



CITY OF PALMDALE

**PALMDALE UTILITIES SERVICES DIVISION**  

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**Sewer System Management Plan**

CIWQS WDID: 6SSO11137

**March 20, 2009**  
**Corrected and Revised May 2014**  
**Adopted by Palmdale City Council May 7, 2014**

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## Introduction

### Background

This Sewer System Management Plan (SSMP) has been prepared in compliance with the State Water Resources Control Board (SWRCB) Order 2006-0003: Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (WDR), as revised by Order No. WQ 2013.0058.EXEC on September 9, 2013. The WDR prohibits sanitary sewer overflows (SSOs) and requires reporting of SSOs using the statewide electronic reporting system.

This revised SSMP has been prepared by the City of Palmdale with assistance from Causey Consulting. The SSMP should be updated as needed to reflect changes to the SSMP elements by City staff in conformance with Waste Discharge Requirements for biannual audits.

### Organization of SSMP

The structure of this document follows the section numbering and nomenclature specified in the WDR. The SSMP includes eleven sections, as follows:

- 1) Goal
- 2) Organization
- 3) Legal Authority
- 4) Operation and Maintenance Program
- 5) Design and Performance Provisions
- 6) Overflow Emergency Response Plan
- 7) Fats, Oils and Grease (FOG) Control Program
- 8) System Evaluation and Capacity Assurance Plan
- 9) Monitoring, Measurement, and Program Modifications
- 10) SSMP Audits
- 11) Communication Program/Management of Change Log

### System Overview

The City of Palmdale (City) owns, operates, and maintains their wastewater collection system. The City took over operation and maintenance of the wastewater collection system starting on July 1, 2009 from Los Angeles County Department of Public Works Sewer Maintenance District (CSMD).

The City of Palmdale's planning area (sphere of influence) encompasses approximately 174 square miles. The City's service area is 105 square miles. The Palmdale Utilities Services Division will operate and maintain the wastewater collection system within the City's service area. Areas outside of the City's service area but within the City's planning area are considered Los Angeles County (County) property. These County areas are under County standards and rules until incorporated by the City of Palmdale.

The City's sewer system consists of 396 miles of pipe and 8,441 manholes. The majority of gravity pipe is Vitrified Clay Pipe (VCP) and less than 15 inches in diameter. The majority of the sewer system is less than 30 years in age. Sewage is discharged to Sanitation Districts of Los Angeles County (LACSD) trunk mainlines. The majority of this sewage is sent to Palmdale Water Reclamation Plant (PWRP) (LACSD #20) with some flows sent to Lancaster Water Reclamation Plant (LWRP) (LACSD #14). Sewage flows from County pockets are sent to PWRP. There are also approximately 1,000 septic tanks as identified in the current City billing inventory system.

Over 80 percent of the sewer system was built after 1980 and is less than 30 years old. It is expected that maintenance issues for the system will be relatively minor for the time being yet would begin to increase over time as the system ages. **Table 1** provides a summary table of the system by pipe age, material, and

size. **Figure 1** provides an overview map of the City's collection system, service area and local geographic features.

**Table 1: City of Palmdale Wastewater Collection System Pipe Age, Material, and Size**

Age (year)	Miles	Material (type)	Miles	Size (inches)	Miles
1950-1959	34.4	ABS	4.1	6	0.6
1960-1969	10.6	DIP	1.1	8	337.7
1970-1979	10.1	VCP	390.2	10	24.6
1980-1989	161.9	unknown	0.1	12	16.5
1990-1999	87.9	<b>TOTAL</b>	<b>395.5</b>	15	14.2
2000-present	90.5			18	1.7
<b>TOTAL</b>	<b>395.5</b>			21	0.1
				unknown	0.1
				<b>TOTAL</b>	<b>395.5</b>

There are two pump stations in the system and one other pump station that is not in operation. The larger pump station is located at 1718 East Avenue S (Avenue S Pump Station). This lift station consists of two 5-horsepower (hp) pumps and is currently maintained by CSMD for all mechanical and electrical operations. The standby engine generator is operated and maintained by the City of Palmdale's Maintenance Department. In 2006 the average daily flowrate was 80,000 gallons per day (gpd) with a maximum flowrate of 129,000 gpd. Avenue S pump station connects to a 4 inch force main 1,002 feet long that discharges back into the City's gravity sewer system along Avenue S. The second pump station serves a small bathroom at the Pelona Vista Park off Rayburn Road located at 37700 Tierra Subida Avenue. The pump station consists of a single ½ hp pump and is currently maintained by the CSMD for mechanical and electrical operations. City staff operates and maintains the engine generator at the site. Pelona Vista pump station connects to a 4 inch force main 1,780 feet long that discharges back into the City's gravity sewer system at 5<sup>th</sup> Street West. The third pump station is pending approval from the City and is part of the Ritter Ranch development.

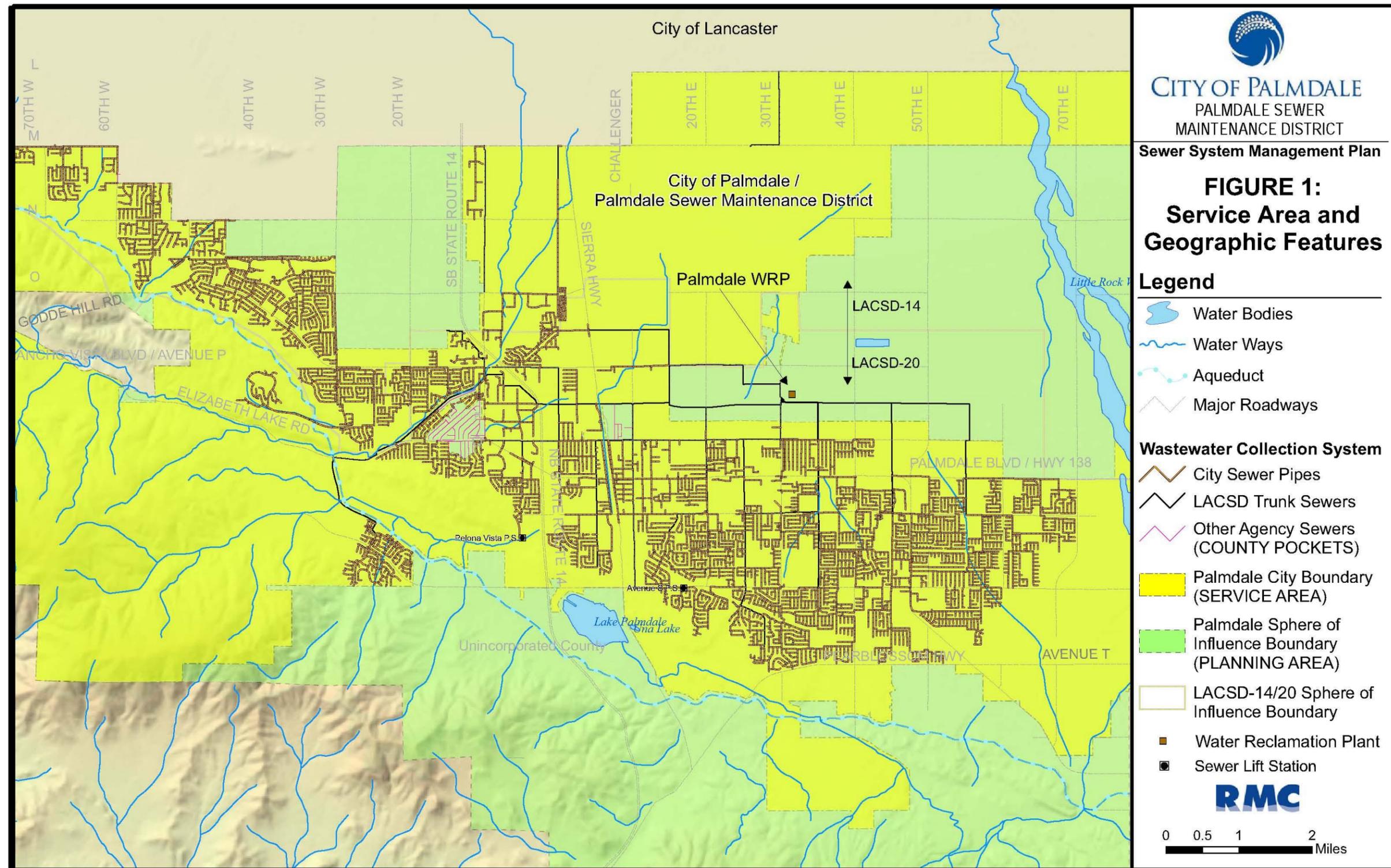
The City's service area is relatively flat in elevation with a few exceptions. As a result, there is potential for fewer sanitary sewer overflows (SSOs) since the system tends to store a large quantity of flow within the system prior to overflowing out of the system at an upstream manhole. In steeper systems there is less storage of sewage in the system prior to a sewer overflow. A flatter system is more prone to the accumulation of sedimentation in the system and will still require cleaning to reduce the risk of blockages and system back-ups.

The City's storm drainage system consists of numerous localized drainage systems mainly created by developments. These local drainage systems connect to either earthen channels or drain to local retention basins. There are no major water bodies within the City's planning area that accept storm drainage. Drainage flows north into the City of Lancaster along Littlerock Creek and Amargosa Creek. These creeks are typically dry during the summer months however they do receive stormwater flows in the winter months. Both creeks ultimately discharge into the Rosamond Dry Lake bed.

The City is located 60 miles northeast of the City of Los Angeles in the Antelope Valley region of Los Angeles County. The City of Palmdale's population is 155,650 (Source: Census Bureau). The City is located in a desert climate. The City and its water purveyors currently rely mostly on water imported from other parts of the State, through the California Aqueduct as part of the State Water Project, and groundwater wells. Palmdale Water District is the main purveyor of potable water with the City's service area. Palmdale Water District's main potable water source is the Aqueduct which feeds into Lake Palmdale, an open potable water reservoir. Potable water is treated before it enters the distribution system. The Aqueduct crosses the City's service area. There are only two clusters of small residential

communities that are upstream (higher elevation) of the Aqueduct that could potentially impact the Aqueduct in the event of an SSO. Lake Palmdale is located within the City's planning area and there are no known sewer users upstream of Lake Palmdale.

Figure 1: City of Palmdale Wastewater Collection System by Pipe Age and Service Area



## Definitions, Acronyms, and Abbreviations

**BMP – Best Management Practices:** Refers to the procedures employed in commercial kitchens to minimize the quantity of grease that is discharged to the sanitary sewer system. Examples include scraping food scraps into the garbage can and dry wiping dishes and utensils prior to washing.

**Building Sewer** – Refers to the piping that conveys sewage within a building or residence.

**CA DFG – California Department of Fish and Game**

**CA EMA** – See Emergency Management Agency or Office of Emergency Services (OES)

**CCTV – Closed Circuit Television:** Refers to the process and equipment that is used to internally inspect the condition of gravity sewers.

**Certification of SSO Reports** - The SWRCB requires the Legally Responsible Official to login to CIWQS within a given time period to electronically sign submitted reports thereby stating that to the best of his/her knowledge and belief, the information submitted is true, accurate, and complete.

**CIP – Capital Improvement Program:** Refers to the document that identifies planned capital improvements to the City’s wastewater collection system.

**City** – Refers to the City of Palmdale.

**CIWQS – California Integrated Water Quality System:** Refers to the State Water Resources Control Board online electronic reporting system that is used to report SSOs, certify completion of the SSMP, and provide information on the sanitary sewer system. The electronic reporting requirement became effective on January 2, 2007 for Region 6.

**CMMS – Computerized Maintenance Management System:** Refers to software and a database that is used to manage maintenance and condition assessment data including the production of work orders and the recording of work completed.

**Collection System** – See Wastewater Collection System

**Collection System Supervisor** – Also referred to as Sanitary Sewer Collection System Supervisor

**County** – Refers to Los Angeles County.

**County Pockets** – Small number of connections owned by customers of the Los Angeles County Department of Public Works, Consolidated Sewer Maintenance District (CSMD) that convey sewer flows into and out of the City of Palmdale’s service area.

**CSMD – Los Angeles County Department of Public Works – Consolidated Sewer Maintenance District**

**CY – Calendar Year**

**DPW – Director of Public Works**

**Emergency Management Agency** – See Office of Emergency Services (OES)

**EPA – Environmental Protection Agency:** Refers to the United States Environmental Protection Agency

**Field Report** - Refers to the Sanitary Sewer Problem Report Form.

**FOG – Fats, Oils, and Grease:** Refers to fats, oils, and grease typically associated with food preparation and cooking activities that can cause blockages in the sanitary sewer system.

**Force Main** – Refers to a pressure sewer used to convey wastewater from a lift station to the point of discharge into a gravity sewer line.

**FSE – Food Service Establishment:** Refers to commercial or industrial facilities where food is handled/prepared/served that discharge to the wastewater collection system.

**FTE – Full-Time Equivalent:** Refers to the equivalent of 2,080 paid labor hours per year by a regular, temporary, or contract employee.

**FY – Fiscal Year:** The fiscal year starts in July and goes through June.

**GIS – Geographical Information System:** Refers to the City’s system that it uses to capture, store, analyze, and manage geospatial data associated with the City’s wastewater collection system assets.

**GPD – Gallons per Day**

**GPS – Global Positioning System:** Refers to the handheld unit used to determine the longitude and latitude of sanitary sewer overflows for use in meeting CIWQS reporting requirements.

**GRD – Grease Removal Device:** Refers to grease traps or grease interceptors that are installed to remove FOG from the wastewater flow at food service establishments.

**Hotspot –** A gravity sewer identified as requiring frequent preventive maintenance to reduce the likelihood of SSOs.

**hp – Horsepower**

**I/I – Infiltration/Inflow:** Refers to water that enters the wastewater collection system from stormwater and groundwater that increases the quantity of flow. Infiltration enters through defects in the wastewater collection system after flowing through the soil. Inflow enters the sanitary sewer without flowing through the soil. Typical points of inflow are holes in manhole lids and direct connections to the sanitary sewer (e.g. storm drains, area drains, and roof leaders).

**LAC DPH – Los Angeles County Department of Public Health**

**LACSD – Sanitation Districts of Los Angeles County**

**Lateral -** See sewer service lateral.

**LRO – Legally Responsible Official:** Refers to the individual who has the authority to certify reports and other actions that are submitted through CIWQS.

**LWRP – Lancaster Water Reclamation Plant**

**RWQCB – Lahontan Regional Water Quality Control Board:** Refers to the Regional Water Quality Control Board for Region 6 Lahontan.

**Mainline Sewer –** Refers to City wastewater collection system piping that is not a private lateral connection to a user.

**MH – Maintenance Hole or Manhole:** Refers to an engineered structure that is intended to provide access to a sanitary sewer for maintenance and inspection.

**MMPM – Monitoring, Measurement, and Program Modifications**

**MRP – Monitoring and Reporting Program WQ-2013-0058.EXE**

**MS4 – Municipal Separate Storm Sewer Systems**

**NA – Not Applicable**

**NASCCO –** National Association of Sewer Service Companies; [www.nassco.org](http://www.nassco.org)

**Notification of an SSO -** Refers to the time at which the City becomes aware of an SSO event through observation or notification by the public or other source.

**NPDES – National Pollution Discharge Elimination System**

**O&M – Operations and Maintenance**

**OERP – Overflow Emergency Response Plan**

**OES – Office of Emergency Services:** Refers to the California Governor’s Office of Emergency Services; also referred to as Emergency Management Agency.

**Online SSO Reporting System -** Refers to the California Integrated Water Quality System (CIWQS).

**QSR – Quick Structural Rating:** A method of rating the structural condition of an inspected pipe based on the grades (severity) of the defects found, defined under the industry-standard Pipeline Assessment and Certification Program.

**PACP – NASSCO Pipeline Assessment Certification Program**

**PM – Preventative Maintenance:** Refers to maintenance activities intended to prevent failures of the wastewater collection system facilities (e.g. cleaning, CCTV, inspection).

**PPE – Personal Protective Equipment**

**Private Lateral Sewage Discharges -** Sewage discharges that are caused by blockages or other problems within a privately owned lateral.

**Property Damage Overflow -** Property damage overflow refers to a sewer overflow or backup that damages private property.

**Pump Station -** Used interchangeably with the term lift station.

**PWRP – Palmdale Water Reclamation Plant**

**QA/QC – Quality Assurance and Quality Control**

**SCADA – Supervisory Control and Data Acquisition:** Refers to an electronic system that is used to monitor lift station performance and to initiate alarms when monitored parameters exceed pre-set limits.

**SECAP – System Evaluation and Capacity Assurance Plan**

**Sensitive Area –** Refers to areas where an SSO could result in a fish kill or pose an imminent or substantial danger to human health (e.g. parks, aquatic habitats, etc.)

**Sewer Service Lateral –** Refers to the piping that conveys sewage from the building to the City’s wastewater collection system.

**Sewer System –** See Wastewater Collection System.

**SOP – Standard Operating Procedures:** Refers to written procedures that pertain to specific activities employed in the operation and maintenance of the wastewater collection system.

**SSMP – Sewer System Management Plan**

**SSO – Sanitary Sewer Overflow:** Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs include:

- (i) Overflows or releases of untreated or partially treated wastewater that reach waters of the United States;
- (ii) Overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and
- (iii) Wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system.

**Surface Waters –** See waters of the State.

**SWRCB – State Water Resources Control Board:** Refers to the California Environmental Protection Agency (EPA) State Water Resources Control Board and staff responsible for protecting the State’s water resources.

**Trunk Sewer** – Refers to the portion of the sanitary sewer collection system piping that is owned and operated by LACSD that accepts sewer discharges from the City of Palmdale.

**VCP – Vitrified Clay Pipe**

**Volume Captured** – The amount of spilled sewage that is returned to the wastewater collection system. When recording the volume that is captured, the volume of water used for flushing and/or cleaning should not be included.

**Wastewater Collection System** – Refers to the portion of the sanitary sewer facilities that are owned and operated by the City of Palmdale.

**Water Body** – A water body is any stream, creek, river, pond, impoundment, lagoon, wetland, or bay.

**Waters of the State** – Waters of the State (or waters of the United States) means any surface water, including saline waters, within the boundaries of California. In case of a sewage spill, storm drains are considered to be waters of the State unless the sewage is completely contained and returned to the wastewater collection system and that portion of the storm drain is cleaned.

**WDR – General Waste Discharge Requirements:** Refers to the State Water Resources Control Board Order No. 2006-0003, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, dated May 2, 2006, as revised on February 20, 2008.

**WO – Work Order:** Refers to a document (paper or electronic) that is used to assign work and to record the results of the work.

**WRP – Water Reclamation Plant**

## References

**State Water Resources Control Board Order No. 2006-0003 Statewide General Waste Discharge Requirements for Sanitary Sewer Systems**, California State Water Resources Control Board, May 2, 2006.

**Monitoring and Reporting Program 2006-0003 Statewide General Waste Discharge Requirements for Sanitary Sewer Systems**, State Water Resources Control Board, May 2, 2006 ([www.waterboards.ca.gov/board/decisions/adopted\\_orders/water\\_quality/2008/wqo/wqo2008\\_0002\\_exec.pdf](http://www.waterboards.ca.gov/board/decisions/adopted_orders/water_quality/2008/wqo/wqo2008_0002_exec.pdf)).

**State Water Resources Control Board Monitoring and Reporting Program No. 2006-0003-DWQ (as revised by Order No. WQ 2013-0058.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems**, California State Water Resources Control Board, September 9, 2013 ([www.cwea.org/pdf/2013-0058-EXEC.pdf](http://www.cwea.org/pdf/2013-0058-EXEC.pdf)).

## **Chapter 1 Goal**

This section of the SSMP presents the City's goals for the management, operation, and maintenance of its wastewater collection system.

### **1.1 Regulatory Requirements for the Goal Element**

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

## Chapter 2 Organization

The intent of this section of the SSMP is to identify City staff responsible for implementing this SSMP, responding to SSO events, and meeting the SSO reporting requirements. This section also includes the designation of the Authorized Representative to meet SWRCB requirements for completing and certifying spill reports.

### 2.1 Regulatory Requirements for Organization Element

The requirements for the Organization element of the SSMP are summarized below. 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 Legally Responsible Official

The City's Legally Responsible Official (LRO), having overall responsibility for wastewater collection system matters, is the City's Director of Public Works in concert with designated maintenance and public works staff as discussed below. This includes, but is not limited to, signing and certification of all reports and correspondence as required under the Order.

To ensure efficiency and expediency in meeting the General Waste Discharge Requirements (WDR), the following City staff have all been delegated the LRO, an Authorized Representative having responsibility for the day to day operation of the City's wastewater collection system and associated documentation and reporting requirements, including but not limited to verbal notification, as well as electronic and written reporting to the Los Angeles County Department of Public Health (LAC DPH), Regional Water Quality Control Board (RWQCB), SWRCB, and OES:

- Director of Public Works
- Assistant Director of Public Works/City Engineer
- Utilities Services Manager
- Sanitary Sewer Collection System Supervisor
- City Manager

Due to the role of the On-Call Duty-Phone Personnel as first responder in the event of an SSO, they are authorized to act as the Authorized Representative in the absence of the Sanitary Sewer Collection System Supervisor. Such responsibility includes meeting wastewater collection system documentation and reporting requirements including but not limited to verbal notification, as well as electronic and written reporting to the LAC DPH, RWQCB, SWRCB, and OES.

### 2.3 Responsibility for SSMP Development, Implementation, and Maintenance

The City's Director of Public Works has the ultimate responsibility for development, implementation, and maintenance of all elements of the City's SSMP. The responsibility for day to day implementation and maintenance of each of the City's SSMP elements has been delegated to City staff.

The Director of Public Works plans, organizes, and directs public works activities and associated budgets for the City. This includes advising City Management and City Council on public works matters including those related to the wastewater collection system. It is the responsibility of City Council and Legal Council to establish new and amend existing ordinances and policies governing municipal operations through recommendations by City Management. This includes ordinances and policies related to the wastewater collection system. The Director of Public Works is responsible for updating SSMP Goals, Organization, Legal Authority, Program Audits, and the Communication Program.

The Utilities Services Manager has responsibility for day to day development, implementation, and maintenance of the City's Operation and Maintenance Program and reports results to the Director of Public Works. The Utilities Services Manager is also responsible for design, development and implementation of the FOG Control Program.

The Sanitary Sewer Collection System Supervisor is responsible for developing and implementing the City's Overflow Emergency Response Plan as well as responding to SSOs.

The Utilities Services Manager is responsible for Monitoring, Measurement, and Program Modifications to the SSMP. The Utilities Services Manager in turn utilizes the Sanitary Sewer Collection System Supervisor and other Utilities Services Division staff as necessary to accomplish these tasks.

Other Public Works staff involved with developing, implementing, and maintaining the City's SSMP, along with their job titles and contact information, are listed in **Appendix 2-A**.

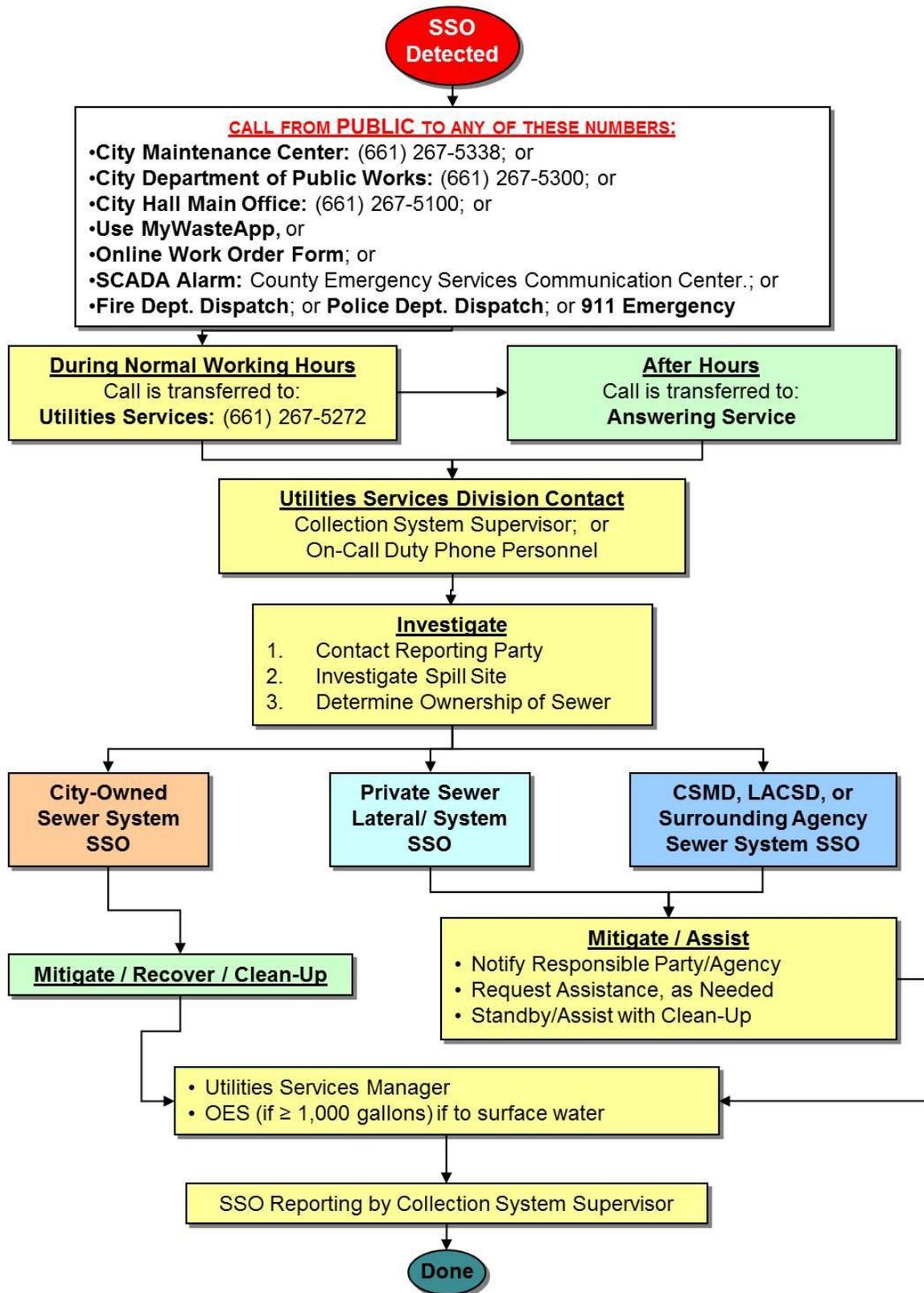
## 2.4 Organization Chart

The Palmdale Utilities Services Division organization chart identifying lines of authority and staff responsible for management, operation, and maintenance of City utilities including the wastewater collection system is provided in **Appendix 2-B**.

## 2.5 SSO Reporting Chain of Communication

The SSO Reporting Chain of Communication follows the typical flow of information depicted in **Figure 2-1**. The SSO Reporting process and responsibilities are described in greater detail in Chapter 6 - Overflow Emergency Response Plan.

Figure 2-1: SSO Reporting Chain of Communication Overview

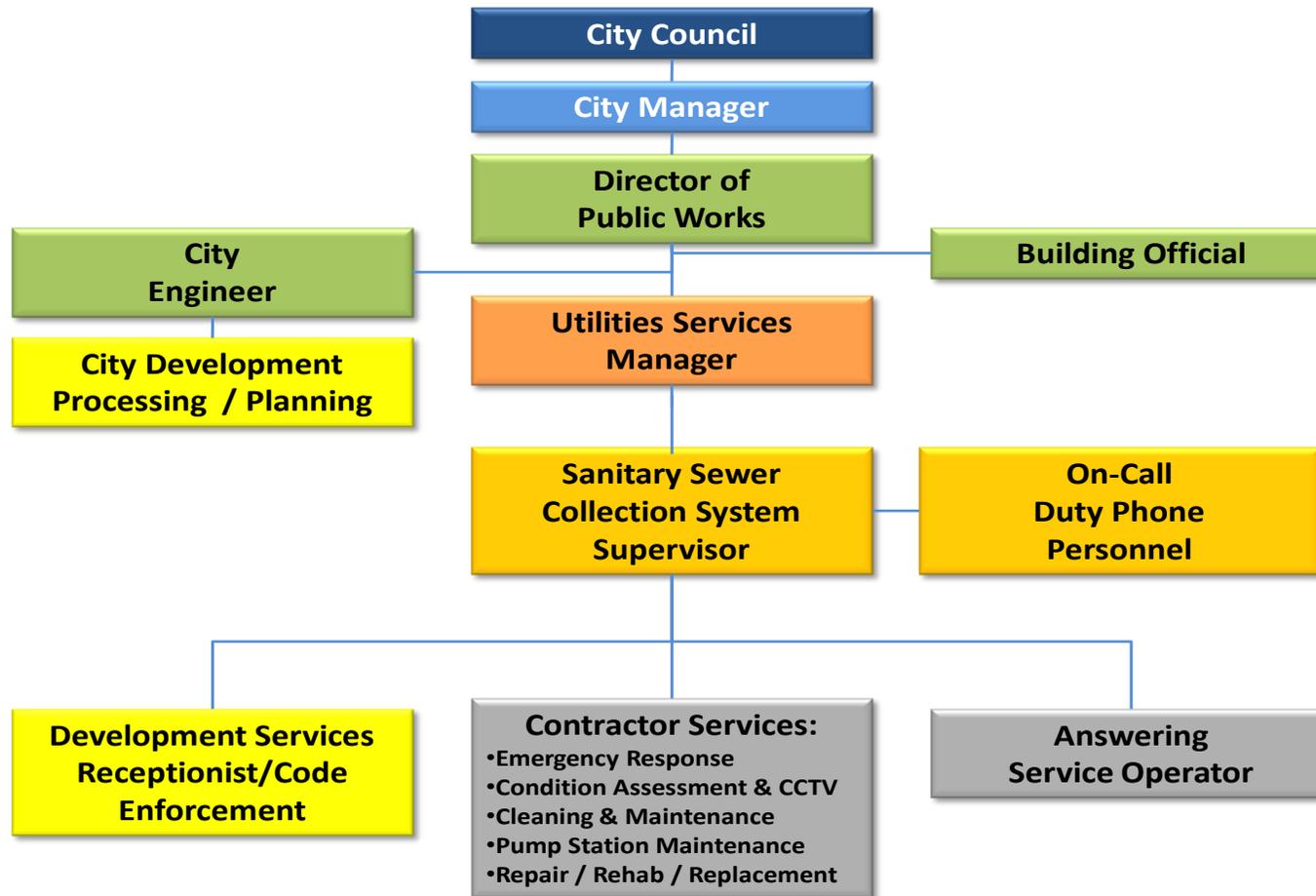


## Appendix 2-A: List of City Staff Responsible for SSMP

SSMP Element	Legally Responsible Official	Name	Phone Number	Email Address
1 – Goal	Director of Public Works	Michael Mischel	661.267.5300	mmischel@cityofpalmdale.org
2 – Organization	Director of Public Works	Michael Mischel	661.267.5300	mmischel@cityofpalmdale.org
3 – Legal Authority	Director of Public Works	Michael Mischel	661.267.5300	mmischel@cityofpalmdale.org
4 – O&M Program	Utilities Services Manager	Gordon Phair	661.267.5310	gphair@cityofpalmdale.org
5 – Design & Performance Provisions	Utilities Services Manager	Gordon Phair	661.267.5310	gphair@cityofpalmdale.org
6 – Overflow Emergency Response Program	Sanitary Sewer Collection System Supervisor	Timothy Carney	661.267.5259 661.267.5272	tcarney@cityof palmdale.org
7 – FOG Control Program	Sanitary Sewer Collection System Supervisor	Tim Carney	661.267.5259 661.267.5272	tcarney@cityof palmdale.org
8 – System Evaluation and Capacity Assurance Plan	City Engineer	Bill Padilla	661.267.5272	bpadilla@cityofpalmdale.org
9 – Monitoring, Measurement, and Program Modifications	Utilities Services Manager	Gordon Phair	661.267.5310	gphair@cityofpalmdale.org
10 – SSMP Program Audits	Director of Public Works	Michael Mischel	661.267.5300	mmischel@cityofpalmdale.org
11 – Communication	Director of Public Works	Michael Mischel	661.267.5300	mmischel@cityofpalmdale.org

Footnote: (1) Personal Phone Numbers are on file at City Hall and available to Palmdale Utilities Services Division Staff.

### Appendix 2-B: Palmdale Utilities Services Division Organization Chart



## Chapter 3 Legal Authority

This section of the SSMP discusses the City's legal authority to comply with the SSMP requirements, as provided in its Municipal Code and agreements with other agencies.

### 3.1 Regulatory Requirements for the Legal Authority Element

The requirements for the Legal Authority element of the SSMP are summarized below:

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

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

### 3.2 City Municipal Code

Shortly after the incorporation of the City of Palmdale in 1962, the City Council determined that they did not have the financial or staffing capability to operate and maintain the City owned sewer system. This service was being provided through the Consolidated Sewer Maintenance District (CSMD), a special district governed by the Los Angeles County Board of Supervisors and staffed by the Los Angeles County Department of Public Works. The City Council adopted Resolution No. 62-17 on August 24, 1962, authorizing the CSMD to continue to operate and maintain the collection system for the Palmdale service area, including any new infrastructure added to the system from that date forward. The City, however, retained its ownership rights to these facilities and to any facilities that would be constructed and accepted in the future.

Effective July 1, 2009, the City formally withdrew from the CSMD and became responsible for all operations and maintenance of the sanitary sewer collection systems within the corporate limits of the City of Palmdale. On this date a new Sanitary Sewers and Industrial Waste ordinance (Title 13) became effective and established the City's legal authority for the sanitary sewer system. The Title 13 of the Municipal Code can be viewed at the City website at <http://www.codepublishing.com/ca/palmdale.html>.

City of Palmdale Municipal Code Title 13, establishes the City's current legal authority to operate and maintain the sewer system. The legal authorities for the specific areas stipulated in the Waste Discharge Requirements (WDR) are discussed below.

#### 3.2.1 Prevention of Illicit Discharges

City of Palmdale Code Chapter 8.04.600 adopted Chapters 2 to 15, inclusive, and Appendix Chapters A, B, D, G, I, and K of the California Plumbing Code (CPC), 2007 Edition, published by the International Association of Plumbing and Mechanical Officials and the California Building Standards Commission of the State of California and is further known as the Palmdale Plumbing Code (PPC). Chapter 1, Administrative Provisions, of the California Plumbing Code was altered and adopted as the Palmdale Plumbing Code, citing Palmdale City Code Chapter 8.04.630. The Palmdale Plumbing Code (referencing CPC 1101.2, 714, 303, 305, and 306) prohibits the unauthorized discharge of rain, surface or subsurface water into the collection system. The illegal dumping of offensive or damaging substances such as chemicals, debris, etc., which are considered inflows, are prohibited by the City Plumbing Code and by

Chapter 13.11, Industrial Waste Provisions and in Chapter 13.14 at a section titled “Illicit Discharge Prohibited”. In addition, Chapter 13.02 requires that property owners be responsible for maintenance of their house lateral, including the elimination of cracks, tree roots, and other debris.

### **3.2.2 Proper Design and Construction of Sewers and Connections**

Article III, Chapter 13.08, Sanitary Sewer - Permits, Fees, Design and Inspection Provisions, of Title 13 of the Palmdale Municipal Code establishes the legal authority for the City to require new developments and/or sewer connections to the public sewer be designed, constructed and inspected according to defined standards for all infrastructure. In addition, the Palmdale Municipal Code also requires that the design, construction, and inspection of building laterals and on-site facilities, respectively, be in conformity with requirements of Chapters 13.14, Sanitary Sewer Overflow Prevention Provisions and 8.04.600, the Palmdale Plumbing Code. Chapter 13.08 requires sanitary sewer plans shall meet the criteria specified in the City of Palmdale Engineering Guidelines. All new construction plans are required to be prepared by a registered civil engineer and submitted to the City for review and approval prior to construction. City staff inspects and assures conformance with approved plans prior to acceptance by the City for maintenance and operation.

### **3.2.3 Sewer Service Lateral (Laterals) Maintenance**

Palmdale Municipal Code Chapter 13.02, in the Section titled “Responsibility and Maintenance of Facilities” and Chapter 13.14 in the Section titled “House Lateral Maintenance” specifies all house laterals, industrial connection sewers, and appurtenances thereto shall be maintained by the owner of the property.

The property owner is responsible for laterals, however under Chapter 13.02, the City may inspect, as often as deemed necessary, every main-line sewer, industrial sewer connection, interceptor, or other similar appurtenance to ascertain whether such facilities are maintained and operated in accordance with the provisions of this ordinance. All persons shall permit and provide the City with access to all such facilities at reasonable times. Palmdale Plumbing Code Section 101.3.2 and 102.3 states existing building sewers and building drains may be used in connection with new buildings or new plumbing and drainage work only when they are found on examination and test to conform in all respects to the requirements governing new work, and the Plumbing Official shall notify the owner to make any changes necessary to conform to this PPC.

Palmdale Municipal Code Chapter 13.02 in Sections titled “Limitation and Notification of Uncontrolled Discharges Required” and “Notification of Uncontrolled or Slug Discharges Required”, specifies in the event of an uncontrolled discharge, the discharger or permittee shall immediately notify the City of the incident by telephone.

### **3.2.4 FOG and Other Debris Blockages**

The Palmdale Municipal Code, referencing Chapter 13.14, Sanitary Sewer Overflow Prevention Provisions, and Palmdale Plumbing Code (referencing California Plumbing Code Chapter 10, Section 1009, 1014, and 1015) gives the Building Official the authority to require the installation of treatment facilities, including grease interceptors, at any facility that generates FOG in the amount that will damage or increase the maintenance costs of the sewer collection system.

The Palmdale Plumbing Code (referencing CPC 306.0 et seq) and Palmdale Municipal Code referencing Chapters 13.11, Industrial Waste and 13.14, Sanitary Sewer Overflow Prevention Provisions prohibits the discharge of FOG and other substances that may, among other things, clog, obstruct, fill, or necessitate frequent repairs, cleaning out or flushing of sewer facilities, in the sewer system.

The Palmdale Municipal Code, gives the Director of Public Works or designee the legal authority to inspect main-line sewers, interceptors, laterals etc., as often as he deems necessary, to ascertain whether such facilities are maintained and operated in accordance with the Palmdale Municipal Code.

### **3.2.5 Enforcement Measures**

Under Palmdale Municipal Code Chapter 13.02.100 titled “Violation--Penalty- Continued Violations - Injunctive Relief” empowers the City through its Director of Public Works or their designees to enforce all requirements of Title 13 related to Sanitary Sewers and Industrial Waste. Under Palmdale Plumbing Code Chapter 8.04.200, violations of Palmdale Plumbing Code are enforceable by the Building Official or their designee and are punishable as set forth in Title 1 of the Palmdale Municipal Code. It shall constitute a new and separate offense for each and every day or portion thereof during which any violation of any of the provisions of this Palmdale Plumbing Code is committed, continued or permitted.

The Codes, standard plans, specifications and other materials cited in this chapter are filed in the office of the Director of Public Works.

## **3.3 Agreements with Other Agencies**

### **3.3.1 County Sanitation Districts of Los Angeles County**

The City is currently included inside the boundaries of County Sanitation District #20 and District #14 of Los Angeles County Sanitation District (LACSD), which has the direct responsibility for the transport and treatment of all wastewater discharged to the City’s sewer system pursuant to that agency’s Wastewater Ordinance.

### **3.3.2 Satellite Collection Systems**

The City of Palmdale has two areas located within the City of Palmdale service area that are served by Los Angeles County and flow into the City of Palmdale collection system. These areas are small and consist of a total of 8.44 miles of sewer. Because those County areas are also in LACSD #20 they must comply with LACSD’s discharge prohibitions. The City has entered into agreements with the County of Los Angeles that addresses the issues associated with the discharges into the City of Palmdale sewer system. In addition, the City utilizes a very small length of County lines to transport City sewage to the interceptor facilities. This use is also covered in the agreement with the County of Los Angeles.

## Chapter 4 Operations and Maintenance Program

This section of the SSMP presents the City's wastewater collection system operations and maintenance (O&M) program.

### 4.1 Regulatory Requirements for Operation and Maintenance Program Element

The summarized requirements for the Operations and Maintenance Program are:

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

### 4.2 Collection System Mapping

#### 4.2.1 Mapping

The City of Palmdale uses Geographic Information System (GIS) technology to create, maintain, and manage maps and data sets associated with its wastewater collection system facilities, storm drainage facilities, force mains, LACSD trunk sewers and adjacent agency sewers (Lancaster and CSMD). Location, pipe and manhole inventory data including length, diameter, material, rim/invert elevations, street address, and other information are maintained. Mapping and associated data is accessible through the City's Interactive MapGuide GIS site at the City of Palmdale website.

#### Updates to Existing Drawings

Field crews refer to hard copy maps that are produced using the GIS Section. Maps are updated through standard methods established by the GIS Section on an "as-needed" basis. Proposed corrections identified by field crews are communicated to the Engineering Division by submitting the GIS Data Update/Correction/Modification Form (see **Appendix 4-A**). The forms can be submitted via email or as an original. Forms are then scanned and saved to the City's server for archiving purposes.

Corrections considered as high-priority are handled as such. The result is updated map pages that are issued to required personnel within a 30-day window from the submittal date of the changes. Low priority corrections and new facilities are added to the master dataset and distributed either quarterly or yearly. This determination is based on the total number of corrections.

Hard-copy record drawings for LACSD trunk sewers, Palmdale's sewer mains, lift stations, and appurtenant facilities are available for viewing by the public at the Utilities Services Division counter. Scanned images of the sewer system record drawings and links to associated sewer facilities and data are accessible to selected staff via the City's Intranet-Interactive MapGuide Site.

#### 4.2.2 New Improvement Plan Drawings

Applicants are required to prepare and submit record drawings upon installation of newly constructed sewer mains, storm drains, and associated facilities. Drawings should be submitted in both hard copy and electronic format (i.e. GIS .shp file or AutoCAD .dwg file). The master data set is updated with record drawing information and distributed to required personnel per City operating procedures.

### 4.3 Preventive Maintenance

The elements of the City's wastewater collection system Operation and Maintenance Program include proactive, preventive, and corrective maintenance of gravity sewers, and periodic inspection and preventive maintenance of lift stations. The details of the City's O&M programs are described in this section. **Figure 4-1** provides a map of the City's sewer system by pipe age.

#### 4.3.1 Gravity Sewers

The City plans to proactively clean every pipe segment in the wastewater collection system at least once every 5 years of City operations. Pipes with historical maintenance issues are cleaned on a preventive maintenance schedule every 3, 6, 12, or 18 months. As the City begins to collect and analyze maintenance data collected during proactive and preventive cleaning the frequency of sewer cleaning will be adjusted to optimize the sewer cleaning. **Figure 4-2** provides a map of the City's sewer system and cleaning frequencies as of April 2009. The City has developed an in-house maintenance program and has taken on the responsibility for emergency response and general system cleaning.

Gravity sewer maintenance is currently scheduled using lists of Preventative Maintenance (PM's) sewers and collection system maps for system-wide cleaning. The City requires sewer maintenance crews to schedule and track sewer maintenance activities. At a minimum, the City requires the sewer maintenance crews to use a paper-based work order system to record completed work. The City maintenance crews deliver hard copies of completed work orders to office staff for entry into MMS. The City's paper work order form used for dispatching work and recording completed work is shown in **Appendix 4-B**.

An important aspect of the City's sewer cleaning program is to record cleaning results for each manhole-to-manhole pipe segment using code-based standard results (see **Appendix 4-C**). Those results then provide the basis for the Sanitary Sewer Collection System Supervisor to modify the frequency or method of cleaning for that pipe segment to reflect current field conditions. Follow-up video inspections and/or repairs are requested as needed by the Sanitary Sewer Collection System Supervisor. This process is shown on **Figure 4-3**. The standard cleaning results are shown in **Appendix 4-C** along with the criteria for changing cleaning frequencies.

The City uses in-house employees for close circuit television (CCTV) inspection to determine the primary causes of blockages and SSO events. The City's gravity sewer condition assessment program consists of visually inspecting gravity sewers using CCTV. **Figure 4-4** provides a map of the City's sewer system and CCTV inspection prioritization. The initial round of condition assessment will be completed over 10 years. As of June 30, 2013, the City has completed the televising of approximately 1,727,065 linear feet (327 miles) of the collection system since July 1, 2009. Future inspection frequencies will be based on the

conditions observed in the gravity sewers during the initial CCTV inspection and are shown in **Figure 4-5**.

As shown in **Figure 4-4**, pipes identified as “Priority 5” refer to pipes already inspected by CSMD during their 2007/2008 inspection program. The City recently completed the conditional assessment of the contracted CCTV inspections from 2009-2011, resulting in two repair projects. One totaling 975 linear feet, will excavate and repair the sewer mainline. The second involve trenchless repairs, totaling in 2,161 linear feet of sewer repair.

Re-inspection, repairs, and rehabilitation decisions will be based on the highest structural defect grade observed in initial inspections. Using the industry-standard Pipeline Assessment and Certification Program (PACP), all structural defects were assigned a condition grade from 1 to 5 as shown in **Table 4-1**. The City uses contract CCTV services for condition assessment and for follow-up on SSO and cleaning problem events.

**Table 4-1: CCTV Inspection Frequencies**

Condition	PACP* Structural Condition Grade	Inspection Frequency, Years
Excellent (no or minor defects)	0 or 1	20
Good (defects not yet deteriorating)	2	10
Fair (moderate defects)	3	7
Poor (defects deteriorating)	4	5
Immediate Attention	5	1 (until repaired or rehabilitated)

\* PACP refers to Pipeline Assessment and Certification Program which is the City's standard for CCTV inspection.

The City may assess the condition of the manholes and other structures using City field crews and visual inspection methods during its system-wide sewer cleaning. A sample manhole inspection form for use in collecting the condition data is included as **Appendix 4-D**.

The City's Sanitary Sewer Collection System Supervisor will review approximately 3% of the CCTV inspection services of its wastewater collection system to evaluate the condition assessment. This review of the CCTV inspection work will also provide QA/QC of the contractor's performance.

The City uses contractors for corrective maintenance on an as-needed basis, including during emergency events such as a structural deficiency resulting in a sewer stoppage or overflow. The Sanitary Sewer Collection System Supervisor maintains a list of known structural deficiencies. The list is maintained in priority order. Urgent priority structural deficiencies which may cause an SSO are corrected as soon as possible.

Figure 4-1: Sewer System by Pipe Age

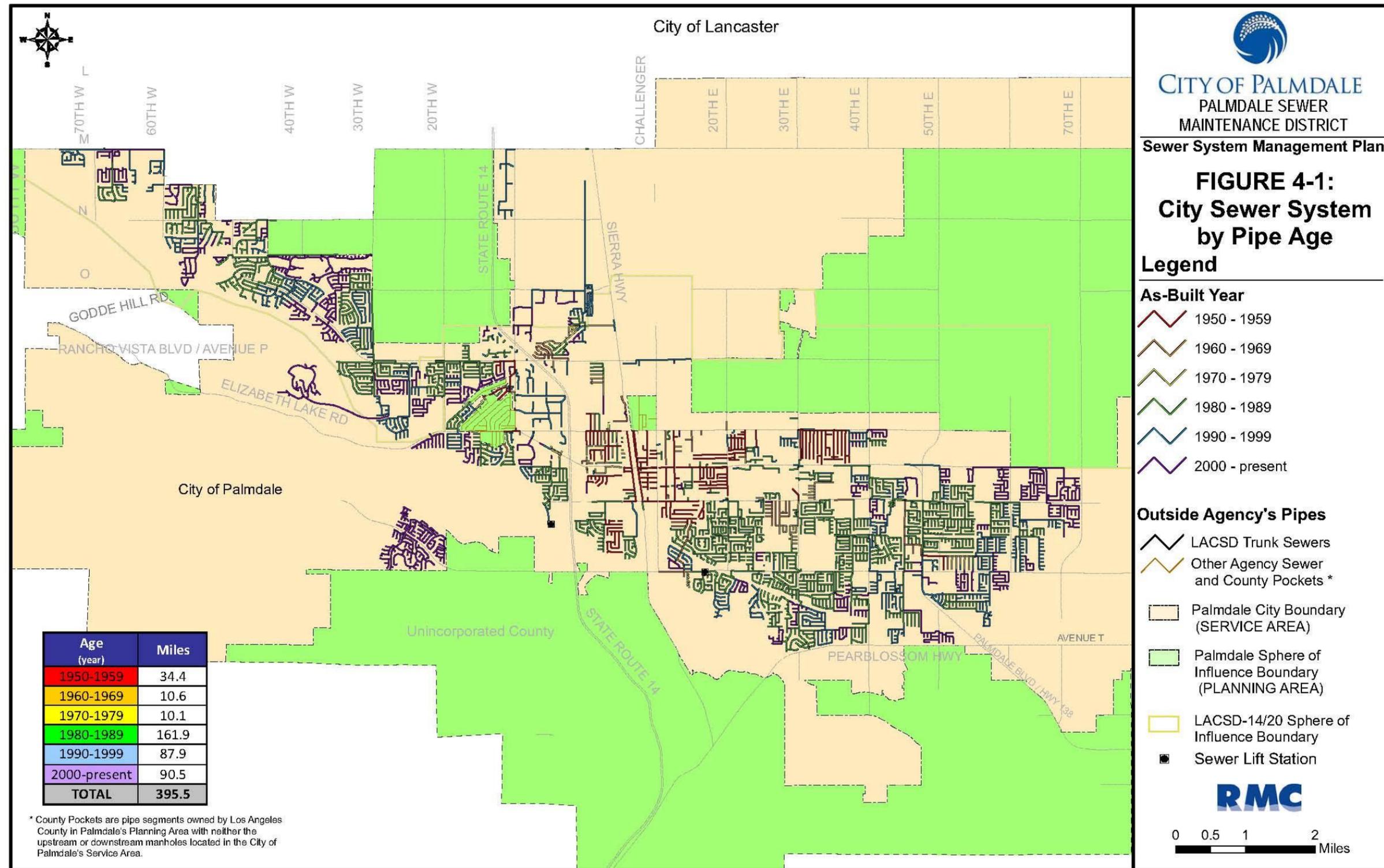


Figure 4-2: Sewer Cleaning Schedule Intervals Map

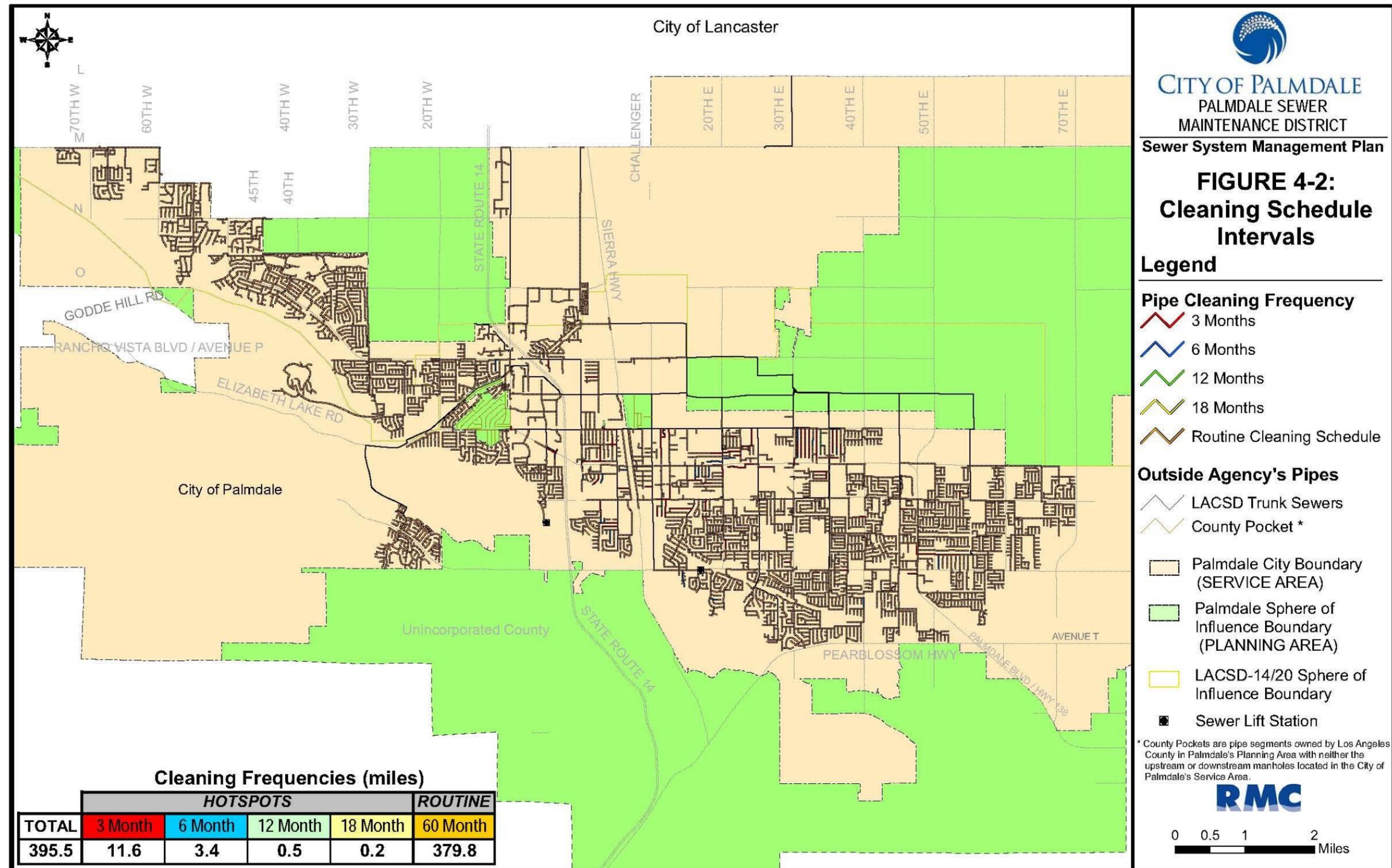
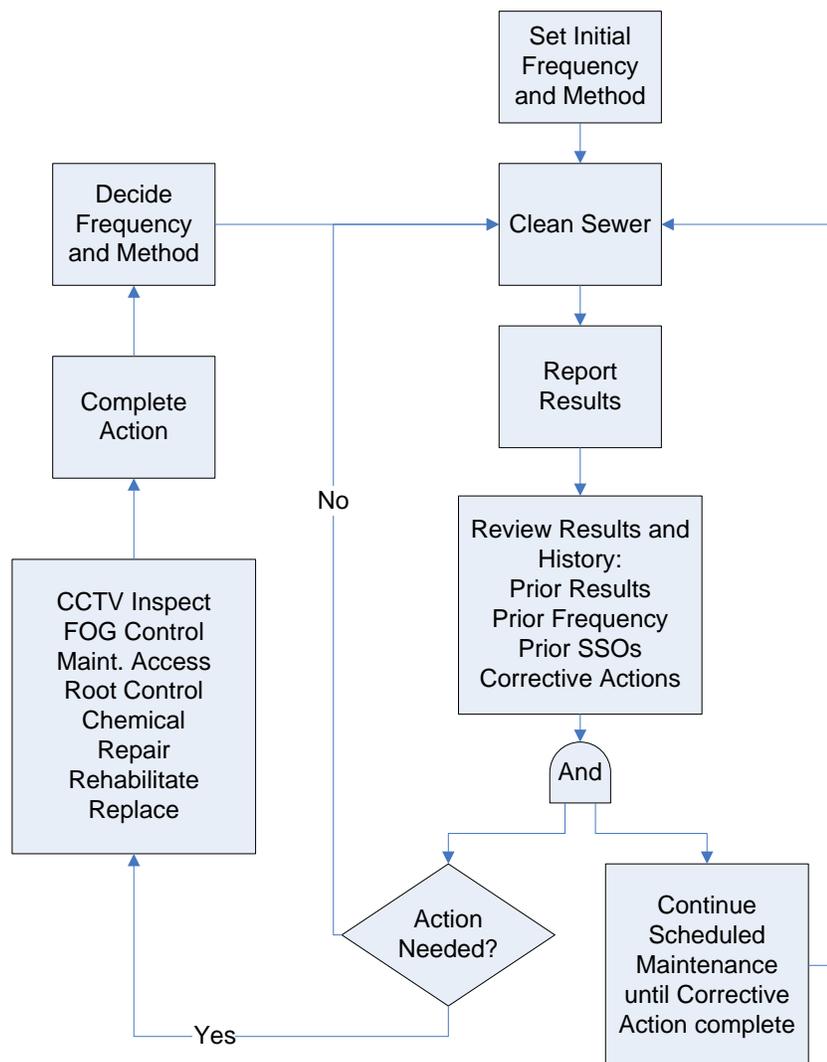


Figure 4-3: Sewer Cleaning Scheduling Flowchart



### 4.3.2 Lift Stations

The City contracts out operation and maintenance of its larger lift station on Avenue S to the CSMD. The City currently maintains the standby engine generator at this station. The contractor conducts operational inspections twice a week and the wet well is cleaned quarterly. Preventive maintenance for mechanical and electrical equipment is scheduled annually. Completed work is recorded using daily logs that are maintained by the contractor. The Avenue S lift station has an audible alarm and an auto-dialer which dials out to County Emergency Services Communication Center which will immediately contact the City’s Collection System’s Supervisor or the on duty call person.

The City contracts out operation and maintenance of its smaller lift station at Pelona Vista Park to the CSMD. The contractor conducts monthly operational inspections and the wet well is cleaned quarterly. Preventive maintenance for mechanical and electrical equipment is scheduled annually. Completed work is recorded using daily logs that are maintained by the contractor. The City provides operations and maintenance of the standby engine generator at this pump station. The Pelona Vista Park has an audible alarm and an external alarm light and an auto dialer transmitting basic failure alarms to the CSMD.

See **Appendix 4-E** for CSMD’s pump station inspection checklist.

Figure 4-4: Sewer CCTV Inspection Prioritization Map

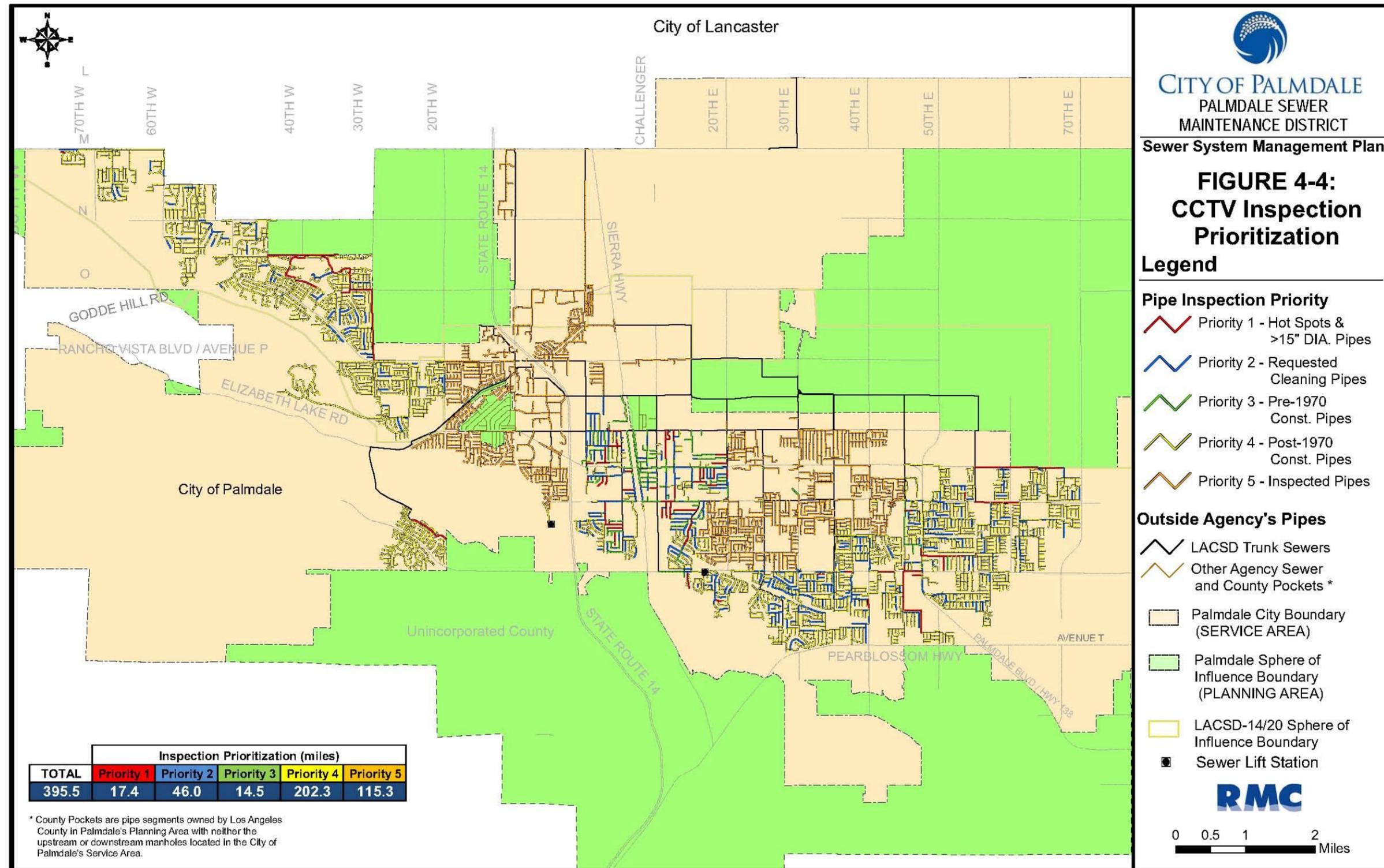
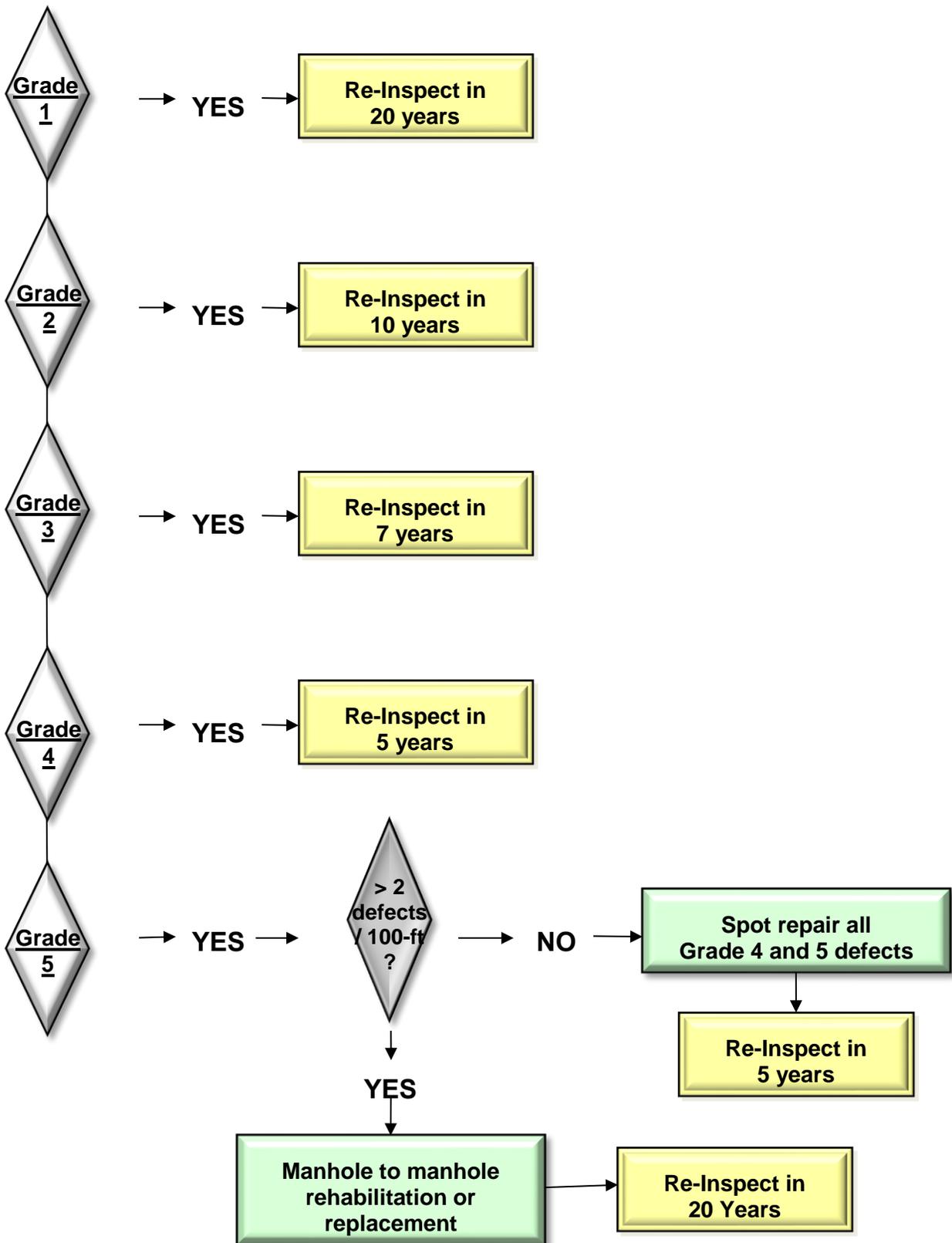


Figure 4-5: Flow Chart for Re-Inspection, Repair, and Rehabilitation Decisions



### 4.3.3 Force Mains

The City has included regular inspections of all force main alignments annually inspecting for visible signs of problems or concerns. In addition, the force main discharge manholes into the City gravity system are inspected with these annual evaluations for any signs of corrosion, plugging or other operation issues that indicate the need for maintenance activities. This City will be considering methods for internal inspections of these small force mains in the coming years.

## 4.4 Rehabilitation and Replacement Plan

The City's Rehabilitation and Replacement Program is driven by the condition of its sewer system assets. The City's Rehabilitation and Replacement Program is based on the initial condition assessment, including gravity sewers and lift stations, conducted by CSMD during 2008 and has completed the evaluation of the 729,000 linear feet of CCTV evaluations conducted from 2009-2011.

### 4.4.1 Gravity Sewers

Approximately 62 miles of the City's collection system were inspected and assessed by CSMD during 2008<sup>1</sup>. Using the industry-standard PACP, all structural defects were assigned a condition grade from 1 to 5 (see **Table 4-1**). The results, in terms of most severe defect found in each pipe, are shown in **Table 4-2**. The small portion (0.4%) of gravity sewers with at least one grade 4 or grade 5 defect suggest that the City's gravity sewers are in good condition. A summary of the grade 4 and grade 5 defects from the initial inspection is shown in **Table 4-3**. Quick Structural Rating (QSR) is a method of rating the structural condition of an inspected pipe based on the grades (severity) of the defects found. This rating is later refined as a Grade 4 or Grade 5 defect. **Table 4-4** provides an extrapolation of these structural defects based on the age of the pipe to the entire system. This analysis concludes that there is still only a small portion (1.4%) of gravity sewers with at least one grade 4 or grade 5 defect; this still suggests that the City's gravity sewers are in good condition (see **Table 4-1**).

**Table 4-2: Inspected Pipes Structural Grades**

Year Constructed	0	1	2	3	4	5	Totals (ft)	Totals (miles)	% of Inspections	% of all pipes in age category
1950-1959	20,071	2,890	6,613	17,999	648	0	48,221	9.1	14.8%	26.5%
1960-1969	13,782	350	309	0	0	0	14,441	2.7	4.4%	25.8%
1970-1979	14,632	774	0	280	0	0	15,686	3.0	4.8%	29.3%
1980-Present	238,117	4,473	3,392	1,453	462	206	248,103	47.0	76.0%	13.8%
<b>Totals (ft)</b>	<b>286,603</b>	<b>8,487</b>	<b>10,313</b>	<b>19,732</b>	<b>1,110</b>	<b>206</b>	<b>326,451</b>	<b>61.8</b>	<b>100.0%</b>	<b>15.6%</b>
<b>Totals (miles)</b>	<b>54.3</b>	<b>1.6</b>	<b>2.0</b>	<b>3.7</b>	<b>0.2</b>	<b>0.0</b>				
<b>% of all inspected pipe</b>	<b>87.8</b>	<b>2.6</b>	<b>3.2</b>	<b>6.0</b>	<b>0.3</b>	<b>0.1</b>				

<sup>1</sup> CSMD has inspected an additional 40-60 miles of Palmdale sewer in 2009. No data is available from these inspections as of the date of the final preparation of this document. CSMD did line the most severe sections prior to withdrawal.

**Table 4-3: Summary of Grade 4 and Grade 5 Defects from Initial Inspections**

Upstream Manhole ID	Downstream Manhole ID	Location	Diameter (in)	Length (ft)	QSR	No of Grade 5 Defects	No of Grade 4 Defects	Grade 4/5 Defects per 100 ft	Year Constructed	Major Defects
2048-0346	2048-0347	JANUS DR	8	348	4100	0	1	0.29	1987	Broken
1994-0129	1994-0128	31 <sup>ST</sup> ST E	8	325	4132	0	1	0.31	1953	Fracture Multiple, 2 Crack Multiple
1994-0170	1994-0168	POND AV	8	22	4100	0	1	4.46	1955	Fracture Multiple
1994-0179	1994-0183	AVE Q-4	8	300	4133	0	1	0.33	1955	Fracture Multiple, 3 Crack Multiple
1995-0563	1995-0508	APRICOT DR	8	206	5100	1	0	0.49	1988	Broken - Soil Visible
1995-0455	1995-0463	AVE R-3	8	115	4100	0	1	0.87	1982	Fracture Multiple

41 pipes out of 1346 inspections were reviewed. Included all pipes with Grade 4 or 5 structural defects, and sampling of work by each of five inspectors.

Operators only correctly logged about 60% of the defects, but all Grade 4 and 5 structural defects were correctly identified and logged.

Two defects coded as Grade 3 (multiple cracks) should have been Grade 4 (multiple fractures); out of six Grade 3 defects reviewed.

Maintenance defects (roots, grease, sags) were rarely logged.

Recommend: Review all Grade 3 structural defects (about 120) to make sure they are not actually Grade 4 or 5 defects

**Table 4-4: Structural Grades for Entire System (Extrapolated)**

Year Constructed	Maximum Structural Grade						Totals (ft)	Totals (miles)	% of System
	0	1	2	3	4	5			
<b>1950-1959</b>	75,681	10,898	24,933	67,867	2,442	0	181,821	34.4	8.7%
<b>1960-1969</b>	53,379	1,356	1,197	0	0	0	55,931	10.6	2.7%
<b>1970-1979</b>	49,922	2,640	0	956	0	0	53,517	10.1	2.6%
<b>1980-Present</b>	1,724,795	32,398	24,568	10,527	3,349	1,489	1,797,126	340.4	86.1%
<b>Totals (ft)</b>	1,903,777	47,291	50,698	79,350	5,791	1,489	2,088,395	395.5	100.0%
<b>Totals (miles)</b>	360.6	9.0	9.6	15.0	1.1	0.3			

Future gravity sewer condition assessment will be based on CCTV inspection and the remaining gravity sewers that were not included in the 2008 CCTV Inspection Program<sup>2</sup> will be inspected over the next year. It is anticipated that the full system will have been televised by the end of 2015. The City is currently contracting for professional assistance to evaluate these televised lines and will be training City staff to be able to conduct PACP evaluations in the future.

The City will re-evaluate its priorities for gravity sewer repair and rehabilitation projects following completion of the full system assessment. The City will address the highest priority repair and rehabilitation projects during subsequent annual capital improvement programs with the goal of completing the highest priority projects within appropriate timeframes.

#### 4.4.2 Lift Stations

The City has conducted annual inspections of its lift stations. These inspections will continue and have resulted in the development of a list of deficiencies at the Avenue S Station that will be considered for inclusion in the City Capital Improvement Program. Condition assessment have followed the Lift Station Condition Assessment Checklist provided in **Appendix 4-F**.

#### 4.4.3 Capital Improvement Program

The sewer system rehabilitation and replacement projects will be included in the City's Ten Year Capital Improvement Program (CIP). The annual expenditures for the City's CIP, which totals \$3.7 million for wastewater collection system rehabilitation and replacement (in 2008 dollars), are shown by program in **Table 4-5**.

<sup>2</sup> CSMD is currently inspecting an additional 40-60 miles of Palmdale sewer in 2009. No data is available from these inspections to date. Once data is available, the City's inspection program will be updated. CSMD did line the most severe sections prior to withdrawal.

**Table 4-5: FY 2009/10 – FY 2013/14 Five Year Capital Improvement Program**

Program	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	TOTAL
New Manholes/Replacement	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000	<b>\$375,000</b>
Pipeline Renewal/Replacement	\$600,000	\$600,000	\$600,000	\$600,000	\$600,000	<b>\$3,000,000</b>
Engineering Consultant	\$284,000	-	-	-	-	<b>\$284,000</b>
<b>TOTAL</b>	<b>\$959,000</b>	<b>\$675,000</b>	<b>\$675,000</b>	<b>\$675,000</b>	<b>\$675,000</b>	<b>\$3,659,000</b>

Footnote: (1) All costs in 2008 dollars.

The funds that support the Capital Improvement Program come from the City's Sewer Fund. The Sewer Fund is an enterprise fund that includes Sewer Service Charges, Capacity Fees, and interest. Sewer Service Charges are periodically reviewed and set based on identified capital improvement needs.

## 4.5 Training Program

### 4.5.1 City Staff

The City uses a combination of on-the-job training, conferences, seminars, and other training opportunities to provide technical training for its wastewater collection system staff. Vendors provide training for new equipment. The Palmdale Utilities Services Division budget includes funds for technical training. The sources of technical training and training materials for the City's wastewater collection staff are listed in **Table 4-6** and

**Table 4-7.**

**Table 4-6: Training Resources (Conferences, Seminars, and Courses)**

Sponsor	Event	Timeframe	References
California Water Environment Association	State Conference	April	www.cwea.org
	Southern Regional Safety Conference	May	
	Southern Collection Systems Committee	Quarterly	
Southern California Alliance of Publicly Owned Treatment Works	Collection System Committee	Quarterly	www.scap1.org
Tri-State Conference	Annual Conference	September	www.tristateseminar.com
Cuyamaca College, El Cajon	On-Campus Courses		www.cuyamaca.edu/wwtr/courses.asp
UC Riverside Extension	Certification Exam Review Course ENSC 814.3		www.extension.ucr.edu/

**Table 4-7: Training Resources (Materials)**

Sponsor	Materials	Reference
California State University, Sacramento	Videos, manuals, home study courses	www.owp.csus.edu

Other potential sources of training include the Los Angeles Chapter of the American Public Works Association and the Southern California Chapter of the Maintenance Superintendents Association. In addition, the Water Environment Federation provides specialty conferences on collection system operations, webinars and publications that support sewer system education and training.

Individual training records are maintained by the Palmdale Utilities Services Division and City's Department of Human Resources using spreadsheets.

The City's Sanitary Sewer Collection System Supervisor classification identifies possession of a Grade III Collection System Maintenance Technologist Certificate issued by the California Water Environment Association (CWEA) as highly desirable.

## 4.6 Equipment and Parts Inventory

The City has determined that there are no critical replacement parts at this time in their sewer collection system. All lift stations can be bypassed if needed and replacement parts are maintained by the contractor, CSMD.

Appendix 4-A: Sample GIS Update/Correction Form

Sewer GIS Update/Correction/Modification REPORTING FORM	City Tracking # XX-XX-XXXX
---	----------------------------

LOCATION AND DATA DETAILS:

Map Number(s) \_\_\_\_\_

Data Layer	Water <input type="checkbox"/>	Street Signs <input type="checkbox"/>	Trash Pick-up <input type="checkbox"/>
	Sanitary Sewer <input type="checkbox"/>	Fiber Optics <input type="checkbox"/>	Centerline Ties <input type="checkbox"/>
	Storm Drain <input type="checkbox"/>	SCE Poles <input type="checkbox"/>	Traffic Counts <input type="checkbox"/>
	Parcels/Address <input type="checkbox"/>	Street Sweeping <input type="checkbox"/>	Easements <input type="checkbox"/>
	Streets <input type="checkbox"/>		Other <input type="checkbox"/>

Location: Street Address: \_\_\_\_\_  
 Nearest Cross Street: \_\_\_\_\_

Date of Field Verification: \_\_\_\_\_  
 Attached Information  Hand Drawn Sketch  
 Original As-Built  
 Atlas Map Sheet  
 Other: \_\_\_\_\_

Recommended Priority for Change:  Normal (3 months)  
 High (60 days)

Correction/Update/Modification: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Reporting Party:  
 Name: \_\_\_\_\_ Phone Number: \_\_\_\_\_  
 Department: \_\_\_\_\_ Email: \_\_\_\_\_  
 Division: \_\_\_\_\_ Date Submitted: \_\_\_\_\_

Comments/Suggestions: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Forward this form to: GIS Section, City of Palmdale, x5300  
[GIS\\_helpdesk@cityofpalmdale.org](mailto:GIS_helpdesk@cityofpalmdale.org)  
 Date of GIS Revision: \_\_\_\_\_  
 Revision by: \_\_\_\_\_  
 File Location: \_\_\_\_\_

## Appendix 4-B: Sewer Cleaning Work Order Form

**City of Palmdale  
Gravity Sewer Maintenance**

**Work Order Date:** \_\_\_\_\_ **Work Order #:** \_\_\_\_\_

**Crew Members:** \_\_\_\_\_

**REASON FOR MAINTENANCE:** CCTV  PM  Service Call  Other: \_\_\_\_\_

**US Map Sheet #:** \_\_\_\_\_ **DS Map Sheet #:** \_\_\_\_\_

**Upstream Manhole:** \_\_\_\_\_ **Downstream Manhole:** \_\_\_\_\_  
 USMH Depth: \_\_\_\_\_ feet DSMH Depth: \_\_\_\_\_ feet

**Indicated:** Length: \_\_\_\_\_ feet Size: \_\_\_\_\_ inches Pipe Material: \_\_\_\_\_  
**Actual:** Length: \_\_\_\_\_ feet Size: \_\_\_\_\_ inches Pipe Material: \_\_\_\_\_

Nearest Address: \_\_\_\_\_ (Downstream Structure)

Location Notes: \_\_\_\_\_ (e.g. Alley, Easement, Traffic)

Other Notes: \_\_\_\_\_

**Cleaning Results: (Check appropriate box(s))**

Type of Material	Clear 1	2	3	4	Heavy 5	Not Rated 0
Debris (sand grit, rock)						
Grease						
Roots						
Vermin						Rat/Roach/Other
Other						

**Recommended Maintenance Actions:**

Cleaning Frequency: 3 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/> 12 <input type="checkbox"/> 18 <input type="checkbox"/> 60 <input type="checkbox"/> months	
Repair Required? Yes <input type="checkbox"/> No <input type="checkbox"/>	Manhole Inspection Required? Yes <input type="checkbox"/> No <input type="checkbox"/>
Root Control Required? Yes <input type="checkbox"/> No <input type="checkbox"/>	CCTV Required? Yes <input type="checkbox"/> No <input type="checkbox"/>

**Comments:**

\_\_\_\_\_

**Completed by:** \_\_\_\_\_ **Date Completed:** \_\_\_\_\_ **Signature:** \_\_\_\_\_

Supervisor Review: _____	Date: _____	Data Entry: _____	Date: _____
--------------------------	-------------	-------------------	-------------

## Appendix 4-C: Standard Measures of Observed Results

Next to cleaning the sewer line, effective observation of results is the most important work product of the field crew. The information they provide is the basis for defining future maintenance activities. Consistency is important. The standards for “results” for small diameter <sup>a</sup> (six- and eight-inch) sewers are:

	Clear	Light	Moderate	Heavy
<b>Debris/Grit</b>	<b>Code: CL</b> No observable debris or grit	<b>Code: DL</b> Minor amount of debris 15 minutes or less to clean 1 pass	<b>Code: DM</b> Less than 5 gallons of debris 15-30 minutes to clean 2-3 passes required Requires cleaning twice or less per year Only fine grit	<b>Code: DH</b> More than 5 gallons of debris More than 30 minutes to clean More than 4 passes required Requires cleaning four times per year Operator concern for future stoppage
<b>Grease</b>	<b>Code: CL</b> No observable grease	<b>Code: GL</b> Minor amounts of grease 15 minutes or less to clean 1pass	<b>Code: GM</b> Small chunks/no “logs” 15-30 minutes to clean 2-3 passes required Requires cleaning twice or less per year	<b>Code: GH</b> Big chunks/”logs” More than 30 minutes to clean More than 4 passes required Operator concern for future stoppage
<b>Roots</b>	<b>Code: CL</b> No observable roots	<b>Code: RL</b> Minor amounts of roots 15 minutes or less to clean 1 pass	<b>Code: RM</b> Thin/stringy roots present No large “clumps” 15-30 minutes to clean 2-3 passes required	<b>Code: RH</b> Thick roots present Large “clumps” More than 30 minutes to clean More than 4 passes required Operator concern for future stoppage
<b>Other</b>	<b>Code: CL</b> No observable materials	<b>Code: OL</b> Specify material Minor amounts of material	<b>Code: OM</b> Specify material Less than 5 gallons of material	<b>Code: OH</b> Specify material More than 5 gallons of material Operator concern for future stoppage
<b>Criteria</b>	Decrease maintenance frequency to next lower frequency after 2 consecutive CL results (with supporting CCTV results)	Continue maintenance frequency	Increase maintenance frequency to next higher frequency	Increase maintenance frequency to next higher frequency

Footnote: (a) Times shown are for typical manhole to manhole distance of 250 feet. Longer runs will require longer cleaning times. Judgment will need to be applied by the field crews for varying lengths and pipe diameters.

## Appendix 4-D: Sample Manhole Inspection Form

### Manhole Inspection Form

Manhole ID# \_\_\_\_\_ Date: \_\_\_\_\_ Crew: \_\_\_\_\_

Manhole Type: Regular Shallow End Drop Other: \_\_\_\_\_

Manhole Address and Street Name: \_\_\_\_\_

1<sup>st</sup> Cross Street: \_\_\_\_\_

2<sup>nd</sup> Cross Street: \_\_\_\_\_

Drainage District: Portal Ridge Amargosa Anaverde Pearland

Manhole Located in Intersection? Yes No

Manhole Located in Easement? Yes No

Manhole Material : Concrete Brick

Manhole Depth: \_\_\_\_\_

Reason for Inspection: PM Complaint Other: \_\_\_\_\_

Recommended Re-inspection: 3  6  12  18  60

PM Priority 1  2  3  4  5  6  Not Rated

Conditional Assessment: check appropriate box(s)

	Clear 1	2	3	4	Heavy 5	Not Rated 0
Structural						
Joints						
Debris						
Grease						
Roots						
Infiltration						
Odor						
Vermin						
Surcharge						

## Appendix 4-E: CSMD Pump Station Inspection Checklist

### **PUMP STATION INSPECTION** Maintenance description and frequency 4/3/03

#### Twice Weekly

1. Check / clean exterior grounds of station. (Keep free of weeds, debris, trim bushes etc.)
2. Clean interior of station. (Floor, equipment etc. - do not leave rags, paper, cans, parts laying on floor or stairway. Store spare parts etc. on shelving or in cabinets.)
3. Inspect equipment in station. (Check for leaky valves, plugged or damaged pump drain lines, leaking packing. Visually inspect electrical components, check controls when units run for alternation and standby operation. Check pumps and motors for excessive heat, vibration or noise. Assure that vent lines are clear. Are discharge check valves functioning properly?)
4. Check bubbler system. (Check output pressure of duty and standby pumps. Verify duty and standby levels.. Assure that lines are not plugged. Replace discolored or deteriorated tubing.)
5. Record hour meter readings on Operation Maintenance Records.
6. Check station ventilation system. (Dry pit and valve vault ventilators should run continuously. - EXCEPT DURING ENERGY SHORTAGE. Wet well ventilators should always be left on.)
7. Inspect and run sump pump (Clean sump hole as needed)
8. Inspect air compressor (Compressors should run continuously - EXCEPT DURING ENERGY SHORTAGE. Run compressors as required to control odor and sulfides. Check compressor operation and pressure relief valves.)
9. Make note of repair work needed and turn in to your Supervisor. Take immediate corrective action on any condition that may cause a station malfunction.
10. Check alarm system (Check for telephone dial tone each inspection day. Test zone sensors and least monthly.)

#### Weekly

1. Inspect and test run generator (Check fluid levels, fuel, batteries and charger. Record on Generator log sheet and note on Operation Maintenance Record)

### **PUMP STATION INSPECTION (CONT)**

2. Test drywell rotofloat that takes pumps out of service if drywell floods. Record on Operation Maintenance Record.
3. Wash wetwell and wetwell walls weekly and record on the station Operation Maintenance Records. Confirm that pump vent lines are clear
4. Test for sulfides at wetwell and discharge manhole of stations discharging to Sanitation District lines or where compressor use has been curtailed for energy conservation. Record findings. Take corrective action if readings are high.

#### Monthly

1. Record station voltage on station Operation Maintenance Record
2. Service air compressor (Check air delivery rate, on/off settings, oil level, belts and guards. Service as necessary. Record on station Operation Maintenance Record.
3. Calculate average daily run time and record on station Operation Maintenance Record.
4. Check piping and fittings for leaks or deterioration and record on station Operation Maintenance Record.
5. Exercise circuit breakers and record on station Operation Maintenance Record.
6. Check all hold-down bolts for tightness ( If loose bolts are found, check alignment of equipment.)
7. Test for sulfides at wetwell and discharge manhole of all stations not covered by weekly testing

#### Quarterly

1. Exercise all gate and ball valves (Note the date exercised, number of valves exercised and the condition of valves. Record on station Operation Maintenance Record.)
2. Inspect / clean / repair magnetic starters and record on station Operation Maintenance Record.
3. Take motor voltage and ampere readings while units are running and record data on station Operation Maintenance Record.

4. Megger motors and record on Operation Maintenance Record.
5. Check control panel for loose electrical connections
6. Inspect ejectors (clean pots and/or electrodes as needed.)
7. Check aeration vaults. (Verify that air is being injected into the force main.)
8. Check / clean vacuum or air release valve for proper operation.

#### Reminders

- In comments area of the pump station monthly Operation Maintenance Record, record any service requests, pumps/motors taken out of service, or any repairs made at the station. Include any other information regarding station equipment which another maintenance person should be aware of. Use appropriate Lock Out / Block Out procedures and warning signs.
- Do not leave rags, tools, parts, electrical components, nuts, bolts, etc laying on floor or stairways. Keep floor clean of oil, grease and debris. Replace any lights that are not working. Use trash can with top for storing rags in station.
- Turn in monthly Operation Maintenance Records the first Wednesday of each month to your supervisor. Sign and date the Operation Maintenance Record.
- There should be sufficient lighting in pump stations at all times. Replace light bulbs, tubes or fixtures as needed. Underground stations are to have switching on entrance hatch to turn lights on when hatch is open.
- If station needs painting, turn in a Paint Request Form to supervisor.
- When re-packing a pump, inspect shaft sleeve and replace if necessary.
- Check wet wells or inlet manholes for any indication of abnormally high water level (grease line, paper on steps etc.) Investigate to determine probable cause if indications are found. Wash away such debris so that their presence serves as a trouble indicator next time.

**TAKE PRIDE IN THE APPEARANCE OF YOUR ASSIGNED PUMP STATIONS.  
LEAVE THE STATION AND GROUNDS AS CLEAN AS POSSIBLE.**

## Appendix 4-F: Lift Station Condition Assessment Checklist

Inspection Information	
Inspection date	
Inspection participants	
Facility name	
Facility address	
Comments	

Background Information (Prior 12 Months)	
SSOs	
Equipment failures	
Alarm history (attach copy)	
Major maintenance activities (attach list if applicable)	
Pending work orders (attach copies)	
Operating problems (attach copy of operating log)	
Comments	

Security Features	
Fence and gate	
External lighting	
Visibility from street	
Doors and locks	
Intrusion alarm(s)	
Signs with emergency contact information	
Other security features	
Comments	

Safety Features and Equipment	
Signage (confined space, automatic equipment, hearing protection, etc.)	
Fall protection	
Emergency communication	
Equipment hand guards	
Hand rails and kickboards	
Platforms and grating	
Tag out and lock out equipment	
Hearing protection	
Eye wash	
Chemical storage	
Comments	

External Appearance	
Fence	
Landscaping	
Building	
Control panels	
Other external features	
Comments	

Building/Structure	
PS building	
Control room	
Dry well	
Wet well	
Other structures	
Comments	

Instrumentation and Controls (including SCADA Facilities)	
Control panel	
Run time meters	
Flow meter	
Wet well level	
Alarms	
SCADA	
Other instrumentation and controls	
Comments	

Electrical and Switch Gear	
Power drop	
Transformers	
Transfer switches	
Emergency generator and generator connection	
Starters	
Variable frequency drives	
Electrical cabinets	
Conduit and wireways	
Other electrical	
Comments	

Motors	
Lubrication	
Insulation	
Operating current	
Vibration and alignment	
Other	
Comments	

Pumps	
Lubrication	
Vibration and alignment	
Seals	
Indicated flow and discharge pressure	
Shutoff head	
Corrosion and leakage evidence	
Drive shaft	
Other	
Comments	

Valves and Piping	
Valve operation	
Valve condition	
Pipe condition	
Pipe support	
Other	
Comments	

Other	
Lighting	
Ventilation	
Support systems (air, water, etc.)	
Signage	
Employee facilities	
Sump pump	
Overhead crane	
Portable pump connections	
Portable pumps	
Comments	

## Chapter 5 Design and Performance Provisions

This section of the SSMP discusses the City's use of established guidelines, standards and specifications for design, construction, rehabilitation, repair and inspection of sanitary sewer systems and appurtenances.

### 5.1 Regulatory Requirements for the Design and Performance Provisions Element

The requirements for the Design and Performance Provisions element of the SSMP are summarized below:

- (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.

### 5.2 Design & Construction Standards and Specifications Documents

The City uses established guidelines for design and construction of new sanitary sewers, pump stations and appurtenances. The following is a summary of documents used by the City as design and construction standards and specifications.

#### 5.2.1 City Code Chapter 13.04 (Sanitary Sewers and Industrial Waste)

The City does rely on Title 13, Sanitary Sewer and Industrial Waste in the Palmdale Municipal Code. Chapter 13.08, Sanitary Sewers includes all permitting, design, construction, inspection and acceptance requirements that all developers will be required to meet prior to acceptance by the City for operations and maintenance. This chapter includes the adoption by reference of the City of Palmdale Engineering Design Standards in Article III, Design Standards, which will include minimum standards for pipeline diameters, slope, flow velocity, manhole designs, house laterals, pipe materials and pump station standards. Article IV of Chapter 13.08, Inspection will specify inspection and construction provisions for all new sanitary sewer infrastructure to be installed and dedicated to the City.

#### 5.2.2 Los Angeles County Department of Public Works Private Contract Sanitary Sewer Procedural Manual (Revised 1987)

Los Angeles County's *Private Contract Sanitary Sewer Procedural Manual* sets forth the standards for the preparation and processing of plans of sanitary sewers to be constructed under a private contract. This document establishes design requirements for house laterals, trench backfill and compaction. This document also provides standard charts and standard drawings of house laterals, manholes, minimum trench widths and bedding materials.

#### 5.2.3 Los Angeles County Department of Public Works Guidelines for Wastewater Pump Station Design and Plan Submittal Procedures (June 2005)

Los Angeles County's *Guidelines for Wastewater Pump Station Design and Plan Submittal Procedures* recommends minimum acceptable design and plan submittal requirements for wastewater pump stations. This document establishes plan requirements and calculation requirements for structural elements, estimates of flows, wet well design, head and surge, force main, noise, ventilation, and sizing of major pieces of equipment. Detailed design criteria are defined for wet wells and dry wells, force mains, valve vaults, access hatches, electrical and controls, pumps and motor, valves, emergency generators, air compressors, buildings and canopy and protective coatings. This document also specifies requirements for

plan submittal, inspection, testing, record drawings, and acceptance (dedication), which would be included in the Contract Drawings and Special Provisions for sewer projects.

#### **5.2.4 Standard Specifications for Public Works Construction**

The Standard Specifications for Public Works Construction written by Public Works Standards, Inc., also known as the *Greenbook*, provides specifications that have general applicability to public works projects. Part 1 of the *Greenbook* specifies general provisions for construction. Parts 2 through 4 of the *Greenbook* specify requirements for construction materials, construction methods and inspection and testing procedures, which apply to pipelines (pressure and gravity), earthwork, structural work, electrical components (for pump station work) and coatings. Part 5 of the *Greenbook* specifies materials, construction methods and inspection and testing procedures for rehabilitation projects, including pipeline rehabilitation through point repairs and various liners, and manhole/structure rehabilitation.

Construction requirements for site improvements, structural, basic electrical work and earthwork for pump stations are covered in the *Greenbook*. Construction requirements for mechanical equipment, buildings, valves, backup power, and other special equipment are project-specific and would be covered in the Contract Drawings and Special Provisions.

#### **5.2.5 Standard Plans for Public Works Construction and City Standard Plans**

The *Standard Plans for Public Works Construction* is a compilation of standard plans for use in conjunction with the *Greenbook* standard specifications. Section 2 includes standard plans (details) for sewers and sanitation, including manholes/structures and pipe and appurtenances. The *City Standard Plans*, which are included as part of the *Engineering Design Guidelines Policies and Procedures*, contain pipeline trench details.

### **5.3 Inspection and Testing Procedures**

Inspection, testing and acceptance criteria for sanitary sewers, force mains, manholes and lateral connections are specified in Article IV of Chapter 13.08, and the *Greenbook*, as described above. The documents include requirements for submitting record drawings and cleaning requirements; testing of sewer lines and manholes; soils testing; inspection of structure excavations; and backfill compaction testing.

## Chapter 6 Overflow Emergency Response Plan

The purpose of the Overflow Emergency Response Plan (OERP) is to support an orderly and effective response to Sanitary Sewer Overflows (SSOs). This plan provides guidelines for the City to follow in responding to, cleaning up, and reporting SSOs that may occur within the City's service area.

### 6.1 Regulatory Requirements

#### 6.1.1 WDR Requirements for the Overflow Emergency Response Plan

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

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

### 6.2 Goals of the Overflow Emergency Response Plan

The City's goals with respect to responding to SSOs are:

- Work safely;
- Respond quickly to minimize the volume of the SSO;
- Eliminate the cause of the SSO;
- Contain the spilled wastewater to the extent feasible;
- Prevent sewage system overflows or leaks from entering the storm drain system or receiving waters to the maximum extent practicable;
- Minimize public contact with the spilled wastewater;
- Mitigate the impact of the SSO; and
- Meet the regulatory reporting requirements.

## 6.3 SSO Detection

The processes that are employed to notify the City of the occurrence of an SSO include: observation by the public, receipt of an alarm, or observation by City staff during the normal course of their work.

### 6.3.1 Public Observation and Emergency Communications

Public observation is the most common way that the City is notified of blockages and spills. Contact information for reporting sewer spills and backups is in the phone book and on the City's website at [www.CityofPalmdale.org](http://www.CityofPalmdale.org).

#### 6.3.1.1 Normal Work Hours

The City's normal working hours are Monday through Thursday from 7:30 a.m. to 6:00 p.m., except holidays. When a report of a sewer spill or backup is made, the City's Maintenance Center staff receives the call at (661) 267-5338, takes the information from the caller and communicates it to the Sanitary Sewer Collection System Supervisor who responds to the site and/or dispatches a field crew. Emergency calls received by Fire Department or Police Department Dispatch, 911 Emergency, City Hall Main Office Administration, or other City Services offices are routed to the City's Utilities Services Division.

#### 6.3.1.2 After Hours

All after-hours emergency calls to the City's Utilities Services Division and the City's Main Office are routed to a contract answering service. This service takes the information from the caller and communicates it to the City's On-Call Duty Phone Person via cell phone who responds to the site and investigates the SSO. The home and/or cell telephone numbers of all City staff are on file and available for use in contacting them during emergencies.

A listing of contact information related to sewage spill response for neighboring and downstream agencies is provided in **Appendix 6-A**. Information from the emergency call is recorded on the Sanitary Sewer Problem Report Form (**Appendix 6-B**).

#### 6.3.1.3 Web Based Notification

The City has established a web-based application titled MyWasteApp for the reporting of sanitary sewer problems and sanitary sewer overflows. The customer can access the application at the City website ([www.cityofpalmdale.org/departments/publicworks/environmental.html](http://www.cityofpalmdale.org/departments/publicworks/environmental.html)). Customers can also submit a work order or service request by completing an online form available at the city's website ([http://www.cityofpalmdale.org/departments/publicworks/maintenance\\_sewer.asp](http://www.cityofpalmdale.org/departments/publicworks/maintenance_sewer.asp)). Emergency response staff immediately receive email notification of the request via a "smart phone".

### 6.3.2 Lift Station Alarms

There are two pump stations in the system and one pump station not in operation. The City's Avenue S lift station is equipped with a Supervisory Control and Data Acquisition System (SCADA) alarm system. The SCADA equipment detects and sends alarms in response to pump failures, high and low wet well levels, and power outages. The Avenue S lift station's SCADA alarm has an auto-dialer which dials out to County Emergency Services Communication Center. The lift station also has an audible alarm. During both normal working hours and after hours, the SCADA alarm will dial to the County Emergency Services Communication Center which will in-turn contact the City's Public Works Department immediately.

The second pump station serves a bathroom at the Pelona Vista Park off Rayburn Road. The Pelona Vista Park pump station has an audible alarm and an alarm light. The station also includes an auto dialer which conveys an emergency alarm without specifics to the CSMD North Yard. During normal work hours the Pelona Vista Park is maintained by the City's Department of Parks and Recreation and they will contact

the City's Maintenance Center immediately if there is a pump station alarm. After normal working hours the Park and bathroom facilities are closed.

In addition, each of the lift stations are equipped with local alarms and signs with the City's contact information. The lift stations are located at:

- 1718 East Avenue S
- 37700 Tierra Subida Avenue

The third pump station is awaiting final acceptance from the City and is part of the Ritter Ranch development.

### 6.3.3 City Staff Observation

City staff conducts periodic inspections of wastewater collection system facilities as part of their routine activities. Any problems noted with the wastewater collection system facilities are reported to the Sanitary Sewer Collection System Supervisor who responds to emergency situations or directs field crews to respond. Work orders are issued by the Sanitary Sewer Collection System Supervisor to correct non-emergency conditions.

## 6.4 SSO Response Procedures

Sewer service calls and lift station alarms are considered high priority events that demand a prompt response to the location of the problem. Upon notification of a sewer overflow, the On-Call Duty-Phone person shall be dispatched within 15 minutes of the notification to attend to the emergency call.

The response procedures for SSOs that are caused by City-owned sewers, private laterals, and surrounding Agency sewers are depicted in the following figures:

- **Figure 6-1:** SSO Response Procedure Flow Chart
- **Figure 6-2:** SSO Response Flow Chart for City-Owned Sewer SSOs
- **Figure 6-3:** SSO Response Flow Chart for Private Lateral/System SSOs
- **Figure 6-4:** SSO Response Flow Chart for SSOs in Sewers Not Owned by City

### 6.4.1 Safety

The Sanitary Sewer Collection System Supervisor or On-Call Duty-Phone person, as first responder, is responsible for following City safety procedures at all times.

There may be times when City personnel responding to a wastewater collection system event are not familiar with potential safety hazards peculiar to sewer work. The City will provide training courses for all maintenance workers and collection system field crews to discuss safety issues, consider the order of work, and check safety equipment before starting the job.

#### 6.4.1.1 Hazardous Material Spills

On occasion the Sanitary Sewer Collection System Supervisor or On-Call Duty-Phone person may encounter a sewer spill that involves hazardous materials. In those instances, or in any instance where there is a reasonable doubt, they should immediately contact the Utilities Services Manager and the Fire Department for special instructions.

Sanitary Sewer Collection System Supervisor or On-Call Duty-Phone person will remain on site and provide assistance to the Hazardous Materials response team. The type of assistance to be provided includes traffic control, plugging storm drains from a safe distance, and shutting down lift stations.

### 6.4.2 On-Call Person Priorities

The On-Call Duty-Phone person prioritizes and provides full coordination and direction for the entire emergency response team unless replaced by more senior collections staff. The first responders duties include but are not limited to:

- To follow safe work practices;
- To contact the reporting party and collect as much information as possible;
- To respond promptly with appropriate equipment;
- To contain the spill wherever feasible;
- To restore the flow as soon as practicable;
- To make the required notification calls;
- To minimize public access to and/or contact with the spilled sewage;
- To promptly notify the Director of Public Works and Utilities Services Manager in the event of a major SSO;
- To calculate a defensible overflow volume estimate;
- To return the spilled sewage to the wastewater collection system;
- To restore the area to its original condition (or as close as possible); and
- To photograph overflow and containment actions for risk management and reporting purposes;
- Disinfect all areas affected by overflow.

Figure 6-1: SSO Response Procedure Flow Chart

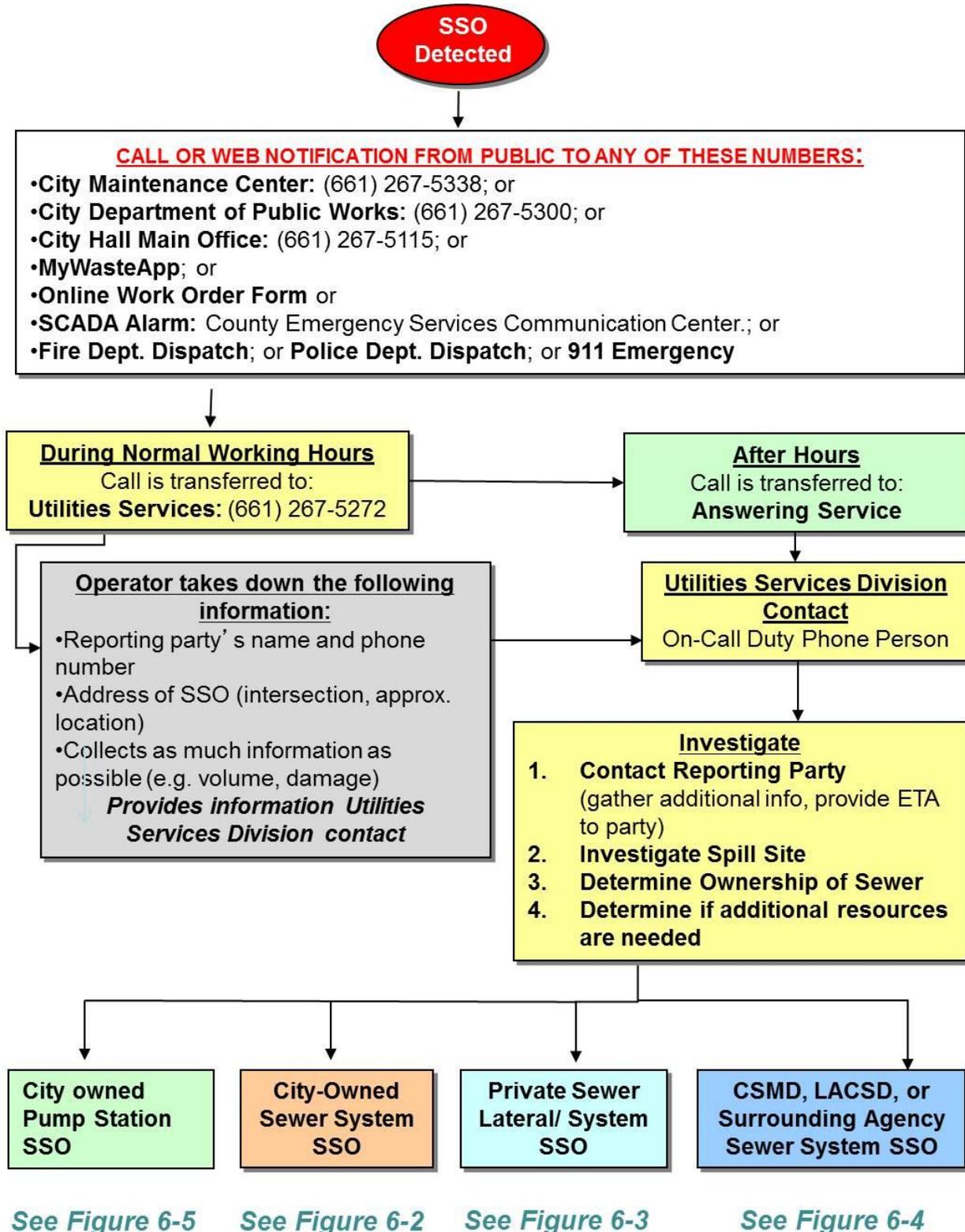
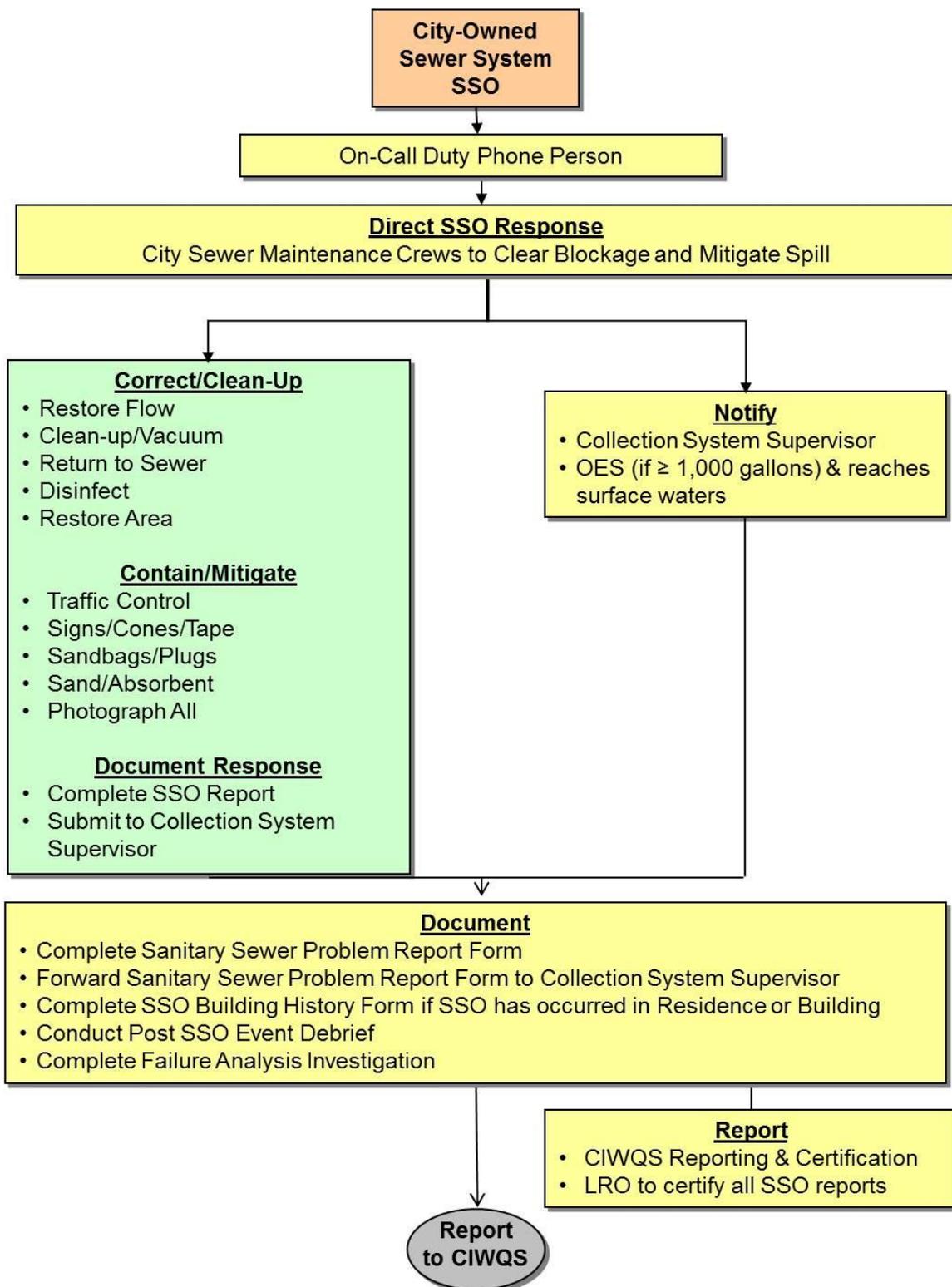


Figure 6-2: SSO Response Flow Chart for City-Owned Sewer SSOs



See Figure 6-5

Figure 6-3: SSO Response Flow Chart for Private Lateral/System SSOs

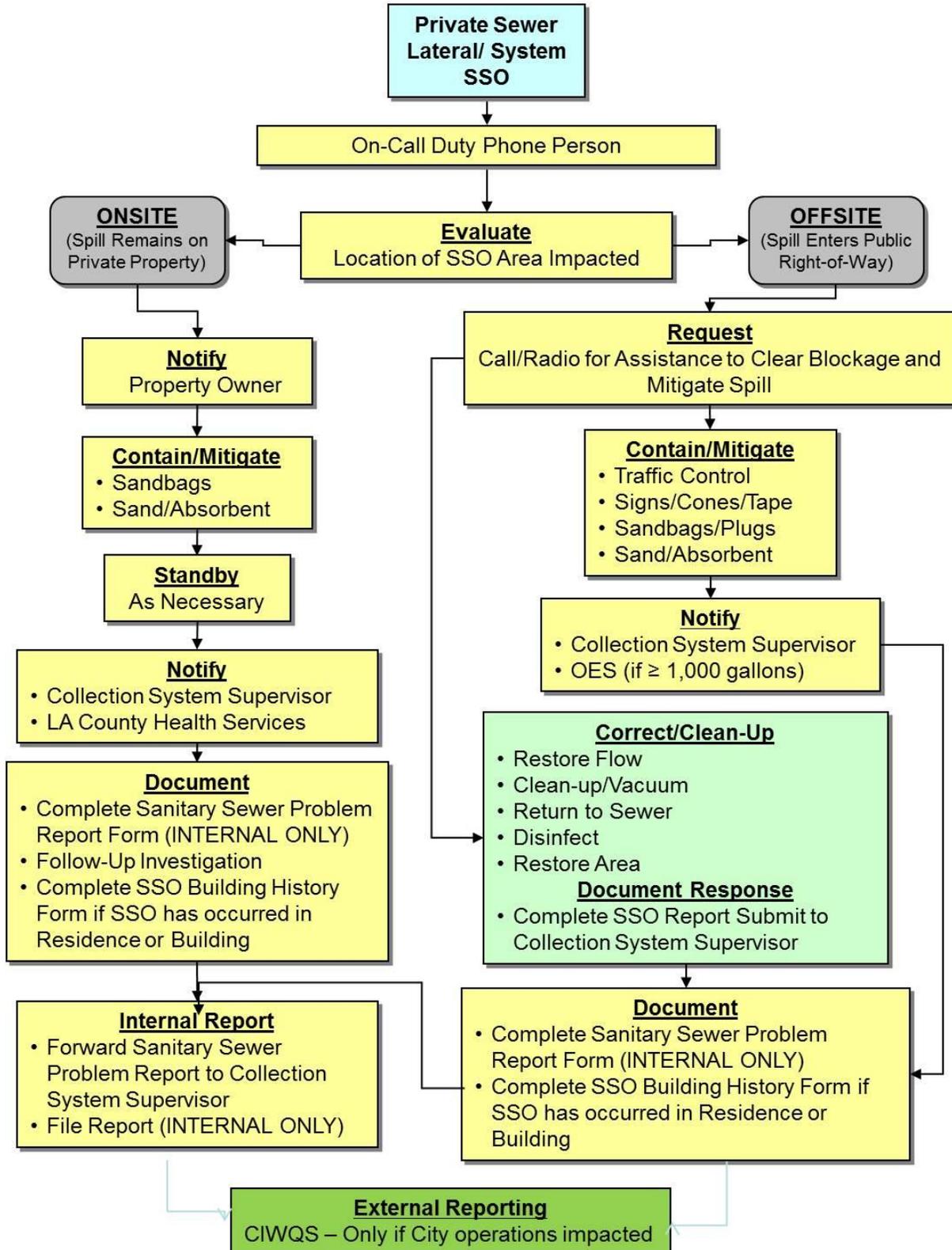
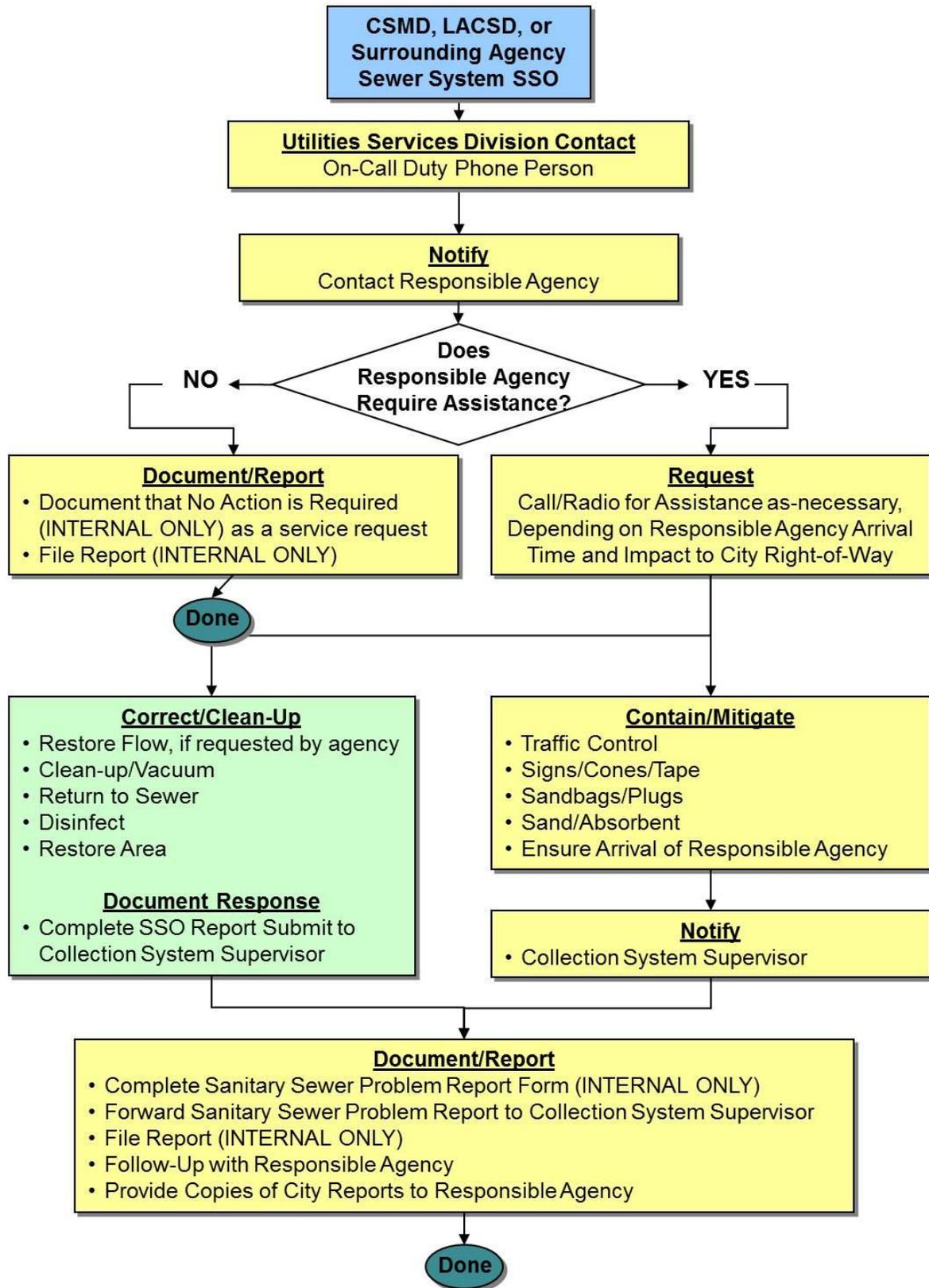


Figure 6-4: SSO Response Flow Chart for SSOs in Sewers Not Owned by City



### 6.4.3 Initial Response

The On-Call Duty-Phone person calls the reporting party to clarify the situation and collect any additional information that may allow City personnel to respond in an efficient manner. The On-Call Duty-Phone person should:

- Field verify the address and nearest cross street to determine whether the spill or backup is located in the City's service area. If the location of the spill is not in the City's service area, call the responsible agency, provide them with the service call information, and notify the caller that the responsible agency has been notified.
- Call the City's Sewer Maintenance Crews to restore flow and to mitigate the SSO.
  - Note arrival time at spill site.
  - Note arrival time at spill site by Sewer Maintenance Crews.
- The Sewer Maintenance Crew shall respond with the appropriate equipment to clear the blockage and contain/clean-up spilled sewage (spill containment tools and materials and any additional equipment that may be needed based on the details provided by the caller).
  - Note arrival time at spill site by of all involved staff or contractors.
  - If the initial inspection indicates that the discharging facility is not within the jurisdiction of the City of Palmdale or that the problem is not caused by the City's sewer system, the responding crew is to report this information to the Sanitary Sewer Collection System Supervisor, who will notify the appropriate agency staff and direct further field operations (See Appendix 6-A for contact information related to sewage spill response).
- Regardless of whether the spill/backup is caused by a private lateral or other agency sewer system, the responding Sewer Maintenance Crew should always contain/mitigate the spilled sewage to the extent feasible and standby until representatives of the responsible party arrive and are fully operational.
- The Sewer Maintenance Crew shall set up traffic and pedestrian control as necessary for safety of the public and the response crew.
  - The On-Call Duty-Phone person, as first responder to the SSO, shall set up available traffic and pedestrian control as necessary for safety of the public and the Sewer Maintenance Crew. The Sewer Maintenance Crew is required to provide adequate traffic and pedestrian control once onsite.
- The On-Call Duty-Phone person shall identify and assess the affected area and extent of spill.
- The On-Call Duty-Phone person shall notify the Collection System Supervisor when:
  - The spill appears to be large, in a sensitive area, or there is doubt regarding the extent, impact, or how to proceed.
  - Additional help is needed, to get assistance contacting other employees, contractors, and/or equipment suppliers.
- If the spill is large (greater than 1,000 gallons) and has reached surface waters or could reach surface waters, or in a sensitive area, the On-Call Duty-Phone person will document conditions upon arrival with photographs.
- The Sewer Maintenance Crew shall work with the On-Call Duty-Phone person to decide whether to proceed with clearing the blockage to restore the flow or to initiate containment measures. The guidance for this decision is:
  - Small spills – proceed with clearing the blockage.
  - Moderate or large spill where containment is anticipated to be simple – proceed with the containment measures.

- Moderate or large spills where containment is anticipated to be difficult – proceed with clearing the blockage; however, call for additional assistance after 15 minutes without clearing the blockage and implement containment measures.
- The On-Call Duty-Phone person shall notify the Director of Public Works, Utilities Services Manager, and the Collection System Supervisor in event of major SSO.
- The On-Call Duty-Phone person shall contact the caller to let them know the City and Sewer Maintenance Crew is on-site, if time permits.

#### **6.4.4 Restore Flow**

The Sewer Maintenance Crew shall use the appropriate equipment and cleaning tools to remove the blockage from the system.

- If the blockage cannot be cleared within a reasonable time (15 minutes), or the sewer requires construction repairs to restore flow, then initiate containment and/or bypass pumping.
- If assistance is required, immediately contact the Collection System Supervisor who will, in turn, contact other employees, contractors, and equipment suppliers.

#### **6.4.5 Initiate Spill Containment Measures**

The Sewer Maintenance Crew should attempt to contain as much of the spilled sewage as possible using the following steps:

- Determine the immediate destination of the overflowing sewage.
- Plug storm drains using air plugs, sandbags, plastic mats, and/or other dam construction material to contain the spill, whenever appropriate. If spilled sewage has made contact with the storm drainage system, attempt to contain the spilled sewage by plugging downstream storm drainage facilities.
- Contain/direct the spilled sewage using dike/dam, sandbags, or earthen berms in landscaped or undeveloped areas.
- Pump around the blockage/pipe, failure/lift station to convey the wastewater to the nearest downstream manhole or facility.
- If the spill is caused by a sewer lateral, City staff may request the property owner or water purveyor to shut off the water supply to the property when the wastewater endangers the public health.

#### **6.4.6 Water Quality Sampling and Testing**

##### ***6.4.6.1 SSOs Less Than 50,000 gallons***

Water quality sampling and testing is required whenever 500 gallons or more of spilled sewage enters surface water to determine the extent and impact of the SSO. The water quality sampling procedures are:

- The On-Call Duty-Phone person shall direct response crews to collect samples. Samples should be collected as soon as possible after the discovery of the SSO event.
  - When faced with a small SSO that can be easily contained, the flow should be restored and samples taken as soon as possible after flow has been restored.
  - For larger SSOs, it may be necessary to wait for additional personnel to arrive before taking samples.
- The water quality samples should be collected from upstream of the spill, and downstream of the spill in flowing water (e.g. rivers). The water quality samples should be collected 100 ft above the point of entry of the spilled sewage and every 100 feet along the shore of stationary water bodies.

- The City will use a state-certified commercial laboratory to analyze the samples to determine the nature and impact of the discharge. The basic analyses should include total coliform, fecal coliform, biochemical oxygen demand (BOD), dissolved oxygen, and ammonia nitrogen.

#### **6.4.6.2 SSOs Greater than 50,000 Gallons**

For any SSO in which 50,000 gallons or greater are spilled to surface waters to comply with subsection D.7(v) of the SSS WDR, the City shall be required to implement a Water Quality Monitoring Program that shall include all of the following:

- a) Contains protocols for water quality monitoring.
- b) Account for spill travel time in the surface water and scenarios where monitoring may not be possible (e.g. safety, access restrictions, etc.).
- c) Require water quality analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory.
- d) Require monitoring instruments and devices used to implement the SSO Water Quality Monitoring Program to be properly maintained and calibrated, including any records to document maintenance and calibration, as necessary, to ensure their continued accuracy.
- e) Within 48 hours of the enrollee becoming aware of the SSO, require water quality sampling for, at a minimum, the following constituents:
  - i. Ammonia
  - ii. Appropriate Bacterial indicator(s) per the applicable Basin Plan water quality objective or Regional Board direction which may include total and fecal coliform, enterococcus, and e-coli.

#### **6.4.7 Recovery and Clean Up**

The recovery and clean up phase begins when the flow has been restored and the spilled sewage has been contained/returned to the sanitary sewer to the extent possible. The SSO recovery and clean up procedures are:

- Estimate the Volume of Spilled Sewage,
- Recovery of Spilled Sewage, and
- Clean Up and Disinfection.

##### **6.4.7.1 Estimate the Volume of Spilled Sewage**

The On-Call Duty-Phone person shall use the methods outlined in Appendix 6-E to estimate the volume of the spilled sewage. Wherever possible, document the estimate using photos of the SSO site before and during the recovery operation. Also always remember that the spill start time almost always occurs prior to the call from the public or the emergency notification center and the start time should not be stated as the time the call was received.

##### **6.4.7.2 Recovery of Spilled Sewage**

The Sewer Maintenance Crew shall vacuum up spilled sewage using the combination cleaner, vacuum truck, or pump the spilled sewage and any water used to flush the area and discharge it back into the wastewater collection system.

##### **6.4.7.3 Clean Up and Disinfection**

Clean up and disinfection procedures shall be implemented by the Sewer Maintenance Crew to reduce the potential for human health issues and adverse environmental impacts that are associated with an SSO

event. The procedures described are for dry weather conditions and should be modified as required for wet weather conditions.

#### **6.4.7.4 Private Property**

The City has developed a Sewer Maintenance Rapid Response Program for handling all private property damages and utilizes the services of Carl Warren & Company for all claims management requirements. Appendix 6-H outlines the Cities Policy for Private Property Damages.

##### **6.4.7.4.1 Hard Surface Areas**

Collect all signs of sewage solids and sewage-related material either by hand or with the use of rakes and brooms. Wash down the affected area with clean water until the water runs clear. Take reasonable steps to contain and vacuum up the wastewater and return it to the wastewater collection system. Disinfect all areas that were contaminated from the overflow using the disinfectant solution of household bleach diluted 10:1 with water. Apply minimal amounts of a disinfectant solution using a hand sprayer. Document the volume and application method of disinfectant that was employed. Allow area to dry. Repeat the process if additional cleaning is required.

##### **6.4.7.4.2 Landscaped and Unimproved Natural Vegetation**

Collect all signs of sewage solids and sewage-related material either by hand or with the use of rakes and brooms. Wash down the affected area with clean water until the water runs clear. The flushing volume should be approximately three times the estimated volume of the spill. Either contain or vacuum up the wash water so that none is released. Return the wastewater to the wastewater collection system to the extent possible. Allow the area to dry. Repeat the process if additional cleaning is required.

##### **6.4.7.4.3 Natural Waterways**

California Department of Fish and Wildlife (CA DFW) will provide the professional guidance needed to effectively clean up spills that occur in these sensitive environments. Contact them to request their assistance at the number in Appendix 6-A. Clean up should proceed quickly in order to minimize negative impact. The Department of Fish and Wildlife will determine if de-chlorinated water is required for the spill clean up.

#### **6.4.7.5 Wet Weather Modifications**

Omit flushing and sampling during heavy storm events with heavy runoff where flushing is not required and sampling would not provide meaningful results.

#### **6.4.8 Follow Up Activities**

If sewage has reached the storm drain system, the hydro-truck or other contract operators should be used to vacuum/pump out the catch basin and any other portion of the storm drain that may contain sewage. Do not forget to inspect and vacuum out all other utility valve boxes, dry wells and utility vaults for sewage that might have entered these appurtenances from the SSO.

In the event that an overflow occurs at night, the location should be inspected first thing the following day. The inspector should look for any signs of sewage solids and sewage-related material that may warrant additional cleanup activities.

### **6.5 Public Notification**

The Collection System Supervisor or On-Call Duty Person will direct the posting of signs and place barricades, cones, traffic arrow board, and caution tape as needed to keep vehicles and pedestrians away from contact with spilled sewage. Do not remove the signs until directed by the Sanitary Sewer Collection

System Supervisor or until all affected areas have been mitigated following response procedures. Sample warning signs are included as **Appendix 6-G**.

Creeks, streams, and drainage channels that have been contaminated as a result of an SSO should have signs posted at visible access locations until the risk of contamination has subsided to acceptable background levels. The warning signs, once posted, should be checked at least once per day to ensure that they are still in place. Do not remove the signs until directed by the Sanitary Sewer Collection System Supervisor. The Sanitary Sewer Collection System Supervisor will utilize the results of water quality samples to remove signs in coordination with the Utilities Services Manager. Photos should be taken of all posted warning signs to assure ultimate removal and to allow for future proof of signage if claims or litigation result from the SSO.

Major spills may warrant broader public notice. The approval of the City Manager is required prior to contacting local media when significant areas may have been contaminated by sewage.

## 6.6 Failure Analysis Investigation

The objective of the failure analysis investigation is to determine the “root cause” of the SSO and to identify corrective action(s) needed that will reduce or eliminate potential for the SSO to recur.

The investigation should include reviewing all relevant data to determine appropriate corrective action(s) for the line segment. The investigation will be conducted by the Utilities Services Manager. The investigation should include:

- Reviewing and completing/correcting the Sanitary Sewer Problem Report Form (see **Appendix 6-B**);
- Reviewing past maintenance records;
- Reviewing original construction plans and regulatory reports;
- Reviewing available photographs;
- Conducting a CCTV inspection to determine the condition of the line segment immediately following the SSO and reviewing the video and logs; and;
- Interviewing staff who responded to the spill, as well as interviewing customers and residents.

The product of the failure analysis investigation should be the determination of the root cause and the identification of the corrective actions time for completion and person assigned to the corrective actions. The Collection System Failure Analysis Form (**Appendix 6-D**) should be used to document the investigation.

## 6.7 SSO Categories

The State Water Resources Control Board (SRWCB) has established guidelines for classifying and reporting SSOs. Reporting and documentation requirements vary based on the category of SSO.

There are four categories of SSOs as defined by the SWRCB<sup>3</sup>:

Category 1 – Discharges of untreated or partially treated wastewater of any volume resulting from an enrollee’s sanitary sewer system failure or flow condition that:

- Reach surface water and/or reach a drainage channel tributary to a surface water; or
- Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the

<sup>3</sup> State Water Resources Control Board Monitoring and Reporting Program No. 2006-0003-DWQ (as revised by Order No. WQ 2013-0058.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g. infiltration pit, percolation pond, or drywell system).

Category 2 – Discharges 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 do not reach surface water, a drainage channel, or a MS4 unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.

Category 3 – All other discharges of untreated or partially treated wastewater resulting from an enrollee’s sanitary sewer system failure or flow condition.

Private Lateral Sewage Discharges (PLSD) – Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the enrollee’s sanitary sewer system or from other private sewer assets.

## 6.8 SSO Documentation and Reporting

All SSOs should be thoroughly investigated and documented for use in managing the wastewater collection system and meeting established reporting requirements. The procedures for investigating and documenting SSOs are:

### 6.8.1 Internal SSO Reporting Procedures

#### 6.8.1.1 Category 1 SSOs

The On-Call Duty-Phone person will immediately notify the Collection System Supervisor.

The Sanitary Sewer Collection System Supervisor or his/her designee will meet with field crew(s) at the site of the SSO event to assess the situation and to document the conditions with photos.

The On-Call Duty-Phone person will fill out the Sanitary Sewer Problem Report Form and turn it in to the Collection System Supervisor upon completion and clean-up of the SSO.

In the event of a very large overflow or an overflow in a sensitive area, the Collection System Supervisor will notify the Director of Public Works and the Utilities Services Manager who will notify the City Manager. The City Manager may notify the City Council and/or the public.

#### 6.8.1.2 Category 2 SSOs

The On-Call Duty-Phone person will immediately notify the Collection System Supervisor. The Collection System Supervisor or his/her designee will determine whether to personally assess the situation. The On-Call Duty-Phone person will fill out the Sanitary Sewer Problem Report Form and turn it in to the Collection System Supervisor.

#### 6.8.1.3 Category 3 SSOs

The On-Call Duty-Phone Person will respond to all category 3 SSOs and assess the situation to determine if additional resources are required. He/she shall complete the Sanitary Sewer Problem Report Form and submit it to the Collection System Supervisor for review and approval.

#### 6.8.1.4 Private Lateral SSOs

If a Private Lateral sewage discharge is reported to the City, the On-Call Duty-Phone person will immediately notify the Collection System Supervisor.

The Sanitary Sewer Collection System Supervisor or On-Call Duty-Phone person will fill out the Sanitary Sewer Problem Report Form and turn it in to the Utilities Services Manager.

## 6.9 External SSO Reporting Procedures <sup>4</sup>

The California Integrated Water Quality System (CIWQS) Online SSO Reporting System should be used for reporting SSO information whenever possible.

### 6.9.1.1 Category 1 SSOs that reach Waters of the State

If a Category 1 SSO results in a discharge to surface water or possibly could reach surface water, the following notification/reporting requirements apply:

- **Within two hours** of becoming aware of a Category 1 spill event the Legally Responsible Official or his/her designee will:
  - Notify California Office of Emergency Services (Cal OES) (and obtain a control number for use in other reports);
- **Within 3 business days** of becoming aware of the spill, the Legally Responsible Official or his/her designee will submit a draft report to CWIQS.
- **Within 15 calendar days** of the SSO end date, the Legally Responsible Official or his/her designee will certify the final report using CIWQS.
- The Legally Responsible Official or his/her designee will update the certified report as new or changed information becomes available. The updates can be submitted at any time and must be certified within 45 calendar days of an SSO end date.
- If the SSO is greater than 50,000 gallons, the Collection System Supervisor shall complete an SSO Technical Report.

### 6.9.1.2 Category 2 SSOs

The LRO or his/her designee shall submit a draft report within 3 business days of becoming aware of the SSO and certify the final CIWQS Report within 15 calendar days of the SSO end date.

### 6.9.1.3 Category 3 SSOs

The LRO or his/her designee shall submit a certified report within 30 calendar days of the end of the month in which the SSO occurred.

### 6.9.1.4 Private Lateral Sewage Discharges

The Utilities Services Manager or his/her designee may report private lateral SSOs using CIWQS **at the City's discretion**, specifying that the sewage discharge occurred and was caused by a private lateral and identifying the responsible party (other than the City), if known.

### 6.9.1.5 No Spill Certification (Monthly)

If there are no SSOs during the calendar month, the Collection System Supervisor will submit and certify an electronic report that the City did not have any SSOs, **within 30 days after the end of each calendar month**.

### 6.9.1.6 Online SSO Reporting System (CIWQS) Not Available

In the event that CIWQS is not available, the Utilities Services Manager or his/her designee will fax all required information to the Lahontan RWQCB office in accordance with the time schedules identified above. In such event, the City will submit the appropriate reports using CIWQS as soon as practical.

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<sup>4</sup> State Water Resources Control Board Monitoring and Reporting Program No. 2006-0003-DWQ (as revised by Order No. WQ 2013-0058.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

### ***6.9.1.7 Amended SSO Reports***

The City may update or add additional information to a certified SSO report within 120 calendar days after the SSO end date by amending the report or by adding an attachment to the SSO report in the CIWQS Online SSO Database. SSO reports certified in the CIWQS Online SSO Database prior to the adoption date of this MRP may only be amended up to 120 days after the effective date of this MRP. After 120 days, the enrollee may contact the SSO Program Manager to request to amend an SSO report if the enrollee also submits justification for why the additional information was not available prior to the end of the 120 days.

### ***6.9.1.8 Technical Report***

The City's Legally Responsible Official shall submit an SSO Technical Report in the CIWQS Online SSO Database within 45 calendar days of the SSO end date for any SSO in which 50,000 gallons or greater are spilled to surface waters. This report, which does not preclude the Water Boards from requiring more detailed analyses if requested, shall include at a minimum, the following:

- i. Causes and Circumstances of the SSO:
  - a. Complete and detailed explanation of how and when the SSO was discovered.
  - b. Diagram showing the SSO failure point, appearance point(s), and final destination(s).
  - c. Detailed description of the methodology employed and available data used to calculate the volume of the SSO and, if applicable, the SSO volume recovered.
  - d. Detailed description of the cause(s) of the SSO.
  - e. Copies of original field crew records used to document the SSO.
  - f. Historical maintenance records for the failure location.
- ii. Enrollee's Reponse to SSO:
  - a. Chronological narrative description of all actions taken by enrollee to terminate the spill.
  - b. Explanation of how the SSMP Overflow Emergency Response Plan was implemented to respond to and mitigate the SSO.
  - c. Final corrective action(s) completed and/or planned to be completed, including a schedule for actions not yet completed.
- iii. Water Quality Monitoring:
  - a. Description of all water quality sampling activities conducted including analytical results and evaluation of the results.
  - b. Detailed location map illustrating all water quality-sampling points.

### ***6.9.1.9 Collection System Questionnaire***

The enrollee shall complete and certify a Collection System Questionnaire as defined in WDR Section G at least every 12 months to facilitate program implementation, compliance assessment, and enforcement response.

### ***6.9.1.10 SSO Multiple Appearance Points***

For reporting purposes, if one SSO event results in multiple appearance points in a sewer system asset, the Legally Responsible Official shall complete one SSO report in the CIWQS Online SSO Database which includes the GPS coordinates for the location of the SSO appearance point closest to the failure

point, blockage or location of the flow condition that caused the SSO, and provide descriptions of the locations of all other discharge points associated with the SSO event.

## **6.9.2 Internal SSO Documentation**

### ***6.9.2.1 Category 1, 2 and 3 SSOs***

The On-Call Duty-Phone person will complete the Sanitary Sewer Problem Report Form (**Appendix 6-B**), assign a unique City tracking or log number, and provide copies to the Collection System Supervisor.

The On-Call Duty-Phone person will complete the Sewer Overflow Building History Form (**Appendix 6-C**) if an SSO has occurred in a residence or building.

The Sanitary Sewer Collection System Supervisor will prepare a file for each individual SSO. The file should include the following information:

- Initial service call information;
- Sanitary Sewer Problem Report Form;
- Online SSO Reporting System (CIWQS) form;
- Volume estimate; including assumptions, diagrams and calculations;
- Map showing the spill location, appearance point(s) and final destination of the SSO;
- Photographs of spill location and warning signs placed in the area;
- CCTV inspection data;
- Water quality sampling and test results, plus a map of the sample locations, if applicable;
- Failure analysis investigation results; including documentation of changes to City procedures;
- Any other forms related to the SSO;
- Customer interview notes and statements; and
- Any telemetry records if relied upon to document or estimate SSO volume(s).

### ***6.9.2.2 Private Lateral SSOs***

The On-Call Duty-Phone person will complete the Sanitary Sewer Problem Report Form and provide copies to the Collection System Supervisor. The On-Call Duty-Phone person will complete the Sewer Overflow Building History Form if an SSO has occurred in a residence or building.

A separate file will be prepared for each PLSD. The file should include any relevant information about the PLSD.

### ***6.9.2.3 SSO Belonging to Other Agency***

The On-Call Duty-Phone person will complete the Sanitary Sewer Problem Report Form and create a separate file for each SSO responded to that is the responsibility of another agency. Copies of all forms, information and documentation accumulated as a result of the City response shall be provided directly to the responsible agency.

### 6.9.3 External SSO Record Keeping Requirements<sup>5</sup>

The WDR requires that individual SSO records be maintained by the City for a minimum of **five years** from the date of the SSO. This period may be extended when requested by a Lahontan Regional Water Quality Control Board Executive Officer.

All records shall be made available for review upon State or Regional Water Board staff's request or during a field inspection of the City Collection System.

Records shall be retained for all SSOs, including but not limited to the following when applicable:

- Copy of Certified CIWQS report(s);
- All original recordings for continuous monitoring instrumentation; relied upon to document or estimate SSO volumes.
- Service call records and complaint logs of all collection system calls received by the City; including date, time and method of notification.
- SSO calls; narrative description of the complaint along with description of follow-up return contact with complainant.
- SSO records;
- Steps that have been and will be taken to prevent the SSO from recurring to comply with Section D.7 of the SSS DWR and a schedule to implement those steps;
- Work orders, work completed, and any other maintenance records from the previous five years which are associated with responses and investigations of system problems related to SSOs;
- A list and description of complaints from customers or others from the previous five years; and
- Documentation of performance and implementation measures for the previous five years; and
- Records documenting how all estimates of volume discharged and recovered were calculated.

If water quality samples are required by an environmental or health regulatory agency, or if voluntary monitoring is conducted by the City, as a result of any SSO, records of monitoring information shall include:

- The date, exact place, and time of sampling or measurements;
- The individual(s) who performed the sampling or measurements;
- The date(s) analyses were performed;
- The individual(s) who performed the analyses;
- The analytical technique or method used; and
- The results of such analyses.

### 6.9.4 Post SSO Event Debriefing

Every SSO event is an opportunity to evaluate the response and reporting procedures. Each overflow event is unique, with its own elements and challenges including volume, cause, location, terrain, and other parameters.

As soon as possible after major SSO events, all of the participants, from the person who received the call to the last person to leave the site, should meet to review SSO procedures used and to discuss what worked and where improvements could be made in responding to and mitigating future SSO events. It is the responsibility of the Utilities Services Manager to schedule, conduct and document such a meeting.

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<sup>5</sup> State Water Resources Control Board Monitoring and Reporting Program No. 2006-0003-DWQ (as revised by Order No. WQ 2013-0058.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

The results of the debriefing should be documented using Appendix 6-D, Collection System Failure Analysis Form to ensure the action items are completed. Meeting minutes from the debriefing shall be added to the SSO event file.

## 6.10 Equipment

This section provides a list of specialized equipment that is required to support this Overflow Emergency Response Plan.

**Camera** – A digital or disposable camera is required to record the conditions upon arrival, during clean up, and upon departure.

**Closed Circuit Television (CCTV) Inspection Unit** – A CCTV Inspection Unit is required to assist in determining the root cause for all SSOs from gravity sewers.

**Combination Sewer Cleaning Truck** – A combination high velocity sewer cleaning truck with vacuum tank is required to clear blockages in gravity sewers, vacuum spilled sewage, and wash down the impacted area following the SSO event.

**Containment and Clean-Up Materials** – Equipment and materials needed for emergency response to SSOs. The equipment and tools should include containment and clean up materials: sandbags, barricades, cones, caution tape, signs, air plugs, rakes, drop-inlet mats, and plastic sheeting.

**Pick-Up Truck** – A utility body pickup truck is required to transport the equipment needed to effectively respond to sewer emergencies.

**Portable Generators, Portable Pumps, Piping, and Hoses** – The list of portable equipment that is used to support this plan are housed at the City Maintenance Yard.

## 6.11 SSO Response Training

This section provides information on the training that is required to support this Overflow Emergency Response Plan.

### 6.11.1 Initial and Annual Refresher Training

All City personnel who may have a role in responding to, reporting, and/or mitigating a wastewater collection system overflow should receive training on the contents of the OERP. All new employees should receive training before they are placed in a position where they may have to respond. Current employees should receive annual refresher training on this plan and the procedures to be followed.

All contractor and contract service personnel who may have a role in responding to, reporting to the City, and/or mitigating a wastewater collection system overflow should receive training on the contents of the City OERP or provide evidence of comparable emergency response procedures to the City's.

### 6.11.2 SSO Training Record Keeping

Records should be kept of all training that is provided in support of this plan. The records for all scheduled training courses and for each overflow emergency response training event should include date, time, place, content, name of trainer(s), and names of attendees.

## 6.12 Contractors Working on City Sewer Facilities

All contractors working on City sewer facilities will be required to develop a project-specific OERP, will provide project personnel with training regarding the content of the contractor's OERP and their role in the event of an SSO, and to follow that OERP in the event that they cause or observe an SSO. Emergency response procedures shall be discussed at project pre-construction meetings, regular project meetings and after any contractor involved incidents.

### **6.12.1 SSO Response Drills**

Periodic training drills should be held to ensure that contract service personnel and contractor employees are up to date on the procedures, the equipment is in working order, and the required materials are readily available. The training drills should cover scenarios typically observed during sewer related emergencies (e.g. mainline blockage, mainline failure, force main failure, lift station failure, and lateral blockage). The results and the observations during the drills should be recorded and action items should be tracked to ensure completion.

## Appendix 6-A: Sewage Spill Response and General Telephone Numbers

Agency	Number	Time	Contact
Army Corps of Engineers – Los Angeles District	213-452-3908/3333 213-452-3441 213-452-3840		Main District Office Number Emergency Response Mission Environmental
CA Fish & Game	805-498-2385		<a href="mailto:srains@dfg.ca.gov">srains@dfg.ca.gov</a>
CalTrans	Dial 911 Emergency	24 Hours	Report highway emergencies to 911 or the California Highway Patrol immediately.
City of Lancaster	661-723-5985 661-945-6874 661-945-6895 661-948-8446	7:30am-4:30pm/M-F 7:30am-4:30pm/M-F 7:30am-4:30pm/M-F Non-business Hours	Public Works Yard Utilities Maintenance Supervisor Lead Utilities Maintenance Worker Lancaster's Sheriff Station
City of Palmdale Maintenance Div.	661-267-5338 661-267-5300	Normal working hours Answered 24 Hours	
County of Los Angeles DPW - County Sewer Maintenance Division	800-675-4357 800-303-0003 888-CLEANLA	24 Hours 24 Hours 24 Hours	CSMD Help Line Los Angeles County DPW
County of Los Angeles DPW – Antelope Valley Sewer Maintenance Yard	Phone: 661-942-6042 Fax: 661-949-6250		NORTH YARD 45712 N. Division St., Lancaster 93534
Edwards Air Force Base	661-277-1110		Base Operator
Emergency Management Agency (OES)	916-845-8911 800-852-7550	24 Hours	
LA County Dept. of Health Services	661-723-4533 888-700-9995	Answered 24 hours Emergency Hotline	Environmental Health Emergency Hotline
LACSD Emergency Response	562-437-6520 562-638-1161	24 Hours Business hours	Bill Rounds Supervising Engineering Technician
Lahontan RWQCB	760-241-6583 760-241-7308 Fax	24 Hour Phone/Message Fax (Follow-Up)	Victorville Office
Palmdale Water District	661-947-4111 661-947-4114	Normal working hours After hours	
LA County Waterworks	661-942-1157 800-675-4357	Normal Working Hours After Hours	Antelope Valley Office

## Appendix 6-B: Sanitary Sewer Problem Report Form

Sanitary Sewer Problem Report Form				City Tracking #: <b>XX-XX-XXXX</b>
<b>For Office Use</b>				
Date:	Call Received:	am/pm	Received by:	
Caller's Name:		Caller's Phone Number:		
Caller's Address:				
Location of Overflow: Cross Street:				
Time & Names of Crew Members Contacted:				
Description of Complaint:				
Note: Provide Field Report, Gas Detector, Radio, GPS, Camera, and Video Camera to Collection System Employee upon Arrival				
<b>For Response Crew Use</b>				
Time Arrived at Site:			Crew Names:	
Asset #:	Easement: Yes <input type="checkbox"/> No <input type="checkbox"/>		Upstream Asset #:	
Size of Line:	Length of Line:		Downstream Asset #:	
Caller Contacted: Yes <input type="checkbox"/> No <input type="checkbox"/>			Sunny <input type="checkbox"/> Cloudy <input type="checkbox"/> Rainy <input type="checkbox"/> Weather: Rain for Several Days: _____ days	
Complete Remainder of Form if an Overflow (SSO) has Occurred				
SSO Started:		am/pm	SSO Stopped:	
Est. Total Volume:		gallons	Est. Returned to Collection System:	
Est. Volume that Reached Surface Water, Drainage Channel, Not Recovered from Storm Drain:		gallons		
Fish Killed: Yes <input type="checkbox"/> No <input type="checkbox"/>	Estimation Method Used:		Eyeball Est. <input type="checkbox"/> Duration/Flowrate <input type="checkbox"/> Measured Vol. <input type="checkbox"/> Other	
SSO Source:	Manhole <input type="checkbox"/> Gravity Main <input type="checkbox"/> Clean Out <input type="checkbox"/> Private Lateral <input type="checkbox"/> Lift Station: _____ Other: _____			
Final Spill Destination:	Storm Drain <input type="checkbox"/> Captured Storm Drain <input type="checkbox"/> Building <input type="checkbox"/> Yard/Land <input type="checkbox"/> Surface Water <input type="checkbox"/> No Waters Involved <input type="checkbox"/> Other: _____			
Cause of Overflow:	Roots <input type="checkbox"/> Grease <input type="checkbox"/> Debris <input type="checkbox"/> Vandalism <input type="checkbox"/> Power Failure <input type="checkbox"/> Construction Damage <input type="checkbox"/> Capacity (Heavy Rain) <input type="checkbox"/> Other: _____			
Cleanup Method/Actions Taken:				
Disinfection: Yes <input type="checkbox"/> No <input type="checkbox"/>		Disinfection Amount/Type:		
Time Cleanup Began:			Time Cleanup Complete:	
Signs Posted: Yes <input type="checkbox"/> No <input type="checkbox"/>		No. of Signs:		
Neighbors Notified: Yes <input type="checkbox"/> No <input type="checkbox"/>		Barricaded: Yes <input type="checkbox"/> No <input type="checkbox"/>		
		No. of Days		
		Photos Taken: Digital <input type="checkbox"/> Film <input type="checkbox"/> Video <input type="checkbox"/>		
		Location of Photos:		
Samples Taken By:			Map of Locations of Samples: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Sample Received:	Date:	Sample Received:	Date:	
Sample Received:	Date:	Sample Received:	Date:	

<b>Sanitary Sewer Problem Report Form</b>		City Tracking #: <b>XX-XX-XXXX</b>
Water Quality Samples Analyzed for:	<input type="checkbox"/> Total Coliform <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> BOD	<input type="checkbox"/> Dissolved Oxygen <input type="checkbox"/> Ammonia Nitrogen <input type="checkbox"/> Other:
Receiving Waters Description:		
SSO Magnitude:	<input type="checkbox"/> Spill discharged to a drainage channel and/or surface water. <input type="checkbox"/> SSO reached storm drain and not fully captured returned to the sewer. <input type="checkbox"/> SSO volume was 1,000 gallons or more. <input type="checkbox"/> Private property was damaged. <input type="checkbox"/> Private lateral was cause (not City sewer). <input type="checkbox"/> SSO caused by sewer owned by surrounding Agency (not City sewer).	
Customer Notified Regarding Status: Yes <input type="checkbox"/> No <input type="checkbox"/> If no, why not:		
List all Personnel Responding to Spill:		
Additional Information:		
Notifications		
<b>Agency Notified</b>	<b>Contact Information</b>	<b>Date/Time</b>
EMERGENCY MANAGEMENT AGENCY	OES Spill #	
CIWQS	CIWQS #	
Lahontan RWQCB	SSO Event ID	
Los Angeles County Dept. of Public Health		
Los Angeles County Health Hazardous Materials Spills		
California Dept of Fish & Game		
Other		
Name of Person making Notifications:		
Sketch of Area: include manholes, intersections, location of stoppage, etc. Use back of page if needed.		
This Report was Completed By:	Date/Time:	
This Report was Submitted To:	Date/Time:	

Note: Attach copies of all photos taken and/or video

## Appendix 6-C: Sewer Overflow Building History Form

Sewer Overflow Building History Form		City Tracking #: XX-XX-XXXX
Time City staff arrived on-site: _____ Time cleaning contractor called: _____		
Date:	Time:	Employee Name:
Resident:	Property Manager(s):	
Street Address:	Street Address:	
City, State and Zip:	City, State and Zip:	
Phone:	Phone:	
Cause of flooding:		
Location/Sewer:	<input type="checkbox"/> Street <input type="checkbox"/> Rear easement <input type="checkbox"/> Manhole# _____ to _____ <input type="checkbox"/> Mainline <input type="checkbox"/> Service line <input type="checkbox"/> Double-wye	
Damage:	<input type="checkbox"/> Black water <input type="checkbox"/> Grey water <input type="checkbox"/> Fresh water	
Number of people living at residence: _____		
Comments:		
Cleaning services:	<input type="checkbox"/> Requested by Owner – Wait for cleaning contractor to arrive <input type="checkbox"/> Declined by Owner	
Approximate age of home: _____	# of bathrooms: _____	# of rooms affected: _____
Approximate amount of spill: _____ (gallons)		
Approximate time sewage has been sitting: _____ (hours/days)		
Photos Taken: Digital <input type="checkbox"/> Film <input type="checkbox"/> Video <input type="checkbox"/>	Location of Photos:	
Does the customer have a backflow prevention device (BPD)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
If yes, was the BPD operational at the time of the overflow?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Have there been any previous spills at this location?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	
Type of flooring in the room(s) affected:	<input type="checkbox"/> Tile <input type="checkbox"/> Carpet <input type="checkbox"/> Wood <input type="checkbox"/> Other: _____ Condition:	
Has the resident had any plumbing work done recently?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	
If yes, please describe:		
Are there baseboards:	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, baseboard material: _____	
Condition of baseboards:		
<input type="checkbox"/> Baseboard bottom has tight seal with floor <input type="checkbox"/> Baseboard has space between baseboard & wall <input type="checkbox"/> Baseboard top has tight seal with wall <input type="checkbox"/> Baseboard has space between bottom & floor		
Sketch the room(s) affected (shade the areas most heavily affected).		

Note: Attach copies of all photos taken and/or video

## Appendix 6-D: Collection System Failure Analysis Form

Collection System Failure Analysis Form			City Tracking #: <b>XX-XX-XXXX</b>
Incident Report #:		Prepared By:	
<b>SSO/Backup Information</b>			
Event Date/Time:	Address:		
Volume Spilled:	Volume Recovered:		
Cause			
<b>Summary of Historical SSOs/Backups/Service Calls/Other Problems</b>			
Date	Cause	Date Last Cleaned	Crew
Records Reviewed By:		Record Review Date:	
<b>Summary of CCTV Information</b>			
CCTV Inspection Date:		Tape Name/Number:	
CCTV Tape Reviewed By:		CCTV Review Date:	
Observations:			
<b>Recommendations</b>			
<input type="checkbox"/> No Changes or Repairs Required			
Maintenance Equipment:			
Maintenance Frequency:			
Repair (Location and Type):			
Add to Capital Improvement Rehabilitation/Replacement List: Yes <input type="checkbox"/> No <input type="checkbox"/>			
Supervisor Review Date:		Superintendent Review Date:	

## Appendix 6-E: Methods for Estimating Spill Volume

A variety of approaches exist for estimating the volume of a sanitary sewer spill. This appendix documents the three methods that are most often employed. The person preparing the estimate should use the method most appropriate to the sewer overflow in question and use the best information available.

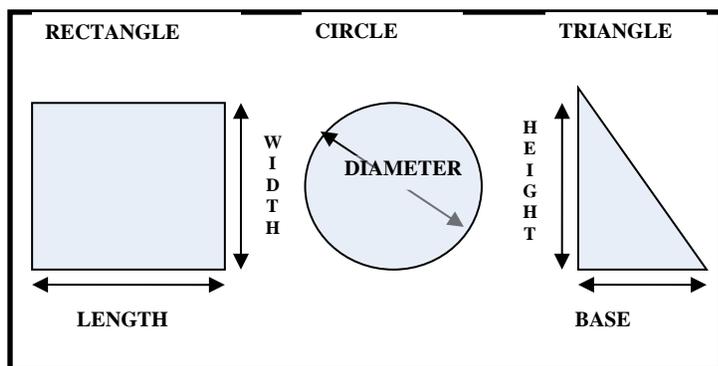
### Method 1 Eyeball Estimate

The volume of small spills can be estimated using an “eyeball estimate”. To use this method imagine the amount of water that would spill from a bucket or a barrel. A bucket contains 5 gallons and a barrel contains 50 gallons. If the spill is larger than 50 gallons, try to break the standing water into barrels and then multiply by 50 gallons. This method is useful for contained spills up to approximately 200 gallons.

### Method 2 Measured Volume

The volume of most small spills that have been contained can be estimated using this method. The shape, dimensions, and the depth of the contained wastewater are needed. The shape and dimensions are used to calculate the area of the spills and the depth is used to calculate the volume.

#### Common Shapes and Dimensions



Step 1 Sketch the shape of the contained sewage (see figure above).

Step 2 Measure or pace off the dimensions.

Step 3 Measure the depth at several locations and select an average.

Step 4 Convert the dimensions, including depth, to feet.

Step 5 Calculate the area in square feet using the following formulas:

Rectangle: Area = length (feet) x width (feet)

Circle: Area = diameter (feet) x diameter (feet) x 0.79

Triangle: Area = base (feet) x height (feet) x 0.5

Step 6 Multiply the area (square feet) times the depth (in feet) to obtain the volume in cubic feet.

Step 7 Multiply the volume in cubic feet by 7.5 to convert it to gallons

Step 8 Write all computations down and insert into the SSO file.

### Method 3 Duration and Flowrate

Calculating the volume of larger spills, where it is difficult or impossible to measure the area and depth, requires a different approach. In this method, separate estimates are made of the duration of the spill and the flowrate. The methods of estimating duration and flowrate are:

**Duration:** The duration is the elapsed time from the time the spill started to the time that the flow was restored.

**Start Time:** The start time is sometimes difficult to establish. Here are some approaches:

- Local residents can be used to establish start time. Inquire as to their observations. Spills that occur in rights-of-way are usually observed and reported promptly. Spills that occur out of the public view can go on longer. Sometimes observations like odors or sounds (e.g. water running in a normally dry creek bed) can be used to estimate the start time.
- Changes in flow on a downstream flowmeter can be used to establish the start time. Typically the daily flow peaks are “cut off” or flattened by the loss of flow. This can be identified by comparing hourly flow data during the spill event with flow data from prior days.
- Conditions at the spill site change over time. Initially there will be limited deposits of toilet paper and other sewage solids. After a few days to a week, the sewage solids form a light-colored residue. After a few weeks to a month, the sewage solids turn dark. The quantity of toilet paper and other materials of sewage origin increase over time. These observations can be used to estimate the start time in the absence of other information. Taking photographs to document the observations can be helpful if questions arise later in the process.
- It is important to remember that spills may not be continuous. Blockages are not usually complete (some flow continues). In this case the spill would occur during the peak flow periods (typically 10:00 to 12:00 and 13:00 to 16:00 each day). Spills that occur due to peak flows in excess of capacity will occur only during, and for a short period after heavy rainfall.

**End Time:** The end time is usually much easier to establish. Field crews on-site observe the “blow down” that occurs when the blockage has been removed. The “blow down” can also be observed in downstream flowmeters.

**Flowrate:** The flowrate is the average flow that left the wastewater collection system during the time of the spill. There are three common ways to estimate the flowrate:

- **The San Diego Manhole Flowrate Chart:** This chart, included as **Appendix 6-F**, shows sewage flowing from manhole covers at a variety of flowrates. The observations of the field crew can be used to select the appropriate flowrate from the chart. If possible, photographs are useful in documenting the basis for the flowrate estimate.
- **Flowmeter:** Changes in flows in downstream flowmeters can be used to estimate the flowrate during the spill.
- **Counting Connections:** Once the location of the spill is known, the number of upstream connections can be determined from the sewer maps. Multiply the number of connections by 200 to 250 gallons per day per connection or 8 to 10 gallons per hour per connection. For example:
 
$$\begin{aligned} & 22 \text{ upstream connections} \times 9 \text{ gallons per hour per connection} \\ & = 198 \text{ gallons per hour} / 60 \text{ minutes per hour} \\ & = 3.3 \text{ gallons per minute} \end{aligned}$$

**Spill Volume:** Once duration and flowrate have been estimated, the volume of the spill is the product of the duration in hours or days and the flowrate in gallons per hour or gallons per day. For example:

Spill start time = 11:00

Spill end time = 14:00

Spill duration = 3 hours

3.3 gallons per minute x 3 hours x 60 minutes per hour

= 594 gallons

# Appendix 6-F: Manhole Overflow Flowrate Guide



City of San Diego  
Metropolitan Wastewater Department

Reference Sheet for Estimating Sewer Spills  
from Overflowing Sewer Manholes  
*All estimates are calculated in gallons per minute (gpm)*

Wastewater Collection Division  
(619) 654-4160



5 gpm



25 gpm



50 gpm



100 gpm



150 gpm



200 gpm



225 gpm



250 gpm



275 gpm

All photos were taken during a demonstration using metered water from a hydrant in cooperation with the City of San Diego's Water Department.

rev. 4/99

Appendix 6-G: Sample Warning Sign

**DANGER!**  
**CONTAMINATED WATER**  
**KEEP OUT**



**AGUA CONTAMINADA**  
**ALEJESE**  
**PELIGRO!**

**PALMDALE SEWER**  
**MAINTENANCE DISTRICT**  
**CALL: 661-267-5259**



**CITY OF PALMDALE**

## Appendix 6-H: Sewer Maintenance Rapid Response Program

# CARL WARREN & COMPANY

### Claims Management and Solution

CA License 2607296

[www.carlwarren.com](http://www.carlwarren.com)

*Emergency Response Specialist*

Emergency Cell:  
(805) 402-4253 Wendy Zuckman  
P.O. Box 116  
Glendale, CA 91209

Ph: (818) 247-2206

Fax: (818) 247-0084

**City of Palmdale Public Works Department  
Sewer Maintenance Rapid Response Program**

**IF THE FLOOD OUT IS NOT DUE TO A BLOCKAGE IN THE MAINLINE SEWER:**

1. Crews should inform the constituent that the problem is not in the mainline and that they should contact a plumber to correct the problem.
2. Contact the Sewer Maintenance Supervisor or Utilities Division Manager to meet you on-site.
3. Recommend the constituent turn off the water supply or any appliances that use water until the stoppage has been relieved.
4. Crews should then contact city crew or contractor to clean the mainline sewer as a precautionary step and then return to their normal duties.

**IF THE FLOOD OUT IS DUE TO A BLOCKAGE IN THE MAINLINE SEWER:**

1. Crews shall setup containment for the overflow, setup the equipment, and relieve the stoppage.
2. Contact the Sewer Maintenance Supervisor or Utilities Division Manager to meet you on-site.
3. Recommend the constituent turn off the water supply or any appliances that use water until the stoppage has been relieved.
4. The highest-ranking representative shall make contact with the constituent and explain the Rapid Response Service Program.
5. After the constituent has signed the authorization form, provide them with the pink copy and direct them to contact the City Attorney's Office to complete a claim form (661) 267-5108.
6. **Contact the Carl Warren representative, Wendy Zuckman, at (805) 402-4253.**
7. Inform the Carl Warren representative that we need to have a remediation company respond to the location that same night and to please call you back with an estimated time of arrival for the remediation company.
8. Inform the constituent of the following:
  - Estimated time of arrival of the remediation company.
  - Carl Warren representative will explain the process and assist in completing the claim for damages form.
  - Carl Warren representative will explain the restoration process.
9. Crews are to remain at the location until the arrival of the remediation company.
10. On the top copy of the Rapid Response Service Program Authorization form write down the name of the remediation company and the name of the representative.

11. If the constituent declines to use the Rapid Response Service Program, then ask another member of the crew to witness that the constituent has declined to use the program and write on the form that they declined. Give the constituent the pink copy of the Rapid Response Service Program Authorization Form, and direct them to contact the City Attorney's Office, (661) 267-5108, if they would like to file a claim against the City.
12. Sewer Maintenance Crews are to remain on site until both the Carl Warren Representative and the remediation company arrive. While waiting, provide as much documentation of the incident as possible (pictures, sketches, estimated damage, volume released, etc.)
13. **Check off list:**
  - Rapid Response Authorization Form give to constituent (pink copy)
  - City Attorney information given to constituent
  - Carl Warren & Company information given to constituent

Map Sheet No. \_\_\_\_\_ Date \_\_\_\_\_ Signature \_\_\_\_\_

## Chapter 7 FOG Control Program

This section of the SSMP presents the extent and nature of SSOs related to Fats, Oils, and Grease (FOG) and the need for a FOG Control Program.

### 7.1 Regulatory Requirements for the FOG Control Program Element

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

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

### 7.2 Nature and Extent of FOG Problem

The City has reported several FOG-related SSOs using CIWQS during the period July 1, 2009 to June 30, 2013. The City experienced six SSOs in 2009/2010, two SSOs in 2010/2011, two SSOs in 2011/2012, one SSO in 2012/2013, and one SSO in 2013/2014. The City's average, based on 18 months of data, is 1.35 SSOs/100 miles/year. The data for the eight SSOs are shown on **Table 7-1**. Based on this data, it can be concluded that Palmdale has a minor FOG problem.

The City cleans approximately 50-75 miles of sewer lines on a periodic maintenance schedule in order to prevent blockages and SSOs. The City has limited maintenance data identifying the cause of existing maintenance issues and in the process of gathering information through sewer cleaning and sewer inspection to identify the specific maintenance issues for each pipe in the periodic maintenance cleaning program. The locations of this maintenance group are shown in **Figure 4-2**. The map shows that the group previously identified by the CSMD are primarily in commercial areas; however, sewer lines serving residential areas are also included. The municipal code includes provisions for the City to be able to address and require the installation of FOG controls. The City already has over 219 Food Service Establishments (FSE's) permitted and regularly inspected, and 121 automotive service/repair shops enrolled in the industrial waste program.

**Table 7-1: Analysis of FOG-Related SSO Data (7/1/2009 – 12/31/2010)**

Performance Indicator		Value
SSO Rate, SSOs/100 miles/year		1.35
Primary Cause of SSOs	Roots	12.5%
	Grease	87.5%
	Debris	0%
	Pipe Failure	0%
	Lift Station Failure	0%
	Other	0%
<i>Data Source: CIWQS</i>		

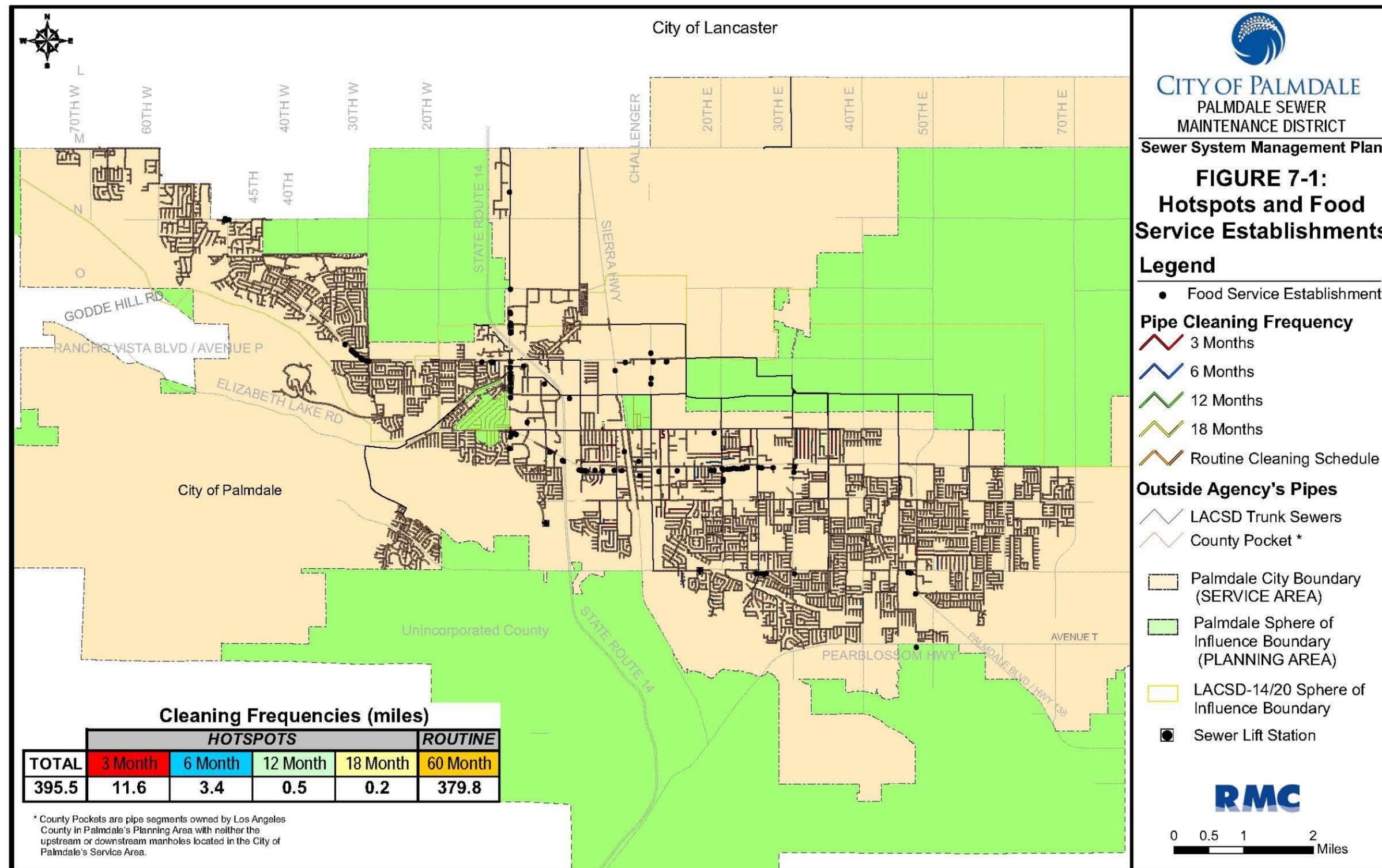
There are approximately 219 commercial FOG sources (restaurants) in the City's wastewater collection system service area currently permitted. There are likely other FOG sources (e.g. commercial kitchens, caterers, institutional kitchens) that are discharging FOG to the City's sewer system. The majority of the commercial FOG sources are located on Palmdale Blvd., 10<sup>th</sup> St. W., and Rancho Vista Blvd. **Figure 7-1** shows the City's periodic maintenance group in relationship to commercial sources of FOG. The map demonstrates that there are many areas of the City where frequent preventive maintenance is not required in spite of many commercial sources of FOG. The City maintains a database of all known commercial and industrial FSEs.

### 7.3 Public Outreach Program

Information on proper disposal of FOG and other SSO prevention measures, including installation of backwater valves, house lateral maintenance, etc. is disseminated through publication of an Annual Report, brochures, articles in City newsletters, and individual notices distributed to property owners. The City also utilizes personal contacts with business owners by field crews and industrial waste staff. These methods have proven to be very effective in relaying information on proper disposal of FOG and SSO prevention methods to stakeholders. Expanded use of the City's website, use of radio and television announcements and other aggressive means will be explored in the future.

The City already makes available at City Hall brochures and handouts available from the County Public Works Department Industrial Waste Section and FSE brochures and educational posters developed by the Los Angeles County Sanitation District. The City has made basic FOG information and references to appropriate internet links on this subject available at its website. As the City continues to evaluate the need for a more defined FOG program, more aggressive public education and outreach will be considered and if warranted, produced and distributed. The City will also coordinate and support the local treatment plants efforts to deal with this issue.

Figure 7-1: Hotspots and Food Service Establishments Map



## 7.4 Disposal of FOG

Currently, solidified fats found in the collection system during cleaning operations are trapped, collected and taken to the Los Angeles County Sanitation District 20 Facility in Palmdale. Other debris collected from the system is also taken to Los Angeles County Sanitation Districts (CSD) facilities. FOG in liquid form is flushed downstream by hydro jetting to the Los Angeles County Sanitation District reclamation plants for treatment and disposal.

The City will continue with the current program and will evaluate the effectiveness of the program. A summary of the current FOG Control activities are listed in

**Table 7-2: Summary of FOG Control Program Activities**

Focus	Activity	Status
Commercial Sources	Identify FOG disposal sites and distribute information to liquid waste haulers.	City to develop and distribute.
	Encourage the use of BMPs in commercial kitchens.	City will continue to encourage use of BMPs during inspections.
High Density and Low Density Residential Sources	Repair/replace problem sewers identified during CCTV inspection program.	Ongoing
	Prepare and publish outreach materials.	City to prepare materials for Annual Report, brochures, articles in City newsletters, and individual notices distributed to property owners.
Sewer System Performance	Gather information for next SSMP update.	Ongoing

## 7.5 Legal Authority to Prohibit Discharges to the System

The legal authority to prohibit discharges of FOG into the sewer system is discussed in Chapter 3 of this document. Requirements for grease interceptors at food service establishments to prevent the discharge of grease to the sewer system and educating the public on proper disposal methods for FOG are discussed below.

### 7.5.1 Requirements to Install Grease Removal Devices, Design Standards for Grease Removal Devices, Maintenance Requirements, BMP Requirements; Record Keeping and Reporting Requirements

The City’s municipal code addresses FOG in Chapter 13.11, Industrial Waste and in Chapter 13.14, Sanitary Sewer Overflow Prevention.

### 7.5.2 FOG Preventative Maintenance

The City currently employs preventive maintenance as the primary method to address FOG issues in the system. The City will be identifying specific pipes in the system with grease issues through proactive cleaning, periodic cleaning and pipeline inspections. The sewer cleaning frequency of pipes with known grease issues will be adjusted and optimized to address the issue. The City will employ the methods outlined in Chapter 4 – Operations and Maintenance Program to optimize its preventive maintenance activities.

### 7.5.3 GRD Installation, Design, Maintenance, and Record Keeping

Requirements for the installation of grease removal devices are included in the Industrial Waste and FOG ordinances.

#### **7.5.4 Best Management Practices**

Best management practices (BMPs) are activities, practices, facilities, and/or procedures that when implemented to the maximum extent practicable will prevent or reduce pollutants in discharges. Some examples of BMPs are: scraping and dry wiping dishes and cooking utensils prior to washing, general good housekeeping, proper waste handling, and disposal. The City will continue to encourage the use of BMPs during its restaurant inspection program and has requirements for BMP's in the Palmdale Municipal Code, Chapter 13.14, Overflows in the Section titled "Duty of the Discharger".

### **7.6 Authority to Inspect Grease Producing Facilities, Enforcement Authorities, and Evidence of Adequate Staffing to Inspect and Enforce the FOG Ordinance**

As discussed in Chapter 3 of this document the City has the legal authority to inspect and enforce the City FOG ordinance in Chapter 13.14 of the Municipal Code. The City plans on using food service establishment (FSE) inspections as a secondary method to address FOG issues. Starting on January 1, 2011, the City will begin performing FSE inspections using City staff. The County may still provide support for performing FSE inspections along with the joint permits that are issued by LACSD. The City will provide inspected FSE's with educational materials describing FOG BMPs, perform a review of cleaning records, and perform an inspection of existing grease removal devices to determine if the device is operating properly. The City will notify inspected FSEs of any issues found during the inspection along with corrective actions required and will perform follow-up inspections to ensure that corrective actions are implemented. The City will provide adequate staff to conduct inspections of permitted FSEs located immediately upstream of known collection system FOG issues and within the City limits.

### **7.7 Cleaning Schedule for Identified FOG Prone Sewer Segments**

The City has a periodic maintenance cleaning program where pipe segments are cleaned on a 3, 6, 12, and 18 month frequency. The City is currently examining cleaning data and determining the maintenance frequency for particular sewer pipes. These pipe segments are typically cleaned by hydro jetting. The City plans to continue with the current cleaning program, and gathering cleaning data over the next several years. This data will identify specific pipes having grease issues and will be utilized to focus periodic cleaning on pipes with known grease issues. This program will continue in conjunction with the CCTV evaluations to determine areas suspected of FOG related or increased maintenance requirements.

### **7.8 Identification of Sewer System Sections Subject to FOG Blockages and Establish a Cleaning Maintenance Schedule for Each Section**

The City evaluated the CSMD maintenance activities and determined that no apparent problems currently exist in the sewer collection system. The CSMD maintained a regular "hot spots cleaning" program, the City adopted this active schedule on July 1, 2009 and has adjusted the maintenance, and inspection frequencies as additional data has been collected. The City will continue to proactively manage all collection system sections based upon pipe evaluations, cleaning results and historical patterns that result from the ongoing proactive maintenance program. The City will regularly evaluate modifications and changes to the FOG program.

## **7.9 Development and Implementation of Source Control Measures – For All Sources of FOG Discharged to the Sewer System and For Each Sewer System Section Identified in Previous Section**

The City anticipates that all CCTV evaluations and assessments of the periodic maintenance locations will be completed during 2011/2012 and the City will thereafter, based on additional system operational outcomes, determine the need for FOG program expansion. In addition, the annual collection system reports will provide evaluation of the FOG related sewer system overflows as to the underlying causes of these problems.

## **7.10 FOG Disposal Facilities**

The list of identified FOG disposal sites and liquid waste haulers is included as **Appendix 7-A**. The City will update the list as required. This information will be distributed by the City during its restaurant inspections. The information will be disseminated through publication of an Annual Report, brochures, and articles in City newsletters.

The number and close proximity of the disposal sites is adequate to handle liquid wastes being removed from current and future grease removal equipment within the City.

## Appendix 7-A: Grease Haulers and FOG Disposal Facilities

Grease Haulers and FOG Disposal Facilities serving the Palmdale area as of February 2014 are shown in the following lists.

<b>Grease Rendering/Drop Off Points for Palmdale Area</b>			
A Plus Superior Sanitation	3601 Smith Ave. Action, CA	(661) 269-0283	
Baker Commodities, Inc.	4020 Bandini Blvd Los Angeles, CA (Vernon, CA)	(323) 269-6177 or (800) 427-0696	Grease recycler. Drop off location and grease trap cleaning/hauling.
Co-West Commodities (Park West Enterprises, Inc)	1389 W Mill St San Bernardino, CA	(909) 383-8341	Drop off location; (no cleaning services for Lancaster area)
Darling International	2626 E 25th St Los Angeles, CA	(800) 447-3273	Drop off location and grease trap cleaning/hauling.
Enviro-Tech	20930 Ben Ct. Santa Clarita, CA	(661) 296-2394	
One More Time	4144 Bandini Blvd Los Angeles, CA (Vernon, CA)	(800) 624-5504	Used cooking oil only
Southwest Processors	4120 Bandini Blvd Los Angeles, CA (Vernon, CA)	(800) 900-3366	Grease recycler. Drop off location and grease trap cleaning/hauling.
West Coast Rendering	4105 Bandini Blvd Los Angeles, CA (Vernon, CA)	(323) 261-4176	Small operation. Typically only accept grease from known grease hauler (Triple A). No grease trap servicing.

<b>Grease Trap Cleaning/Hauling</b>		
A Plus Superior Sanitation	3601 Smith Ave. Action, CA	(661) 269-0283
Alex Sanitation	(661) 942-2306	Located in Lancaster
Enviro-Tech	20930 Ben Ct. Santa Clarita, CA	(661) 296-2394
Triple A Pumping & Jetting Inc.	(714) 628-0900	Grease and cooking oil removal; grease trap pumping.

## Chapter 8 System Evaluation and Capacity Assurance Plan

### 8.1 Introduction

This section of the SSMP presents the City's System Evaluation and Capacity Assurance Plan (SECAP).

### 8.2 Regulatory Requirements for the System Evaluation and Capacity Assurance Plan Element

The requirements for the SECAP element of the SSMP are summarized below:

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

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

### 8.3 Capacity Evaluation

Although there have been no documented capacity-related SSOs in the City, a comprehensive capacity evaluation using a dynamic hydraulic model was performed to quantify flows and capacities in all major sewers under current and future flow conditions. This evaluation and its findings are documented in the report: City of Palmdale Sewer Master Plan, May, 2009 (Master Plan), and are summarized here.

The City's collection system was modeled using Wallingford Software's InfoWorks CS (version 9.0) program. InfoWorks CS uses Wallingford's proprietary hydraulic engine, which provides a fully dynamic solution for modeling stormwater and sanitary sewer systems. The sewers included in the model consisted of all Palmdale sewers larger than eight inches in diameter, all of the trunk sewers owned by Districts 14 and 20 of the County Sanitation Districts of Los Angeles County (LACSD) that receive significant flows from City sewers, and additional 6- and 8-inch sewers serving larger areas (generally over 40 acres). Approximately 11 percent of all of the 6- and 8-inch pipes were added. Although ensuring adequate capacity in LACSD trunk sewers is not the City's responsibility, the trunks were included in the analysis to create a single connected network and to identify existing or future potential capacity restrictions in trunk sewers that could cause backups or overflows in City sewers. Also included in the model were a

few interconnected sewers outside the City limits that are maintained by the Consolidated Sewer Maintenance District of the Los Angeles County Department of Public Works (CSMD).

The resulting model network consists of about 2,800 pipe segments covering 138 miles. City-owned sewers account for 93 miles of the modeled network, which represents 23 percent of 396 miles in the City's system. Of the other 45 miles of modeled sewers, about 42 miles are LACSD trunk sewers and 3 miles are CSMD sewers. The model network has one major outfall (endpoint) – the Palmdale Water Reclamation Plant (PWRP). There are also four minor outfalls corresponding to points where LACSD trunk sewers carrying flow from Palmdale cross into the City of Lancaster.

The primary source of data on the location and attributes (i.e., pipe diameters, lengths, elevations, etc.) of the sewer manholes and pipes was the sewer GIS created by the City using information on sewer record drawings and limited field checks. The GIS data was validated and enhanced to ensure complete and accurate data for modeling, including elevations of all pipes and manholes on a common vertical datum.

The City's service area was divided into 478 tributary areas (median size of 40 acres) for the purposes of estimating existing and future (2030 and buildout) wastewater flows. Flows in all tributary areas were estimated using a variety of information sources including census household and population data, general plan land uses, City and regional population and employment growth projections, and sewer billing records. The unit flow rates for dry weather flow conditions were calibrated using 34 of the temporary flow monitors installed by LACSD in Palmdale (May of 2006) and Lancaster (September of 2006).

Wet weather flows, which did not occur during the LACSD temporary flow monitoring program, are difficult to capture in Palmdale due to the rarity of rainfall events and the low rainfall totals (annual average of 7.4 inches). The best available data on historical wet weather flows comes from influent data recorded at the PWRP. Based on an analysis of influent flows since 2000, peak flows increased only during large rainfall events of over an inch, and flows returned to normal within a day. During an extremely wet period in the 2004-2005 wet weather season (18.5 inches of rain during the season), the maximum wet weather peak flow attributed to infiltration/inflow of rainwater into the sewers was 6.3 million gallons per day (mgd) above the normal dry weather peak flow of about 14 mgd. This amount of infiltration/inflow was modeled by distributing it to sewers based on their year of construction, assuming a ratio of 3:1 in the per-acre flow rate in pre-1960 sewer versus post-1960 sewers. The resulting infiltration/inflow of 2000 gallons per day per acre (pre-1960 sewers) or 650 gallons per day per acre (post-1960 sewers) was added to the dry weather flow to create a wet weather scenario for analysis.

The hydraulic model was used to generate peak flows in each modeled pipe and to evaluate pipe capacities. A pipe was considered to have inadequate capacity if the ratio of flow depth to pipe diameter ( $d/D$ ) at peak dry weather flow exceeded 75 percent under either existing or future conditions. Based on these criteria, all of the City's sewers were determined to have adequate capacity now and through 2030. Under peak wet weather flow conditions, a pipe was considered to have inadequate capacity only if it surcharged by over two feet above the crown of the pipe. Again, the City's sewers were found to have adequate capacity through 2030.

The conclusion of the capacity evaluation was that Palmdale's sewer system has adequate capacity for current and future flows through at least 2030, and that no capital improvements are required at this time for the purposes of increasing sewer capacity.

## 8.4 Design Criteria

In addition to the criteria used to evaluate the capacity of the existing sewers (as described in the preceding section), the City has separate criteria that they enforce for the design of all new sewers. The Municipal Code in Chapter 13.08 established design standards that are used for the design of all new facilities. The Engineering Design Guidelines adopted by reference in this Chapter includes unit flow

factors for the sizing of new sewer lines. Prior to approving new sewers, the City requires developers to perform a sewer area study that applies these criteria to confirm adequate capacity in all proposed sewers.

## **8.5 Capacity Enhancement Measures and Schedule**

The conclusions of the capacity evaluation and the required capacity enhancement measures were documented in the May 2009 Master Plan. Based on the findings, there is only one 800-ft section of 8-inch diameter pipe that slightly exceeds the 75 percent full criteria under existing dry weather flow conditions, but is not projected to surcharge more than two feet under 2030 wet weather flow conditions. Because this capacity deficiency is minor and doesn't pose a significant overflow risk, the Master Plan is likely to recommend further monitoring rather than replacement with a larger pipe. The Master Plan will likely also recommend other specific locations for further monitoring, including the installation of passive surcharge monitors in sewers that are closest to exceeding capacity criteria. The monitor locations that will be described in the Master Plan and may be modified over time as initial data is gathered and assessed. These monitors will be checked after major storms to determine if surcharging actually occurred. The City will share its modeling and monitoring findings with LACSD, who are responsible for ensuring that the trunk sewers have adequate capacity.

The Master Plan also notes six other locations where the capacity evaluation identified that existing sewers may need to be upsized or relieved in the future to accommodate projected upstream development. This information will be considered when the City reviews sewer area studies of those developments to ensure that the developers are required to provide the needed capacity improvements.

The City should evaluate the Sanitary Sewer Master Plan as future development occurs to determine if it requires substantial changes and updating. If it is determined that revisions are necessary, the updates should be completed prior to the next scheduled SSMP biannual audit.

## Chapter 9 Monitoring, Measurement, and Program Modifications

This section of the SSMP presents the City's approach to Monitoring, Measurement, and Program Modifications.

### 9.1 Regulatory Requirements for the Monitoring, Measurement, and Program Modifications Element

The requirements for the Monitoring, Measurement, and Program Modifications element of the SSMP are that the City shall:

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

### 9.2 Performance Measures

The indicators that the City will use to measure the performance of its wastewater collection system and the effectiveness of its SSMP are:

- SSO Rate (SSOs/100 miles/year);
- Number of SSOs for each cause (roots, grease, debris, pipe failure, capacity, lift station failures, and other);
- Median SSO volume (gallons);
- Percentage of SSOs greater than 100 gallons;
- Percentage of SSOs reported as Category 1;
- Percentage of sewage contained compared to total volume spilled; and
- Percentage of total spilled sewage discharged to surface water.

### 9.3 Historical Performance Data

The City has been responsible for reporting SSOs using CIWQS since July 1, 2009. In addition, the City Council receives annual Collection System Performance Reports following the end of each fiscal year. CIWQS data, which is included as **Appendix 9-A**, will be used as the City's historical performance data.

### 9.4 Baseline Performance

The baseline performance, which shows the performance of the City's wastewater collection prior to the implementation of the SSMP, is shown on **Table 9-1**.

Geospatial and trend analysis is not meaningful at this time due to the limited quantity of data available. Further analysis will be conducted in future years as additional data becomes available.

**Table 9-1: Baseline Performance (7/1/2009 – 3/31/2014)**

Performance Indicator		Value
SSO Rate, SSOs/100 miles/year		0.25
Primary Cause of SSOs	Roots	7.7%
	Grease	92.3%
	Debris	0%
	Pipe Failure	0%
	Lift Station Failure	0%
	Other	0%
Median SSO Volume, gallons		750
Portion of SSOs ≤ 100 gallons		0%
Portion of SSOs Reported as Category 1		6.25%
Portion of Spilled Sewage Contained and Recovered		99%
Portion of Spilled Sewage Entering Storm Drains		1%
<i>Data Source: CIWQS</i>		

## 9.5 Performance Monitoring and Program Changes

The City will evaluate the performance of its wastewater collection system at least annually using the performance measures identified in Section 9.2, Performance Measures, above. The City will update the data and analysis of performance measures at the time of the evaluation. The City may use other performance measures in its evaluation.

## 9.6 SSMP Updates

The City will update its SSMP at least every five years. The next update will be completed on or before January 2019.

The City will determine the need to update its SSMP more frequently based on the results of the bi-annual audit and the performance of its sanitary sewer system. In the event that the City decides that an update is warranted, the process to complete the update will be identified at that time. The City will complete the update within one year following identification of the need for the update.

The City Staff will seek approval from the City Council for any significant changes to the SSMP and SSMP council adoption resolutions will be kept in **Appendix 11-D**. The authority for approval of minor changes such as employee names, contact information, or minor procedural changes is delegated to the Public Works Director. All changes to the SSMP will be identified on **Appendix 11-A** Management of Change Log.

The City will certify that it has completed the bi-annual audit using CIWQS. Copies of the current SSMP document will be available to all interested parties at Palmdale City Hall, 38300 Sierra Highway, during normal business hours and on the City Public Works website at <http://www.cityofpalmdale.org/departments/publicworks/>.

## Appendix 9-A: Historical SSO Data July 1, 2009 – March 31, 2014

Date	Street Number	Street Name	Estimated Volume, gallons	Volume Recovered, gallons	Volume Entering Storm Drain, gallons	Primary Cause
9/22/2009	--	40 <sup>th</sup> Street East	6,000	6,000	0*	Grease
12/19/2009	36902	Doheny Lane	200	200	0	Grease
12/25/2009	4604	Avenue S	1500	1500	0*	Grease
1/29/2010	38917	Newport Road	300	300	0	Grease
3/8/2010	503	Hilltop Terrace	750	750	0	Roots
3/18/2010	3007	East Avenue S-4	16000	16000	0*	Grease
7/18/2010	5004	Knight Way	350	350	0	Grease
9/19/2010	39254	Willowvale Road	450	360	90	Grease
2/2/2011	211	Avenue R-4	600	600	0	Grease
2/28/2011	38202	Pioneer Drive	1609	1609	0*	Grease
9/15/2011	38633	Landon Avenue	250	250	0	Grease
2/18/2012	470	Makin Avenue	1015	1015	0*	Grease
12/31/2012	1240	Avenue S	3604	3604	0*	Grease

\* On each of these spills, the entire discharge reached the storm drain system (dead end or “bubble-up” structures). In each case, the discharge and any existing stormwater contained therein was removed.

## Chapter 10 SSMP Program Audits

This section of the SSMP presents the process the City will follow to audit its SSMP and related programs.

### 10.1 Regulatory Requirements for the SSMP Audits Element

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

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 City's compliance with the SSMP requirements identified in this subsection (D.13 of the WDR), including identification of any deficiencies in the SSMP and steps to correct them.

### 10.2 SSMP Audits

The City will audit its SSMP every two years. The audit will determine whether the SSMP meets the current requirements of the WDR, whether the SSMP reflects the City's current practices, and whether the City is following the SSMP.

The audit will be conducted by a team consisting of City Staff, other agency personnel and/or consultants or contractors from the surrounding area.

The scope of the audit will cover each of the sections of the SSMP. The SSMP Audit Form, based on the requirements in the WDR, will be used for the audit and is included in **Appendix 11-A**.

The results of the audit will be included in the SSMP Audit Report. The SSMP Audit Report will focus on the effectiveness of the SSMP program, compliance with the WDR requirements, and identification of any deficiencies in the SSMP. The SSMP Audit Report will identify revisions that may be needed for a more effective program. Information collected as part of Section 9 – Monitoring, Measurement, and Program Modifications will be used in preparing the audit. Tables and figures or charts will be used to summarize information about performance indicators. **Appendix 11-C** provides a copy of the May 2011 Audit Report.

The City will certify that it has completed the bi-annual audit using CIWQS. Copies of the bi-annual Audit Reports will be retained by the City for five years in **Appendix 11-C**.

## Chapter 11 Communication Program

This section of the SSMP is intended to outline the process involved in communicating with interested members of the public regarding the development, implementation, and performance of this plan.

### 11.1 WDR Requirement for the Communication Program

The requirements for the Communication Program section of the SSMP are:

The Agency shall:

- (a) 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 Agency as the program is developed and implemented.
- (b) Create a plan of communication with systems that are tributary and/or satellite to the Agency's sanitary sewer system.

### 11.2 Communication During SSMP Development Implementation and Performance

On August 1, 2007, City Council approved the SSMP Development Plan and Schedule. The Development Plan and Schedule details the schedule to prepare the SSMP.

The City posted a notice on its website on February 6, 2009 to inform interested members of the public that the City was developing an SSMP. The notice is located on the City's website at the following link:

[http://www.cityofpalmdale.org/departments/publicworks/engineering/Sewer%20System%20Management%20Plan%20\(SSMP\).PDF](http://www.cityofpalmdale.org/departments/publicworks/engineering/Sewer%20System%20Management%20Plan%20(SSMP).PDF).

The draft SSMP was available for review at the office of the Director of Public Works at City Hall, 38250 Sierra Highway, Palmdale, CA 93550 during normal business hours. Interested parties could contact the Utilities Services Division at 661-267-5272 for additional information.

The City also communicated the implementation of the SSMP at a City Council meeting which was documented on the City Council agenda and meeting notes on April 1, 2009. On April 1, 2009, City Council reviewed and approved the SSMP and communicated that the document will be available for the public to review at the receptionist's desk in City Hall located at 38250 Sierra Highway in the Development Services Building or on the Department of Public Works Utilities Division website.

As a result of the issuance of a revised Monitoring and Reporting Program by the SWRCB effective on September 9, 2013, major revisions to the SSMP were required especially in Element 6, Overflow Emergency Response Plan. These changes required new consideration by the Palmdale City Council. The City Council considered these changes at a regular Council Meeting on May 7, 2014. The City Council adopted the revised SSMP on May 7, 2014 as documented in **Appendix 11-D**.

### 11.3 Communicating Sanitary Sewer System Performance

The City reports SSOs electronically to the California Integrated Water Quality System (CIWQS). The electronic SSO data, as well as information regarding regulatory actions, is available at:

[http://www.waterboards.ca.gov/water\\_issues/programs/ciwqs/publicreports.html](http://www.waterboards.ca.gov/water_issues/programs/ciwqs/publicreports.html).

In addition, City collection system staff will report sanitary sewer system performance to the City Council annually in a public meeting. Copies of all annual performance reports will be added to posted to the Utilities Services Division webpage

(<http://www.cityofpalmdale.org/departments/publicworks/utilities/index.html>), after presentation to City Council.

## **11.4 Communication with Tributary/Satellite Sanitary Sewer Systems**

The City has reviewed the sewer pipelines that are tributary to the City's collection system and determined that City sewers convey flow from a small number of connections owned by customers of the Los Angeles County Department of Public Works, Consolidated Sewer Maintenance District (CSMD). There are two areas (County Pockets) located within the City of Palmdale's service area. These areas are small and consist of a total of 8.4 miles of small diameter sewers. The City has entered into an agreement with the County of Los Angeles that addresses the issues associated with the discharges into the City of Palmdale sewer system. Ongoing regular communication with the County have continued between the Sanitary Sewer Collection System Supervisor and the Northern Regional Superintendent on an as needed basis.

## Appendix 11-A: City of Palmdale Sewer System Management Plan Audit Report Form

**Audit Date:** \_\_\_\_\_

*The purpose of the SSMP Audit is to evaluate the effectiveness of the City of Palmdale's (City's) SSMP and to identify any needed for improvement.*

**Directions:** Please check **YES** or **NO** for each question. If **NO** is answered for any question, describe the updates/changes needed and the timeline to complete those changes.

		YES	NO
<b>INTRODUCTION AND ELEMENT I - GOALS</b>			
A.	Have there been any changes to the system that require updates to the System Overview summary in the Introduction?	<input type="checkbox"/>	<input type="checkbox"/>
B.	Is Figure 1, Service Area and Geographic Features up-to-date?	<input type="checkbox"/>	<input type="checkbox"/>
C.	Have the boundaries of the City service area changed since the last Audit? If so, describe the changes.	<input type="checkbox"/>	<input type="checkbox"/>
D.	Have there been any changes in the regulations that should be identified and described in the Introduction?	<input type="checkbox"/>	<input type="checkbox"/>
E.	Are the goals stated in the SSMP still appropriate and accurate?	<input type="checkbox"/>	<input type="checkbox"/>
Discussion:			
<b>ELEMENT II - ORGANIZATION</b>			
A.	Is the List of City Staff Responsible for SSMP, Appendix 2-A current? Is all contact information up-to-date?	<input type="checkbox"/>	<input type="checkbox"/>
B.	Is the SSO Reporting Chain of Communication Overview, Figure 2-1 still current?	<input type="checkbox"/>	<input type="checkbox"/>
C.	Is Appendix 2-B of the SSMP, the City Organization Chart, current?	<input type="checkbox"/>	<input type="checkbox"/>
D.	Are the position descriptions an accurate portrayal of staff responsibilities?	<input type="checkbox"/>	<input type="checkbox"/>
E.	Is Table 2-2, Chain of Communication for Reporting and Responding to SSOs accurate and up-to-date?	<input type="checkbox"/>	<input type="checkbox"/>
F.	Is the list of LRO officials in the CWIQS System current? Are all legally responsible officials and data submitters identified in the SSMP?	<input type="checkbox"/>	<input type="checkbox"/>
Discussion:			
<b>ELEMENT III – LEGAL AUTHORITY</b>			

Does the SSMP contain current references to the Palmdale Municipal Code documenting the legal authority to:			
A.	Prevent illicit discharges?	<input type="checkbox"/>	<input type="checkbox"/>
B.	Require proper design and construction of sewers and connections	<input type="checkbox"/>	<input type="checkbox"/>
C.	Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained b the City?	<input type="checkbox"/>	<input type="checkbox"/>
D.	Limit discharges of fats, oils and grease?	<input type="checkbox"/>	<input type="checkbox"/>
E.	Enforce any violation of the sewer ordinances?	<input type="checkbox"/>	<input type="checkbox"/>
F.	Were any changes or modifications made in the past year to City Sewer Ordinances, Regulations or standards?	<input type="checkbox"/>	<input type="checkbox"/>
G.	Are the sewer service charge provisions current and provide the authority for full funding of the sanitary sewer operations?	<input type="checkbox"/>	<input type="checkbox"/>
H.	Has there been documented and regular communications with other agencies providing trunk and County services within Palmdale?	<input type="checkbox"/>	<input type="checkbox"/>
Discussion:			

**ELEMENT IV – OPERATIONS AND MAINTENANCE**

**Collection System Maps**

A.	Does the SSMP reference the current process and procedures for maintaining the City’s sanitary sewer system maps?	<input type="checkbox"/>	<input type="checkbox"/>
B.	Are the City’s sanitary sewer system maps complete, current and sufficiently detailed? Do they include all system additions since the last Audit?	<input type="checkbox"/>	<input type="checkbox"/>
C.	Are SSO responders able to determine locations of storm drainage inlets and pipes for possible discharge to waters of the state? Have all new additions been added to the sewer maps?	<input type="checkbox"/>	<input type="checkbox"/>

**Preventive Maintenance**

C.	Does the SSMP describe current preventive maintenance activities and the system for prioritizing the cleaning of sewers?	<input type="checkbox"/>	<input type="checkbox"/>
D.	Based upon information in the Annual SSO Report, are the City’s preventive maintenance activities sufficient and effective in minimizing SSOs and blockages?	<input type="checkbox"/>	<input type="checkbox"/>

**Rehabilitation and Replacement Plan**

E.	Is there an ongoing condition assessment program sufficient to develop a capital improvement plan addressing the proper management and protection of infrastructure assets? Are the current components of this program documented in the SSMP?	<input type="checkbox"/>	<input type="checkbox"/>
F.	Does the SSMP contain a prioritized capital improvement plan for future rehabilitation and replacement of the sanitary sewer system?	<input type="checkbox"/>	<input type="checkbox"/>

**Equipment and Parts Inventory**

G.	Does the SSMP list the major equipment currently used in the operation and maintenance of the collection system and documents the procedures of inventory management?	<input type="checkbox"/>	<input type="checkbox"/>
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H.	Are contingency and replacement parts sufficient to respond to emergencies and properly conduct regular maintenance?	<input type="checkbox"/>	<input type="checkbox"/>
<b>Training</b>			
I.	Does the SSMP document current training expectations and programs?	<input type="checkbox"/>	<input type="checkbox"/>
<b>Outreach to Plumbers and Building Contractors</b>			
J.	Does the SSMP document current outreach efforts to plumbers and building contractors? Have all City construction projects included references top sewer related emergency response and have these issues been discussed during project meetings during construction?	<input type="checkbox"/>	<input type="checkbox"/>
K.	Are all forms used during sanitary sewer system cleaning and CCTV inspection current or require changes to mirror current operations?	<input type="checkbox"/>	<input type="checkbox"/>
L.	Have the Annual Pump Station Inspections been conducted and are necessary improvements scheduled and being implemented?	<input type="checkbox"/>	<input type="checkbox"/>
Discussion:			
<b>ELEMENT V- DESIGN AND PERFORMANCE STADARDS</b>			
A.	Does the SSMP reference current design and construction standards for the installation of new sanitary sewer systems, pump stations and other appurtenances and for the rehabilitation and repair of existing sanitary sewer systems?	<input type="checkbox"/>	<input type="checkbox"/>
B.	Does the SSMP document current procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and the rehabilitation and repair of existing sewer lines?	<input type="checkbox"/>	<input type="checkbox"/>
Discussion:			
<b>ELEMENT VI – OVERFLOW AND EMERGENCY RESPONSE PLAN</b>			
A.	Does the City’s Sanitary Sewer Overflow Emergency Response Plan establish procedures for the emergency response, notification, and reporting of SSOs?	<input type="checkbox"/>	<input type="checkbox"/>
B.	Is City staff and contractor personnel appropriately trained on the procedures of the Sanitary Sewer Overflow Emergency Response Plan? Are all training sessions documented and maintained in City files?	<input type="checkbox"/>	<input type="checkbox"/>
C.	Considering SSO performance data, is the Sanitary Sewer Overflow Emergency Response Plan effective in handling SSOs in order to safeguard public health and the environment?	<input type="checkbox"/>	<input type="checkbox"/>

D.	Are all SSO and claims reporting forms current or do they require revisions or additions?	<input type="checkbox"/>	<input type="checkbox"/>
E.	Does all SSO event recordkeeping meet the GWDR requirements? Are all SSO event files complete and certified in the CIWQS system?	<input type="checkbox"/>	<input type="checkbox"/>
F.	Is all information in the CIWQS system current and correct? Have periodic reviews of the data been made during the year to assure compliance with GWDR? Have all Technical Report and Water Quality Sampling requirements been met and uploaded to the CIWQS data management system?	<input type="checkbox"/>	<input type="checkbox"/>
G.	Are all SSO Response Procedure Flow Charts current and have all contact information been checked and certified correct?	<input type="checkbox"/>	<input type="checkbox"/>
H.	Were all large SSOs evaluated for "root cause" and did they identify corrective actions required to assure reductions or elimination of future SSOs? Were post SSO debriefing events held with appropriate staff and all responders?	<input type="checkbox"/>	<input type="checkbox"/>
I.	Were all Technical Reports and Water Quality Monitoring results of SSOs greater than 50,000 gallons submitted to the CIWQS System?	<input type="checkbox"/>	<input type="checkbox"/>
J.	Were all No Spill Certifications provided as required by the WDR regulations? Was the Annual Collection System Questionnaire completed?	<input type="checkbox"/>	<input type="checkbox"/>
K.	Are all SSO records complete and maintained for five-years from the date of the SSO? Have all files older than five years been disposed of according to City records management system requirements?	<input type="checkbox"/>	<input type="checkbox"/>
L.	Is Appendix 6-A, Sewage Spill Response and General Telephone Numbers current and up-to-date?	<input type="checkbox"/>	<input type="checkbox"/>
M.	Is staff properly trained on appropriate methods for spill volume estimation and start time requirements for all SSOs?		
Discussion:			
<b>ELEMENT VII – FATS, OILS AND GREASE (FOG) CONTROL PROGRAM</b>			
A.	Does the FOG Control Program include efforts to educate the public on proper handling and disposal of FOG?	<input type="checkbox"/>	<input type="checkbox"/>
B.	Does the FOG Control Program identify sections of the collection system subject to FOG blockages, establish a cleaning schedule and address source control measures to minimize these blockages?	<input type="checkbox"/>	<input type="checkbox"/>
C.	Are requirements for grease removal devices, best management practices (BMP), record keeping and reporting established in the City's FOG Control Program?	<input type="checkbox"/>	<input type="checkbox"/>

D.	Does the City have sufficient legal authority to implement and enforce the FOG Control Program?	<input type="checkbox"/>	<input type="checkbox"/>
E.	Is the current FOG program effective in minimizing blockages of sewer lines resulting from discharges of FOG to the system	<input type="checkbox"/>	<input type="checkbox"/>
F.	Is Appendix 7-A, Grease Haulers and FOG Disposal Facilities current or in need of revisions? Have new haulers been identified and added to the Appendix? Is the information available to the public on the City website?	<input type="checkbox"/>	<input type="checkbox"/>
Discussion:			
<b>ELEMENT VIII- SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN</b>			
A.	Does the City of Palmdale Sanitary Sewer Master Plan evaluate hydraulic deficiencies in the system, establish sufficient design criteria and recommend both short and long term capacity enhancement and improvement projects for the future?	<input type="checkbox"/>	<input type="checkbox"/>
B.	Does the City’s annual Capital Improvement Plan (CIP) establish a schedule of approximate completion dates for both short and long- term improvements and is the schedule reviewed and updated to reflect current budgetary capabilities and activity accomplishment?	<input type="checkbox"/>	<input type="checkbox"/>
Discussion:			
<b>ELEMENT IX- MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS</b>			
A.	Does the SSMP accurately portray the methods of tracking and reporting selected performance indicators?	<input type="checkbox"/>	<input type="checkbox"/>
B.	Is the City able to sufficiently evaluate the effectiveness of the SSMP elements based on relevant information?	<input type="checkbox"/>	<input type="checkbox"/>
Discussion:			
<b>ELEMENT X – SSMP AUDITS</b>			
A.	Have the annual SSMP Audit been completed, reviewed and filed in Appendix 11-C? Has the report been placed at the City website?	<input type="checkbox"/>	<input type="checkbox"/>

B.	Have the collection system performance results been provided to the City Council and the public annually? Are the results available on the City website?	<input type="checkbox"/>	<input type="checkbox"/>
C.	Have the performance results been evaluated for specific changes to meet targeted goals for SSO reduction? Have changes in procedures been implemented to enhance the City sanitary sewer operations?	<input type="checkbox"/>	<input type="checkbox"/>
Discussion:			
<b>ELEMENT XI – COMMUNICATION PROGRAM</b>			
A.	Does the City effectively communicate with the public and other public agencies about the SSMP and continue to address any feedback?	<input type="checkbox"/>	<input type="checkbox"/>
B.	Did the City Council receive and review the Annual Sewer System Report? Was the annual report uploaded to the City Sewer Section website and added to Appendix 11-C?	<input type="checkbox"/>	<input type="checkbox"/>
C.	Did City staff conduct and document meetings with satellite collection systems? Are all agreements with satellite systems current or are changes necessary to these agreements?	<input type="checkbox"/>	<input type="checkbox"/>
Discussion:			
<b>Change Log</b>			
A.	Is the SSMP Change Log, current and up to date as of this audit?	<input type="checkbox"/>	<input type="checkbox"/>
Discussion:			

Audit Team: \_\_\_\_\_

Prepared By: \_\_\_\_\_

Reviewed By: \_\_\_\_\_

Approved for Filing on: \_\_\_\_\_(date)

## Appendix 11-B: SSMP Management of Change Log

<u>Date</u>	<u>SSMP Section #</u>	<u>Description of Change/Revision Made</u>	<u>Person Making Change</u>
May 2011		Completed biannual audit and revisions to remove Maintenance Division and replace with Utilities Services Division; revised organization chart for new reporting responsibilities; replaced flow charts and revised City forms to latest versions; updated Legally Responsible Officials listing; updated all phone contact numbers; added information regarding maintenance service contractors; updated pump station maintenance responsibilities; updated CCTV completion information; revised FOG and performance standards since the initiation of City sewer services; revised Element 7 to conform to current in-house permitting and inspection processes; updated the grease haulers and disposal facilities listings; revised historical SSO data through 12/31/10; added Appendix 11-B SSMP Management of Change Log.	Gordon Phair
January 2014		Update and revise SSMP to reflect the changes to the Monitoring and Reporting Program (WQ 2013-0058-exec amended September 9, 2013); revised introduction with new WDR & census data; revised Figure 2-1 SSO Overview Flowchart; added web based notification (MyWasteApp) and Sewer Maintenance Work Orders on the City website; revised SSO Response Procedures and Flowcharts to reflect MRP revisions; revised historical performance data and baseline performance table; updated historical SSO data; updated sewer system and performance communication information.	Tim Carney

## Appendix 11-C: SSMP Bi-Annual Audit Report - 2011

Audit Date: March 9 to 15, 2011

Members: Tim Carney, Gordon Phair, Michael Mischel, Paul Causey

Section	Title	Requirement	SSMP Meets Current Requirements?	SSMP Current?	SSMP Implemented?
1	Goal	Reduce, prevent, and mitigate SSOs	Yes	Yes	Yes
2	Organization	Names of Agency staff responsible for development, implementation, and maintenance of SSMP	Yes	Yes	Yes
		Names and email addresses for key Agency staff	No	No	No
		Chain of communication for reporting SSOs	Yes	Yes	Yes
		Designate LRO(s)	Yes	Yes	Yes
		Chain of communication for reporting SSOs	Yes	Yes	Yes
3	Legal Authority	Ability to prevent illicit discharges to sanitary sewer system	Yes	Yes	Yes
		Ability to require sewers and connections be properly designed and constructed	Yes	Yes	Yes
		Ability to ensure access for inspection, maintenance, and repairs (includes public portion of lateral)	Yes	Yes	Yes
		Ability to limit discharge of FOG and debris that may cause blockages	Yes	Yes	Yes
		Ability to require the installation of grease removal devices	Yes	Yes	Yes
		Ability to inspect FOG producing facilities	Yes	Yes	Yes
		Ability to enforce violations of the Agency's sewer ordinances	Yes	No	Yes
4	O&M Program	Maintain up-to-date maps of the sanitary sewer system	Yes	Yes	Yes
		Describe routine preventive maintenance program	Yes	Yes	Yes
		Document completed preventive maintenance using work order system	Yes	Yes	Yes
		Rehabilitation and replacement plan that identifies and prioritizes sanitary sewer system facilities	Yes	Yes	Yes
		CIP showing the schedule for rehabilitation and replacement projects	Yes	Yes	Yes

Section	Title	Requirement	SSMP Meets Current Requirements?	SSMP Current?	SSMP Implemented?
		Provide regular technical training for City sanitary sewer system staff	Yes	Yes	No
		Require contractors to provide training for their employees who work in the Agency's sanitary sewer system facilities	Yes	Yes	Yes
		Maintain equipment inventory	Yes	Yes	Yes
		Maintain critical spare part inventory	Yes	Yes	Yes
5	Design and Performance Provisions	Design and construction standards for new sanitary sewer system facilities	Yes	Yes	Yes
		Design and construction standards for repair and rehabilitation of existing sanitary sewer system facilities	Yes	Yes	Yes
		Procedures for the inspection and acceptance of sanitary sewer system facilities	Yes	Yes	Yes
6	OERP	Procedures for the notification of primary responders	Yes	Yes	Yes
		Procedures for the notification of regulatory agencies	Yes	Yes	Yes
		Program to ensure appropriate response to all SSOs	Yes	Yes	Yes
		Proper reporting of all SSOs	Yes	Yes	Yes
		Procedure to ensure Agency staff are aware of, are trained, and follow OERP	Yes	Yes	No
		Procedure to ensure contractor personnel are aware of, are trained, and follow OERP	Yes	Yes	No
		Procedures to address emergency operations such as traffic and crowd control	Yes	Yes	Yes
		Program to prevent the discharge of sewage to surface waters	Yes	Yes	Yes
		Program to minimize or correct the impacts of any SSOs that occur	Yes	Yes	No
		Program of accelerated monitoring to determine the impacts of any SSOs that occur	Yes	Yes	No
7	FOG Control Program	Public outreach program that promotes the proper disposal of FOG	Yes	Yes	Yes
		Plan for the disposal of FOG generated within the Agency's service area	Yes	Yes	Yes
		Demonstrate that the Agency has allocated adequate resources for FOG control program	Yes	Yes	No

Section	Title	Requirement	SSMP Meets Current Requirements?	SSMP Current?	SSMP Implemented?
		Identification of sanitary sewer system facilities that have FOG-related problems	Yes	Yes	No
		Program of preventive maintenance for sanitary sewer system facilities that have FOG-related problems	Yes	Yes	Some
8	SECAP	Identification of elements of the sanitary sewer system that experience or contribute to SSOs caused by hydraulic deficiencies	Yes	Yes	Yes
		Established design criteria that provide adequate capacity	Yes	Yes	Yes
		Short and long term CIP that includes schedules for projects to addresses known hydraulic deficiencies	Yes	Yes	Yes
		Procedures that provide for the analysis, evaluation, and prioritization of hydraulic deficiencies	Yes	Yes	Yes
9	Monitoring, Measurement, and Program Modifications	Maintain relevant information to establish, evaluate, and prioritize SSMP activities	Yes	Yes	Yes
		Monitor implementation of the SSMP	Yes	Yes	Yes
		Measure, where appropriate, the performance of the elements of the SSMP	Yes	Yes	Yes
		Assess success of the preventive maintenance program	Yes	Yes	Yes
		Update SSMP program elements based on monitoring or performance	Yes	Yes	Yes
		Identify and illustrate SSO trends	Yes	Yes	Yes
10	SSMP Program Audits	Conduct audits at least every 2 years	Yes	Yes	Yes
		Record the results of the audit in a report	Yes	Yes	Yes
		Record the changes made and/or corrective actions taken	Yes	Yes	Yes
11	Communication Program	Communicate with the public regarding the preparation of the SSMP	Yes	Yes	Yes
		Communicate with the public regarding the performance of the SSMP	Yes	Yes	Yes
		Communicate with tributary or satellite sewer systems	Yes	Yes	Yes

# Appendix 11-D: SSMP Council Adoption Resolutions



## PALMDALE *a place to call home*

### CITY COUNCIL

### CLERK'S CERTIFICATE

I, Rebecca J. Smith, City Clerk of the City of Palmdale, State of California, do hereby certify as follows:

The attached is a full, true, and correct copy of Resolution No. CC 2014-070 adopted at the Regular Meeting of the City Council of the City of Palmdale duly held at the regular meeting place thereof, on May 7, 2014, at which meeting all of the members of said City Council had due notice and at which a majority thereof was present.

I further certify that I have carefully compared the same with the original Resolution No. CC 2014-070 on file and of record in my office and that said Resolution No. CC 2014-070 is a full, true, and correct copy of the original Resolution No. CC 2014-070 adopted at said meeting.

At said meeting, Resolution No. CC 2014-070 was adopted by the following vote:

- AYES: Mayor Ledford, Mayor Pro Tem Lackey and Councilmembers Dispenza, Hofbauer, and Thompson
- NOES: None
- ABSTAIN: None
- ABSENT: None

WITNESS my hand and the seal of the City of Palmdale this 20<sup>th</sup> day of May 2014.

Rebecca J. Smith  
City Clerk

JAMES C. LEDFORD, JR.  
*Mayor*

TOM LACKEY  
*Mayor Pro Tem*

MIKE DISPENZA  
*Councilmember*

STEVEN D. HOFBAUER  
*Councilmember*

FREDERICK THOMPSON  
*Councilmember*

38300 Sierra Highway

Palmdale, CA 93550-4798

Tel: 661/267-5100

Fax: 661/267-5122

TDD: 661/267-5167

*Auxiliary aids provided for*

*communication accessibility*

*upon 72 hours notice and request.*

*www.cityofpalmdale.org*

CITY COUNCIL  
CITY OF PALMDALE, CALIFORNIA

RESOLUTION NO. CC 2014 -070

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PALMDALE UPDATING AND APPROVING THE SEWER SYSTEM MANAGEMENT PLAN FOR THE CITY OF PALMDALE

WHEREAS, the City of Palmdale owns the local sewer system, operates and maintains it; and

WHEREAS, the State Water Resources Control Board adopted the Statewide General Waste Discharge Requirements and the Monitoring and Reporting Program (WDR) by issuing Order No. 2006-0003; and

WHEREAS, the WDR requires owners and operators of publicly owned collection sewer systems to develop and present a Sewer System Management Plan (SSMP) to their governing body for approval; and

WHEREAS, the SSMP requires a bi-annual audit of the operation and maintenance of the sewer system, monitoring of the system, and annual reports to the City Council on sewer system maintenance performance; and

WHEREAS, the SSMP must be updated and re-certified with the State at least every five years; and

WHEREAS, on April 1, 2009, the City Council approved the SSMP, which is a summary of the City's management and operational practices to ensure that the sewer systems are properly maintained to prevent or significantly reduce the occurrence of Sanitary Sewer Overflows (SSO). The completion of SSMP satisfied the requirements of the Statewide General Waste Discharge Requirements for Sanitary Sewer System; and

WHEREAS, the SSMP, approved on April 1, 2009, has been corrected, revised, and updated.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF PALMDALE DOES HEREBY FIND, DETERMINE, RESOLVE AND ORDER AS FOLLOWS:

Resolution No. CC 2014-070

Page 2 of 2

Section 1. The City Council of the City of Palmdale hereby finds that the public interest and convenience requires the continued maintenance and operation of the Palmdale Sewer System improvements within the Palmdale City boundaries.

Section 2. The City Council of the City of Palmdale hereby approves and adopts the Sewer System Management Plan, Corrected and Revised May 2014, attached to this resolution as Exhibit 1.

Section 3. The City Council of the City of Palmdale hereby certifies the Sewer System Management Plan, Corrected and Revised May 2014, attached to this resolution as Exhibit 1.

Section 4. The City Clerk is hereby ordered and directed to file a certified copy of this Resolution, upon its adoption, with the Los Angeles County Auditor.

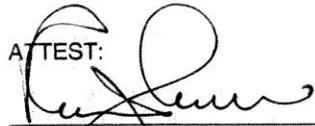
PASSED, APPROVED and ADOPTED this seventh day of May, 2014 by the following vote:

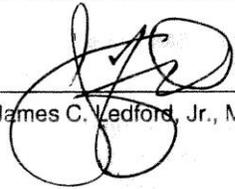
AYES: Ledford, Lackey, Dispenza, Hofbauer, and Thompson

NOES: None

ABSTAIN: None ABSENT: None

ATTEST:

  
\_\_\_\_\_  
Rebecca J. Smith, City Clerk

  
\_\_\_\_\_  
James C. Ledford, Jr., Mayor

Approved as to form:

  
Wm. Matthew Ditzhazy  
City Attorney

Attachment: Sewer System Management Plan, Corrected and Revised May 2014

**EXHIBIT 1 ATTACHMENT  
TO  
RESOLUTION NO. CC 2014-070  
IS ON FILE  
IN THE OFFICE OF  
THE CITY CLERK**