City of San Clemente Wastewater Master Plan* (AKM Consulting Engineers, 1995). The master plan develops projected ultimate average and peak wastewater flows in each of the City's sewer collection system drainage areas, and assesses facilities needs for these drainage areas.

While the City of San Clemente's *Wastewater Master Plan* was developed in 1995, the master plan remains valid and conservative in its projections of development and wastewater flows, as:

- a significant majority of the sewer service area of the San Clemente WRP was already build out in 1995, and
- zoning and designated land use densities have remained largely as they were in 1995.

Additionally, unit flow generation values within the City's service area are lower than projected in the 1995 master plan due to water conservation. The City has achieved such conservation through a comprehensive program of:

- retrofitting plumbing fixtures,
- encouraging installation of more water-efficient irrigation systems, and
- public education.

As a result of the lower unit flow generation rates achieved during the past decade, required wastewater facility capacities presented in the 1995 master plan remain conservative.

With water conservation adding a factor of safety, the 1995 master plan continues to provide Utilities Division staff with a useful tool for assessing wastewater collection facilities needs for both current wastewater flows and ultimate projected wastewater flows. The City has followed the wastewater system improvement recommendations set forth in the 1995 master plan, and has implemented system improvements recommended within the master plan so that the City's wastewater collection system can handle ultimate projected flows.

Utilities Division managers monitor land use and flow generation trends within the City. If future wastewater flow and development trends result in changed circumstances from those addressed in the existing master plan, the City will update the sewer system master plan and facilities needs to reflect the changed wastewater flow trends.

**Sewer System Map Updates.** The Engineering Department maintains an up-to-date atlas of maps showing current sewer system facilities. As documented in the City's updated SSO Prevention Plan, the City's sewer system facilities master maps are revised whenever:

- sewer service facilities (sewer mains, manholes, and pump stations) are connected within newly developed areas of the City's sewer service area,
- existing sewer collection facilities are modified or upgraded as part of the City's Capital Improvements Plan,
- existing sewer collection facilities are modified or upgraded as part of repairs, rehabilitation, or maintenance work,
- City staff or contractors identify discrepancies on existing maps,
- City staff or contractors identify descriptions or map designations that could be misinterpreted, or
- City staff or contractors identify additional information what would be useful to include on the maps.

The Operations Supervisor - Wastewater is responsible for coordinating with the Collections Supervisor (Collections Chief Operator) to ensure that the Assistant City Engineer is notified of any field repairs, maintenance, rehabilitation work, or field-noted discrepancies that require revision of existing City sewer collection system maps. The Engineering Department under the direction of the Assistant City Engineer is responsible for entering information from certified as-built plans of new sewer mains plans documenting the replacement, rehabilitation, repair, or relocation of existing mains.

The City's up-to-date sewer maps are prepared in electronic format and printed copies of the sewer system atlas are carried by work crews and SSO response crew vehicles. The sewer system maps show:

- the map version date,
- distance scales, street names, and access notes,
- names and locations of wastewater pump stations,
- diameters, directions of flow, lengths (to scale), and construction materials for gravity sewer mains,
- the locations, identification numbers, and invert depths of manholes,
- diameters, directions of flow, lengths (to scale), construction materials, and pressure ratings for force mains, and
- locations of ancillary sewer collection facilities (e.g. siphons, valves, etc.).

A master electronic version of the City's sewer system map is maintained on the City's computer network, and copies are backed up weekly. The City is in the process of converting its sewer maps to a geographic information system (GIS) format.

**Storm Drain Maps.** In addition to up-to-date sewer system maps, the City also maintains up-to-date maps showing the locations of underground storm drains. Maps showing the location of storm drain facilities are available to field personnel that respond to SSOs. The City updates maps of storm drain facilities when new storm drain facilities are implemented, when existing facilities are modified, and when field crews indicate discrepancies in the existing storm drain maps.

## 4.2 Capital Improvements Program

**Capital Improvement Program Overview.** The City develops and annually updates a six-year Capital Improvements Program (CIP) to plan and budget for six years of future capital improvement projects. As part of the annual CIP review, Utilities Division managers identify and prioritize long-term facilities improvements to lessen the potential for SSOs.

Within the prioritization process, Utilities Division management review existing facilities capacities and performance, existing wastewater flows and flow projections, master planning documents, and input from field personnel. In assessing replacement and rehabilitation needs and priorities for gravity and force mains, the Utilities Division management considers:

- prior master planning analyses and recommendations,
- the age, condition, and anticipated lifespan of existing facilities,

- the rated capacity of existing facilities,
- observed peak flows and projected peak flows,
- anticipated future capacity needs,
- construction materials used in the existing facilities and the anticipated longevity of the materials,
- the observed internal condition of the mains (observed during cleaning, physical inspection, and television video monitoring),
- the observed external condition of the mains (observed during potholing or trenching conducted as part of field repairs or inspections),
- soil conditions (including corrosion potential or soil movement potential),
- the potential for erosion,
- access considerations, materials availability, and the potential difficulty of repair in the event of failure of the facility,
- previous maintenance problems, past operating history, or past failures or breaks,
- the location of facilities, and
- watercourses that could be affected by failure and potential for SSO-related impacts.

In assessing replacement and rehabilitation needs and priorities for pump stations, the Utilities Division management considers:

- prior master planning analyses and recommendations,
- the age, condition, and security of existing structures,
- the age, condition, and anticipated life-span of pumps and motors,
- the age, condition, safety, and adequacy of the existing electrical system and control systems,
- emergency power generation needs,
- observed pump station peak flows and projected peak flows,
- the rated capacity of existing facilities,
- anticipated future capacity needs,
- reserve capacity and equipment, and existing reliability provisions,
- previous operations or maintenance problems, past operating history, and power failure history, and
- advances in technology.

**Selection of CIP Projects.** On the basis of the above evaluations, Utilities Division management each year:

- identifies and analyses new facilities needs, rehabilitation needs, or facility replacement needs,
- reevaluates CIP needs identified or planned during prior years, and
- develops an updated prioritization list and recommended schedule of CIP projects for the upcoming year and the subsequent six years (six-year planning window).

CIP recommendations developed by Utilities Division management are submitted to City management and elected officials for review and approval. The approved CIP is used by the City in establishing budget and funding needs for the City's wastewater operations. Budgeted CIP costs include costs for planning, design, construction, and construction inspection.

**Asset Management Program.** The City's computerized asset management program is an important tool to assist in the above-described facilities management and budgeting effort. The asset management program allows the City to maintain equipment and to identify and track equipment replacement needs throughout a 20-year planning window. The asset management program allows the City to:

- ensure timely maintenance of equipment,
- assess equipment needs on a long-term basis,
- develop long-term budgeting plans for equipment replacement or upgrades, and
- ensure timely replacement of equipment.

As shown in Appendix 2 (completed CIP projects) and Appendix 3 (pending CIP projects), the City is in the process of upgrading its computerized maintenance and management system.

**Recent System Improvements.** The City during the past 15 years has completed significant improvements and upgrades to its wastewater collection system.

*Pump Stations.* During this time, the City has implemented significant upgrades or has replaced equipment in all ten wastewater pump stations. As shown in Table 2-2 (page 2-5) each of the City's wastewater pump stations is capable of handling projected peak ultimate wastewater flows with one pump out of service.

*Trunk Sewers/Sewer Mains.* Improvements have also been implemented in a number of the City's trunk sewers and sewer mains. Key master planned improvements implemented within the past decade include upsizing the Pacific Coast Highway Trunk and upgrading portions of the



sewer main along El Camino Real. Additionally, the City replaced significant portions of the Beach Trunk.

*Recent CIP Projects and Equipment Acquisitions.* Appendix 2 summarizes wastewater collection system improvement projects implemented by the City of San Clemente within the past five years in accordance with the adopted CIP. As shown in Appendix 2, the City has continued its annual program of systematic sewer main replacement/rehabilitation. Additionally, the City has completed rehabilitation work at the Los Molinos Pump Station. Improvements or upgrades have also been implemented at the Colombo and Main Pump Stations.

**Planned CIP Projects.** Appendix 3 summarizes CIP projects within the City's current six-year CIP for Fiscal Years 2015 through 2020. Appendix 3 also lists budgeted expenditures for planned special maintenance or upgrades to wastewater facilities or systems. As shown in Appendix 3, significant CIP resources are dedicated toward projects that improve the reliability of the City's sewer collection system and minimize the potential for SSOs.

**Funding Assurance.** Utilities Division operations and facilities improvements are funded through an enterprise fund. Revenues for the enterprise fund are provided through sewer rates, connection chargers, and fees.

As part of City's CIP process, the City establishes a CIP fund within its budget to reserve sufficient resources to fund planned CIP facilities for each year of the five-year planning window. The reserve fund also includes a contingency for unplanned replacement and rehabilitation expenditures.

Long-term sewer rates are established by the City to support both operating expenses and the long-term CIP funding needs.

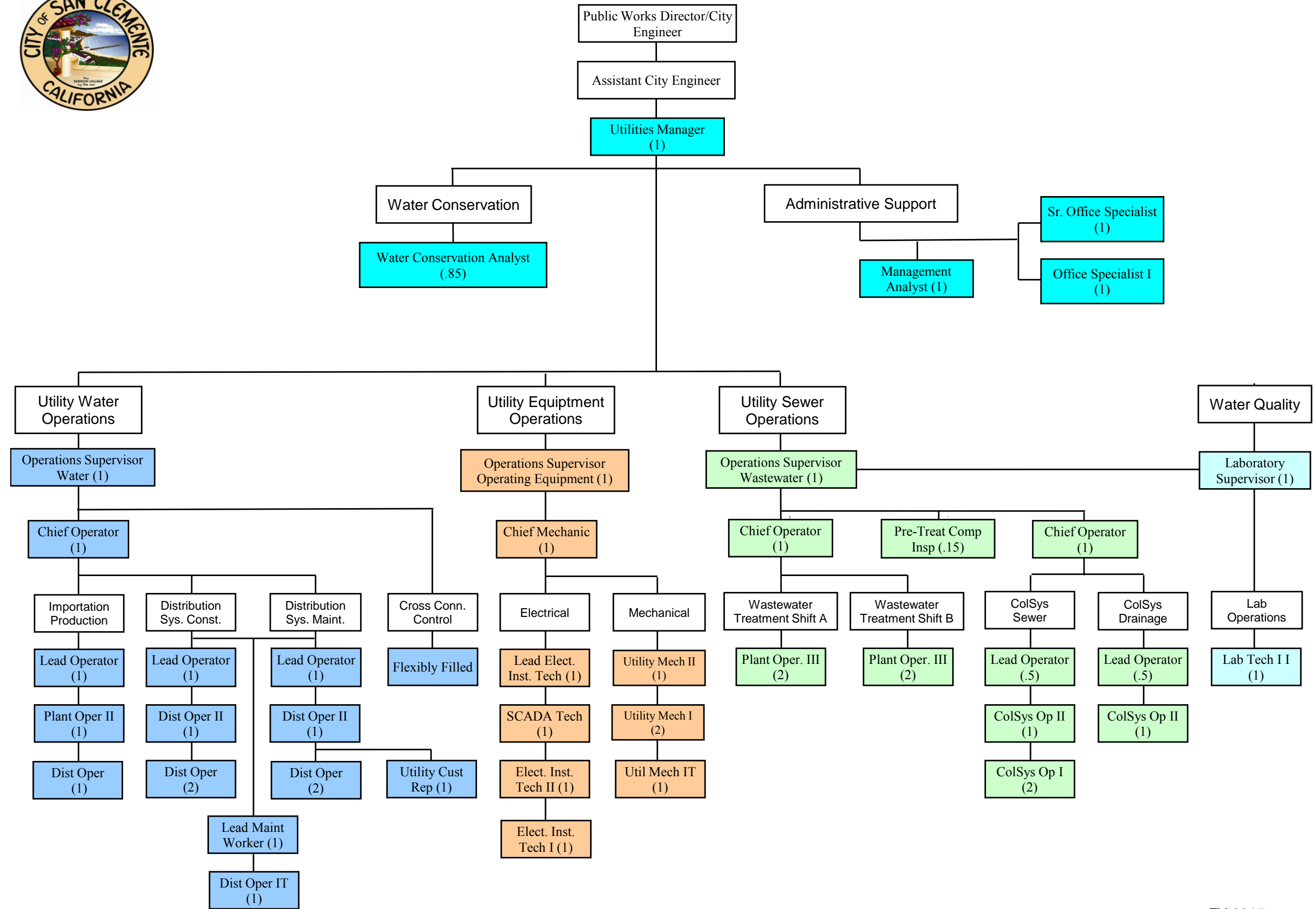
**Appendix 1**

**UTILITIES DIVISION  
ORGANIZATION CHART  
FY 2015**

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# City of San Clemente - Utilities Division



**Appendix 2**

**COMPLETED  
CIP PROJECTS  
FY 2009 - 2014**

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**Appendix 2**  
**City of San Clemente**  
**Capital Improvements Projects and Expenditures**  
**FY 2009 through FY 2014**  
**Sewer Collection System Improvements/Upgrades**

Fiscal Year Completion <sup>1</sup>	Collection System or Pump Station CIP Project <sup>2</sup>	Project Number <sup>3</sup>
2009	Calafia Manholes Rehabilitation & Sulfide Control	19202
	Pico Plaza Sewer Line Replacement & Rehabilitation	19201
	Rehabilitate Existing Sewer Lines (FY 2009)	24200
2010	Columbo Lift Station Protection	10201
	Water & Wastewater Facility Regulatory Assessment	39201
	Main Pump Station Pump Efficiency Study	29203
	Los Molinos Wet Well Overflow Modification	26201
	Rehabilitate Existing Sewer Lines (FY 2010)	24200
2011	Rehabilitate Existing Sewer Lines (FY 2011)	24200
2012	Rehabilitate Existing Sewer Lines (FY 2012)	24200
2013	Los Molinos Pump Station Rehabilitation	19204
	Los Molinos Pump Station Emergency Back-Up	10202
	San Gabriel Force Main Rehabilitation	13201
	Rehabilitate Existing Sewer Lines (FY 2013)	24200
2014	Sewer System Replacement	24201
	Sewer SCADA System Development	12605
	Computerized Maintenance & Management System	21201
	Main Pump Station Force Cathodic Protection	12202
	Main Pump Station Force Main Inspection	25203
	Arenoso Lane SWR Line Replacement	14203
	Rehabilitate Existing Sewer Lines (FY 2014)	24200

- 1 Fiscal year in which CIP project was completed.
- 2 City of San Clemente CIP projects for sewer collection facilities and pump stations.
- 3 City of San Clemente CIP project number.

**Appendix 3**

**BUDGETED  
CIP PROJECTS  
FY 2015 - 2020**

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**Appendix 3**  
**City of San Clemente**  
**Budgeted Capital Improvements Projects and Expenditures**  
**FY 2015 through FY 2020**

CIP Project	City of San Clemente Capital Improvement Program (CIP) CIP Budget by Fiscal Year <sup>1,2</sup> (\$millions)						
	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	6-Year Total
<b>Wastewater Treatment and Reuse CIP Projects</b>							
Aeration Basin #1 Rehabilitation - Lining	0	0.15	0.50	0	0	0	0.65
Aeration Basin #2 Rehabilitation - Lining	0	0	0.15	0.50	0	0	0.65
Aeration Basin #3 Rehabilitation - Lining	0	0	0	0.50	0	0	0.50
Blower #3 Replacement	0	0	0	0	0	0.25	0.25
Digester #1 Structural and Mechanical Rehabilitation	0.20	1.00	0	0	0	0	1.20
Digester #2 Structural and Mechanical Rehabilitation	0	0.20	1.00	0	0	0	1.20
Primary Clarifier 1, 2, and 3 Rehabilitation and Lining	0	0	0	0	0.50	0	0.50
Primary Clarifier 4 and 5 Rehabilitation and Lining	0	0	0	0.55	0	0	0.55
Recycled Water Storage Bay Rehabilitation	0	0	0.10	0.50	0	0	0.60
Secondary Clarifier 1, 2, and 3 Rehabilitation and Lining	0	0	0	0.20	0.60	0	0.80
Secondary Clarifier 4 and 5 Rehabilitation and Lining	0	0	0	0	0	0.60	0.60
Sludge Dehydration System	0	0	0	0	2.00	0	2.00
San Clemente WRP Co-Generation	0	0	0	3.00	0	0	3.00
<b>System-Wide CIP Projects</b>							
Sewer Facilities Generator Replacements	0	0	0.10	0.10	0.10	0.10	0.40
<b>Sewer Collection CIP Projects</b>							
Cypress Shores Pump Station Force Main Slip Line	0	0.20	0.40	0	0	0	0.60
Frontera Pump Station Force Main Slip Line	0.20	0.40	0	0	0	0	0.60
<b>TOTALS</b>	0.40	1.95	2.25	5.35	3.20	0.95	14.10

1 Budgeted CIP projects by fiscal year for FY 2015 through 2020.

2 Does not include budgeted expenses for routine maintenance, special maintenance or other upgrades. See following table.

**Appendix 3**  
**City of San Clemente**  
**Planned Special Maintenance and Other Upgrades**  
**FY 2015 through FY 2020**

CIP Project	City of San Clemente Budgeted Costs for Planned Special Maintenance or Upgrades <sup>1</sup> (\$millions)						
	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	6-Year Total
<b>Wastewater Treatment and Reuse Special Maintenance and Upgrades</b>							
Digester #3 Cleaning, Residual Disposal and Inspection	0	0	0.225	0	0	0	0.225
Primary Clarifier Covers and Grating Replacement	0.30	0	0	0	0	0	0.30
Progressive Cavity Pump Replacements	0.20	0	0	0	0	0	0.20
Recycled Water Conversion Program	0.15	0.10	0.075	0	0	0	0.325
San Clemente WRP Structural Concrete Repair	0.40	0	0	0	0	0	0.40
<b>System-Wide Upgrades/Improvements</b>							
Computerized Maintenance and Management System	0	0.25	0	0	0	0	0.25
150 KW Generator Replacement	0.05	0	0	0	0	0	0.05
<b>Sewer Collection Special Maintenance and Upgrades</b>							
Sewer System Rehabilitation	0.30	0.30	0.30	0.30	0.30	0.30	1.80
Sewer System Replacement	0.10	0.10	0.10	0.10	0.10	0.10	0.60
<b>TOTALS</b>	1.50	0.75	0.70	0.40	0.40	0.40	4.15

1 Budgeted costs for planned special maintenance projects and other system upgrades for FY 2015 through 2020. Does not include routine annual maintenance costs.



***ATTACHMENT D***  
***City of San Clemente***  
***SSO Emergency Response Plan***

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***City of San Clemente SSMP***

**City of San Clemente  
Utilities Division**

**SANITARY SEWER OVERFLOW  
EMERGENCY RESPONSE PLAN**



**July 2014 Update**

***SANITARY SEWER OVERFLOW  
EMERGENCY RESPONSE PLAN***

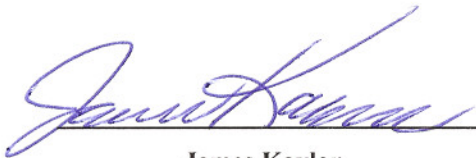
***2014 Update***

***City of San Clemente  
Utilities Division***

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***Management Approval***

***Approved:***

  
\_\_\_\_\_

**James Kaylor  
Utilities Manager**

  
\_\_\_\_\_

**Date**

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***July 8, 2014***

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## *List of Abbreviations*

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CIWQS	California Integrated Water Quality System (online database)
EPA	United States Environmental Protection Agency
FOG	fats, oil, and grease
mg/l	milligrams per liter
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System (discharge permit)
OCHCA	Orange County Health Care Agency
OES	State of California Office of Emergency Services
PLSD	private lateral sewer discharges (SSOs from private sewer facilities)
Regional Board	California Regional Water Quality Control Board, San Diego Region
SCADA	supervisory control and data acquisition
San Clemente WRP	City of San Clemente Water Reclamation Plant
SOCWA	South Orange County Wastewater Authority
SSMP	Sanitary Sewer Management Plan
SSO	sanitary sewer overflow
State Board	State Water Resources Control Board

# **Chapter 1**

## **INTRODUCTION**

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### **1.1 Regulation of Sanitary Sewer Overflows (SSOs)**

Any spill, overflow, or discharge of treated or untreated wastewater from a municipal sewer collection system is defined as a sanitary sewer overflow (SSO). Statewide requirements that regulate SSOs are established by the State Water Resources Control Board (State Board) within Order Nos. 2006-0003-DWQ and WQ-2013-0058-EXEC. Order No. 2006-0003-DWQ prohibits SSOs, requires the reporting of SSOs through a statewide electronic reporting system, and requires sewer agencies to maintain and update Sanitary Sewer Management Plans (SSMPs). State Board Order No. WQ-2013-0058-EXEC was adopted in 2013 and establishes revised statewide notification, monitoring, reporting, and record keeping requirements for SSOs.

### **1.2 Purpose of Plan**

This document sets forth operating procedures and policies for City of San Clemente Utilities Division staff in responding to SSOs or threatened SSOs. The updated 2014 *SSO Emergency Response Plan* presented herein supersedes the City's previous SSO response plan (2009 update), and documents policies and procedures used by City of San Clemente Utilities Division staff to:

- detect SSOs,
- assess the cause, source, and nature of the SSO,
- identify equipment and manpower required to respond to the SSO,
- take actions to contain the spilled sewage and protect public health,
- comply with the notification, monitoring, reporting, and record-keeping requirements established within State Board Order Nos. 2006-0003-DWQ and WQ-2013-0058-EXEC,
- perform any necessary posting or public notification,
- take actions to correct the problem causing the SSO,

- clean up the spilled sewage and restore affected areas to pre-spill conditions,
- document causes of the SSO, preventative measures taken, and impacts associated with the SSO, and
- assess the cause/source of the SSO, and modify prevention or response actions to minimize the potential for recurrence.

In addition to addressing notification, reporting, monitoring, and record-keeping requirements established in State Board Order No. WQ-2013-0058-EXEC, this updated plan also incorporates experience gained by Utilities Division staff in responding to SSO events since the emergency response plan was previously updated in 2009.

### **1.3 Preparation of Plan Update**

This Updated 2014 *SSO Emergency Response Plan* was prepared by the City of San Clemente Utilities Division under the direction of City of San Clemente Utilities Manager James Kaylor and Wastewater Operations Supervisor Robert Gamble. Questions or comments concerning this plan should be directed to the Utilities Manager at:

Mr. James Kaylor  
Utilities Manager  
City of San Clemente Utilities Division  
380 Avenida Pico, Building N  
San Clemente, CA 92672  
Tel: (949) 361-8253  
Email: KaylorJ@san-clemente.org



# **Chapter 2**

## **SSO DETECTION**

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### **2.1 Wastewater Collection Overview**

The City of San Clemente Utilities Division wastewater service area is comprised of approximately 14.3 square miles. The Utilities Division service area represents approximately 84 percent of the total 17.1 square mile incorporated area of the City of San Clemente. Wastewater service within the remaining portions of the City of San Clemente is provided by the South Coast Water District and Santa Margarita Water District.

The sewer service area tributary to the San Clemente Water Reclamation Plant (WRP) includes land within seven topographic drainage areas. Key trunk mains serving the seven drainage regions include:

- Camino De Los Mares Trunk (Drainage Region 1),
- Avenida Pico Trunk (Drainage Region 2),
- Frontera Trunk (Drainage Region 3),
- El Camino Real North Trunk (Drainage Region 4),
- San Gabriel Trunk (Drainage Region 5),
- Pacific Coast Highway Trunk (Drainage Region 6), and
- Beach Trunk (Drainage Region 7).

Wastewater collected from Drainage Regions 1, 4, 6, and 7 is transported via gravity and force mains to the Main Pump Station (located near Avenida Pico and El Camino Real). Wastewater collected from Drainage Regions 2, 3, and 5 is transported via gravity and force mains to the Los Molinos Pump Station (located along Avenida Pico west of Interstate 5). The Main Pump Station and Los Molinos Pump Station lift the collected wastewater to the San Clemente WRP.

The City maintains eight local pump stations within the San Clemente WRP tributary area which lift wastewater within portions of the seven drainage regions:

- La Pata Pump Station (Drainage Region 2),
- Frontera Pump Station (Drainage Region 3),

- Colina Rodante Pump Station (Drainage Region 3),
- San Gabriel Pump Station (Drainage Region 5),
- Colombo Pump Station (Drainage Region 5),
- Cypress Shores Pump Station (Drainage Region 7),
- La Ramba Pump Station (Drainage Region 7), and
- Linda Lane Pump Station (Drainage Region 7).

The City also maintains the Liberty Park Pump Station, which is located within the City limits but is outside the tributary area of the San Clemente WRP. The Liberty Park Pump Station conveys wastewater to the Santa Margarita Water District through an interagency agreement between the City and the District.

The City maintains an updated atlas that details all sewer collection system facilities. The sewer system atlas shows the location of gravity mains, manholes, force mains, and other facilities. A master electronic version of the City's sewer system atlas is maintained on the City's computer network, and copies are backed up weekly. Copies of the atlas are carried on City response vehicles.

**SSO Prevention Plan.** As part of its Sanitary Sewer Management Plan (SSMP) mandated by State Board Order No. 2006-003-DWQ, the City has developed an updated *SSO Prevention Plan* that sets forth an action plan to minimize the potential for SSOs. Included in the SSMP and SSO Prevention Plan are procedures regarding inspection, preventative maintenance, system operations, public education, capital improvements, monitoring and reporting, forensic assessment, and system audits.

## 2.2 Potential SSO Sources and Methods of Detection

As part of developing its SSMP and updating this response plan, Utilities Division staff assessed prior SSOs, shared information with other regional agencies, evaluated historic and potential SSO causes, and researched state-wide SSO reports to identify potential causes of SSOs. Potential causes of SSOs within the City's sewer system include:

- sewer gravity main breaks or failures,
- sewer gravity main blockages,
- sewer gravity main surcharging,
- pressure main rupture,
- pump station pump/motor/control failure,
- pump station electrical failure, and
- pump station surcharging.

**Gravity Sewer Main Breaks.** SSOs may be caused by failure (breaks) in gravity sewer mains. Potential causes of gravity sewer main failure may include:

- penetrating tree roots,
- corrosion,
- pipe wall or pipe joint failure,
- inadequate sewer main installation/construction,
- construction excavation activities, or
- earth slides or earth movement.

SSOs resulting from sewer main breaks would result in either wastewater overflowing from the manhole immediately upstream from the break or wastewater flowing to the surface at or downstream from the point of the break. Virtually all City of San Clemente gravity mains are located in City streets. As a result, SSOs resulting from sewer main breaks are likely to be quickly noticed by the public or personnel within other City of San Clemente Departments. Utilities Division personnel also monitor for break-related SSOs through flow monitoring data generated at wastewater pump stations and at the San Clemente Water Reclamation Plant (San Clemente WRP).

**Gravity Sewer Main Blockages.** The potential exists for SSOs to occur as a result of blockages or clogs within gravity sewer mains or manhole structures. Such blockages or clogs could be caused by

- penetrating roots through pipe joints or pipe walls,
- penetrating roots through connections with private service laterals,
- grease or other congealing or viscous substances,
- rags, paper, plastic bags, or other semi-solid debris,
- solid material or debris,
- pipe wall failure, or
- vandalism.

SSOs resulting from sewer main blockages or clogs would result in wastewater overflowing from the manhole immediately upstream from the blockage. Virtually all City of San Clemente gravity mains are located in City streets in highly-visible areas. As a result, visual inspection of City wastewater facilities by Utilities Division staff represents a key means of detection for blockage-related SSOs.

SSOs resulting from sewer main blockages are likely to be quickly noticed by the public or personnel within other City of San Clemente Departments. The Utilities Division also monitors

for blockage-related SSOs through flow monitoring data generated at wastewater pump stations and at San Clemente WRP.

**Gravity Sewer Main Surcharging.** As documented in the City's *SSO Prevention Plan*, scheduled City of San Clemente Utilities Division capital improvements have kept pace with development within the City of San Clemente. As a result, no City of San Clemente sewer mains are at risk for surcharge-related SSOs during dry weather. Sewer mains are also sized to maximum wastewater flows plus anticipated infiltration and inflow (I&I).

SSOs resulting from sewer main surcharges would result in wastewater overflowing from manholes. As noted, virtually all City of San Clemente gravity mains are located in City streets in highly-visible areas. Visual inspection of City wastewater facilities by Utilities Division staff and reports from the public or other City of San Clemente departments represents key means of detection for surcharge-related SSOs. The Utilities Division also monitors for surcharge-related SSOs through flow monitoring data generated at wastewater pump stations and at the San Clemente WRP.

**Pressure Main Ruptures.** The potential exists for SSOs to occur as a result of pressure main ruptures. Pressure main ruptures could be caused by:

- corrosion,
- pipe wall failure or joint failure,
- inadequate installation/construction,
- pressure build-up from blockages,
- construction excavation activities, or
- earth movement.

SSOs resulting from pressure main breaks would result from pressurized wastewater breaking the ground surface in the immediate vicinity of the pressure main break. Virtually all City of San Clemente pressure mains are located along roads or in areas with high foot and/or vehicle traffic, and pressure main breaks would be highly recognizable. In addition to being highly visible, pressure main breaks would be detectable through pump station flow rate and pumping pressure data, and flow data monitored at San Clemente WRP. As a result, pressure main ruptures would typically be rapidly detected.

**Pump Station Pump/Motor/Control Failure.** To minimize the potential for SSOs caused by pump station pump or motor failures, each of the City's wastewater pump stations is equipped with multiple pump/motors, with at least one pump/motor combination being on standby for use in the event of failure or maintenance of any of the other pump/motor combinations. To minimize the potential for SSOs resulting from failure of pump station controls, each of the pump stations can be

operated under automatic controls or by manual actuation. Additionally, the City's Supervisory Control and Data Acquisition (SCADA) system allows for remote monitoring of pump station pumps, motors, pressures, flows, wet well water levels, and alarms. The SCADA system also allows for remote operation of pump station equipment and operating parameters.

In order for an SSO to occur as a result of pump station pump, motor, or control failure, such failure would have to be comprehensive and affect multiple pumping units and control systems. SSOs resulting from such a comprehensive failure would be detectable to City crews through pump station alarms and remotely accessed pump station performance data. Additionally, all City of San Clemente pump stations are located in highly-visible areas, and visual reports of the spill would be quickly noted by Utilities Division staff, other City of San Clemente personnel, or the public.

**Pump Station Electrical Outages.** Eight of the City's ten wastewater pump stations are equipped with standby power generators that automatically actuate in the event of power failure. Emergency power is not needed at the two remaining pump stations, as wastewater can be diverted by gravity main around the San Gabriel Pump Station, and wet well capacity at the Columbo Pump station is sufficiently large compared to the small wastewater inflows to negate the need for onsite emergency power.

With the presence of emergency onsite generators at the City's wastewater pump stations, a power failure SSO could not occur unless failure of an onsite emergency power generator occurred simultaneously with failure of the local electrical power grid. To minimize the potential for such an occurrence, Utility Division crews routinely perform scheduled checks of onsite emergency power generating equipment, and routinely exercise the emergency power generators to insure that they are in proper working order. The City also maintains four mobile emergency power generators for use in the event of failure of any of the onsite pump station generators.

Simultaneous failure of the power grid and emergency generators would be rapidly detectable to City crews through pump station alarms and remotely accessed pump station performance data. It is probable that Utilities Division crews would be alerted to the power failure in advance of occurrence of any SSO. Additionally, all City of San Clemente pump stations are located in highly-visible areas, and visual reports of any such SSO would be quickly noted by Utilities Division staff, other City of San Clemente personnel, or the public.

**Pump Station Surcharging.** Major upgrades to several of the City's ten wastewater pumping stations have recently been completed, and scheduled City of San Clemente Utilities Division capital improvements have kept pace with anticipated future development within the City of San Clemente. With these recent upgrades, risks associated with surcharge-related SSOs are minimized. SSOs caused by pump station surcharging would be expected to occur only during

times of comprehensive system failure during wet weather periods (such as the rupture of a gravity main or flood-related infiltration to manholes).

SSOs resulting from pump station surcharges would result in wastewater overflowing from the pump station, and would be instantly detectable to City crews through pump station alarms and remotely accessed pump station performance data. Additionally, all City of San Clemente pump stations are located in highly-visible areas, and visual reports of any such surcharge-related SSO would be quickly noted by Utilities Division staff, other City of San Clemente personnel, or the public.

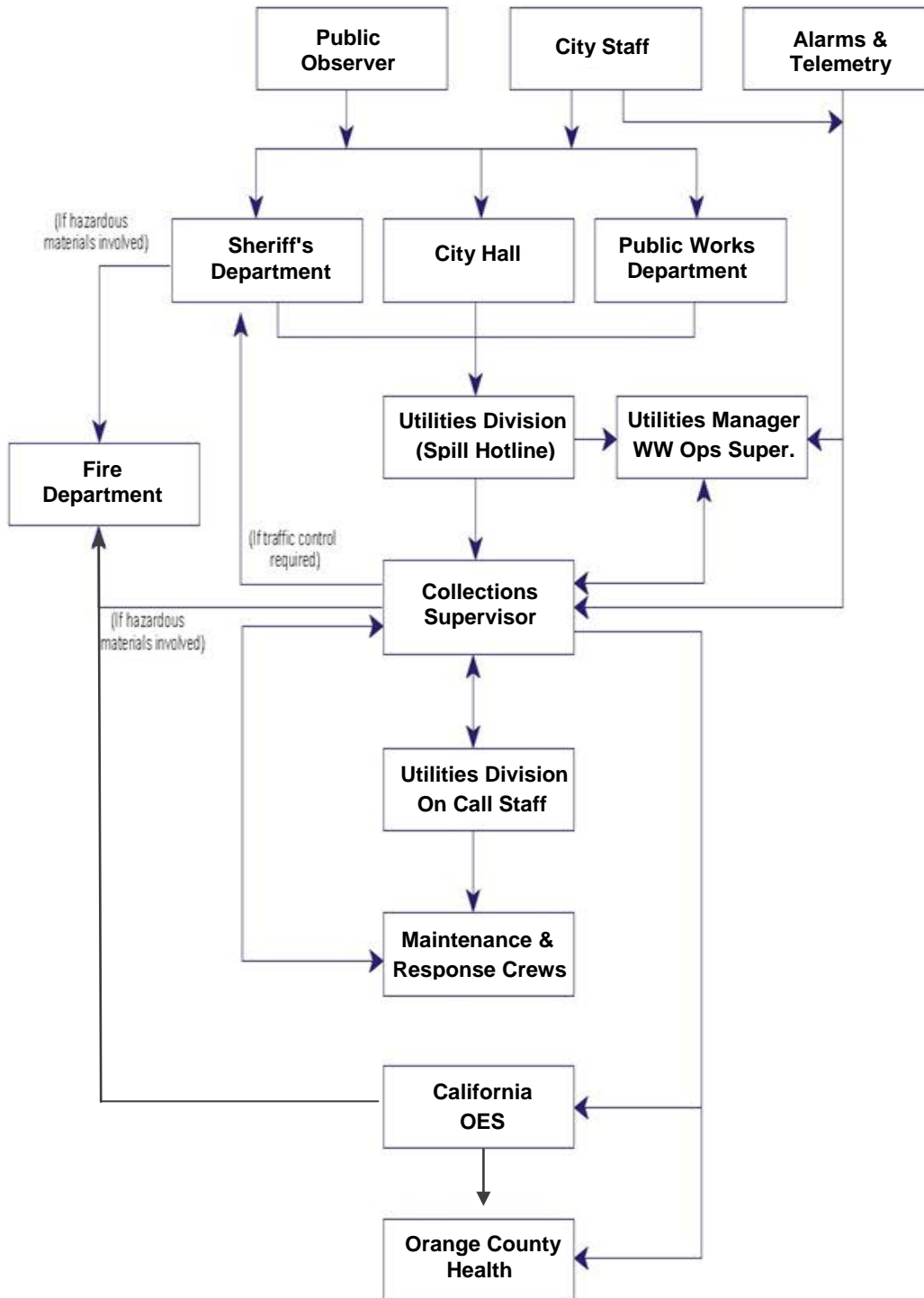
### 2.3 Target Response Times

Figure 2-1 (page 2-7) presents the City's SSO response chain of command. City of San Clemente Utilities Division staff man telephones during business hours. After hours calls are automatically routed to an answering service.

**SSOs Reported During Business Hours.** SSO reports received during business hours are instantly forwarded to the Collections Supervisor and Wastewater Operations Supervisor. The Collections Supervisor is responsible for organizing and mobilizing work crews. On days or times the Collections Supervisor is for some reason unavailable, the Wastewater Operations Supervisor shall designate an alternate person as being on call and responsible for organizing and mobilizing SSO response crews.

It is the City of San Clemente's goal to respond as rapidly as possible to reports of SSOs or threatened SSOs. Response times for Utilities Division staff to reach SSO or threatened SSO sites will vary by location, day of the week, and time of day. Utilities Division work/inspection crews are routinely on patrol within the City during business hours, and cell phone or radio communications are used to identify the location of available personnel. During business hours, depending upon location, the nearest crew may be able to arrive on the scene of a reported SSO within a matter of a few minutes after the SSO report is first received.

If no crew is in the immediate area of the SSO, Utilities Division management can immediately mobilize a response crew from onsite staff or staff engaged in offsite activities. The Utilities Division headquarters and yard is located on Avenida Pico at the San Clemente WRP. Because of the central location of the Utilities Division headquarters within the sewer service area, maximum travel time from the Utilities Division headquarters on Avenida Pico to the farthest reaches of the City is approximately 20 minutes. Travel time from the Utilities Division site to either of the two principal wastewater pumping stations (Main Pump Station and Los Molinos) is approximately 5 minutes.



**Figure 2-1**  
**SSO Response Chain of Command**

**SSOs Reported During Non-Business Hours.** After hours calls are automatically forwarded to an answering service. The answering service immediately notifies appropriate on-call personnel of any reports of SSOs or suspected SSOs. The Collections Supervisor is responsible for designating and scheduling an emergency response crew which is on call and available to respond to SSO reports received during all non-business hours (nights, weekends, and holidays). In the event the Collections Supervisor is not available, the Lead Collections System Operator is responsible for ensuring that an on-call response crew is available to respond to SSO reports received during nights, weekends, or holidays. If both the Collections Supervisor and Lead Collections Operator are unavailable, the next Grade II operator is responsible for the on-call response crew.

Mobilization times during non-business hours vary, depending upon personnel travel times and time of day. During non-business hours, the City endeavors to achieve a goal of first response and SSO site assessment within 30 minutes. The City further endeavors to achieve a goal of having a response team at the site within one hour of receipt of the SSO report. If initial assessment indicates the need for more crews than are on call, Utilities Division collections supervisors are empowered to authorize overtime and mobilize any required off-duty personnel to respond to the SSO.



# **Chapter 3**

## **EQUIPMENT AND PERSONNEL**

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Utilities Department resources from both wastewater and water operations are available to respond to SSOs. This chapter summarizes resources available to the City of San Clemente in responding to SSOs or threatened SSOs.

### **3.1 Personnel and Organization**

**Response Personnel.** Table 3-1 (page 3-2) summarizes available Utilities Division personnel available to participate in responding to SSOs or threatened SSOs. As shown in Table 3-1, available Utilities Division personnel include:

- management personnel,
- sewer collection system specialists,
- mechanical and electrical specialists,
- environmental and monitoring specialists, and
- additional response team personnel available for use in wastewater containment, cleanup, facilities repair, spill mitigation, site control, and SSO notification and documentation duties.

City of San Clemente Utilities Division personnel are knowledgeable of wastewater collection facilities and operations and receive ongoing training. A number of the Utilities Division management personnel and staff are cross-trained in multiple disciplines. Additionally, personnel from both City of San Clemente water and wastewater operations are available to respond to SSO events.

**Designation of Onsite Supervisor.** All SSO response actions detailed in Chapter 4 of this *SSO Emergency Response Plan* will be directed by an Onsite Supervisor. For all SSOs within the City's wastewater system, the designated Onsite Supervisor (unless otherwise designated by the Wastewater Operations Supervisor) shall be the Collections Supervisor (Collections System Chief Operator).

**Table 3-1  
City of San Clemente SSO Response Team  
Available Utilities Division Personnel**

Specialty	Personnel Title	Number of Available Personnel
SSO Response Management	Utilities Manager	1
	Operations Supervisor - Wastewater	1
	Operations Supervisor - Operating Equipment	1
	Chief Operator (Wastewater)	1 <sup>1</sup>
Electrical	Lead Electrical Technician	1
	Electrician Technicians	2 <sup>1</sup>
	SCADA Tech	1
Mechanical	Chief Mechanic	1 <sup>2</sup>
	Utilities Mechanics	4 <sup>2</sup>
Sewer Collection System Specialists	Collection Systems Chief Operator (Collections Supervisor)	1
	Collection Systems Operator I/II	5
Laboratory & Monitoring	Laboratory Supervisor	1
	Laboratory Technician	1
Additional Response Team Members <sup>3</sup>	Chief Operator (Water)	1 <sup>1</sup>
	Lead Water Distribution System Operator	1 <sup>2</sup>
	Water Distribution Operators	3 <sup>2</sup>
	Water Conservationist	1 <sup>2</sup>
Total Available Response Team Personnel		26

1 Normal duties include wastewater plant operation, but personnel are available on call to assist with collection system SSO responses.

2 Normal duties of the listed personnel may also include water system operations, but the personnel are available on call to assist with collection system SSO responses.

3 In addition to City of San Clemente Utilities Division staff, Sheriff's Department personnel will be called to assist with site and traffic control.

When Utilities Division personnel arrive at the SSO scene in advance of the designated Onsite Supervisor, the senior onsite Utilities Division staff member will assume the duties of the Onsite Supervisor until the Collections Supervisor arrives.

When the Collections Supervisor is on vacation or are otherwise unavailable, the Wastewater Operations Supervisor shall designate an experienced Utilities Division staff member to serve as the on call Onsite Supervisor responsible for responding to and taking charge of SSO response efforts. Any received SSO reports shall be immediately directed to the designated on call Onsite Supervisor as well as the Utilities Manager.

**Response Teams.** All Utilities Department workers are available via cell phone/radio communications during all business hours. As discussed in Section 2.3 (pages 2-6 and 2-8), Utilities Department supervisors can quickly mobilize SSO response crews from either (1) routing crews already in the field to the response site or (2) directing crews at Utilities Division offices/yards to the response site.

The Collections Supervisory is to ensure that schedules are maintained so that a senior-level wastewater supervisor and an emergency response crew is scheduled as being on call and available during all non-business hours.

### 3.2 Training

Utilities Division personnel SSO response training is the responsibility of the Utilities Manager and Wastewater Operations Supervisor. Ongoing Utilities Division training includes:

- *Orientation Training and Mentorship.* New employees are trained in assigned duties by experienced Utilities Division staff. Supervisors serve as mentors in order to allow newer employees to better understand City wastewater facilities, staffing responsibilities, and wastewater system operations.
- *Specialized Training.* Using either Utilities Division staff or outside instructors, Utilities Division personnel receive periodic training in such areas as first aid, safety (including confined space entry and ventilation), fire prevention, traffic control, and equipment operation.
- *Drills and Test Exercises.* Utilities Division drills and training exercises are periodically conducted by senior Utilities Division staff. Table 3-2 (page 3-4) presents the Utilities Division training schedule for drills and tests. Drills and test exercises directed by senior Utilities Division staff include notification tests, equipment tests, communication tests, mobility drills, and trouble-shooting training.

- *Professional Training and Certification.* Utilities Division employees are encouraged to achieve professional certifications and participate in such professional organizations as Water Environment Federation and California Water Environment Association. Employees are encouraged to attend training sessions and seminars that relate to sewer system operation, spill prevention, spill containment, and spill recovery.
- *Professional Development.* Professional promotions within the Utilities Division are, in part, based on employee's work performance, professional certifications, and well-rounded knowledge of all facets of the City's wastewater facilities and operations. Employees seeking advancement are thus encouraged to (1) cross-train in areas beyond their normal duties and (2) increase their breadth of knowledge outside their immediate responsibilities.

### 3.3 Available Response Equipment

As detailed in Chapter 4, SSO response actions to be led by the Onsite Supervisor may include spill assessment, spill containment, wastewater facilities repairs, site control, sampling and monitoring, spill cleanup, and notification/documentation. Table 3-3 (page 3-5) summarizes key equipment and facilities that is available to the Onsite Supervisor to handle SSO events.

**Table 3-2  
 Emergency Preparedness Training and Testing**

Test or Drill	Test or Drill Frequency <sup>1</sup>
Notification drills to test mobilization of staff	Quarterly
Interdepartmental and intradepartmental communications exercises	Monthly
Exercise standby pumps	Monthly
Test and exercise emergency power generators	Monthly
Pump station controls and pump stations operations training	As-needed
Test pump station alarms	Weekly
Safety training or drills	Quarterly
Trouble-shooting exercises on pump controls	Annually
Drills for mobilizing emergency equipment and materials	Annually
Drills to test SSO response actions	Annually

<sup>1</sup> Approximate frequency of test or drill in the absence of SSO events. Actual frequencies may vary depending on SSO history, staff experience, and training needs identified by Utilities Division supervisors.

**Table 3-3**  
**City of San Clemente SSO Response Team**  
**Key Available Equipment<sup>1</sup>**

Equipment	Number Available <sup>1</sup>
2100 Series Vactor Truck <sup>2</sup>	2
Tool-equipped maintenance vehicles <sup>3</sup>	41
Sewer cleaning easement machine (600 feet of hose)	1
Portable welders (truck-mounted or portable)	2
Backhoe excavators	2
Traffic control light trailers	2
6-inch portable wastewater pumps <sup>4</sup>	2
Mobile emergency generators <sup>5</sup>	4
Sewer pipe replacement sections	See note <sup>6</sup>
Misc. pipe sleeves, couplings, and other fittings	See note <sup>7</sup>
Misc. pump seals, bearings, and spare parts	See note <sup>8</sup>
Filled sand bags (for dikes, berms, spill containment)	200 <sup>9</sup>

- 1 City-owned available response equipment. Additional response equipment may be available from adjoining sewer agencies through mutual assistance agreements. Additional equipment may also be available from "as needed" contractors, suppliers, or local rental organizations. The City maintains an updated list of emergency contractors.
- 2 Each Vactor truck is equipped with a positive displacement compressor vacuum system, a 1500-gallon tank, a Vactor Jet 2000 psi water pump, a 800-foot rotating hose reel, and a telescoping boom.
- 3 Includes pickups, vans, and other Utilities Division vehicles equipped with some or all of the following: tool kits, traffic cones, emergency lights, first aid kits, manhole lifters, monitoring vials, sewer spill posting signs, etc.
- 4 Each 6-inch portable pump is equipped with 1000 linear feet of discharge hose and 50 linear feet of suction hose. In addition to the 6-inch pumps, the City maintains a number of smaller 2-inch and 3-inch trash or diaphragm pumps.
- 5 Includes 155 kilowatt, 300 kilowatt, and 350 kilowatt portable generators.
- 6 Miscellaneous pipe sections for gravity and force mains are stored in the City's Utilities Division maintenance yard and are available for use in the event that sewer main breaks requires replacement of pipe sections.
- 7 Miscellaneous pipe sleeves and other fittings are maintained in inventory. The Utilities Division establishes a list of critical parts/components on the basis of manufacturer/designer recommendations, past history of failure, operating and use experience, and parts availability.
- 8 As detailed in the City's SSO Prevention Plan, the City conducts routine inspection and maintenance of all City wastewater pump stations. As part of this program, the City maintains a complete inventory of pump seals, bearings, and spare parts required for maintaining and repairing pumping facilities.
- 9 The wastewater collections division maintains approximately 200 san bags on site, and additional sand bags are available from the City's street department.

# **Chapter 4**

## **SSO RESPONSE ACTIONS**

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### **4.1 SSO Response Overview**

This chapter summarizes City of San Clemente Utilities Division actions for responding to SSOs. All SSO response actions will be under the direction of the designated Onsite Supervisor. Response actions shall include:

- initial assessment and spill classification,
- OES notification (if Category 1 SSO),
- securing the site perimeter,
- spill containment,
- posting,
- spill control,
- monitoring and SSO documentation,
- site cleanup and restoration, and
- follow-up activities.

Response actions taken by the City will be in accordance with provisions established within State Board Order Nos. 2006-0003-DWQ and WQ-2013-0058-EXEC.

### **4.2 Initial Assessment and Spill Classification**

**Initial Assessment.** When arriving onsite, the Onsite Supervisor shall assume direction and management of all response personnel and resources. The Onsite Supervisor shall take command of onsite Utilities Division staff, assess the SSO site, and collect information from Utilities Division staff to:

- identify what is causing the overflow (or threatening to cause the overflow),
- determine where the spilled sewage will flow and identify potentially affected areas,
- identify strategies for gaining site control and keeping people and spectators away,

- 
- assess strategies for containing the spill, and identify personnel and resources required for spill containment,
  - assess strategies for terminating or redirecting the source of the spill, and identify personnel and equipment required to terminate the SSO source,
  - determine if the spill has the potential to threaten public health, cause property damage, or impact the environment,
  - communicate the nature of the problem to the Utilities Manager,
  - in consultation with the Utilities Manager, call in required additional personnel and equipment resources,
  - if the SSO is discharged to a surface water or spilled in a location where it probably will discharge to surface waters (e.g. Category 1 SSO), call the Office of Emergency Services (OES) at (800) 852-7550 within two hours of becoming aware of the SSO, provide the OES with requested information, and obtain a notification control number from the OES,
  - consult with other primary responders contacted by OES (e.g. health officials or other responding agencies) and determine if any downstream parties need to be notified to protect public health,
  - estimate the duration and volume of spilled sewage, and
  - determine if any upstream dischargers need to be contacted to reduce wastewater quantities discharged to the sewer system.

**Spill Classification.** Table 4-1 (page 4-3) presents State Water Resources Control Board classifications for SSOs, as defined within Order No. WQ-2013-0058-EXEC.

Per Order No. WQ-2013-0058-EXEC, Category 1 SSOs are defined as a discharge of untreated or partially treated wastewater of any volume that reach surface water or a drainage channel tributary to surface water. Category 1 SSOs also include any discharge untreated or partially treated wastewater that reaches a Municipal Separate Storm Sewer System (MS4) and is not fully captured and properly disposed (unless the MS4 is tributary to a dedicated groundwater infiltration or percolation basin).

### 4.3 Office of Emergency Services (OES) Notification

In accordance with the requirements of Order No. WQ-2013-0058-EXEC, the Onsite Supervisor is responsible for telephoning the OES within two hours of becoming aware of any Category 1 SSO. The Onsite Supervisor shall provide the OES with requested information and obtain an OES notification control number. SSO information requested by OES may include the following:

- Name of person notifying Cal OES and direct return phone number.
- Estimated SSO volume discharged in gallons.

- If ongoing, the estimated SSO discharge rate in gallons per minute.
- SSO Incident Description, including:
  - a. brief narrative of the SSO.
  - b. on-scene point of contact for additional information (name and cell phone number).
  - c. date and time enrollee became aware of the SSO.
  - d. name of sanitary sewer system agency causing the SSO.
  - e. SSO cause (if known).
- Indication of whether the SSO has been contained.
- Indication of whether surface water is impacted.
- Name of surface water impacted by the SSO, if applicable.
- Indication of whether a drinking water supply is or may be impacted by the SSO.
- Any other known SSO impacts.
- SSO incident location (address, city, state, and zip code).

OES forward notification information to local government agencies and applicable first responders, including the Orange County Health Care Agency (OCHCA), hazardous waste officials, and San Diego Regional Water Quality Control Board.

**Table 4-1  
 SSO Categories**

Category	Description
Category 1	A discharge of untreated or partially treated wastewater of any volume that: <ul style="list-style-type: none"> <li>• reaches surface water and or reaches a drainage channel tributary to a surface water, or</li> <li>• discharges to a Municipal Separate Storm Sewer System (MS4) and is not fully captured and returned to the sanitary sewer system (unless discharged to a dedicated infiltration basin or percolation pond)</li> </ul>
Category 2	Discharges of untreated or partially treated wastewater of 1000 gallons or more resulting from a sanitary sewer system failure or flow condition that does not reach surface water, a drainage channel, or a MS4 unless the entire SSO discharged to a storm drain system if fully recovered and properly disposed.
Category 3	All other discharges of untreated or partially treated wastewater resulting from a sanitary sewer system failure or flow condition.
Private Lateral Sewer Discharges (PLSD)	Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer later connected to the sanitary sewer system or from other private assets.

<sup>1</sup> SSO categories, descriptions and reporting requirements as set forth in State Board Order No. WQ-2013-0058-EXEC.



Following the initial notification to OES, the Utilities Division shall provide updates to OES on any substantial changes in the estimated volume of untreated or partially treated wastewater or any substantial changes to known impacts. This notification shall be made by the Onsite Supervisor if such substantial changes are in evidence while City crews are still on the scene responding to the SSO. The Operations Supervisor - Operating Equipment shall make the report to OES if such substantial changes are determined to have occurred after City response crews have left the site but prior to the time the SSO report is logged into the California Integrated Water Quality System (CIWCS) Online Database.

Order No. WQ-2013-0058-EXEC strongly encourages (but does not require) sewer system operators to notify OES of discharges to surface waters exceeding 1000 gallons from private lateral sewer discharges (PLSDs). In accordance with this directive, the City shall endeavor to notify OES whenever City personnel become aware of PLSDs to surface waters that exceed 1000 gallons.

#### **4.4 Site Perimeter and Traffic Control**

**Site Perimeter Control.** Concurrent with the initial assessment, the Onsite Supervisor shall take immediate actions to isolate the public from the spill. Site control shall be achieved using portable barriers, signs or postings, stakes and tape, existing fencing, parked vehicles, or natural terrain.

The Onsite Supervisor shall contact the Sheriff's department if additional assistance is (1) required for isolating the public from the spill, (2) required for controlling crowds or onlookers, or (3) if members of the public are interfering with efforts of the SSO response team.

**Traffic Control.** If the potential exists for spill response actions (or parked response vehicles) to impact traffic, the Onsite Supervisor shall also take actions to divert traffic around the response site and ensure the safety of traffic, the public, and response crews. Traffic shall be diverted where necessary using traffic cones, portable signs, emergency lights, flag personnel, vehicles, and/or portable traffic-direction light trailers.

City response vehicles routinely carry traffic cones, barriers, and traffic control flags, and signs. Additional materials required to secure the site perimeter (which include portable traffic-direction light trailers) are stored at the San Clemente WRP and should be secured by the Onsite Supervisor if required.

The Onsite Supervisor shall determine if onsite traffic control is adequate, or if law enforcement assistance is required. Sheriff's Department officials should be notified if required to assist in

traffic control. Fire Department officials should be contacted if traffic controls could result in fire response delays. Response vehicles and crews are required to maintain current telephone numbers for the Sheriff's Department and Fire Department.

#### **4.5 Spill Containment or Diversion**

Upon achieving control of the site perimeter, response crews under the direction of the Onsite Supervisor shall endeavor to contain or divert the spill. To determine the best strategy (or strategies) for spill containment or diversion, the Onsite Supervisor shall evaluate the:

- spill volume and flowrate of the spill,
- terrain and natural barriers,
- locations of downstream manholes or other sewer collection sewer facilities, and
- locations of storm drains or streams.

Spill and recovery containment strategies to be evaluated, and (if appropriate) implemented by the response crews include:

- using Vactor trucks to vacuum the spill,
- using sandbags rubber dams, or other portable flow barriers to prevent the flow from entering storm drains or drainage channels,
- diverting the spill by pumping around the overflow point or sewer break point back into the sewer system,
- diverting the spill by berms or sandbags back into the sewer system,
- diverting or retaining the spill in a hollow, swale, or low area for subsequent recovery, and/or
- constructing a temporary dam or dike to contain the spill for subsequent recovery.

**Recovery from Storm Drains.** City response vehicles are equipped with maps of municipal storm drain facilities. If the spill enters a storm drain, the Onsite Supervisor shall make all reasonable efforts identify a downstream location(s) where the storm drain can be dammed up to prevent the spill from reaching surface waters. Any spilled flow contained within the storm drain facilities shall be subsequently removed by portable pumps or Vactor trucks and discharged to the sanitary sewer system.

**Recovery Through Streamflow Diversion Facilities.** As a means of minimizing the potential for dry season storm drain flow to impact local beaches, the Utilities Division maintains a program of diverting dry season streamflow back into the sanitary sewer system at the following locations:

- Linda Land Park, and
- San Gabriel By-Pass,

- MO2 Diversion Structure,
- North Beach Main Station Parking lot area, and
- the drainage channel south of Avenida de la Riviera.

The Onsite Supervisor shall determine if the spills are in areas tributary to these streamflow diversion facilities. If so, the Onsite Supervisor shall ensure that streamflow diversion facilities are operational and that spilled flows not otherwise contained are recovered through the streamflow diversion facilities.

#### **4.6 Posting**

City response vehicles are equipped with signage for use in warning the public of contact with areas contaminated by spills. In consultation with OCHCA and in accordance with OCHCA regulations, affected areas shall be identified and posted as being contaminated with sewage.

Signage shall be posted in locations so as to maximize public visibility and minimize the potential for public contact with contaminated areas. Signs shall be posted along all routes the public may be reasonably expected use to enter the contaminated area.

Signs shall remain posted for a minimum of five days, unless the Utilities Division is otherwise directed by the OCHCA.

#### **4.7 Spill Termination**

Once spill containment is assured, response crews shall focus on eliminating the source or cause of the SSO and terminating the spillage.

**Gravity Sewer Main Breaks.** For SSOs caused by breaks or failures of gravity sewer mains, the Onsite Supervisor shall determine the location and nature of the sewer main break, and identify equipment and resources required to repair the break. After sewage diversion actions are implemented, excavation equipment shall be called in to expose the break and allow the Onsite Supervisor to determine the appropriate measures for repairing the break. Minor breaks may be resolved with sleeves, patches, or fittings, while major breaks may require replacement of pipe sections.

**Gravity Sewer Main Blockages.** For SSOs caused by sewer main blockage, the Onsite Supervisor shall determine the location and nature of the sewer main blockage, and identify equipment and resources required to clear the blockage. Once the nature of the blockage is identified, blockages may be removed by a variety of strategies including: sewer main water jetting, application of degreasers, Vactor truck pumping, sewer main rodding, or manual removal.

**Gravity Sewer Main Surcharging.** For SSOs caused by gravity main surcharging, the Onsite Supervisor shall determine the nature and cause of the temporary surcharging, and direct actions to (1) temporarily divert wastewater flows, and (2) eliminate the cause of the surcharging. Activities required to eliminate the surcharging may include:

- restoring manhole covers removed by citizens or by force of flow, or
- installing temporary dikes or dams to protect facilities from runoff or standing water.

If the sewer system surcharging is caused by inflows of stormwater from flooded streets due to improperly operating storm drains, it may be necessary to eliminate the street flooding by unblocking or cleaning the storm drains to allow storm runoff to flow into the storm drains instead of flowing into the sanitary sewer system.

**Pressure Main Ruptures.** For SSOs caused by breaks or failures in pressure mains, the Onsite Supervisor shall determine the location and nature of the break/failure, and identify equipment and resources required to (1) divert flows around the rupture and (2) repair the break. After sewage diversion actions are implemented, excavation equipment shall be called in to expose the rupture and allow the Onsite Supervisor to determine the appropriate measures for repairing the break. Minor ruptures may be resolved with sleeves, patches, or fittings, while major breaks may require replacement of pipe sections.

**Pump Station Pump/Motor/Control Failure.** For SSOs caused by pump station failure, the Onsite Supervisor shall determine the nature of the pump, motor, or control failure, and identify equipment and resources necessary to restore pump station operations. For use in the pump or motor repairs, an inventory of spare pump parts, motor bearings, and electrical controls are available at the Utilities Division the San Clemente WRP site. If automatic controls fail, Utilities Division personnel are to revert to manual operation of pumps until the automatic controls are repaired or restored. If required, the Utilities Division maintains portable pumps and diversion equipment for use until full pump station operations are resumed.

**Pump Station Electrical Failure.** For SSOs related to electrical failures, the Onsite Supervisor shall determine the nature and cause of the failure of onsite emergency generators to actuate upon power grid failure, and take actions to restore pump station power. Power restoration response actions shall include:

- attempt to manually start onsite emergency generators,
- order mobile generators to the site,
- if onsite emergency generators cannot be manually started, hook up the mobile generators and restore power,
- determine if onsite repair of the emergency generators or generator controls is possible, and

- maintain mobile generators at the site (even after grid power is restored) until the source of problems for the onsite emergency generators is diagnosed and corrected.

**Pump Station Surcharging.** For SSOs caused by pump station surcharging, the Onsite Supervisor shall determine the nature and cause of the temporary surcharging, and direct actions to eliminate the cause of the surcharging. Activities required to eliminate the surcharging may include:

- restoring manhole covers removed by citizens or by force of flow, and/or
- installing temporary dikes or dams to protect facilities from runoff or standing water.

If the pump station surcharging is caused by inflows of stormwater into the sanitary sewer system from flooded streets due to improperly operating storm drains, it may be necessary to eliminate the street flooding by unblocking or cleaning the storm drains to allow storm runoff to flow into the storm drains instead of flowing into the sanitary sewer system.

#### **4.8 Assessment, Cleanup and Restoration**

**Public Health Monitoring.** If warranted after consultation with OCHCA and onsite Utilities Division environmental specialists, the Onsite Supervisor shall direct Utilities Division staff to collect bacteriological water quality samples to assess possible impacts to public health and the environment. Samples shall be labeled to show the collection date, time, and site. Sample collection, sample containers, sample preservation and storage, and sample analysis procedures shall be in accordance with Regional Board criteria set forth in the SOCWA NPDES permit and San Clemente WRP waste discharge requirements.

**Collection of Photographic/Video Evidence.** Where possible and appropriate during and after spill response activities, the Onsite Director shall direct that photographic or video evidence be collected to document (1) City response actions, (2) spill causes, (3) impacts to public health or the environment, and (4) cleanup and restoration measures. Photographic or video evidence shall be labeled to show the date, location, time, and person recording the event.

**Site Cleanup and Restoration.** After spill control is achieved, City response crews shall endeavor to return all spilled sewage to the sewer system (or as much as possible) and return the spill site to pre-spill conditions. Site cleanup operations shall be directed by the Onsite Supervisor, in consultation with OCHCA.

Vactor trucks or portable pumps shall be used to recapture spilled sewage and return it to the sewer system. Affected pavements, hardscapes shall be flushed with water, with flush water being recaptured and returned to the sewer system. Affected areas are to be assessed for impact to public health, biological resources, and other beneficial uses. Spill containment measures (barriers, dike, or dams) are not to be removed until the entire site clean-up is complete.

#### 4.9 Reporting and Follow-Up Actions

**Corrective Actions and Mitigation.** After site cleanup, the Onsite Supervisor shall determine if any short-term corrective or mitigating measures are required to prevent SSO recurrence. Short term corrective measures may include:

- temporarily stationing Utilities Division personnel at the site to monitor conditions and/or equipment after the SSO is terminated,
- stationing response equipment at the site until it can be confirmed that the SSO threat is no longer present, and/or
- ordering additional immediate repair activities to strengthen the integrity of the wastewater collection system.

The Onsite Supervisor, in consultation with the Operations Supervisor - Wastewater, shall also determine if any long-term corrective measures are required. Long-term measures may include:

- increased video inspection of suspect pipe sections,
- replacing suspect pipe sections,
- replacing or repairing suspect equipment,
- acquiring additional SSO response equipment,
- bolting manhole covers susceptible to vandalism,
- installing seals on manhole covers subject to inflow or surcharging,
- revising Utilities Division personnel assignments and duties,
- reviewing/ modifying *SSO Prevention Plan* or *SSO Emergency Response Plan* procedures,
- conducting additional training or testing sessions,
- authorizing redesign of wastewater facilities or equipment, and/or
- revising or reprioritizing Capital Improvement Program projects.

**SSO Online Database Notifications.** The Utilities Operations Supervisor - Electrical/Mechanical is authorized to oversee preparation and certification of SSO compliance reports submitted to the State via the California Integrated Water Quality Systems (CIWQS) Database pursuant to requirements established in State Board Order Nos. 2006-0003-DWQ and WQ-2013-0058-EXEC. As summarized in Table 4-2 (page 4-10), draft reports for Category 1 and 2 SSOs shall be submitted to the CIWQS Online SSO Database within 3 business days of the time the City is aware of the SSO. Final reports for Category 2 or Category 2 SSOs shall be certified through the CIWQS Online Database within 15 calendar days of the termination date of the SSO.

**Table 4-2**  
**Summary of Spill Categories and Reporting Requirements**  
**State Board Order No. WQ-2013-0058-EXEC<sup>1</sup>**

Element	Requirement of Order No. WQ-2013-0058-EXEC <sup>1</sup>	Method
Notification <sup>2</sup>	<ul style="list-style-type: none"> <li>Within two hours of becoming aware of any Category 1 SSO<sup>6</sup> greater than or equal to 1,000 gallons discharged to surface water or spilled in a location where it probably will be discharged to surface water, notify the California Office of Emergency Services (OES) and obtain a notification control number.</li> </ul>	Call OES at: (800) 852-7550
Reporting <sup>3</sup>	<ul style="list-style-type: none"> <li>Category 1 SSO<sup>6</sup>: Submit draft report within three business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date.</li> <li>Category 2 SSO<sup>7</sup>: Submit draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar 3days of the SSO end date.</li> <li>Category 3 SSO<sup>8</sup>: Submit certified report within 30 calendar days of the end of month in which SSO the occurred.</li> <li>SSO Technical Report: Submit within 45 calendar days after the end date of any Category 1 SSO in which 50,000 gallons or greater are spilled to surface waters.</li> <li>“No Spill” Certification: Certify that no SSOs occurred within 30 calendar days of the end of the month or, if reporting quarterly, the quarter in which no SSOs occurred.</li> <li>Collection System Questionnaire - update and certify every 12 months</li> </ul>	Enrollee's legally responsible officials must enter SSO data into the CIWQS Online SSO database at <a href="http://ciwqs.waterboards.ca.gov/">http://ciwqs.waterboards.ca.gov/</a>
Water Quality Monitoring <sup>4</sup>	<ul style="list-style-type: none"> <li>Conduct water quality sampling within 48 hours after initial SSO notification for Category 1 SSOs<sup>6</sup> in which 50,000 gallons or greater are spilled to surface waters.</li> </ul>	Water quality results are required to be uploaded into CIWQS for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.
Record Keeping <sup>5</sup>	<ul style="list-style-type: none"> <li>SSO event records.</li> <li>Records documenting Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to the SSMP.</li> <li>Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters.</li> <li>Collection system telemetry records if relied upon to document and/or estimate SSO Volume.</li> </ul>	Self-maintained records shall be available during inspections or upon request.

1 Order No. WQ-2013-0058-EXEC became effective on September 9, 2013.

2 Notification procedures are established in Section B of Attachment A to Order No. WQ-2013-0058-EXEC.

3 Reporting procedures are established in Section C of Attachment A to Order No. WQ-2013-0058-EXEC.

4 Water quality monitoring procedures are established in Section D of Attachment A to Order WQ-2013-0058-EXEC.

5 Record keeping procedures are established in Section E of Attachment A to Order No. WQ-2013-0058-EXEC.

6 Category 1 spill is defined as a discharge of untreated or partially treated wastewater of any volume resulting from an enrollee’s sanitary sewer system failure or flow condition that (1) reaches surface water and/or reaches a drainage channel tributary to a surface water; or (2) reaches a Municipal Separate Storm Sewer System (MS4) and is not fully captured and returned to the sanitary sewer system or not otherwise captured and properly disposed. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin.

7 A category 2 SSO is defined as a discharge of untreated or partially treated wastewater of 1,000 gallons or greater resulting from an enrollee’s sanitary sewer system failure or flow condition that does not reach surface water, a drainage channel, or a MS4 unless the entire SSO discharged to the storm drain system is fully recovered and properly disposed.

8 A category 3 SSO is defined as all other discharges of untreated or partially treated wastewater resulting from an enrollee’s sanitary sewer system failure or flow condition.

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Table 4-3 (page 4-12) presents minimum information that shall be reported in the draft reports and certified in the final reports for Category 1 SSOs. Information requirements for Category 2 and 3 SSO reports are as follows:

- Draft Category 2 SSO Reports:* Information required under Items 1-14 under Draft Category 1 SSOs (see Table 4-3).
- Certified Category 2 SSO Reports:* Information required under Items 1-14 under Draft Category 1 SSOs and information required under Items 1-9 and 17 for Certified Category 1 SSO reports.
- Draft Category 3 SSO Reports:* Information required under Items 1-5 under Draft Category 1 SSOs (see Table 4-3).
- Certified Category 3 SSO Reports:* Information required under Items 1-14 under Draft Category 1 SSOs and information required under Items 1-5 and 17 for Certified Category 1 SSO reports.

In the event the CIWQS Database is not available, the Operations Supervisor - Operating Equipment shall:

- fax or email the required information to the San Diego Regional Water Quality Control Board (contact numbers are in Appendix 1) in accordance with the time schedules identified in Table 4-2, and
- enter the required information in the CIWQS Online SSO Database when the database becomes available.

**Water Quality Monitoring Program.** State Board Order No. WQ-2013-0058-EXEC requires the City to develop and implement an SSO Water Quality Monitoring Program to assess impacts from SSOs to surface waters for SSO discharges of 50,000 gallons or more. For SSO dischargers to surface waters that exceed 50,000 gallons, the Operations Supervisor - Operating Equipment is responsible for developing and implementing a water quality monitoring program that shall, at a minimum:

- Contain protocols for water quality monitoring.
- Account for spill travel time in the surface water and scenarios where monitoring may not be possible as a result of safety concerns, access restrictions, etc).
- Ensure that monitoring instruments and devices used to implement the SSO Water Quality Monitoring Program are properly maintained and calibrated and that records are available to document maintenance and calibration, as necessary, to ensure accuracy.
- Within 48 hours of becoming aware of the SSO, require water quality sampling at least for ammonia, total coliform, fecal coliform, and enterococcus, with sample analyses being performed by an accredited or certified laboratory.



**Table 4-3**  
**Required Information for Online SSO Database**  
**Draft and Certified Reports for Category 1 SSOs**

SSO Report	Information Requirement
Draft Category 1 SSOs	<ol style="list-style-type: none"> <li>1. SSO Contact Information: Name and telephone number of enrollee contact person who can answer specific questions about the SSO being reported.</li> <li>2. SSO Location Name.</li> <li>3. Location of the overflow event (SSO) by entering GPS coordinates. If a single overflow event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the SSO appearance point explanation field.</li> <li>4. Whether or not the SSO reached surface water, a drainage channel, or entered and was discharged from a drainage structure.</li> <li>5. Whether or not the SSO reached a municipal separate storm drain system.</li> <li>6. Whether or not the total SSO volume that reached a municipal separate storm drain system was fully recovered.</li> <li>7. Estimate of the SSO volume, inclusive of all discharge point(s).</li> <li>8. Estimate of the SSO volume that reached surface water, a drainage channel, or was not recovered from a storm drain.</li> <li>9. Estimate of the SSO volume recovered (if applicable).</li> <li>10. Number of SSO appearance point(s).</li> <li>11. Description and location of SSO appearance point(s). If a single sanitary sewer system failure results in multiple SSO appearance points, each appearance point must be described.</li> <li>12. SSO start date and time.</li> <li>13. Date and time the enrollee was notified of, or self-discovered, the SSO.</li> <li>14. Estimated operator arrival time.</li> <li>15. For spills greater than or equal to 1,000 gallons, the date and time Cal OES was called.</li> <li>16. For spills greater than or equal to 1,000 gallons, the Cal OES control number.</li> </ol>
Certified Category 1 SSOs	<p>In addition to the information provided for the Draft Category 1 SSO reports, certified reports shall include:</p> <ol style="list-style-type: none"> <li>1. Description of SSO destination(s).</li> <li>2. SSO end date and time.</li> <li>3. SSO causes (mainline blockage, roots, etc.).</li> <li>4. SSO failure point (main, lateral, etc.).</li> <li>5. Whether or not the spill was associated with a storm event.</li> <li>6. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the overflow; and a schedule of major milestones for those steps.</li> <li>7. Description of spill response activities.</li> <li>8. Spill response completion date.</li> <li>9. Whether or not there is an ongoing investigation, the reasons for the investigation and the expected date of completion.</li> <li>10. Whether or not a beach closure occurred or may have occurred as a result of the SSO.</li> <li>11. Whether or not health warnings were posted as a result of the SSO.</li> <li>12. Name of beach(es) closed and/or impacted. If no beach was impacted, NA shall be selected.</li> <li>13. Name of surface water(s) impacted.</li> <li>14. If water quality samples were collected, identify parameters the water quality samples were analyzed for. If no samples were taken, NA shall be selected.</li> <li>15. If water quality samples were taken, identify which regulatory agencies received sample results (if applicable). If no samples were taken, NA shall be selected.</li> <li>16. Description of methodology(ies) and type of data relied upon for estimations of the SSO volume discharged and recovered.</li> <li>17. SSO Certification<sup>2</sup></li> </ol>

1 Requirements for Online SSO Database initial reports for Category 1 SSOs established within State Board Order No. WQ-2013-0058-EXEC. Draft Category 1 SSO reports are to be filed as soon as possible, but no later than 3 business days after the discovery of the SSO. Certified Category 1 SSO reports are to be filed no later than 15 calendar days from the termination of the SSO.

2 Upon SSO certification, the SSO Database will issue a Final SSO Identification Number.

**SSO Impacts Assessment.** For SSOs in excess of 50,000 gallons or other significant SSOs which are determined to have occurred for a period in excess of 24 hours, the Operations Supervisor - Wastewater, in consultation with the Utilities Manager and City environmental specialists, shall determine if an impacts assessment study is required to evaluate short-term or long-term impacts of the SSO on beneficial uses or habitat.

The impacts study would document the nature and degree of SSO impacts to beneficial uses and habitat and would evaluate recovery times and recommended mitigation actions. Results of the impacts study can be incorporated into City responses to any subsequent Administrative Civil Liability complaints filed against the City by the Regional Water Quality Control Board.

**SSO Technical Reports.** State Board Order No. WQ-2013-0058-EXEC requires the City to develop and implement an SSO Technical Report for SSO discharges to surface waters of 50,000 gallons or more. Table 4-4 identifies information that, at a minimum, must be addressed within the Technical Report. The Operations Supervisor - Operating Equipment is responsible for developing SSO Technical Reports under the direction of the Operations Supervisor - Wastewater and Utilities Manager. The Operations Supervisor - Operating Equipment must submit the Technical Report in the CIWQS Online SSO Database within 45 days of the termination date of the SSO.

**Table 4-4  
 Required Technical Report Information**

Category	Required Technical Report Information <sup>1</sup>
Causes and Circumstances of the SSO	<ul style="list-style-type: none"> <li>• Complete and detailed explanation of how and when the SSO was discovered.</li> <li>• Diagram showing the SSO failure point, appearance point(s), and final destination(s).</li> <li>• Detailed description of the methodology employed and available data used to calculate the volume of the SSO and, if applicable, the SSO volume recovered.</li> <li>• Detailed description of the cause(s) of the SSO.</li> <li>• Copies of original field crew records used to document the SSO.</li> <li>• Historical maintenance records for the failure location.</li> </ul>
SSO Response Actions	<ul style="list-style-type: none"> <li>• Chronological narrative description of all actions taken by City to terminate the spill.</li> <li>• Explanation of how the SSMP Overflow Emergency Response plan was implemented to respond to and mitigate the SSO.</li> <li>• Final corrective action(s) completed and/or planned to be completed, including a schedule for actions not yet completed.</li> </ul>
Water Quality Monitoring	<ul style="list-style-type: none"> <li>• Description of all water quality sampling activities conducted including analytical results and evaluation of the results.</li> <li>• Detailed location map illustrating all water quality sampling points.</li> </ul>

<sup>1</sup> Record keeping requirement established within State Board Order No. WQ-2013-0058-EXEC.

### 4.11 Record Keeping

State Board Order No. WQ-2013-0058-EXEC requires the City to maintain SSO records for a minimum of five years. Table 4-5 (page 4-14) itemizes SSO information that must be maintained on record. The Operations Supervisor - Operating Equipment, under the direction of the Wastewater Operations Supervisor, is responsible for ensuring that applicable SSO records are maintained and made available for review by regulators upon request.

**Table 4-5  
 Required SSO Records**

Category	Required SSO Records to Be Maintained for Five Years <sup>1</sup>
General Records	Maintain records to document compliance with all provisions of State Board Order Nos. 2006-0003-DWQ and WQ-2013-0058-EXEC, including any required records generated by sewer system contractors.
SSO Complaints	Records documenting how the City responded to all notifications of possible or actual SSOs, both during and after business hours, including complaints that do not result in SSOs. Each complaint record shall, at a minimum, include the following information: <ol style="list-style-type: none"> <li>a. Date, time, and method of notification.</li> <li>b. Date and time the complainant or informant first noticed the SSO.</li> <li>c. Narrative description of the complaint, including any information the caller can provide regarding whether or not the complainant or informant reporting the potential SSO knows if the SSO has reached surface waters, drainage channels or storm drains.</li> <li>d. Follow-up return contact information for complainant or informant for each complaint received, if not reported anonymously.</li> <li>e. Final resolution of the complaint.</li> </ol>
SSO Remediation	Records documenting steps and/or remedial actions undertaken by City, using all available information, to comply with section D.7 of State Board Order No. 2006-0003-DWQ.
SSO Flow Estimates	Records documenting how all estimate(s) of volume(s) discharged and, if applicable, volume(s) recovered were calculated.
SSMP Revisions	Records documenting all changes made to the City's SSMP since its last certification indicating when a subsection(s) of the SSMP was changed and/or updated and who authorized the change or update. These records shall be attached to the SSMP.
Electronic Monitoring Records	Electronic monitoring records relied upon for documenting SSO events and/or estimating the SSO volume discharged, including, but not limited to records from SCADA systems, alarm systems, flow monitoring devices, or other instruments used to estimate wastewater levels, flow rates, or flow volumes..

<sup>1</sup> Record keeping requirement established within State Board Order No. WQ-2013-0058-EXEC.

## **Appendix 1**

# **EMERGENCY CONTACT INFORMATION**

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## APPENDIX 1 EMERGENCY CONTACT INFORMATION

### Regulatory and Resource Agencies

Agency	Telephone Number
Orange County Health Care Agency (OCHCA)	(714) 443-6419 (714) 443-6000
Office of Emergency Services (OES)	(800) 852-7550 (916) 262-1677 (fax)
Orange County Sheriff	(949) 770-6011
Orange County Fire Authority (fire department)	(714) 573-6000
Regional Water Quality Control Board	(619) 516-1990 (858) 822-8344 (after hrs) (619) 516-1994 (fax)

### City of San Clemente SSO Reporting Chain of Command

Position or Responsible Party	Telephone Number
Public Works Department	(949) 361-6100
City Hall	(949) 361-8200
Utilities Manager	(949) 361-1553
Utilities Operations Supervisor - Wastewater	(949) 361-1553
Utilities Division Hotline (24-hour)	(949) 361-1553
Utilities Division On-Call Personnel	(949) 361-1553
Sewer on-call personnel	(949) 361-1553