

CITY OF LA MESA

SEWER SYSTEM MANAGEMENT PLAN

Adopted July 2009

Updated August 2019

Prepared For:



City of La Mesa
8130 Allison Avenue
La Mesa, California 91941

Originally Prepared By:



9275 Sky Park Court, Suite 200
San Diego, California 92123
858.874.1810

PBS&J Project No.: 491261

Certification

I certify under penalty of law that this Sewer System Management Plan, and the subparts contained herein, comply with the requirements set forth in the General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems, Order No. 2006-0003 within the time frames identified in the schedule provided in WDRs and as amended by a Memorandum of Agreement executed on June 27, 2006 between the Executive Director of the State Water Resources Control Board and the California Water Environment Association. I further certify that this document and all attachments were prepared under the City's direction and supervision in accordance with its policies and procedures to assure that qualified personnel properly provided, evaluated, and incorporated the information reflected in this document, that the information included in this document is, to the best of my knowledge and belief, true, accurate, and complete.



Leon Firsh
Director of Public Works/City Engineer

8/30/19

Date

(This page was intentionally left blank.)

Acknowledgements

The City of La Mesa would like to acknowledge the following individuals for their efforts and contributions, which resulted in the creation of this document. This information included herein reflects the City's on-going commitment to the effective and efficient operation, maintenance, and management of its wastewater collection system and achieving the City's goals and objectives.

City of La Mesa:

Gregory Humora	Director of Public Works/City Engineer
Hamed Hashemian	Engineering Project Manager
Rod Hamilton	Superintendent of Public Works
Erin Bullers	Senior Management Analyst
John Hill	Wastewater Crew Leader

PBS&J:

Dean Gipson	Project Manager and WDR Compliance
Cynthia Peraza	Engineering Support

(This page was intentionally left blank.)

Table of Contents

Certification	i
Acknowledgements	iii
Acronyms	ix
Executive Summary	ES-1
Chapter 1: Introduction	1-1
1.1 Service Area and Sewer System	1-1
1.2 Waste Discharge Requirements	1-3
1.3 Purpose	1-4
1.4 SSMP Elements and Organization	1-4
Chapter 2: Goals	2-1
2.1 Regulatory Requirements for Goals Element	2-1
2.2 Goals for City System Maintenance and Management	2-1
Chapter 3: Organization	3-1
3.1 Regulatory Requirements for the Organization and Communication Element	3-1
3.2 Discussion on Organizational Structure	3-1
3.2.1 Governance	3-2
3.2.2 Wastewater Maintenance Organization	3-2
3.2.3 Authorized Representative	3-4
3.3 City Communication Structure for Collection System Issues	3-4
3.3.1 SSMP Communication Structure	3-4
3.3.2 SSO Response and Communication Structure	3-6
3.4 Summary and Continuing Efforts	3-6
Chapter 4: Legal Authority	4-1
4.1 Regulatory Requirements for Legal Authority Provisions	4-1
4.2 Background for Legal Authority	4-1
4.3 Summary and Evaluation of the City’s Existing Legal Authority	4-2
Chapter 5: Operations and Maintenance Program	5-1
5.1 Regulatory Requirements for Operations and Maintenance Program	5-1
5.2 City’s Preventative Maintenance Program	5-1
5.2.1 Mechanical Cleaning	5-2
5.2.2 Root Treatment	5-3
5.3 Sanitary Sewer System Inspection and Condition Assessment Program	5-3
5.3.1 System Inspection and Assessment	5-3
5.3.2 Repair and Rehabilitation Projects	5-4
5.3.3 CIP Development	5-4

Table of Contents

5.4	Training Program	5-4
5.5	Equipment and Replacement Part Inventories.....	5-5
5.6	Summary and Continuing Efforts	5-5
Chapter 6: Design and Performance Provisions.....		6-1
6.1	Regulatory Requirements for Design and Performance Element	6-1
6.2	Discussion on Design and Performance Provisions	6-1
Chapter 7: Overflow Emergency Response Plan		7-1
7.1	Regulatory Requirements for Overflow Emergency Response Plan.....	7-1
7.2	Discussion of Overflow Emergency Response Plan	7-1
Chapter 8: Fats, Oils, and Grease (FOG) Control Program.....		8-1
8.1	Regulatory Requirements for a FOG Control Program	8-1
8.2	Discussion of FOG Control Program.....	8-1
Chapter 9: System Evaluation and Capacity Assurance Plan		9-1
9.1	Regulatory Requirements for System Evaluation and Capacity Assurance Plan	9-1
9.2	Discussion on System Evaluation and Capacity Assurance Plan.....	9-1
9.2.1	Evaluation.....	9-1
9.2.2	Design Criteria.....	9-2
9.2.3	Capacity Enhancement Measures	9-4
9.2.4	Schedule	9-5
Chapter 10: Monitoring, Measurement, and Program Modifications.....		10-1
10.1	Regulatory Requirements for Monitoring, Measurement, and Program Modifications.....	10-1
10.2	Discussion of Monitoring, Measurement, and Program Modifications	10-1
10.2.1	Maintain Information Pertaining to SSMP Activities	10-1
10.2.2	Monitor and Measure SSMP Elements	10-2
10.2.3	Assessment of Preventative Maintenance Program	10-2
10.2.4	Update Program Elements	10-2
10.2.5	Identify and Illustrate SSO Trends	10-3
10.3	SSMP Modifications	10-3
Chapter 11: SSMP Program Audits		11-1
11.1	Regulatory Requirements for SSMP Program Audits	11-1
11.2	Discussion of SSMP Program Audits.....	11-1
Chapter 12: Communication Program		12-1
12.1	Regulatory Requirements for Public Education and Outreach.....	12-1
12.2	Discussion of Public Education and Outreach	12-1
12.3	Public Education and Outreach Media	12-3

Table of Contents

Figures

Figure 1-1 City Boundary	1-2
Figure 3-1 Department of Public Works Organizational Chart.....	3-3
Figure 3-2 Organizational Chart of Positions Supporting the Sanitary Sewer System	3-5
Figure 3-3 Communication Plan for SSMP Implementation	3-7

Tables

Table ES-1 WDR Requirements and Chapter Location.....	ES-2
Table 1-1 City of La Mesa Existing Land Use.....	1-3
Table 9-1 Recommended Unit Wastewater Generation Rate.....	9-2
Table 9-2 City of La Mesa EDU Demand Projections.....	9-3

(This page was intentionally left blank.)

Acronyms

AC	Acre
BMP	Best Management Practices
CCTV	Closed Circuit Television
CIP	Capital Improvement Program
City	City of La Mesa
CIWQS	California Integrated Water Quality System
CMMS	Computer Asset Management System
CPC	California Plumbing Code
CWA	Clean Water Act
CWEA	California Water Environment Association
DPW	Director of Public Works
EPA	Environmental Protection Agency
FOG	Fats, Oils, and Grease
FSE	Food Service Establishment
GIS	Geographic Information System
GPD	Gallons per Day
GPDC	Gallons per Day per Capita
HFMS	High Frequency Maintenance Sites
I/I	Inflow and Infiltration
LRO	Legally Responsible Official
MRP	Monitoring and Reporting Program
MGD	Millions of Gallons per Day
NASSCO	National Association of Sewer Service Companies
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and Maintenance
PACP	Pipeline Assessment and Certification Program

Acronyms

SDRWQCB	San Diego Regional Water Quality Control Board
SPPWC	Standard Plans for Public Works Construction
SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow
SSOERP	Sanitary Sewer Overflow Emergency Response Plan
SWRCB	State Water Resources Control Board
WDR	Waste Discharge Requirements

Executive Summary

On May 2, 2006, the State Water Resources Control Board (SWRCB) adopted Order Number 2006-0003-DWQ, the Waste Discharge Requirements (WDRs), which requires all federal and state agencies, municipalities, counties, districts, and other public entities that own or operate a wastewater collection system greater than one mile in length to develop and implement a system specific Sewer System Management Plan (SSMP). An SSMP must document how an agency manages its wastewater collection system. Each agency must present the Development Plan and Schedule to its governing body at a public meeting prior to certifying the document. The City of La Mesa (City) must certify its SSMP on or before August 2, 2009. The City performed an update of the SSMP in February 2014 in order to comply with Order No. WQ 2013-0058-EXEC, which amended the monitoring and reporting program. An additional update was performed in August 2019.

This SSMP, prepared by the City in compliance with the requirements of the WDRs, documents the City's system specific plans and programs to operate, maintain, and manage its wastewater collection system. Goals of the SSMP include:

- Minimizing the frequency and impact of sanitary sewer overflows (SSOs);
- Effectively and efficiently mitigating the impacts of SSOs should they occur;
- Providing adequate sewer capacity to convey peak flows;
- Maintaining and improving the condition of the collection system infrastructure to provide continual reliable service; and
- Engaging and educating the public regarding programs and issues related to the wastewater collection system.

The Table ES-1 includes a summary of the mandatory components required by the WDRs and included in the City's SSMP. Each element of the SSMP is described in detail in the corresponding chapter shown in the table.

Several elements detailing policies and procedures to reduce SSOs and manage the collection system were developed as part of the City of La Mesa's Wastewater Collection System Master Plan update, completed in October 2008. These elements include:

- Legal Authority
- Operations and Maintenance Program
- Design and Performance Provisions
- Overflow Emergency Response Plan
- Fats, Oils, and Grease Control Program
- System Evaluation and Capacity Assurance Plan

These plans are in conformance with the WDRs and formally document the City's current efforts. These plans, which are included as appendices in the Master Plan, are summarized in this document to avoid duplicating information. When applicable, reference to the Master Plan and/or appendices will be made to show compliance with the respective chapter of the SSMP.

**Table ES-1
WDR Requirements and Chapter Location**

WDR Element	Element Description	Chapter
(i)	Goals	2
(ii)	Organization	3
(iii)	Legal Authority	4
(iv)	Operations and Maintenance Program	5
(v)	Design and Performance Provisions	6
(vi)	Overflow Emergency Response Plan	7
(vii)	Fats, Oils, and Grease (FOG) Control Program	8
(viii)	System Evaluation and Capacity Assurance Plan	9
(ix)	Monitoring, Measurement and Program Modifications	10
(x)	SSMP Program Audits	11
(xi)	Communication Program	12

This document satisfies the WDRs requirement to complete an SSMP.

Chapter 1

Introduction

The State of California's Waste Discharge Requirements (WDRs) include requirements for owners and operators of wastewater collection systems to illustrate adequate and efficient management, operation, and maintenance of their systems. To comply with the WDRs, every public wastewater collection system agency must develop a Sewer System Management Plan (SSMP) and the various plans and programs that make up the SSMP by the specified dates noted in the WDRs, and as revised by a memorandum of agreement between the State and the California Water Environment Association (CWEA). The WDRs also require agencies to develop and maintain a sanitary sewer overflow (SSO) response plan that establishes standard procedures for immediate recovery and remediation of an SSO. This chapter includes background information on the WDRs, a description of the required Development Plan and Schedule, a summary of the elements of the City's SSMP that are completed and were included with this Master Plan.

This Sewer System Management Plan (SSMP) has been prepared in compliance with the requirements of the State Water Resources Control Board (SWRCB), Order 2006-0003, Statewide General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems. The goal of the WDRs is to provide a consistent statewide approach for reducing Sanitary Sewer Overflows (SSO). This chapter includes a brief overview of the City of La Mesa's (City's) service area and sanitary sewer system, a summary of the regulations that serve as the impetus for the development of this SSMP, and the purpose and organization of this SSMP.

1.1 Service Area and Sewer System

The City of La Mesa is located directly east of the City of San Diego. As illustrated in Figure 1-1, it is bordered on the northeast by the City of El Cajon, on the southwest by the City of Lemon Grove, and on the southeast by the County of San Diego. The City encompasses approximately nine (9) square miles and is approximately 95% built out. Future development in the City will mainly consist of infill developments or redevelopment. According to SANDAG, the City's current population is estimated to be 58,000 and is forecasted to be nearly 64,500 people in the year 2030, an increase of approximately 11.3 percent from the current census.

The City provides sanitary sewer service for all areas within the City limits and owns, operates, and maintains approximately 165 miles of sewer main and several interagency connection facilities located in the County of San Diego. The City's collection system is divided into four (4) major sewer drainage basins including the Alvarado, University, Spring Valley, and Lemon Grove Sewer Basins. The City's wastewater ultimately flows into the City of San Diego's Metropolitan Wastewater System (Metro System) for treatment and disposal.

Existing land uses within the study area are categorized as single-family residential, multi-family residential, commercial, industrial, institutional, parks, underdeveloped land, and right-of-way. Table 1-1 summarizes the existing land uses within the study area.

**Figure 1-1
City Boundary**

**Table 1-1
City of La Mesa Existing Land Use**

Land Use	Units	
Single-family Residential	11,124	Dwelling Units
Multi-family Residential	13,262	Dwelling Units
Commercial	449	Acres
Institutional	332	Acres
Industrial	44	Acres
Park	264	Acres
Underdeveloped Land	200	Acres
ROW	1,430	Acres

Source: SANDAG Land Use

1.2 Waste Discharge Requirements

On May 2, 2006, the SWRCB adopted Order 2006-0003, the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, which requires all federal and state agencies, municipalities, counties, districts, and other public entities that own or operate a sanitary sewer system greater than one mile in length to comply with the elements of the WDRs. The WDRs serve to provide a unified statewide approach for reporting and tracking SSOs, establishing consistent and uniform requirements for SSMP development and implementation, establishing consistency in reporting, and facilitating consistent enforcement for violations.

On June 27, 2006, the Executive Director of the SWRCB executed a memorandum of agreement with the California Water Environment Association (CWEA), outlining a strategy and time schedule for CWEA to provide training on the (1) adoption of the program, (2) SSO database electronic reporting, and (3) SSMP development. This agreement also extended the completion dates for most tasks by six (6) months from the dates shown in the adopted WDRs.

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

- a) In the event of an SSO, all feasible steps be taken to control the released volume and prevent untreated wastewater from entering storm drains, creeks, etc.
- b) If an SSO occurs, it must be reported to the SWRCB using California Integrated Water Quality System (CIWQS), the online reporting system developed by the SWRCB. The City completed its enrollment into the program and the demographic questionnaire, and electronic reporting commenced in January 2007.

- c) An SSMP with all mandatory elements be developed and approved by the governing body that owns or is responsible for the operation of the sanitary sewer system. The SSMP must include provisions to provide proper and efficient management, operation, and maintenance of the sanitary sewer system.

The SWRCB Order 2006-003 requires the City to complete its SSMP and present it to the City Council for approval at a public meeting and subsequently certify it no later than August 2, 2009.

1.3 Purpose

The City recognizes the importance of preventing sewage spills for the mutual protection of our surface waters and the overall environment to safeguard public health and safety. Therefore, in a proactive approach to achieve WDR compliance, the City has prepared this SSMP. This SSMP is designed to ensure continuous improvement of system performance, response, monitoring, data recording, and documentation for future system assessments. The completeness and practicality of the SSMP is a critical component for the City's long range plans to comply with all applicable regional, State, and Federal requirements under the CWA, the San Diego Regional Water Quality Control Board (SDRWQCB) and the WDRs.

This SSMP provides a summary of the action plan implemented by the City to comply with the sanitary sewer system requirements imposed by the WDRs and other governing agencies. As well, it includes references to where the specific details of the activities and procedures that personnel follow to implement the various programs encompassed in its overall efforts to efficiently manage, operate, and maintain its sanitary sewer system and facilitate the reduction and potential elimination of SSOs.

1.4 SSMP Elements and Organization

This SSMP includes information demonstrating the City's efforts to comply with each of the mandatory and applicable elements required for its SSMP. The organization of this document is consistent with the SWRCB guidelines and includes the following eleven (11) mandatory WDR elements:

- (i) Goals
- (ii) Organization
- (iii) Legal Authority
- (iv) Operations & Maintenance Program
- (v) Design and Performance Provisions
- (vi) Overflow Emergency Response Plan
- (vii) Fats, Oils, and Grease Control Program
- (viii) System Evaluation and Capacity Assurance Plan

- (ix) Monitoring, Measurement and Plan Modifications
- (x) SSMP Program Audits
- (xi) Communication Program

As part of the Master Plan development, completed in October 2008, the City prepared written procedures that document its operations and maintenance (O&M) efforts, Sanitary Sewer Overflow (SSO) response and reporting efforts, Fats, Oils, and Grease (FOG) reduction and control, capacity assurance and analysis, and a capital improvement plan. References to the Master Plan are made throughout this document and refer the reader to the Master Plan for specific WDR elements.

(This page was intentionally left blank.)

Chapter 2

Goals

The following sections include a summary of the City's goals reflect its commitment to continue its effort towards ensuring the effective and efficient management, operation and maintenance of the sanitary sewer system.

2.1 Regulatory Requirements for Goals Element

Establishing goals to properly manage, operate, and maintain all parts of its sanitary sewer system allows the City to achieve its ultimate goal of reducing and preventing SSOs and to properly mitigate any SSO that may occur. To achieve the goals established by the City, it becomes imperative for City staff to consistently maintain quality working procedures and continue efforts towards identifying and implementing improvements in managing the sanitary sewer system.

The WDRs require that the City, at a minimum, develop goals that incorporate and achieve the following:

- Proper management, operation, and maintenance of all parts of the sanitary sewer system;
- Provide adequate capacity to convey peak flows;
- Minimize the frequency and volume of SSOs;
- Mitigate the impacts of SSOs if they occur;
- Inform and educate the public on programs, projects, and issues related to the sanitary sewer system; and
- Proper implementation of regulatory notification and reporting requirements.

2.2 Goals for City System Maintenance and Management

The City has establish several core objectives to allow City staff to focus on complying with the WDRs, and develop strategies and procedures to achieve successful overall management and maintenance of the sanitary sewer system. Goals promote unified efforts towards implementing improvements as they affect the operations, maintenance, and management of the sanitary sewer system. They may also reflect performance, safety, levels of service, resource use, and other criteria.

The City's ultimate goal is to operate and maintain all portions of the City's wastewater collection system in a manner that minimizes the potential for SSOs and quickly and effectively mitigates the impacts associated with an SSO, if one were to occur, to protect life, environment, and property while adhering to regulatory requirements. The City's goal statement is:

To provide safe, effective, and efficient operation of the City's wastewater collection and conveyance system through:

- *Proper management, operation, and maintenance of all parts of the system*
- *Reduced occurrence of and potential for SSOs*
- *An effective FOG control program*
- *Assurance of adequate capacity to convey peak wastewater flows*
- *A current long-range planning and improvement plan*
- *Compliance with all regulatory requirements*
- *Protection of the public's health and safety*
- *Effective public information and education efforts*

Chapter 3

Organization

An organizational chart for the City's Department of Public Works serves to identify the administrative, maintenance, and management positions responsible for implementing, managing, and updating the overall measures included in this SSMP. This chapter identifies the City's staff that is responsible for implementing the plans and progress included in the SSMP, responding to SSO events, and meeting the SSO reporting requirements.

The communication plan that accompanies the organizational chart serves to define the role of each position to ensure that all elements of this SSMP are addressed on a regular basis and that all appropriate staff is properly informed. A specific response and notification plan to document the sanitary sewer overflow emergency response and reporting procedures was developed and is included in the City of La Mesa Sanitary Sewer Overflow Emergency Response Plan (SSOERP) included in Appendix G of the Master Plan. The response procedure identifies the staff positions responsible for managing the SSO response, investigating the SSO cause, and reporting the SSO to the appropriate parties. The SSOERP also includes a consolidated list of contact information of key personnel with regard to SSOs. The sequence of communication for reporting SSOs, and the appropriate agencies to be notified, is also included.

3.1 Regulatory Requirements for the Organization and Communication Element

It is required that the City's SSMP clearly identify the staff responsible for implementing measures outlined in this SSMP. The WDRs require that the City identify the following:

- 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 of the SSMP program. The SSMP must identify lines of authority through 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 persons 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, and/or State Office of Emergency Services).

3.2 Discussion on Organizational Structure

The City's organizational structure for the Department of Public Works staff, who is responsible for implementing and overseeing the SSMP program, is described in the following sections. Additionally, the general responsibilities of the personnel and chain of communication is included.

3.2.1 Governance

The City's elected governing body is composed of five (5) elected officials including the mayor and four (4) City council members. Each member is elected to a four-year term, with terms overlapping. The City Council develops the policies of the City and is responsible for appointing the City Manager to oversee the daily operations of the City. The City Manager is directly responsible to the City Council for the administration and daily operations of all City functions. The City Council must approve the SSMP and ultimately share the responsibility that the sanitary sewer system is managed efficiently, prior to certifying its completion.

Under policy direction of the City Council, the City Manager, oversees and leads the daily overall City government services, long-term operating strategy, master planning and Capital Improvement Program (CIP) and budget. Figure 3-1 illustrates the organizational chart for the City's Department of Public Works.

3.2.2 Wastewater Maintenance Organization

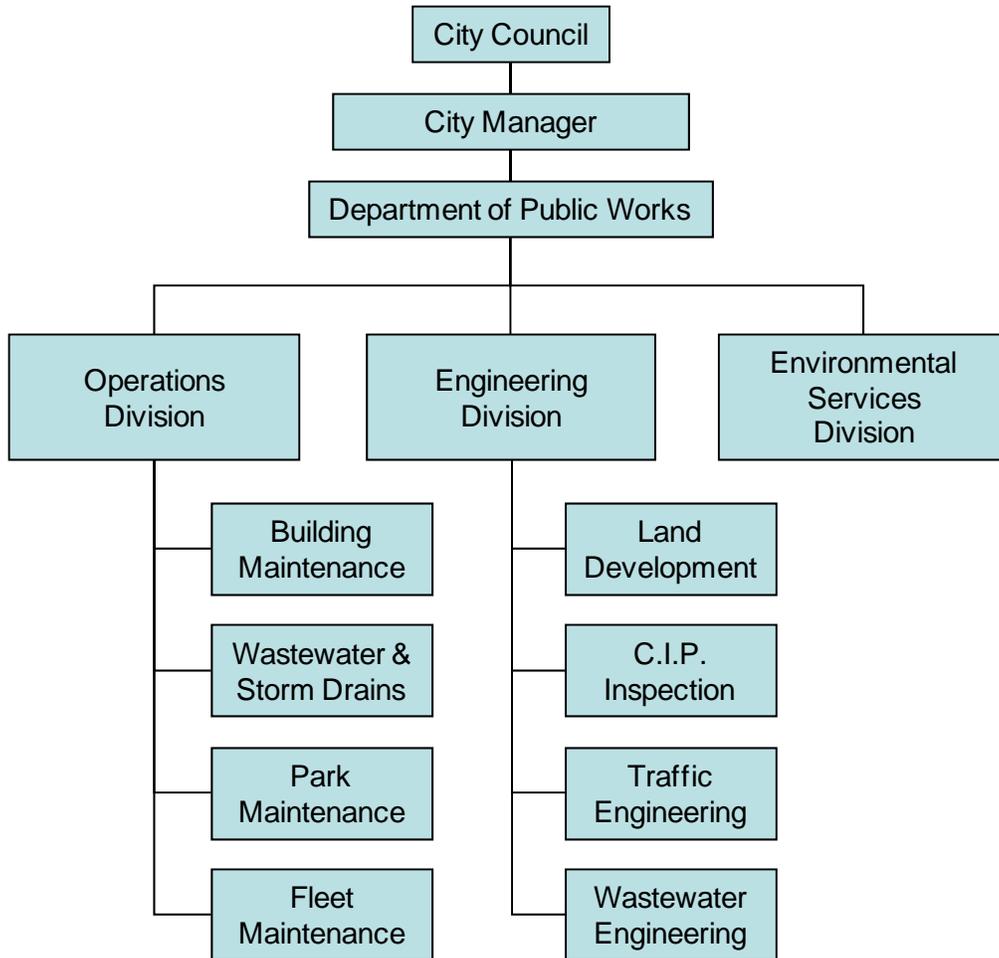
The Director of Public Works, who reports directly to the City Manager, oversees three (3) Divisions which include the Operations, Engineering, and Environmental Divisions. Within the Public Works Operations Division there are five (5) primary sections that include:

- Building Maintenance
- Fleet Maintenance
- Wastewater & Storm Drains
- Street Maintenance
- Park Maintenance

Within the Engineering Division there are four (4) sections including:

- Land Development
- CIP & Inspection
- Traffic Engineering, and
- Wastewater Engineering

**Figure 3-1
Department of Public Works Organizational Chart**



The organizational chart presented in Figure 3-2 shows the divisions, departments, and positions identified within the City's current organization that are responsible for concurrently implementing and managing various components of plans and procedures required to satisfy the elements of the SSMP.

Highlighted on the organizational chart is the department that is primarily responsible for operating and maintaining the sanitary sewer system. The boxes shown in dashed lines identify divisions and departments that provide some day-to-day support of the sanitary sewer system, but these divisions also have other, unrelated duties.

The organizational chart will be revised to reflect the updated key staff positions, responsibilities between the divisions that support the Public Works Operations activities, changes in the restructuring of chains-of-command made to better align responsibilities and the ability of staff to comply with the WDRs, and to include changes and additions to positions for activities needed to successfully implement the SSMP.

3.2.3 Authorized Representative

The Director of Public Works is the City's Legally Responsible Official (LRO) and authorized representative registered with the State of California to officially sign and certify SSO reports submitted via CIWQS. As well, the LRO is responsible for certifying the SSMP milestones. The City has identified the Engineering Project Manager in the Wastewater Engineering Division and the Wastewater Maintenance Supervisor/Lead in the Operations Division as alternate LROs to serve as a back up in the event the Director of Public Works is unavailable.

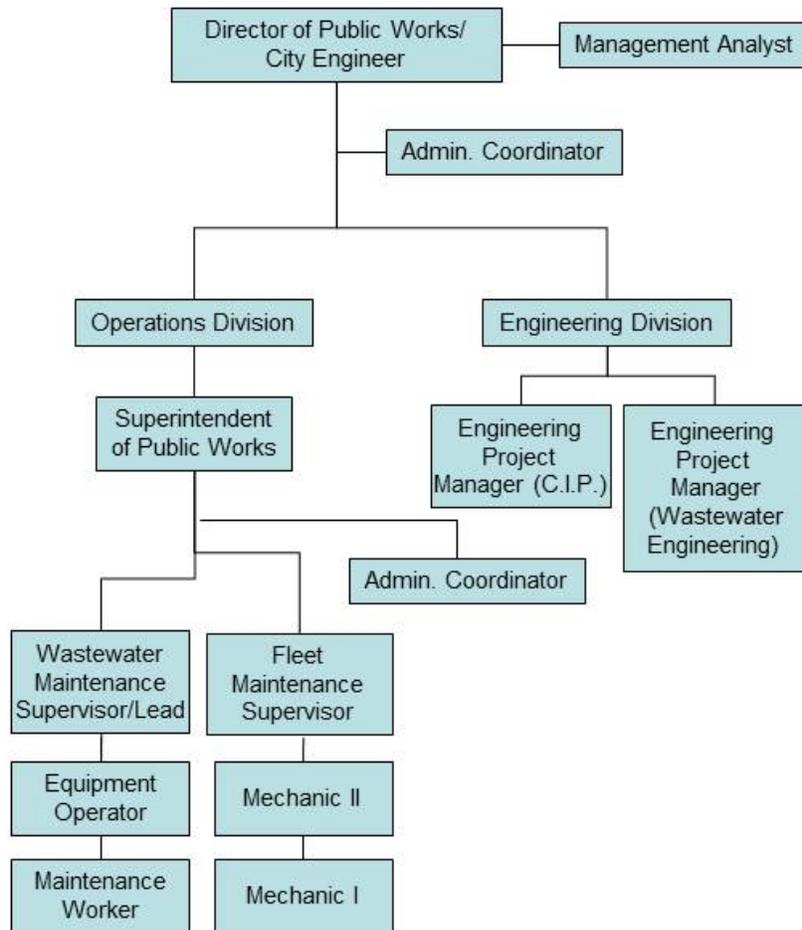
3.3 City Communication Structure for Collection System Issues

Communication of activities is important in order to keep managerial staff informed of successes and potential problems. Additionally, implementation of the various elements of the SSMP will require constant coordination between the various sections identified in the organizational chart. Therefore, clearly identifying the specific positions and staff as well as establishing communication protocols is necessary to ensure the appropriate personnel are properly informed to respond to sanitary sewer system related issues in the most effective and efficient manner.

3.3.1 SSMP Communication Structure

Continual communication among the Public Works Operations and Engineering Divisions as well as along the levels of hierarchy facilitates and supports activities that allow the Public Works Operations Division to inform the appropriate staff about the operation and management of the collection system.

Figure 3-2
Organizational Chart of Positions Supporting the Sanitary Sewer System



Generally the communication plan will follow the chain of command identified in the organizational chart. Specific levels of authority will be required to facilitate implementation and enforcement of the plans and procedures developed for the SSMP. As the various plans and procedures are implemented, an assessment as to the effectiveness of the plans will best be determined by the labor force that executes and evaluates the immediate impacts of the plans and procedures. Efficient and timely responses will be essential to ensure that the adopted plans and procedures are effective for the management and operation of the wastewater system. Figure 3-3 shows the communication protocol that the City should follow for the SSMP. Figure 3-3 also provides a summary of general responsibilities among the staff as it affects the management, operation, and maintenance of the City's sanitary sewer system. The responsibilities listed are to illustrate the overall importance of continual communication among the organization regarding wastewater related issues.

3.3.2 SSO Response and Communication Structure

A communication structure related specifically to SSO responding and reporting is thoroughly documented in Appendix G of the Master Plan, which contains a copy of the City's Sanitary Sewer Overflow Emergency Response Plan (SSOERP).

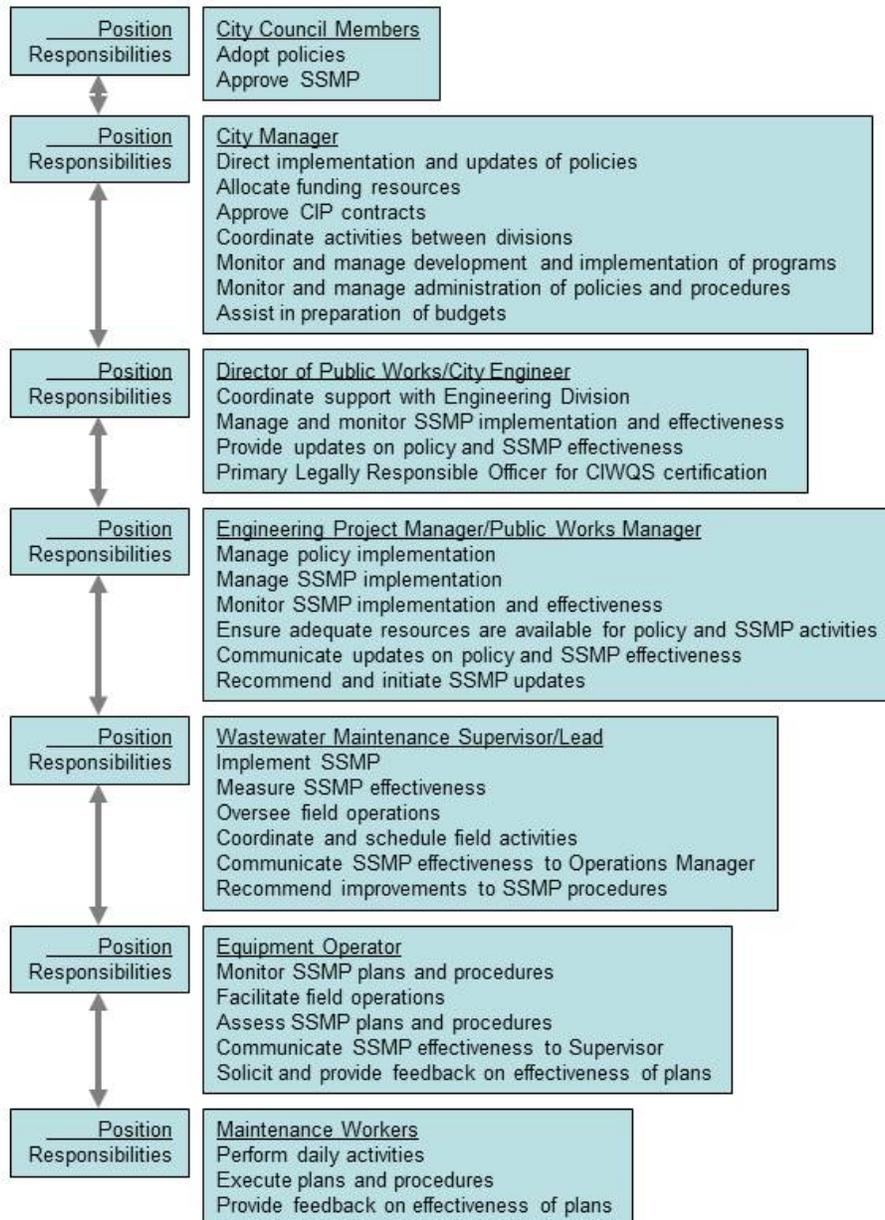
Specifically, Chapter 2 of the City's SSOERP includes the City's strategy for mobilizing labor, materials, tools, and equipment to contain, mitigate, and clean-up residuals from a sewer overflow and correct or repair any condition which may cause or contribute to an SSO. The plan presented is applicable to potential system failures that could create an SSO. Figure 2-1 included in the City's SSOERP summarizes the process and offers a concise overview of the steps required to quickly respond to an actual or possible SSO event and clearly delineates responsibilities for First Responders and ultimate sewer maintenance crew and/or contractor assignments.

Table 2-2 of the SSOERP includes a description of the SSO notification requirements, procedures, timeline, and the regulatory agencies that are to be notified as soon as practical without impeding containment or other emergency response measures. Attachment E of the SSOERP lists the specific names and contact information of the individuals holding the positions identified.

3.4 Summary and Continuing Efforts

When the City updates its plans and procedures, and/or revises the SSMP, the SSMP should be updated as necessary to include the specific responsibilities associated with each position. To maintain compliance with the WDRs, the City organizational chart must include the administrative, maintenance, and management positions responsible for implementing, managing, and updating the overall measures contained in this SSMP.

**Figure 3-3
Communication Plan for SSMP Implementation**



Revised 08/19/19

(This page was intentionally left blank.)

Chapter 4

Legal Authority

To prevent SSOs and meet state and federal requirements, each governing agency must ensure that its existing codes, ordinances, policies and procedures include the necessary requirements to implement and fulfill the specific needs of the agency, and to protect the health and safety of people, property, and environment. This chapter of the SSMP includes a discussion of the City's current legal authority for the collection and conveyance of wastewater.

4.1 Regulatory Requirements for Legal Authority Provisions

The WDRs require that the City show, through ordinances, service agreements, or other legally binding procedures, that the City possesses the legal authority to:

- a) Prevent illicit discharges into its sanitary sewer system including, but not limited to, inflow and infiltration, storm water, chemical dumping, unauthorized debris, and cut roots, etc.;
- b) Require that sewers and connections be properly designed and constructed;
- c) Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the City;
- d) Limit the discharge of fats, oils, grease, and other debris that may cause blockages; and
- e) Enforce any violation of its sewer ordinances.

4.2 Background for Legal Authority

The California Water Code of the California Code of Regulations, the Federal Clean Water Act of the United States Code, and the California Waste Discharge Requirements grant the City the authority to establish codes, agreements, policies, and procedures for the construction, operation, and maintenance of a wastewater collection system, and the ability to enforce the necessary requirements. Below is a discussion of the relevant sections granting this authority.

California Water Code Section 13271, California Code of Regulations: Section 13271 of the California Water Code, Title 23 of the California Code of Regulations, prohibits the discharge of sewage and hazardous material into the waters of the State and requires the proper notification of authorized agencies in the event of an SSO. Entities which do not properly follow the requirements of this section may be found guilty of a misdemeanor and punished by fine, imprisonment, or both.

Clean Water Act, Section 1251 of Chapter 33 of the United States Code: In 1972, the federal Congress enacted the Federal Water Pollution Control Act, commonly known as the

Clean Water Act (CWA). The CWA prohibits the discharge of pollutants, including sewage, into public waters of the United States. The federal government has the authority to enforce compliance with the CWA via specific permits, such as National Pollutant Discharge Elimination System (NPDES) permits, as well as court action such as administrative orders and consent decrees.

Code of Federal Regulations, Title 40, Protection of the Environment: The Environmental Protection Agency (EPA), in its general pretreatment regulations (40 CFR Part 403) prohibits any user from discharging solid or viscous pollutants, such as fats, oils, and grease (FOG) wastes, in amounts which will cause obstructions (blockages) to the flow in the wastewater system and interfere with the operation of the wastewater system.

California Waste Discharge Requirements: On May 2, 2006, the SWRCB adopted the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Order No. 2006-0003. The WDRs are applicable to all federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to publicly owned treatment facilities in the state of California. Specifically, the WDRs require all affected agencies, municipalities, counties, districts, and other public entities to take a proactive approach to ensure a system-wide operation, maintenance, and management plan is established to effectively reduce the potential, quantity, and frequency of SSOs that may occur and impact surface or ground waters, threaten public health, adversely affect aquatic life, and impair the recreational use and aesthetic enjoyment of surface waters.

4.3 Summary and Evaluation of the City's Existing Legal Authority

The WDRs require that the City demonstrate, through wastewater collection system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to require, implement, and enforce compliance with the elements of the SSMP, all applicable regional, State, and Federal requirements under the Clean Water Act, the Regional Water Quality Control Board (RWQCB), and WDRs.

The City's legal authority and powers pertaining to the City's wastewater collection system originate from the powers granted by the State and Federal governments. Requiring compliance with its existing codes, regulations, ordinances, and permitting procedures allows the City to require and enforce various measures for ensuring the proper and efficient operation, management, and maintenance of the City's wastewater collection system. These mechanisms include, but are not limited to, limiting the types of substances allowed to be discharged into the City's wastewater collection system, establishing requirements for the proper design, construction and connections to the City's collection system, ensuring access to City sewer pipelines for inspecting, monitoring and enforcing activities, limiting the discharge of fats, oils, grease, and other types of debris that cause blockages, and enforcing violations of its sewer related ordinances, codes, and laws.

The municipal code sections governing the City's wastewater collection system at the time the Master Plan was prepared are included in Appendix H of the Master Plan. Since the completion of the Master Plan, the City has identified and refined additional codes necessary for compliance with the WDRs.

On April 14, 2009, the City adopted additional municipal codes to ensure the City possesses the necessary legal authority to require, implement, and enforce compliance with the SSMP elements. As elements of the SSMP evolve and are further refined, the legal authority necessary to implement the provisions and require compliance by its residents and rate payers must also be addressed.

(This page was intentionally left blank.)

Chapter 5

Operations and Maintenance Program

This chapter of the SSMP discusses the City's operations, maintenance and other related measures and activities as they pertain to its sanitary sewer system.

5.1 Regulatory Requirements for Operations and Maintenance Program

The WDRs require that the SSMP contain descriptive measures of the City's Operations and Maintenance (O&M) Program that are implemented by City staff to facilitate proper and efficient management and maintenance of the sanitary sewer system and the affected appurtenances. The WDRs require that the SSMP include a description of each of the following components as they apply to the City's sanitary sewer system:

- a) Maintenance of up-to-date sanitary sewer system map showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities;
- b) Routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventive Maintenance Program should have a system to document scheduled and conducted activities, such as work orders;
- c) Development of a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;
- d) Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and repair contractors to be appropriately trained; and
- e) Development of equipment and replacement part inventories, including identification of critical replacement parts.

5.2 City's Preventative Maintenance Program

The City's Operations Division is responsible for the operation and maintenance of the City's wastewater collection system within the public right-of-way and easements. Operations Division

Operations and Maintenance Program

personnel regularly perform preventative maintenance (PM) activities on the sewer system including inspection of all manholes. The staff also continues to perform some system repair, such as raising manholes, but typically the work is contracted out.

The City's goal is to clean the vast majority of sewer system in a 12-month cycle. Approximately 95% of the system is cleaned. The remainder are large diameter mains and sensitive spots which either do not require, or are too delicate, to be pressure jetted.

The existing sewer system is divided into four (4) sewer drainage basins which are named according to the trunk sewer into which they discharge. The basins include the Alvarado, Spring Valley, University, and Lemon Grove basin. Cleaning is scheduled and performed by basin in the direction of flow toward convergence locations on a daily basis.

The City has utilized software for several years as a maintenance management system to track work orders and to provide inventory management capabilities. Currently, scheduling and performance of maintenance activities is performed by the existing staff. Documentation and reporting of cleaning efforts is provided in a daily report. The daily report includes lineal footage cleaned, pipe size, pipe condition, pipe length, names of cleaning staff, and any additional comments provided by the maintenance crews. Daily progress is recorded by highlighting a large wall map maintained at the City's Public Works office. Additionally, the Wastewater Maintenance Supervisor enters the total length of pipe cleaned into an Excel™ spreadsheet from which monthly totals are compiled.

The City uses the software application to manage its work orders. Work orders and information obtained from the customers are provided to the Wastewater Maintenance Supervisor. The Wastewater Maintenance Supervisor performs a site inspection. Based on the results of the site inspection, an appropriate response is implemented. A copy of the work order is stored within the management system software by the Administrative Assistant.

With the use of software, the City has a procedure in place to provide City staff a means to retrieve and organize information documented as it pertains to the O&M of the City's wastewater collection system. The procedures for documenting scheduled and completed maintenance activities do allow for producing status reports.

5.2.1 System Cleaning

The City's cleaning schedule includes two (2) crews consisting of two (2) staff members assigned to perform daily cleaning efforts. Each crew performs power flushing/jetting of the sewer system. Therefore, the system is either power flushed approximately once every 12 months.

Maintenance of high frequency maintenance locations are tracked and scheduled within the work order management system. High frequency maintenance locations are cleaned on a more frequent basis, typically monthly, quarterly, or semiannually. High frequency maintenance locations include areas with high root concentrations, areas with sewer pipelines having minimal slope, and locations that have been identified to have chronic grease accumulation.

Operations and Maintenance Program

5.2.2 Root Treatment

The City currently has a root treatment program in place, to supplement the power flushing/jetting program. The target sites include the older developed areas with large mature trees, particularly easements, as well as sites identified via the CCTV inspections. Root treatment/foaming is done as-needed, and will not be conducted every year.

Locations identified to contain heavy root concentrations via the CCTV inspections are added to the program and scheduled according to the section in which they are located.

5.3 Sanitary Sewer System Inspection and Condition Assessment Program

Regular and systematic inspection and assessment of sanitary sewer system facilities provides a means to monitor the condition of the facilities, the effectiveness of the maintenance operations, and provides a basis for identifying and scheduling capital improvements. As well, the overall assessment can be used to determine the funding required to repair, rehabilitate, and replace an aging collection system and to prioritize the allocation of funds and optimize the expenditure and efforts to operate a sewer collection system.

5.3.1 System Inspection and Assessment

Closed Circuit Television (CCTV) inspections provide necessary condition assessment data which feeds into the City's CIP schedule. The City's CCTV inspection program was initiated in 2003 and has televised the City's entire sewer system in phases.

Videoring of the City's wastewater collection system was completed in 2009. A CCTV documentation process includes transferring the recorded data onto an external hard drive that is routinely updated with CCTV information for future reference as needed.

City staff also performs CCTV inspections on an as needed basis. When necessary, it is performed by two (2) Wastewater Division staff members using the City's CCTV truck. The CCTV inspections are performed after the pipeline has been cleaned and the debris has been removed, and in response to specific requests such as SSO responses, root problems, and high frequency maintenance locations. Information obtained from the CCTV inspections is included in daily reports. Information from the initial assessment is either retained for Operations Division staff to address or forwarded to the Engineering Division for review and recommendations.

The City updated its wastewater collection system master plan in October 2008. The master plan includes an analysis of the collection system and a summary of existing and future hydraulic deficiencies identified. Also included is a recommended CIP for the City to consider implementing.

Information essential to establishing a comprehensive rehabilitation and replacement plan for the City's sewer collection system, including SSMP activities, should include methods to collect data for and regularly report results for the following activities:

- Tracking special projects;

Operations and Maintenance Program

- Maintaining an up-to-date list of High Frequency Maintenance locations;
- Monitoring contract work assignments;
- Completing and logging SSO reports;
- Preparing and submitting monthly SSO reports to the RWQCB;
- Maintaining the maintenance database;
- Developing forms for special projects, chemical treatment, field reports, daily maintenance report, and spill reports;
- Generating department reports to the Director of Public Works / City Engineer;
- Preparing community information and notification bulletins;
- Managing asset inventory; and
- Maintaining data in the CMMS.

5.3.2 Repair and Rehabilitation Projects

The City's Public Works Operations Division is responsible for ensuring that immediate "unscheduled" repairs and/or rehabilitation improvements of various types and pertaining to wastewater facilities are adequately performed. The repairs and/or rehabilitation work performed by City staff may be identified via the CCTV inspections and primarily includes point repairs but does not include work requiring the replacement of entire pipe segments between manholes. Repairs that require resources beyond those available within the Public Works Operations Division or require further prioritization and planning are coordinated and scheduled with the City's Engineering Division.

5.3.3 CIP Development

Several factors determine the priority of projects identified during the assessment process, although the condition of the pipe is usually the primary factor. Additional factors may include goals to reduce sanitary sewer overflows, providing sufficient system capacity, reducing infiltration and inflow in pipes located below the water table, or reducing maintenance efforts by improving the pipe condition. Other considerations include coordinating surface and utility improvements with the other agencies that may be impacted by improvements. Integrating the results of the inspection and assessment efforts, with the capacity modeling efforts, the City will pursue a proactive and comprehensive long-range planning effort.

5.4 Training Program

The City is committed to the training and certification of its Operations Division staff. They encourage participation in a continuing education program geared to train every management, administration, and field staff member.

Operations and Maintenance Program

The Operations Division staff is required to be certified to provide traffic control type of services necessary to perform the routine maintenance and cleaning of the sewer system. The City does not currently require staff to be certified to perform CCTV inspection and assessment, which is governed by programs such as the National Association of Sewer Service Companies (NASSCO) and the Pipeline Assessment and Certification Program (PACP). The City offers training for several subjects including, but not limited to, safety related issues, relevant regulations, operation of heavy equipment. Additionally, staff participates in weekly and bi-weekly “tailgate” meetings, which are short meetings to discuss safety issues and are often held before crews are dispatched to work sites. As well, the City supports a tuition reimbursement program for staff.

Possible subjects to consider for the City’s training program include:

- Requiring NASSCO and/or PACP criteria to evaluate and rate the sewers;
- Requiring staff performing CCTV inspections to be NASSCO and PACP certified;
- Requiring contractors that the City engages for sewer system activities to be properly trained and certified; and
- Requiring certifications and documentation for each individual employed by a contractor that performs work for the City.

As necessary and determined by appropriate managerial staff, training programs may also include supplemental technical training required to efficiently and safely perform specific job related duties.

5.5 Equipment and Replacement Part Inventories

The Operations Division keeps repair equipment and materials on site in the storage yard including pumps, fittings, pipes, and hoses. A detailed inventory list of the City’s existing sewer maintenance and repair equipment and replacement parts and materials is maintained and includes adequate sizes and types of the critical repair and replacement parts. Additionally, it includes a resource list of contractors and vendors who stock materials and are available for emergency and short notice deliveries.

5.6 Summary and Continuing Efforts

To further comply with the Operations and Maintenance element of the SSMP, the City is continuing to document and formalize comprehensive O&M procedures that include:

- Maintaining up-to date maps of the City’s wastewater collection system;
- Scheduling and performing routine preventative O&M activities including regular maintenance and high frequency locations;
- Developing a rehabilitation and replacement plan to identify and prioritize system deficiencies for short term and long term planning;

Operations and Maintenance Program

- Training for staff in wastewater collection system operations and maintenance; and
- Maintaining equipment and replacement part inventories.

Chapter 6

Design and Performance Provisions

This chapter of the SSMP discusses the City's design and construction standards and serves to fulfill the Design and Performance Provisions required by the WDRs.

6.1 Regulatory Requirements for Design and Performance Element

The WDRs require that the SSMP address the following:

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

6.2 Discussion on Design and Performance Provisions

The WDRs require that the SSMP include provisions to require compliance with appropriate design and construction standards and specifications for the installation of new wastewater collection systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing wastewater collection systems and appurtenances. Also required to be included are procedures and standards for inspecting new and rehabilitated wastewater facilities.

The City's current sewer design criteria are documented in Section V of the City's Design Criteria Manual, which was adopted by City Council Resolution 15579 on July 28, 1987. The Sewer Design Technical Standards include guidelines for design flow rates, gravity sewer design, sewer pipe materials and appurtenances, sewer pipeline installation, technical provisions for house laterals, special sewer appurtenances, and sewer pipeline testing requirements. Additionally, the City references the latest edition of the Greenbook for standardized construction and inspection specifications for the wastewater collection systems, SDRSD for sewer details, and Uniform Plumbing Code.

As part of the Master Plan update, the City's existing sewer design criteria were updated to include rehabilitation standards, an approved materials list, and the recently approved standard details. Included in Appendix I of the Master Plan are the updated sewer design criteria presented to the City adoption consideration. The criteria include minimum design standards for sewer mains, sewer manholes, sewer laterals, and general guidelines for common sewer rehabilitation options.

Chapter 6 of the Master Plan provides a summary of the City's existing sewer design criteria and methodology for determining design capacity. The chapter also includes recommendations for the City to consider implementing to ensure that any additions or modifications to the

Design and Performance Provisions

wastewater collection system are appropriately designed and constructed and that the system can accommodate potential future development.

The Master Plan addresses the components listed in Section 8.1 and as required by the WDRs, More detailed descriptions of the design and performance requirements are included in the Master Plan.

Chapter 7

Overflow Emergency Response Plan

This chapter of the SSMP provides a summary of the City's SSOERP. A copy of the City's SSOERP is included in Appendix G of the Master Plan.

7.1 Regulatory Requirements for Overflow Emergency Response Plan

The WDRs require that the City develop and implement an overflow emergency response plan which 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 potentially affected entities (e.g. health agencies, Regional Water Boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the Monitoring and Reporting Program (MRP). All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water 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.

7.2 Discussion of Overflow Emergency Response Plan

In an effort to comply with the WDRs, included with the update of this Master Plan, the City also updated its Sewer Overflow Response Plan (SORP). The newly titled Sanitary Sewer Overflow Emergency Response Plan (SSOERP) reflects updated SSO response and reporting procedures. The SSOERP includes detailed procedures to guide trained personnel to effectively respond, control, contain, and clean up sewage discharged from the wastewater collection system that is under the control and maintenance of the City of La Mesa. It also includes procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, Regional Water Boards, water suppliers, etc.)

Overflow Emergency Response Plan

of all SSOs that potentially affect public health or reach the waters of the State. A copy of the SSOERP is included in Appendix G of the Master Plan.

The SSOERP includes a strategy for the Sewer Maintenance Section to mobilize labor, material, tools, and equipment to contain, mitigate, and clean-up residuals from an SSO and correct or repair any condition which may cause or contribute to an SSO. The document provides the necessary guidelines for City staff to respond to an SSO event and contains the following elements:

- Introduction and Regulatory Requirements
- Sanitary Sewer Overflow Emergency Response Plan
- Public Advisory of Sewage Contamination Procedures
- SSO Reporting Requirements
- Training Requirements
- SSOERP Updating Requirements
- Various Attachments

The SSOERP addresses the components listed in Section 7.1 and as required by the WDRs, Further detailed descriptions of the policies and procedures as they pertain to responding to SSOs are included in the SSOERP document included in Appendix G of the Master Plan.

Chapter 8

Fats, Oils, and Grease (FOG) Control Program

This chapter of the SSMP discusses the City's FOG Control Program including identification of high frequency maintenance locations and source control.

8.1 Regulatory Requirements for a FOG Control Program

To comply with the WDRs, the City is required to evaluate its service area to determine whether a FOG Control Program is necessary. If deemed necessary, the City is required to develop and implement a FOG Control Program to effectively control the quantity of FOG that is discharged into the City's sanitary sewer system. The FOG Control Program shall include the following as appropriate:

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

8.2 Discussion of FOG Control Program

The WDRs require that the City evaluate its service area to determine the impacts of FOG on its wastewater collection system. Additionally, the City is required to establish the proper legal authority to prohibit discharges to the wastewater collection system and identify measures to prevent SSOs and blockages caused by FOG.

The City has had a comprehensive FOG Control Program since 2009. All food service establishments (FSEs) are permitted and inspected annually. The City's FOG inspector works

FOG Control Program

with wastewater maintenance staff to ensure that hotspots are examined to try to determine the source or FOG and mitigation strategies. All FSEs have installed grease interception devices, or obtained a fee based hardship waiver. The FOG Control Program is included in Appendix M of the Master Plan.

The FOG Control Program addresses the components required by the WDRs. The FOG Control Program provides the guidelines necessary for the City to implement a comprehensive FOG Control Program to effectively reduce the direct or indirect discharge of all wastewater or waste containing FOG into the City's wastewater collection system. The FOG Control Program was presented and approved by the City Council on April 14, 2009.

Chapter 9

System Evaluation and Capacity Assurance Plan

The WDRs require each agency to prepare a System Evaluation and Capacity Assurance Plan. This chapter of the SSMP discusses the City's capacity management measures to address the current and future capacity requirements of its collection system and the recommended capacity improvement projects.

9.1 Regulatory Requirements for System Evaluation and Capacity Assurance Plan

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

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

9.2 Discussion on System Evaluation and Capacity Assurance Plan

The City completed its most recent master plan in October 2008. The following is a discussion of the WDR elements for system evaluation and capacity assurance.

9.2.1 Evaluation

The City's Master Plan provides a comprehensive review and evaluation of the City's wastewater collection, conveyance capacity, and treatment capacity requirements under

System Evaluation and Capacity Assurance Plan

existing and ultimate City build-out conditions. It also identifies regional treatment capacity needs. Based on findings of the evaluation, the Master Plan includes recommendations for facility improvements to ensure that aging infrastructure remains serviceable and to allow for the continued infill developments or redevelopment of the City. The recommended Capital Improvement Program (CIP) projects form the basis for capital facilities financing and can be used in sewer rate evaluations to be completed in separate financial studies.

The purpose of the Master Plan was to evaluate system capacity and develop a CIP for rehabilitation of the wastewater collection system facilities. Specific recommendations are made for the repair, upgrading, and build-out of wastewater collection and transmission facilities. The CIP includes the recommended system improvements to address existing and projected capacity constraints.

9.2.2 Design Criteria

The City updated its hydraulic design criteria used in updating the Master Plan. Included in the update are design criteria for new and rehabilitated pipelines, new standard details, and clarifications on pertinent issues in the current criteria. Also included are the recommended wastewater unit generation rates for use in design of sewer improvements.

Unit wastewater generation rates were developed using two sources: 1) the City's current land use data; and 2) population projections compiled by SANDAG (Series 7), by comparison to the City's Metro flow meters at seven (7) locations. Table 9-1 summarizes the recommended unit generation rates used for estimating future wastewater flows.

**Table 9-1
Recommended Unit Wastewater Generation Rate**

Land Use / Population	Recommended Unit Generation Rate
Land Use	
Single-Family Residential	270 gpd/DU
Multi-Family Residential	180 gpd/DU
Commercial	500 gpd/AC
Industrial	500 gpd/AC
Institutional	500 gpd/AC
Population	
Single-Family Residential	90 gpdc
Multi-Family Residential	15 gpdc

System Evaluation and Capacity Assurance Plan

City growth rates were projected based on SANDAG residential and employment population estimates and projections and applying the recommended unit generation rates to these population estimates. Table 9-2 summarizes the City's estimated future flows based on SANDAG population projections and the assumed development absorption through 2030.

**Table 9-2
City of La Mesa EDU Demand Projections**

Year:	2020	2030
Approved Project Sites ⁽¹⁾	0 EDU	0 EDU
Proposed Project Sites ⁽²⁾	1,427 EDU	0 EDU
Redevelopment Areas ⁽³⁾	700 EDU	700 EDU
Grossmont Center Redevelopment ⁽⁴⁾	500 EDU	550 EDU
Total Dwelling Units	2,627 EDU	1,250 EDU
Cumulative Dwelling Units	3,695 EDU	4,945 EDU
Cumulative Demand (270 GPD/EDU) ⁽⁵⁾	6.27 MGD	6.61 MGD
SANDAG Flow Projections (90/15 GDPC)	5.55 MGD	5.82 MGD
Re-Rated Metro Capacity	6.993 MGD	6.993 MGD
Existing Metro Capacity	6.634 MGD	6.634 MGD

System Capacity Analysis

An evaluation of the available capacity in the City's existing wastewater collection system was completed to identify sewer reaches that may be undersized to accommodate existing and/or future wastewater flows. Based on findings of the evaluation, phased facility improvements were identified to reduce the potential for sanitary sewer overflows as well as to allow for projected growth within the City's service area.

The objectives of the sewer capacity evaluation included:

- Development of hydraulic models of the City's wastewater collection system (generally pipes 12-inch in diameter and larger or with a steady-state peaking factor less than 2.25)

System Evaluation and Capacity Assurance Plan

- Capacity evaluation of the City's wastewater collection system (generally pipes with diameters less than 12-inches or with a steady-state peaking factor greater than or equal to 2.25) with steady-state calculations
- Identification of sewer reaches that may be overcapacity under existing and projected future peak wastewater loading conditions
- Recommendations for improvements to the existing collection system to reduce the potential for sanitary sewer overflows and to allow for planned growth within the City's service area

Detailed hydraulic models of the City's wastewater collection system were developed and used to simulate existing and build-out wet weather flow conditions in mains generally larger than 12-inch in diameter. The models were also calibrated to dry weather meter data provided by the City. City build-out assumed 100 percent development of existing vacant parcels in accordance with current zoning and land use designations.

Pipe reaches in which simulated wet-weather flows exceeded a flow depth to pipe diameter ratio of 0.75 were identified as potential improvement reaches. Improvements required to provide adequate capacity for projected flows were then determined through an iterative modeling process. The process consisted of simulating flow conditions after increasing the diameter of downstream portions of the identified reaches.

The capacity evaluation determined that the City has very few capacity-constrained sewers within the collection system, with the exception of the Alvarado Trunk Sewer, which is scheduled for a CIP project in 2020.

9.2.3 Capacity Enhancement Measures

A wastewater system CIP was developed based on the findings of the collection system capacity evaluation and pipeline rehabilitation and replacement analysis. The recommended CIP includes pipeline capacity improvements and continuation of the 6-inch concrete pipeline replacement projects. Additionally, the CIP includes annual budgetary allowances for pipeline rehabilitation and replacement improvements identified via the CCTV Inspection and Assessment Program.

The objectives of the CIP included:

- Identification of annual budgetary estimates to construct facility improvements required to mitigate existing and projected capacity constraints;
- Identification of annual budgetary estimates to construct improvements to existing facilities to address condition, operational, capacity, and/or regulatory deficiencies;
- Development of annual budgetary estimates for pipeline rehabilitation and replacement improvements; and
- Recommendation of a phased implementation schedule for facility improvements.

System Evaluation and Capacity Assurance Plan

9.2.4 Schedule

Presented in Chapter 8 of the Master Plan is the five- (5) year CIP recommended to complete the improvements identified. The projects include improvements to address capacity and design deficiencies and rehabilitation and replacement projects identified in the CCTV Inspection and Assessment Program. The projects were prioritized by fiscal year and estimated construction costs were also included.

(This page was intentionally left blank.)

Chapter 10

Monitoring, Measurement, and Program Modifications

This chapter of the SSMP discusses the parameters the City will utilize to track and monitor the progress of implementing elements of the SSMP, the effectiveness of the SSMP, and how the City intends to update and revise the SSMP to keep it current.

10.1 Regulatory Requirements for Monitoring, Measurement, and Program Modifications

The WDRs require the City to:

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

10.2 Discussion of Monitoring, Measurement, and Program Modifications

To date, the City has effectively managed and maintained information pertaining to the wastewater infrastructure by means of manually recording preventive maintenance activities and documenting notifications received regarding potential and actual SSO occurrences. The City has tracked performance measures through logs and reports including, but not limited to, the length of pipe cleaned, the quantity, cause and location of stoppages, SSOs, and the scheduled maintenance of high frequency maintenance locations. The City will continue to monitor the performance measures it currently tracks.

To address the components listed in Section 11.1 and as required by the WDRs, the following subsections provide a summary of the procedures to properly monitor program progress and implement necessary modifications.

10.2.1 Maintain Information Pertaining to SSMP Activities

The City has designated the Public Works Engineering Project Manager as the individual responsible to continually monitor the SSMP provisions to ensure that the system is maintained in conformance with the document. As improvements or modifications are identified, the City will implement the necessary adjustments to the program at the earliest practical time.

Monitoring, Measurement, and Program Modifications

10.2.2 Monitor and Measure SSMP Elements

As the SSMP elements are implemented and evolve, the City will modify the elements due to new technology, equipment, code changes, specific program enhancements, and the collection system's rehabilitation through implementation of the CIP. The Public Works Engineering Project Manager should identify and recommend updates to this SSMP as part of the City's regular performance measurement assessments.

The following performance parameters may be utilized along with other typical industry and EPA performance indicators for the City's system:

- 1) Pipe age
- 2) O&M cost/mile/year
- 3) O&M staff/100 miles
- 4) Percent of system maintained each year
- 5) Total annual percent cleaned
- 6) System cleaning cycle frequency
- 7) FOG program activities
- 8) Percent CCTV per year
- 9) I&I monitoring
- 10) Planning goals status

10.2.3 Assessment of Preventative Maintenance Program

The City is continuing its efforts to document its current O&M Program to include a summary of the City's current procedures and practices as they pertain to the O&M activities. On a regular basis, at least once every 12 months, the City should evaluate the effectiveness of the O&M Program elements and staffing levels. Recommendations for appropriate adjustments and an implementation schedule should be developed. Implementation of any changes should be based on urgency of the need, coordination with other program elements, and management approvals.

10.2.4 Update Program Elements

The City must review this SSMP on a regular basis and update it at least once every five (5) years. The City's process should include distributing the SSMP to appropriate City staff for review to ensure the most current legal authority, response plans, organizational charts, equipment lists and contact/notification information is included. Once recommendations are incorporated into the document, the SSMP will be ready for public dissemination. If any significant updates are made, the SSMP must be presented to the City Council for approval and recertified. The City is responsible for maintaining the SSMP program as required by the San Diego RWQCB and should make the SSMP accessible to the public.

Monitoring, Measurement, and Program Modifications

10.2.5 Identify and Illustrate SSO Trends

The City submits SSO information on the CIWQS website which is accessible to the public. The City will continue to document SSO trends. Finally, the City is efficiently and effectively implementing the measures to properly document and report any SSOs as required by the WDRs.

10.3 SSMP Modifications

The City must update the SSMP periodically to maintain current information, and modify the programs as necessary to ensure program effectiveness and continual compliance with the WDRs. Information that will be routinely updated includes, but is not limited to, contact names and phone numbers for City staff responsible for implementation of specific SSMP programs, staff on stand-by rotational schedule for SSO response, and approved contractors and vendors.

As modifications to elements of this SSMP are deemed necessary, the City will implement them at the earliest practical time. However, changes will be officially made to this SSMP during the annual or bi-annual update to the document. An SSMP update will occur every five (5) years or as necessary and will include any significant program changes.

(This page was intentionally left blank.)

Chapter 11

SSMP Program Audits

This chapter of the SSMP discusses the City's SSMP Auditing Program.

11.1 Regulatory Requirements for SSMP Program Audits

The WDRs require that the City 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 (2) years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the City's compliance with the SSMP requirements identified, including identification of any deficiencies in the SSMP and steps to correct them.

11.2 Discussion of SSMP Program Audits

The City must complete bi-annual audits of its SSMP. Any modifications identified while monitoring the implementation of this SSMP will be officially noted during the SSMP bi-annual audit to ensure this SSMP is up to date. The audit will be completed internally, and the City has the option to have the audit performed by an appropriate third party auditor or a neighboring agency. The audit may include, but not be limited to:

- Reviewing the progress made on the development of SSMP elements
- Reviewing the status of the SSMP programs implemented
- Identifying the success of various SSMP programs implemented
- Identifying the improvements necessary to various SSMP programs
- Describing system improvements within the two (2) year audit period
- Describing system improvements planned for the upcoming two (2) years
- Reviewing data related to SSO occurrences

Upon completion of the audit, the City must memorialize the process and results in a written document. The City must retain the audit report on file in compliance with the WDRs. A copy of the report must be submitted to the RWQCB and to the SWRCB.

(This page was intentionally left blank.)

Chapter 12

Communication Program

The primary objective of a Public Education / Outreach Program is to increase public awareness of sanitary sewer system issues, to promote a sense of stewardship for the City's system and facilitate the City's efforts towards the effective and efficient management, operation, and maintenance of the sanitary sewer system. This chapter of the SSMP discusses the City's efforts to educate and inform the public and affected agencies regarding the proper use of the City's sanitary sewer system.

12.1 Regulatory Requirements for Public Education and Outreach

The WDRs require the City to communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the City as the program is developed and implemented.

12.2 Discussion of Public Education and Outreach

The City's Public Education and Outreach Program to communicate its efforts to comply with the WDRs and address the development and implementation of this SSMP will serve to educate, inform, and engage key stakeholders, such as agencies that may be affected by an SSO, and businesses, developers, contractors, vendors, and plumbers whose business could be impacted by specific requirements or elements of this SSMP.

Through the City's Director of Public Works the City should coordinate external communications between the City and the public regarding the implementation and on-going development of this SSMP and its various elements. The Director of Public Works is responsible for preparing and providing pertinent information for news releases, articles, and the website. Additionally, the Director of Public Works can work closely with the City Council, City divisions, news media, the public and affected agencies to assist in promoting an open and frequent exchange of information necessary for the systematic and effective implementation of the various SSMP elements.

The following includes a summary of the City's efforts to educate, inform and engage the public's support and participation in the proper utilization of the City's sanitary sewer system and comply with the WDR requirements.

City of La Mesa Official Website

The City's current outreach efforts include maintaining a website (<http://www.cityoflamesa.com/>) to inform the public about City activities. The City's website is an effective communication channel for providing alerts and news to the public. The main page of the website provides

Communication Program

access to various City departments, and links to diverse information, important announcements, and agendas for City Council meetings, and other key information for City residents. The City can utilize the website to publish its SSMP to provide the public the opportunity to view and offer input to the City as the SSMP elements are implemented. As well, the City can utilize the website to notify the public of important upcoming activities related to sewer system management.

City of La Mesa FOG Control Program

The public outreach element included in the FOG Control Program includes a concentrated effort to educate FSE staff regarding proper management of FOG generated on site. During the regularly performed site inspections, City staff will provide information to FSE staff that results in the reduction of FOG discharged into the City's wastewater collection system. Additionally, providing information via various forms of media is an effective way to engage the public in recognizing the importance of reducing the quantity of FOG introduced to the sanitary sewer system and the threat of excessive quantities to the potential and actual occurrence of SSOs. The City held a FOG workshop to which all FSEs were invited. Additional information regarding the City's FOG Control Program can be found on the City's website and in its newsletter.

City of La Mesa Sanitary Sewer Overflow Emergency Response Plan

The SSOERP includes a Public Advisory of Sewage Contamination Procedures which includes a description of the action that City staff must take to limit public access to surface waters and other areas that may have been impacted by an SSO as well as notify the public of potential hazardous conditions. Additionally, pre-scripted notices are included in the SSOERP which may be modified to accurately reflect the conditions at the time of publication and/or airing.

Should additional notification of sewage contamination be deemed necessary, City staff can provide other notices through the use of pre-scripted notices made available to the printed or electronic news media for immediate publication or airing, or by other measures, such as door hangers.

Public Meetings

Public meetings to discuss City related issues are held regularly in the City Council Chambers located at La Mesa City Hall. The City encourages residents to attend City Council meetings to become better informed about how the City works and various issues. The council meetings provide the residents and concerned citizens a forum to provide the council with input on particular programs through the Public Hearing process, and through the Citizen Participation portion of each City Council meeting. During Citizen Participation, each person who wishes to address the City Council on an item not on the agenda may do so. Copies of the Council Agenda are made readily available to the public from the City's website or the City Clerk's Office.

Project specific meetings may also be convened with community leaders and other citizens to discuss the impacts, schedule and criteria of sewer related projects and efforts. These meetings give citizens a forum to learn about the City's activities, voice their concerns, and receive clarification on a variety of issues. Often, the project managers arrange these meetings.

12.3 Public Education and Outreach Media

A variety of means exist to educate and inform the public regarding impacts to the City's sanitary sewer system facilities. The following list identifies several forms of media available for the City to use to educate and inform the public:

- Press releases;
- Direct mailers;
- Door hangers;
- Brochures distributed at City locations and kiosks;
- Posters and flyers displayed prominently in public areas, such as on buses, libraries, recreational centers, and so on;
- Announcements and notices placed on the City's web site;
- Announcements and notices placed in the City's newsletter; and
- Specific events to educate the public on the effects of SSOs to the public and environment such as at an earth day fair, open house events, and other appropriate venues.

Educating the public to reduce FOG is an important task that should have a specific amount of time dedicated to its success. Investment up front in educating the public, will reduce the financial expenditure in responding to and mitigating FOG related SSOs as they will be effectively reduced. Staff from the Public Works Department and other affected departments should work closely to develop appropriate messages and with which media the messages should be disseminated.

Additionally, the City intends to communicate on a regular basis with interested parties on the implementation and performance of this SSMP. The Public Education and Outreach Program will allow interested parties to provide input as the SSMP and its elements are developed and implemented.