City of Lancaster
Sewer System Management Plan

Prepared by:

RMC Water and Environment

In Association with:

Larson Consulting

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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 (GWDR), as revised by Order No. WQ 2008-0002.EXEC on February 20, 2008. The GWDR prohibits sanitary sewer overflows (SSOs) and requires reporting of SSOs using the statewide electronic reporting system.

This initial SSMP has been prepared by the City of Lancaster with assistance from RMC Water and Environment and Larson Consulting. The SSMP will be updated as needed to reflect changes to the SSMP elements.

Organization of SSMP

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

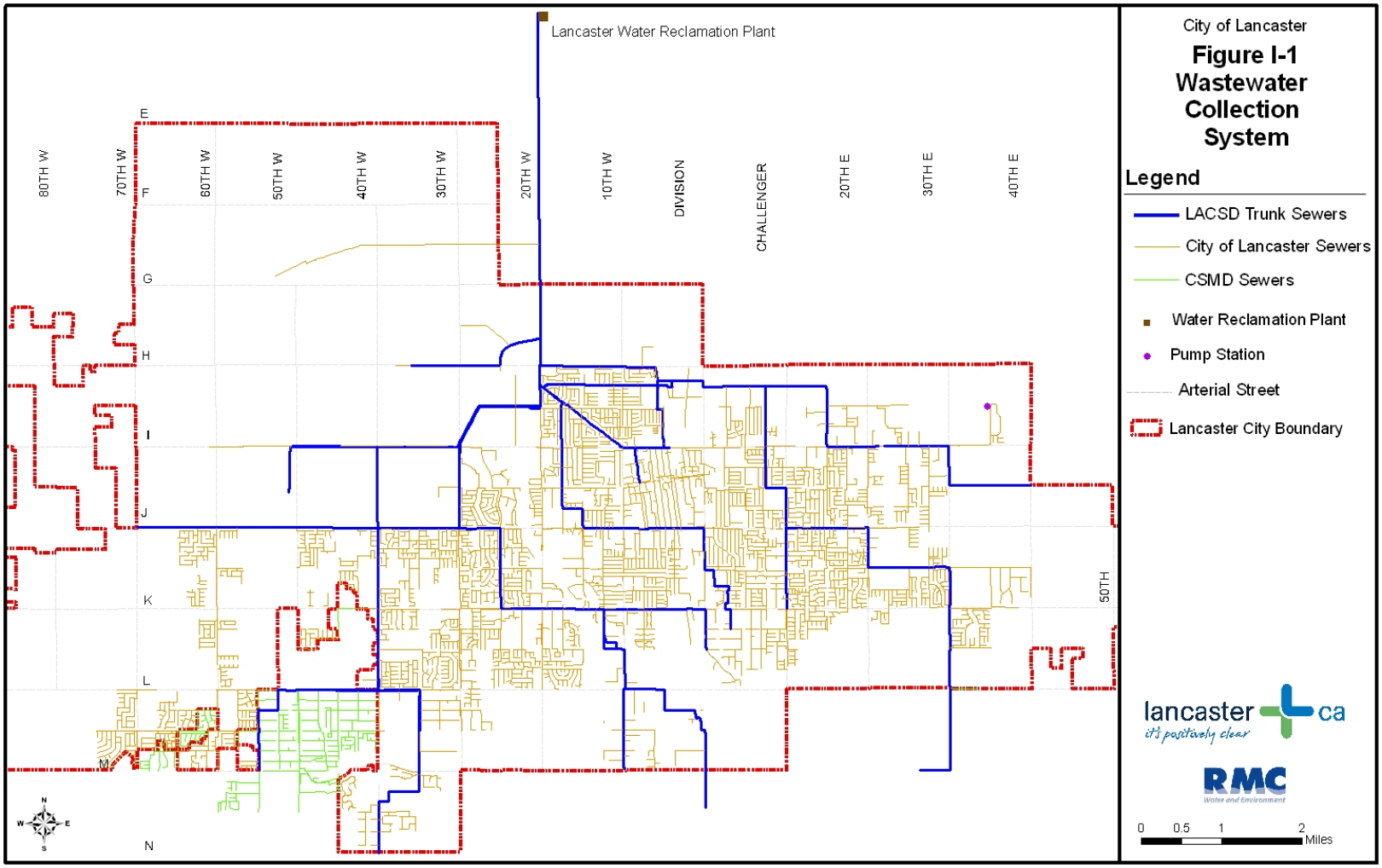
1. Goals
2. Organization
3. Legal Authority
4. Operation and Maintenance Program
5. Design and Performance Provisions
6. Overflow Emergency Response Plan
7. Fats, Oils and Grease (FOG) Control Program
8. System Evaluation and Capacity Assurance Plan
9. Monitoring, Measurement, and Program Modifications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

System Overview

The City owns, operates, and maintains the wastewater collection system serving its population of approximately 145,000 (2008). Figure I-1 shows the current City boundary (the City's sphere of influence extends beyond the current boundary, primarily to the north) and the area now served by sewers. As shown in the figure, the City's sewers discharge to a network of trunk sewers owned and operated by the Sanitation Districts of Los Angeles County (LACSD), which conveys the City's wastewater to LACSD's Lancaster Water Reclamation Plant (LWRP) for treatment. There are a few pockets of unincorporated area southwest of the City that are served by sewers owned and operated by the Consolidated Sewer Maintenance District (CSMD), a sewer maintenance district managed by the Los Angeles County Department of Public Works. Most of CSMD's sewers discharge to LACSD trunk sewers, but some discharge to City sewers.

The City's sewer system consists of over 360 miles of mains, 7,700 manholes, and one small pump station. The sewer mains range in size from 6 to 24 inches in diameter, with 85 percent being 8 inches. All gravity mains are vitrified clay pipe (VCP). The oldest sewers were installed in 1947, but 77 percent were built after 1958 and the average sewer age is 29 years.

Figure I-1: City of Lancaster Wastewater Collection System



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.

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 Lancaster.

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.

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.

CSMD – Consolidated Sewer Maintenance District: A sewer maintenance district managed by the Los Angeles County Department of Public Works

CY - Calendar Year

DFG – California Department of Fish and Game

EMA - Emergency Management Agency: Refers to the California Emergency Management Agency.

EPA - Environmental Protection Agency: Refers to the United States Environmental Protection Agency

Field Report: Refers to the Sanitary Sewer Problem Report Form.

FM - Force Main: Refers to a pressure sewer used to convey wastewater from a lift station to the point of discharge.

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.

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

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.

GPS - Global Positioning System: Refers to the handheld unit used to determine the longitude and latitude of sanitary sewer overflows for use in meeting the Online SSO Reporting System 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.

GWDR - 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.

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

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 - County 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 the Online SSO Reporting System.

LWRP – Lancaster Water Reclamation Plant

MH – 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

MS4 - Municipal Separate Storm Sewer Systems

NA - Not Applicable

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

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

PACP – Pipeline Assessment and Certification Program

PM - Preventive 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**.**

PW – Public Works

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.

RWQCB- Regional Water Quality Control Board: One of nine regional boards in California that issue and enforce waste discharge requirements within their regions. Lancaster is in the Lahontan region.

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: An element of the SSMP.

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.

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

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.

SSMP - Sewer System Management Plan

Surface Waters: See Waters of the State.

SWRCB - State Water Resources Control Board: Refers to the California State Water Resources Control Board and staff responsible for protecting the State's water resources.

USD – Utility Services District (City of Lancaster)

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.

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 water, surface or underground, 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.

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).

State Water Resources Control Board Monitoring and Reporting Program No. 2006·0003-DWQ (as revised by Order No. WQ 2008-0002.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, California State Water Resources Control Board, February 20, 2008 (www.cwea.org/pdf/2008-0002-EXEC.pdf).

Chapter 1 Goals

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 Goals 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.

1.2 SSMP Goals

The goals of the City of Lancaster SSMP are:

1. To properly plan, manage, operate, and maintain all portions of the City's wastewater collection system;
2. To provide adequate capacity to convey the peak wastewater flows. Adequate capacity, for the purposes of this SSMP, is defined as the capacity to convey the peak wastewater flows that are associated with the City's design event;
3. To minimize the frequency of SSOs and, wherever possible, prevent SSOs;
4. To mitigate the impacts that are associated with any SSO that may occur;
5. To meet all applicable regulatory notification and reporting requirements;
6. To provide the funding, personnel, and equipment necessary to adequately manage, operate, and maintain all portions of the City's wastewater collection system; and
7. To provide the funding and personnel necessary to implement capital improvements to provide adequate capacity to convey peak wastewater flows and renew/rehabilitate/replace sewer infrastructure.

Chapter 2 Organization

This section of the SSMP identifies City staff responsible for implementing the SSMP, responding to SSO events, and meeting the SSO reporting requirements. This section also includes the designation of the Legally Responsible Official (LRO) to meet State Water Resources Control Board (SWRCB) requirements for 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, and/or State Office of Emergency Services *[now the California Emergency Management Agency (EMA)]*).

2.2 City Organization

The City of Lancaster incorporated in November 1977, as a general law city under the laws of the State of California. The City of Lancaster operates under a City Council-City Manager form of government. The Utility Services Division (USD) of the Public Works Department is responsible for the management and maintenance of the City's sewer system. The organization chart for the USD is shown as Figure 2-1. Below are brief descriptions of the duties of each key position.

2.2.1 Public Works Director

The Public Works Director provides general direction to the Utility Services Manager.

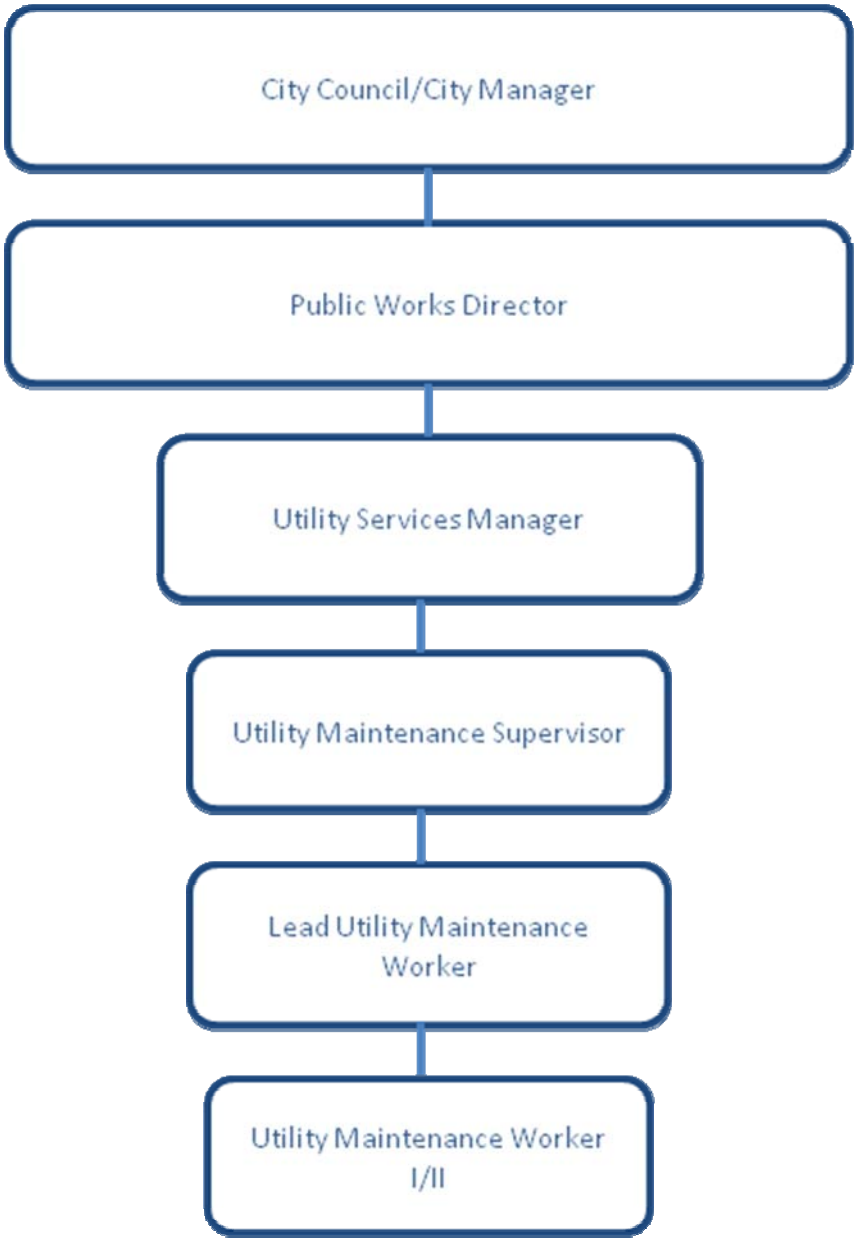
2.2.2 Utility Services Manager

Under general direction from the Public Works Director, the Utility Services Manager plans, organizes, coordinates and manages the affairs of the USD, assists to identify needed policy and procedures, and directs the staff in all functions and operations. The Utility Services Manager represents and implements Council policy and programs with employees, community organizations, regulators, other public agencies and service providers and the general public. The Utility Services Manager reviews budget requests and makes recommendations to the Public Works Director on final expenditure and revenue levels, manages all labor/management activities, and performs all related work as required. The Utility Services Manager is the primary responsible authority for reporting to and coordinating with the SWRCB, the RWQCB, and other state and county agencies regarding SSOs. The Utility Services Manager is supported in his/her efforts by the City Engineering and Development Engineering Divisions.

2.2.3 Public Works Supervisor - Utilities Division (Utility Maintenance Supervisor)

Under general direction of the Utility Services Manager, the Utility Maintenance Supervisor plans, directs, manages, and reviews the activities of the USD for the City. The USD maintains, cleans, and repairs the City's wastewater collection system, pump (lift) stations, and related appurtenances and oversees the FOG Control Program. The Utility Maintenance Supervisor is responsible for initial reporting to appropriate regulatory agencies and QA/QC of all field crew reports and data.

Figure 2-1: City of Lancaster Utility Services Division Organization Chart



Note: Additional support is provided by the City Engineering and Development Engineering Divisions. Additional crews may be added in the future.

2.2.4 Lead Utility Maintenance Worker

Under general supervision of the Utility Maintenance Supervisor, the Lead Utility Maintenance Worker directs, leads, and personally performs a variety of tasks related to the maintenance, cleaning, and repair of the City's sanitary sewer collection system, pump stations, and sewer related appurtenances. The Lead Utility Maintenance Worker is responsible for regularly leading a crew(s) and has specialized responsibilities such as spill response, enforcement of City safety regulations, maintenance and repair record keeping, and/or the fats, oils, and grease (FOG) program.

2.2.5 Utility Maintenance Worker I/II

Under supervision of the Lead Utility Maintenance Worker, Utility Maintenance Workers I/II perform a variety of tasks related to the maintenance, cleaning, and repair of the City's wastewater collection system, pump stations, and related appurtenances. Utility Maintenance Workers I/II will function in a watch-standing capacity to be on-call on a rotating basis to respond to after hour spills/emergencies.

2.3 Authorized Representative

The Director of Public Works and the Utility Services Manager are the City's authorized representatives having overall responsibility for the operation of the City's wastewater collection system and associated documentation. They are the City's Legally Responsible Officials (LRO) responsible for meeting all SSO 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, the RWQCB, the SWRCB, and the EMA. The Utility Services Manager has authorized the Utility Maintenance Supervisor to prepare and submit initial electronic reports and to act as the LRO in the absence of the Director of Public Works and/or the Utility Services Manager.

2.4 Responsibility for SSMP Implementation

The Utility Services Manager is responsible for overseeing the overall implementation and maintenance of the SSMP. Various individuals within the City's organization are responsible for implementing and maintaining one or more of the SSMP elements. Table 2-1 summarizes the responsibilities for SSMP implementation and maintenance by element. All the responsible persons can be reached at (661) 723-5985. Consultants may also be used as needed/required for preparation, revision, and implementation of the SSMP.

Table 2-1: Summary of the Responsibilities for SSMP Implementation by Element

SSMP Element	Responsible Person(s)
1 – Goals	Utility Services Manager
2 – Organization	Utility Services Manager
3 – Legal Authority	Utility Services Manager
4 – Operation and Maintenance Program	Utility Maintenance Supervisor
5 – Design and Performance Provisions	Utility Services Manager (Supported by the Development Engineering Division and the City Engineering Division of the Public Works Department)
6 – Overflow Emergency Response Plan	Utility Maintenance Supervisor
7 – FOG Control Program	Utility Maintenance Supervisor, Lead Utility Maintenance Worker
8 – System Evaluation & Capacity Assurance Plan	Utility Services Manager
9 – Monitoring, Measurement and Program Modifications	Utility Services Manager, Utility Maintenance Supervisor
10 – SSMP Program Audits	Utility Services Manager
11 – Communication Program	Utility Services Manager

2.5 SSO Reporting Chain of Communication

The communication chain for responding to an SSO is described in detail in Chapter 6 (Overflow Emergency Response Plan) of this SSMP, specifically Section 6.9.

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, the California Plumbing 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 for maintenance, inspection, or repairs;

(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

The legal authorities for the City to comply with the SSMP requirements are contained within Municipal Code Title 13, Chapters 13.07, 13.08 and 13.09 (Sanitary Sewers and Industrial Waste), and Title 15 (Building and Construction) Chapter 15.20 (Plumbing Code), which adopts by reference the 2007 California Plumbing Code.

3.2.1 Prevention of Illicit Discharges

Measures to prohibit illicit discharges are currently included in the Municipal Code Sections 13.07.200, 13.08 375, 13.08.380 and Section 13.08 which refers the reader to the 2007 California Plumbing Code dealing with these provisions in Chapters 303, 305, 306, 714 and 1101. The specific purpose of the section is to prevent the discharge of any pollutant or any combination of pollutants into the sewers that would obstruct or damage the sanitary sewer system, interfere with treatment, or threaten harm to human health or the environment. Additionally, Section 714 (Damage to Public Sewer or Private Sewage System) prohibits the opening or entering of any appurtenance and prohibits the discharge of any cesspool effluent directly into a manhole or other opening in the City's collection system, except pursuant to special permission issued by the City for such discharge.

Examples of discharges that are covered under the current City legal authorities are discussed below:

- Stormwater – Section 13.08.730 (Deposit of Certain Substances Prohibited) specifically prohibits the discharge of stormwater into a City sewer. The California Plumbing Code specifically limits the discharge of stormwater in Chapter 11, Section 1101.2 (Storm Water Drainage to Sanitary Sewer Prohibited).
- Industrial Waste – The legal authority for these wastes is contained in Chapter 13.08 Section 500 et seq. The City has also adopted by reference the 2007 California Plumbing Code which also prohibits these types of discharges at Chapter 3, Section 306 (Damage to Drainage Systems or Public Sewer).
- Fats, Oils and Grease (FOG) – Section 13.07.730 (Deposit of Certain Substances Prohibited) specifically prohibits the discharge of FOG materials into a City sewer. In addition, the City anticipates the presentation and recommendation for adoption to the City Council of a new FOG-related ordinance that will deal directly with this issue. Currently the City does not believe that it

has a FOG-related problem requiring a FOG source control program. However they have implemented the public outreach efforts by the Los Angeles County Sanitation District to educate and train residential households and food service establishments on the problems related to FOG in the sewer system. In addition, the City has also adopted by reference the 2007 California Plumbing Code which deals specifically with this issue in Chapter 10, Sections 1009, 1014 and 1015.

- Infiltration/Inflow (I/I) – Section 306.2 of the California Plumbing Code prohibits the discharge of extraneous waters to a sanitary drainage system. City code in Chapter 13.07 Section 200 specifically limits the disposal of I/I. Section 13.07.060 requires the house lateral to be maintained by the owner and provides the City with the authority to require or complete repairs when necessary to assure safe and sanitary conditions.

3.2.2 Proper Design and Construction of Sewers and Connections

The City has the responsibility for the review and approval of plans and specifications for the construction and dedication of sanitary sewers, house laterals and sewer-related appurtenances through the development processes of the Department of Public Works, Development Engineering Division. The Division ensures all construction within the public right-of-way complies with adopted codes, ordinances, engineering standards, and the Subdivisions Map Act. All sewers and sewer related facilities are to be designed and constructed according to the "Standard Specifications of Public Works Construction" as adopted by the City Council and must be filed in the office of Development Engineering and be prepared under the direct supervision of and signed by a Registered Civil Engineer of the State of California.

The authority for control of the design and construction of new pipelines, appurtenances, pumps stations and sewer infrastructure are included in Chapter 13.08, Articles 1, 3 and 4 for the design, approval and inspection of all new, rehabilitated and/or replaced sewers and appurtenances. The City has no responsibility for the maintenance or replacement of house laterals.

Enforcement of all sanitary sewer provisions is available to City staff in Municipal Code Sections 1.12.020 and 13.07.160 (Violation – Penalty). All sections provide the authority for the Director of Public Works or his/her designee to administer, implement and enforce the provisions of the sanitary sewer and industrial waste code.

3.3 Actions Required to Provide Mandated Legal Authorities

The City is pursuing efforts to develop a fats, oils and grease ordinance to provide the ability to administer and enforce provisions to assure that fats, oils and grease can be dealt with as necessary to protect the City sewer system. It is anticipated that this ordinance will be presented to the City Council by the end of June 2009 for consideration and potential adoption.

3.4 Agreements with Other Agencies

3.4.1 Consolidated Sewer Maintenance District of Los Angeles County

The City has reviewed the sewer pipelines that are tributary to the City sewer system and determined that a small number of connections discharge flows from customers of the Consolidated Sewer Maintenance District (CSMD) into lines owned by the City. These lines represent less than 1% of the total flow moving through City sewer lines. The City plans to meet with the CSMD representatives in order to develop the legal documents and agreements to define the relationship between the agencies and possibly set limits for peak flows that may be discharged into the City's sewers, including infiltration and inflow. The City will make reasonable efforts to conclude these discussions including the preparation and adoption of any agreements to define roles and responsibilities during calendar year 2009.

3.4.2 County Sanitation Districts of Los Angeles County

The City is currently included inside the boundaries of County Sanitation District #14 of Los Angeles County (LACSD), which has the direct responsibility for the transport and treatment of all wastewater discharged to the City sewer system pursuant to that agency's Wastewater Ordinance. In addition, the City coordinates with the LACSD (Wastewater Ordinance Part IV, Industrial Waste) to permit and implement the industrial waste requirements of the Clean Water Act and the State Water Resources Control Board. The LACSD, in conjunction with the City, jointly permit all major industrial dischargers and categorical industries pursuant to its State approved pretreatment program requirements to protect the Lancaster Water Reclamation Plant (LWRP) operations. In addition, as a result of this collaboration, the City also receives public relations support from the LACSD in the form of brochures and public relations documents for food service establishments and residential customers that are made available at the public counter, on the website and by mail.

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 Sewer GIS and Mapping System

The City has a Geographic Information System (GIS) that it uses to create and maintain maps of its wastewater collection system facilities. The GIS was created in 2007 by conversion of information from the City's scanned sewer record drawings. Manhole, sewers, sewer laterals, and the City's sole pump station were placed on the City's GIS base maps which are based on the GIS parcel map maintained by the County of Los Angeles. Each manhole and pipe has a unique identifier. Pipe attributes stored in the GIS include pipe length, diameter, slope, material, year built, upstream and downstream manholes, and upstream and downstream invert elevations, and street address. Manhole attributes include year built, rim and invert elevations, and street address. In addition to being used to create sewer maps, the GIS is used as the database for other applications such as hydraulic modeling, maintenance management, video inspections, and for ad-hoc mapping and database queries.

A set of map sheets is periodically generated from the GIS in pdf format suitable for viewing in Adobe Acrobat and for printing hard copy sewer map books for various uses including field maintenance activities. The map set consists of 134 sheets at a scale of approximately 1"=333' when printed on 11 by 17 inch pages. The maps show all parcels with addresses and street names, manholes with identifiers and special symbols for deep manholes, pipes with diameters, lengths, and flow direction arrows, and service

laterals. In addition to the City's sewers, sewers owned and operated by other agencies (Sanitation District 14 of Los Angeles County, Consolidated Sewer Maintenance District, and the City of Palmdale) are shown in different colors. Storm water conveyance facilities as included in the City's storm drain GIS are also shown on the maps, including inlets, manholes, pipes, open channels, and retention basins.

4.2.2 Updates to Existing Drawings

The field crews use hard copy maps that are produced using the GIS. The City has an informal process to correct its maps and it will develop a Standard Operating Procedure for updating its maps by June 2009. Proposed corrections are identified by field crews and communicated to engineering staff using the Mapping/GIS Update/Correction Form (Appendix 4-A). High priority corrections (those that may result in poor decision-making and potentially leading to an SSO) are entered into the GIS and updated map pages are issued within 60 days of notification by the field crews. Low priority corrections and new facilities are incorporated into the GIS and updated map pages are issued not less than annually.

Record drawings for LACSD trunk sewers and City sewer mains, lift stations, and appurtenant facilities are available at the Public Works counter in hard copy form. In addition, the City scans sewer system record drawings and links the scanned images to the associated sewer facilities in the GIS. These images are also available electronically to Public Works employees through the City's Intranet.

4.2.3 New Improvement Plan Drawings

Developers are required to prepare and submit record drawings upon installation of new sewer mains, storm drains, and associated facilities. The City scans all of these drawings and maintains them in a document management system. On an annual basis, the City updates the GIS to include these new facilities and then updates the pdf map set and issues revised map book pages to all map book holders.

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 generally described in this section.

4.3.1 Gravity Sewers

The City will initially clean its entire wastewater collection system over six years, and preventively clean Hotspot sewers (sewers with a history of maintenance needs) every 1, 2, 3, 4, 5, or 6 months. The City adjusts the cleaning frequency based on the results from prior cleaning activities as delineated on the Sewer Work Order Form in Appendix 4-B. The process is shown on Figure 4-1. The standard cleaning results are shown on Table 4-1 along with the criteria for changing cleaning frequencies.

Once the initial cycle of wastewater collection system cleaning has been completed, the City will employ an asset management approach where each asset will be periodically cleaned based on the frequency appropriate to maintaining reliable operation. This will result in a portion of the gravity sewers being maintained at a frequency greater than six years.

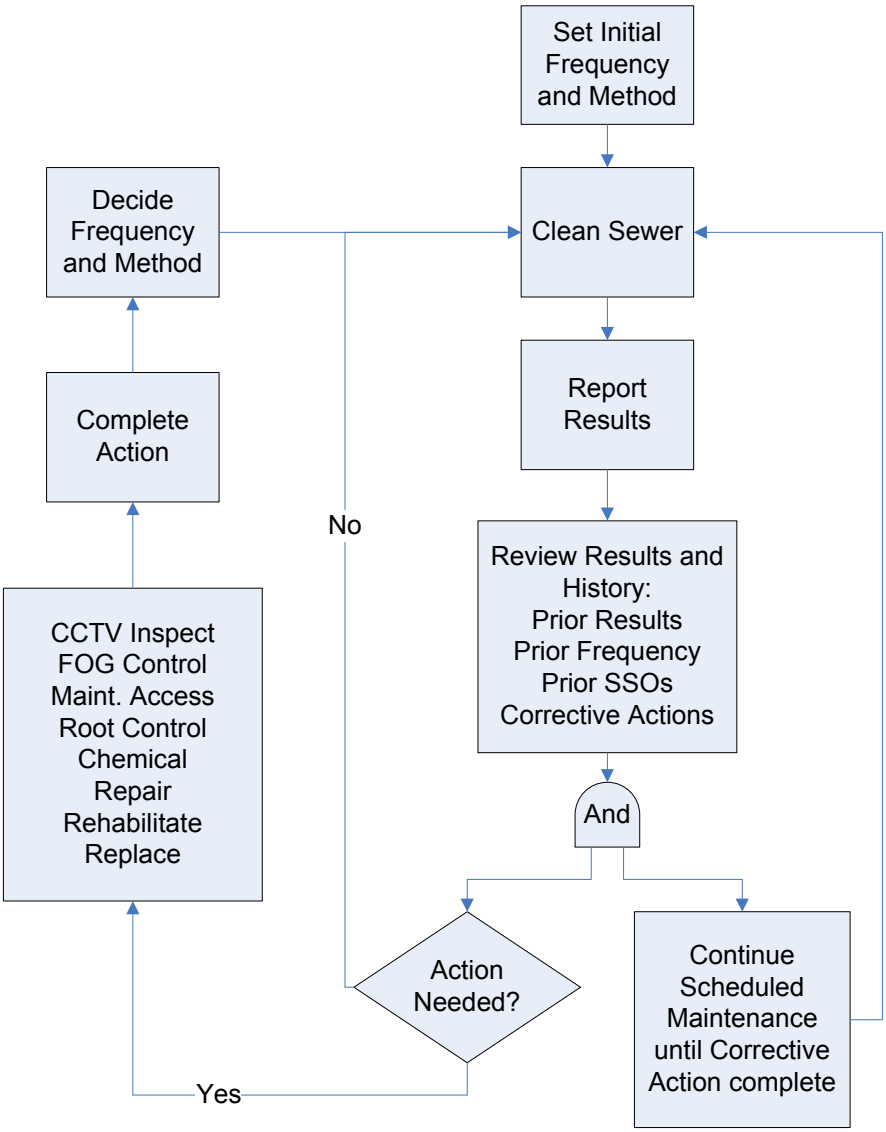
Table 4-1: Standard Sewer Cleaning Results and Criteria for Rescheduling

	Clear	Light	Moderate	Heavy
Debris	Code: **CL** No observable debris	Code: **DL** Minor amount of debris 15 minutes or less to clean 1 pass	Code: **DM** Less than 5 gallons of debris per line segment 15-30 minutes to clean 2-3 passes	Code: **DH** More than 5 gallons of debris per line segment More than 30 minutes to clean More than 4 passes Operator concern for future stoppage
Grease	Code: **CL** No observable grease	Code: **GL** Minor amounts of grease 15 minutes or less to clean 1 pass	Code; **GM** Small “chunks” No “logs” 15-30 minutes to clean 2-3 passes	Code: **GH** Big “chunks” or “logs” More than 30 minutes to clean More than 4 passes Operator concern for future stoppage
Roots	Code: **CL** No observable roots	Code: **RL** Minor amounts of roots 15 minutes or less to clean 1 pass	Code: **RM** Thin stringy roots No “clumps” 15-30 minutes to clean 2-3 passes	Code: **RH** Thick roots Large “clumps” More than 30 minutes to clean More than 4 passes Operator concern for future stoppage
Other	Code: **CL** No observable materials	Code: **OL** Specify material Minor amounts of material	Code: **OM** Specify material Less than 5 gallons of material per line segment	Code: **OH** Specify material More than 5 gallons of material per line segment Operator concern for future stoppage
Action	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

Footnotes:

a. Times shown are for typical manhole to manhole distances of 250 feet. Longer runs will require longer cleaning times.

Figure 4-1: Sewer Cleaning Scheduling Flowchart



Two sewer cleaning crews are assigned to these activities. The City may use sewer cleaning contractors to supplement the City sewer cleaning crews. The City's standard operating procedure (SOP) for sewer cleaning is included as Appendix 4-C.

Gravity sewer maintenance is scheduled using the City's computer-based maintenance management system (CMMS). Work orders are issued to the sewer cleaning crews and the results of their work are recorded on the completed work orders which, in turn, are entered into the CMMS. A sample Work Order Form is included as Appendix 4-B. Gravity sewers, where the field crew encounters problems during cleaning are scheduled for CCTV inspection and appropriate action from the results identified.

The City's gravity sewer condition assessment program consists of visually inspecting gravity sewers using closed circuit television (CCTV). The initial round of condition assessment will be completed over five years and it will include all sewers older than 20 years. Gravity sewers not included in the CCTV initial inspection will be inspected within 1 year of their 20th year of operation. Future inspection

frequencies will be based on the conditions observed in the gravity sewer during the initial CCTV inspection and are shown on Table 4-2. The City may use contract CCTV services and/or City staff for both condition assessment and for follow-up on SSO and cleaning problem events.

Table 4-2: 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
Good (defects not yet 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 may use City crews and/or contractors for all corrective maintenance. The Utility Services Division 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.

The City may use City crews and/or contractors to apply pesticides on an annual basis to control vectors (insects and rodents). Sewers and appurtenant structures are treated as needed to control infestations noted during regular inspections or identified through complaints.

The City may use City crews and/or contractors to apply root control chemicals on an annual basis in order to reduce the rate of root growth and subsequent structural damage to the pipe. The application frequency is every 24-36 months. The pipe segments are cleaned approximately two months prior to application of the root control chemicals in order to remove major root masses and to allow time for some re-growth for optimal herbicide uptake. The optimal application period is during the hot, dry months (July through September).

4.3.2 Reactive Maintenance

Reactive maintenance activities include investigation and response to any complaints regarding a manhole overflow, missing or shifted manhole covers, manhole covers that are excessively noisy, residential plumbing troubles, sewer odor, etc. Sewer complaints received by the Utility Services Division are investigated and appropriate actions are taken to resolve the source of the problem.

4.3.3 Lift Station and Force Main

The City monitors the operation of its lift station using operational inspections and alarms. The City conducts twice weekly operational inspections of the lift station and the wet well is cleaned by City staff as needed. Preventive maintenance for mechanical and electrical equipment is scheduled at least annually. Maintenance work is planned and completed work is recorded using the CMMS.

The City will monitor the pump discharge pressure during its operational inspections. The deposition of solids will cause the pump discharge pressure to gradually increase over time. The City will use this data to determine if and when the force main requires cleaning. The City will initiate an inspection program when the age of the force main approaches 30 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 conducted an initial assessment of a portion of the gravity sewer system during 2008.

4.4.1 Gravity Sewers

Approximately 126 miles of the City's collection were inspected and assessed by two separate CCTV contractors during 2008. Using the industry-standard Pipeline Assessment and Certification Program (PACP), all structural defects were assigned a condition grade from 1 to 5. The results, in terms of the most severe defect found in each pipe, are shown on Table 4-3. The small portion (< 5%) of gravity sewers with at least one grade 4 or 5 defect suggests that the City's gravity sewers are in generally excellent condition.

Table 4-3: Results of 2008 Structural Condition Assessment

Highest PACP Condition Grade	Number of Lines	Miles	Percentage of Total
5 – Immediate Attention	55	2.4	1.9%
4 – Poor (severe defects)	74	3.2	2.5%
3 – Fair (moderate defects)	595	25.8	20.5%
2 – Good (defects not yet deteriorating)	114	4.9	3.9%
0 or 1 – Excellent (no or minor defects)	2,065	89.6	71.1%
Total	2,903	125.9	100%

The City contracted in 2008 for repairs on the worst defects and will complete prioritizing of gravity sewer repair and rehabilitation projects in 2009 based on inspections performed in 2008. The projects and priorities will be updated following completion of each annual condition assessment program. 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 reasonable timeframes.

4.4.2 Lift Station

The condition of the Avenue H-8 Lift Station was evaluated on August 9, 2007 and the lift station was found to be in good condition at that time.

Future lift station condition assessments will be conducted every five years with the next condition assessment scheduled in 2012/2013. The condition assessment will be based on the checklist included in Appendix 4-E. The results will be used to identify major maintenance and capital improvement projects. The crews shall also take and retain pictures of these facilities and any deficiencies identified during the inspection.

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 currently anticipated by City staff and included in

the City rate program for wastewater collection system inspection, repair, and rehabilitation/replacement (in 2008 dollars) for the first five years are shown by program on Table 4-4. The current City budget process requires that the staff annually add an additional year of projects so that they always evaluate a ten year program. The CIP will include a listing of actual projects and project milestones as they are developed using the information from the condition assessment program.

Table 4-4: Five Year Capital Improvement Program ($1,000)

Program	FY 2009/10	FY 2010/11	FY 2011/12	FY 2012/13	FY 2013/14	Totals
CCTV Inspection	200	200	200	200	200	1,000
Gravity Sewer Repair/ Rehabilitation/Replacement	0	1,600	1,600	1,600	1,600	6,400
Other	0	700	700	700	950	3,050
Totals	200	2,500	2,500	2,500	2,750	10,450

The funds that support the Capital Improvement Program come from the City's Sewer Enterprise Fund. The sewer service fees and charges that provide the revenue for the Sewer Enterprise Fund are periodically reviewed and set based on identified needs and an equitable distribution of expenses to all ratepayer classifications and new developments.

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. The City also requires each collection system worker to have obtained appropriate certification for their level of responsibility and to maintain that certification including required training. The safety-related training for the wastewater collection crew members is specified in the City's Illness and Injury Prevention Program. Vendors provide training for new equipment. The Utility Services Division budget includes funds for technical training. The sources of technical training and technical training materials for the City's wastewater collection staff are listed on Table 4-5 and Table 4-6.

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.

Individual employee training records are maintained by both the Human Resources Department and the Utility Services Division of the Public Works Department.

4.5.2 Contractor Employees Working on City Sewer Projects

The City will amend its contract language for sewer projects to require contractors working on the wastewater collection system to employ workers with experience in wastewater collection systems and/or to provide training regarding the impact of their work on the operation of the wastewater collection system. The amended contract language will be complete by June 2009.

Table 4-5: 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 4-6: Training Resources (Materials)

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

4.6 Equipment and Parts Inventory

The list of the major equipment that the City uses in the operation and maintenance of its wastewater collection system is included in Appendix 4-F

The City has determined that it has no Critical Replacement Parts at this time. An inventory list is included in Appendix 4-G for use in the future.

4.7 References

Best Practices Manual: Hydroflush, California Collection System Collaborative Benchmarking Group, February 2001.

Appendix 4-A Update/Correction Form

City of Lancaster
Mapping/GIS Corection/Update Form

Location and Data Details:

Map Number(s): _____

Data Layer: ☐ Sanitary Sewer
☐ Recycled Water

Location: Street Address _____
Nearest Cross Street _____

Date of Field Verification _____

Attached Information ☐ Sktech
☐ As-built drawing
☐ Map Sheet
☐ Other: _____

Recommended Priority: ☐ Normal (12 months)
☐ High (60 days)

Description of Correction/Update:

_____
_____
_____
_____

Form Submitted by:
Name _____ Phone _____
Department _____ Email _____
Division _____ Date _____

Comments/suggestions:

_____
_____
_____

Date of Revision to GIS ☐
Revision by: _____

Appendix 4-B Work Order Form

City of Lancaster Sewer Work Order 38

OASIS automatic work order ID: 38

Agency's internal work order ID, if used:

This work order is for what structure? SS 1829-0387+1829-0392

Intersection? ☐

Work order address & street name:

What is the 1st cross-street for the location?

What is the 2nd cross-street for the location?

City the work is located in?

Reference point that helps locate the work:

Is the work order location in an easement? ☐

Location Notes:

What field map is the work located in?

What is the reported problem or situation? **Qty:** 0

Notes about the reported problem or situation:

The problem or situation was reported by: Scheduled pm due: 10/3/2008

What was the source of the work order? PM

Problem or situation was first reported when? 10/28/2008 **at this time:** 3:05 PM

What is the work order's priority? ○ 1: High ○ 2: Medium ○ 3: Low ◉ 4: PM

Is this a reportable overflow? ☐

Weather conditions:

Worksite status: ☐ **Barricaded?**

Work order scheduled for a specific date/time: **at this time:**

Actual problem, condition, or requirement? SCP Scheduled pm **Qty:** 1 each

Notes about the actual problem or situation:

Main action taken to resolve the situation? CJET Clean w/hydrojet/combin **Qty:** 277 lnft

The work order was done/completed when? **at this time:**

Notes about the action taken:

What is the work order's status? Open

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City of Lancaster Sewer Work Order 38

Work Order Notes:

Notes:

Pipe size = 8 Pipe material = VCP.

	Upstream MH	Downstream MH	Pipe
Quick Rating =	1 2 3	1 2 3	1 2 3
Structural Rating =	1 2 3	1 2 3	1 2 3
Debris Rating =	1 2 3	1 2 3	1 2 3
Grease Rating =	1 2 3	1 2 3	1 2 3
Roots Rating =	1 2 3	1 2 3	1 2 3
Infl/Infil Rating =	1 2 3	1 2 3	1 2 3
Odor Rating =	1 2 3	1 2 3	1 2 3
Vermin Rating =	1 2 3	1 2 3	1 2 3
Surcharge =	1 2 3	1 2 3	1 2 3

Condition scoring scale: 1 = Severe 2 = Moderate 3 = OK

Who/what was the work order assigned to? Cleaning Crew

Note the ID of any separate reference file(s) for this work order:

Who prepared the work order? Auto

Who assigned and/or supervised the work order?

Is a capital project needed or underway? ☐

Note the capital project reference file ID:

Is the work order related to a claim for damages? ☐

Note the claim ID:

How many crew/labor hours were used to do the work order?

What was the work order's cost?

What account was the work order charged to?

Drainage district or basin?

What is the ZIP?

What neighborhood is the work located in?

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Appendix 4-C Standard Operating Procedure for Gravity Sewer Cleaning

Purpose

The purpose of this Standard Operating Procedure is to ensure that sewer cleaning is performed in a manner that will produce a high quality work product. Quality is important because it ensures that the sanitary sewers will not experience problems prior to their next scheduled cleaning.

Goal

The goal of cleaning a gravity sewer is to restore the flow area to 95% of the original flow area of the pipe.

Required Equipment and Tools

1. Personal protective equipment (hardhat, steel toe boots, gloves, eye/face protection, hearing protection);
2. Calibrated gas detector;
3. Safety cones, barricades, flagging, signs, and/or other traffic control devices and communications devices;
4. Sewer Atlas and maps;
5. Hydro Cleaning Unit or Rodder;
6. Stone Age Tools “Warthog” cleaning nozzle or Enz “Bulldog” cleaning nozzle;
7. Six-wire skid (“proofer”) in sizes that will be encountered during the day;
8. Debris traps in the sizes that will be encountered during the day;
9. Manhole hook or pick-axe; and
10. Measuring wheel.
11. Work order/Manhole inspection form/map correction forms
12. Customer notification hangers.
13. City Claim Forms and Customer Information Letter.

Procedures for Utility Maintenance Supervisor

1. Assign crew’s work at least three days in advance, when possible.
2. Determine if there are any special traffic conditions that need to be addressed for the assignment. For heavy traffic areas, plan traffic control in advance so that ample traffic control devices and personnel can be transported to the jobsite. Give at least 24 hours notice to any business that will be adversely impacted by traffic control or the cleaning operations.
3. Identify the schedule for cleaning. When possible, cleaning operations should be conducted during normal business hours. When in residential areas, cleaning operations should not begin before 7 a.m. nor continue after 4 p.m. unless there is an emergency that warrants working outside of these hours. Door hangers shall be put out the day prior to any cleaning in a residential area when the cleaning will occur before 7 a.m. or after 4 p.m.

4. Review completed work orders returned by field crews for completeness and accuracy prior to data entry of results and sign completed work orders indicating acceptance of the work.
5. Submit data to entry clerk for entry to CMMS system.

Procedures for Sewer Cleaning Crew

Prior to Leaving the Utilities Yard

1. Plan the work so that it starts in the upstream portion of the area and moves downstream.
2. Wherever possible, plan to clean individual sewers from the downstream manhole.
3. Inspect the sewer cleaning nozzles for wear. Replace nozzles that are excessively worn.
4. If this is the crew's first day with this cleaning unit, inspect the first 200 feet of hose and couplings for damage or wear.
5. Visually inspect the exterior of the sewer cleaning vehicle for safety purposes.

At the Jobsite

1. Wear proper personnel protective equipment (PPE).
2. Fill the water tank at the closest recycled water facility.
3. Determine and confirm location of upstream and downstream manholes (use street addresses, if possible).
4. Look for any overhead utilities that may come into contact with the vacuum boom during the cleaning operation.
5. Set up proper traffic control by placing traffic signs, flags, cones, and other traffic control devices.
6. Move the cleaning unit into the traffic control zone so that the hose reel is positioned over the manhole.
7. Open the manhole and use the gas detector to determine if it is safe to proceed with the cleaning operation.
8. Install the 45 degree or Warthog nozzle on the hose.

Cleaning Operation

1. Insert the debris trap.
2. Start the auxiliary engine.
3. Lower the hose, with a guide or roller to protect the hose, into the manhole and direct it into the sewer to be cleaned.
4. Start the high pressure lift and set the engine speed to provide adequate pressure for the sewer cleaning operation.
5. Open the water valve and allow the hose to proceed up the sewer. The hose speed should not exceed 30 feet per minute.
6. Allow the hose to proceed 25% of the length of the sewer and pull the hose back.
7. Observe the nature and the quantity of debris pulled back to the manhole.
8. If there is little or no debris, allow the hose to proceed to the upstream manhole.

9. If there is moderate to heavy debris, clean the remaining portion of the sewer in steps not to exceed 25% of the length of the sewer.
10. Open the upstream manhole and verify that the nozzle is at or past the manhole.
11. The sewer has been adequately cleaned when:
    - Successive passes with a cleaning nozzle do not produce any additional debris, and
    - The sewer is able to pass a full size, six-wire skid ("proofer") for its entire length.
12. Determine the nature and quantity of the debris removed during the cleaning operation. Use the codes in the following table to report the nature and quantity of debris. Table 4-1 in the Sewer System Management Plan provides a more detailed description of each of the codes.

Type of Material	Clear (no debris)	Light	Moderate	Heavy
Debris (sand, grit, rock)	CL	DL	DM	DH
Grease	CL	GL	GM	GH
Roots	CL	RL	RM	RH
Other:	CL	OL	OM	OH
Source: Best Practices Manual: Hydroflush, California Collaborative Benchmarking Group, 2001				

13. Remove the debris from the manhole using the vacuum unit.
14. Rewind the hose on the reel.
15. Remove the debris trap.
16. Clean the mating surface and close the manhole. Ensure that the manhole is properly seated.
17. Enter the results on the Sewer Cleaning/Inspection Work Order and/or Manhole Inspection Form (see Appendix 4-B or Appendix 4-D).
18. Move the cleaning unit, break down and stow the traffic controls.
19. Proceed to the next cleaning jobsite.

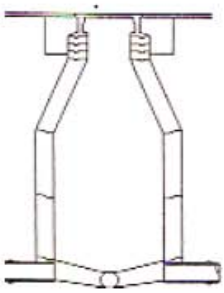
At the End of the Day

1. Inspect the equipment and tools for problems.
2. Report any problems with equipment, tools, or sewers that were cleaned during the day to the lead worker or Utility Maintenance Supervisor.
3. Turn in all completed Sewer Cleaning/Inspection Work Order Forms to the Utility Maintenance Supervisor at end of shift.

Data Entry of Cleaning Operations

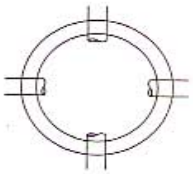
1. Utility Maintenance Supervisor submits all completed and approved work orders and inspection forms to the Administrative Analyst for entry into the City CMMS system.
2. Administrative Analysts enters all data within 10 days of receipt of forms and produces final reports for management QA/QC review and approval.
3. Administrative Analyst files all records and reports and retains as required by the laws governing retention of records and reports.

Appendix 4-D Sample Manhole Inspection Form



City of Lancaster
Manhole Inspection Form

Inspection Date _____
Inspector _____
MH # _____ MH Depth _____
Street Name _____
Nearest Address _____
GPS _____
GPS _____



Overflow/Diversion Lines Present ?
☐ Yes
☐ No

I. MANHOLE INITIAL INSPECTION

A - Location
1 ☐ Roadway
2 ☐ Gutter
3 ☐ Paved Alley
4 ☐ Unpaved Alley
5 ☐ Easement
6 ☐ Other _____

B - Manhole Cover
1 ☐ Serviceable
2 ☐ Damaged
3 ☐ Missing
4 ☐ Loose
5 ☐ Sealed
6 ☐ Holes _____

C - Ring and Frame
1 ☐ Serviceable
2 ☐ Loose
3 ☐ Displaced
4 ☐ Missing Grout
5 ☐ Raise
6 ☐ Lower

D - Manhole Material
1 ☐ Brick
2 ☐ Concrete

E - Manhole Cover Size
1 ☐ 24"
2 ☐ 30"

F - Manhole Barrel Size
1 ☐ 48"
2 ☐ 60"

II. STRUCTURAL INSPECTION

A - Rings
1 ☐ Serviceable
2 ☐ Unsafe
3 ☐ Missing (No.)
4 ☐ Corroded
5 ☐ No rungs

B - Cone
1 ☐ Serviceable
2 ☐ Cracked/Broken
3 ☐ Corroded
4 ☐ Misaligned
5 ☐ Infiltration
6 ☐ Roots at joints

C - Riser
1 ☐ Serviceable
2 ☐ Cracked/Broken
3 ☐ Corroded
4 ☐ Misaligned
5 ☐ Infiltration
6 ☐ Roots at joints

D - Shelf
1 ☐ Serviceable
2 ☐ Cracked/Broken
3 ☐ Dirty
4 ☐ Corroded
5 ☐ Bad Base Joint

E - Channel
1 ☐ Serviceable
2 ☐ Obstructed
3 ☐ Corroded
4 ☐ Bad Pipe Joint(s)
5 ☐ Silt/Debris
6 ☐ Poor Struc. Cond.

III. HYDRAULIC INSPECTION

A - Surcharge Indications
1 ☐ Grease/Debris on Sides/Rings
2 ☐ Grease/Debris on Shelf

B - Clarity of Flow
1 ☐ Turbid Sewage Appearance
2 ☐ Clear Water Appearance

C - Flow Conditions
1 ☐ Steady
2 ☐ Pulsing
3 ☐ Turbulent
4 ☐ Surcharging
5 ☐ Sluggish

Recommendations (Note I, II, or III and letter and number):

General Observations

Appendix 4-E 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 wire ways	
Other electrical	
Comments	

Motors	
Lubrication	
Insulation	
Operating current	
Vibration and alignment	
Other	
Comments	

Pumps		
Number of Pumps in Place at time of inspection		
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	

Appendix 4-F Major Collection System Equipment Inventory

Major Equipment Type	Number	Year Purchased
Combination Sewer Cleaning Unit, Large	1	2008
Mechanical Rodder, Medium	1	2008
Sewer Cleaning Unit, Jet, Medium	1	1990
Truck, Dump, 5 CY	1	1995
Backhoe, Large	1	1992
Utility Trailer	1	1987
Truck, Water Tanker, 1800 gallon	1	1990
Truck, Utility, 1 Ton	2	2008
Truck, Pickup, ¾ Ton	2	2007/2008
Portable Pump, 3 inch	2	2008

Appendix 4-G Critical Collection System Replacement Parts Inventory

Inventory Date _____

Inventory/Condition Checked by _____

Equipment Number	Major Equipment Type	Year Purchased

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 Ordinance No. 910 (Sewer Ordinance)

City Ordinance No. 910 adopted Chapters 13.07, 13.08 and 13.09 as the City's Sanitary Sewer and Industrial Waste Ordinance. With respect to design and performance provisions, the ordinance includes regulations for design and permitting, installation, inspection, and maintenance. Article 3 of Chapter 13.08 (13.08.175 to 13.08.290) sets minimum standards for sewer diameter, pipeline grade, flow velocity, depth, house lateral design, manhole spacing and location, pipe material, pipe and installation requirements. Article 4 (13.08.325 to 13.08.345) specifies City inspection procedures for sewer work and Article 5 (13.08.375 to 13.08.390) specifies maintenance provisions. For additional requirements, the ordinance refers to the *Engineering Design Guidelines Policies and Procedures*, the *Standard Specifications for Public Works Construction*, and the *City Standard Plans*, which are described in more detail below along with other documents that the City uses. The ordinance requires that all designs and installations be prepared and approved by a registered civil engineer prior to approval by the City.

5.2.2 City of Lancaster Engineering Design Guidelines Policies and Procedures (January 1997)

The City's *Engineering Design Guidelines, Policies and Procedures* establish design guidelines for private development and public projects within the City of Lancaster. Section 2.4, Sewer Improvement Plans of this document identifies design criteria for new sewer systems including lateral connections, sewer mains, manholes, and sewer loading criteria (unit flow factors). This section also includes the City's submittal requirements, sewer improvement plan checklist, standard sewer improvement plan notes, and testing, inspection, record drawings and dedication requirements, which would be included in the Contract Drawings and Special Provisions for sewer projects.

Many of the guidelines in the *Engineering Design Guidelines, Policies and Procedures* apply to sewer rehabilitation and repair projects; however, the City also establishes project-specific design criteria for these projects because existing methods are constantly evolving, new methods are continually being developed, and each project is typically unique.

The current version of this document is dated January 1997, and the City is currently in the process of reviewing and updating the document. As part of this update, the City will add specific guidelines for wastewater pump station design and plans and is considering the development of basic evaluation and design guidelines for rehabilitation and repair projects such as pre-design inspection requirements, calculation requirements for various techniques, and identifying acceptable rehabilitation and repair methods.

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. Designs will be reviewed on a case-by-case basis and applicable modifications to the County guidelines made as determined by the City.

5.2.4 "Greenbook" Standard Specifications for Public Works Construction

The *Greenbook*, written by Public Works Standards, Inc. 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.

5.2.6 Contract Drawings and Special Provisions

For each design project, the City approves *Contract Drawings and Special Provisions* prepared and signed by a registered civil engineer that are specifically tailored for that facility. The *Contract Drawings and Special Provisions* supplement the *Greenbook*, the *City Standard Drawings*, and the *Standard Plans for Public Works Construction* to form the construction Contract Documents. As mentioned above, construction requirements for mechanical equipment, valves, backup power, and other special equipment for pump stations are specified in the *Contract Drawings and Special Provisions.*

5.2.7 Industry Standards, Codes and Regulations

In addition to the guidelines above, facility design and construction requirements incorporate a number of industry standards and applicable codes and regulations including, but not limited to:

- American Society of Mechanical Engineers (ASME) Standards;
- American National Standards Institute (ANSI) Standards;
- American Society for Testing and Material (ASTM) Standards;
- American Water Works Association (AWWA) Standards;
- Hydraulic Institute (HI) Standards;
- American Concrete Institute (ACI) Standards;
- National Electric Code (NEC);
- National Electric Manufacturer's Association (NEMA) standards;
- City of Lancaster Municipal Codes, including but not limited to the Electrical, Mechanical, Plumbing, Fire and Building Codes;
- California Plumbing Code;
- State of California Industrial Safety Orders; and
- Applicable State and Federal regulations.

5.3 Inspection and Testing Procedures

The City has established procedures for inspection and testing of new sanitary sewer systems and repair and rehabilitation projects, including gravity sewers, force mains, pump stations, pipeline and manhole repair and rehabilitation, and pump station upgrades and rehabilitation.

Inspection, testing and acceptance criteria for sanitary sewers, force mains, manholes and lateral connections are specified in the City's *Engineering Design Guidelines, Policies and Procedures* and in the *Greenbook*, as described above. The documents include requirements for submitting record drawings and photographic documentation of construction; cleaning requirements; testing of sewer lines and manholes; post-installation video inspection; soils testing; inspection of structure excavations; and backfill compaction testing. The project-specific *Contract Drawings and Special Provisions* include additional testing requirements, as applicable.

Inspection, testing and acceptance procedures for pump stations are described in the *Guidelines for Wastewater Pump Station Design and Plan Submittal Procedures.* The guidelines include requirements for submittal of record drawings, operation and maintenance manuals, and photographic documentation of construction; inspections by city as applicable for compliance with building, plumbing, mechanical and electrical codes; factory test documentation for materials and equipment; functional tests of equipment witnessed by the manufacturer's representative, contractor, and City inspector; demonstration testing witnessed by the manufacturer's representative, contractor, and City engineer; and certified reports of noise testing. These requirements are written into project-specific *Special Provisions*.

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). The OERP provides guidelines for City personnel to follow in responding to, cleaning up, and reporting SSOs that may occur within the City's service area.

6.1 Regulatory Requirements for the OERP Element

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, State Emergency Management Agency (EMA), etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the Monitoring and Reporting Program (MRP). All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board Waste Discharge Requirements or National Pollutant Discharge Elimination System (NPDES) permit requirements. The Sewer System Management Plan 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

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

- Respond quickly to minimize the volume of and damage from the SSO;
- Eliminate the cause of the SSO;
- Contain and return the spilled wastewater to the extent feasible;
- Minimize public contact with the spilled wastewater;
- Mitigate the impact of the SSO;
- Meet the regulatory reporting requirements; and
- Notify the public when a threat to public health exists.

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

Public observation is the most common way that the City is notified of blockages and spills. Contact information for reporting sewer spills and backups are in the phone book and on the City's website: www.cityoflancasterca.org. The City's Public Works (PW) telephone number, (661) 723-5985, is used during normal working hours and the Lancaster Sheriff's Station number, (661) 948-8466, is used to report after hour sewer emergencies.

6.3.1.1 Normal Work Hours

The City's normal working hours are 7:00 am to 5:00 pm except holidays and weekends. When a report of a sewer spill or backup is made, City staff receives the call, takes the information from the caller, and communicates it to the Lead Utility Maintenance Worker who responds to the site and/or dispatches a field crew to the site.

6.3.1.2 After Hours

Callers are directed to the Lancaster Sheriff's Station number. The Sheriff Dispatcher receives the call, takes the information from the caller, and communicates it to the PW Utility Services Division Standby Crew.

6.3.2 Receipt of Alarm

The City's pump station has an alarm system that notifies the City of an alarm condition via an autodialer. The autodialer contacts the Answering Service who during normal business hours contacts the Public Works Utility Services Division and after hours and weekends contacts the Lancaster Sheriff Station and they contact the PW Utility Services Division Standby Crew.

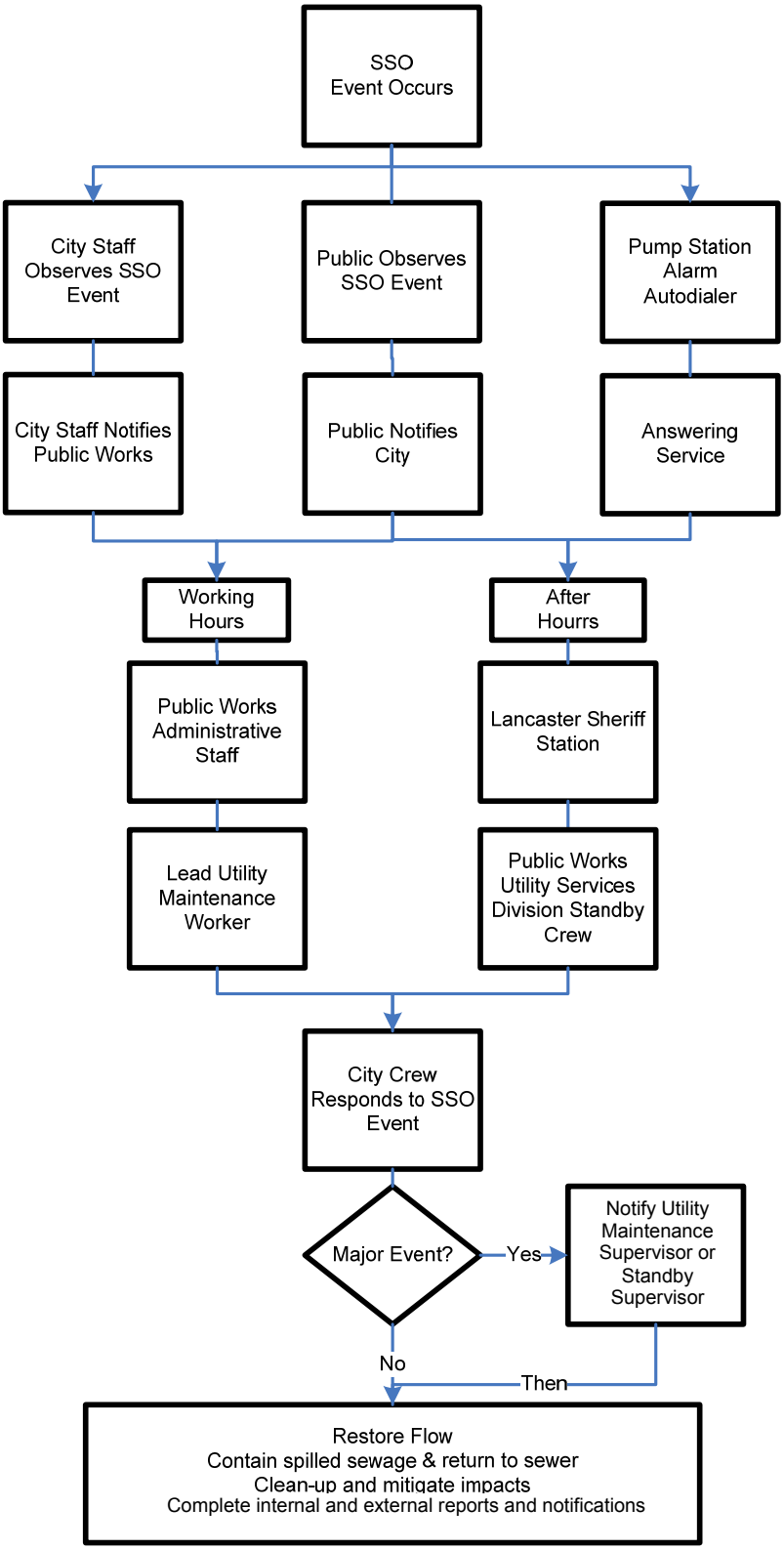
6.3.3 City Staff Observation

City staff conducts periodic inspections of its sewer system facilities as part of their routine activities. Any problems noted with the sewer system facilities are reported to appropriate City staff who respond to emergency situations. Work orders are issued to correct non-emergency conditions.

6.4 SSO Response Procedures

The SSO response procedure flow chart is shown on Figure 6-1.

Figure 6-1: Lancaster SSO Response Procedure Flow Chart



6.4.1 First Responder Priorities

The first responder's priorities are:

1. To follow safe work practices.
2. To respond promptly with the appropriate equipment.
3. To contain the spill wherever feasible.
4. To restore the flow as soon as practicable.
5. To minimize public access to and/or contact with the spilled sewage.
6. To promptly notify the Utility Maintenance Supervisor or On Call Supervisor in event of a major SSO.
7. To return the spilled sewage to the sewer system.
8. To restore the area to its original condition (or as close as possible).

6.4.2 Safety

The first responder is responsible for following safety procedures on all jobs. Special safety precautions must be observed when performing sewer work.

6.4.3 Initial Response

All sewer system calls require a response to the reported location of the event. Sewer system calls should never be handled without an on-site evaluation. The first responder must respond to the reporting party/pump station site and visually check for potential sewer stoppages or overflows.

The first responder should:

1. Note arrival time, document conditions with photographs and contact caller if time permits.
2. Verify the existence of a sewer system spill or backup.
3. Identify and assess the affected area and extent of spill.
4. Regardless of whether the spill/backup is caused by a private lateral or other agency sewer system, the first responder should always contain/mitigate the spilled sewage to the extent feasible and standby until representatives of the responsible party arrive and are fully operational.
5. Notify the Utility Maintenance Supervisor or his/her designee in event of major SSO:
    - If the spill appears to be large, in a sensitive area, or there is doubt regarding the extent, impact, or how to proceed.
    - If additional help is needed, the Utility Maintenance Supervisor/Lead Worker will contact other employees, contractors, and/or equipment suppliers.
6. 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.

6.4.4 Troubleshooting and Clearing Sewer Stoppages

The first responder should follow the steps outlined below for each type of sewer call.

6.4.4.1 Pump Station Alarms

In the event that an SSO has occurred or is imminent due to a pump station failure, the first responder should initiate and organize delivery of portable pumping units (including fuel), hoses, portable lights and safety cones if required. The first responder should use their professional experience and judgment to determine if it is necessary to call for assistance.

6.4.4.2 Building Lateral Stoppage or Sewer Backup into House or Building

Inspect the City's system by checking upstream and downstream manholes. If the problem is in the City's system, clear the blockage, begin the initial cleanup and contact the Utility Maintenance Supervisor if situation warrants.

If the problem is in the lateral, notify the customer that the blockage is in the customer's line and inform the customer that they must contact a plumber or a drain cleaning company to correct the situation. Do not recommend specific contractors or companies. See Appendix 6-E and Appendix 6-F for guidelines and customer information letter.

6.4.4.3 Mainline Stoppage and/or Manhole Overflow

Inspect upstream and downstream manholes to determine the location of the blockage. Clear the blockage using appropriate equipment. Initiate spill recovery and cleanup procedures identified in this chapter.

6.4.4.4 Odor Problem

Investigate odor complaints to determine if the City's sewer system is the cause of the complaint. Do not always assume that a malodorous condition is related to the sewer system. If the City's sewer system is the cause, clean the mainline to flush the system. If the cause is from another source (e.g. storm drain), notify the appropriate party. Contact the original source of the complaint to inform them of the results of the evaluation.

6.4.4.5 Sewage in Street/Parking Lot

If call is received as sewage in a street or parking lot, respond immediately to determine if the cause is from the City's sewer system. If it has been determined that the overflow is from a private source, inform the responsible party (owner of the private source and/or property) and direct them to have the site cleaned up. If the source of the sewage is illegal RV dumping, notify the Utility Maintenance Supervisor.

The first responder should never leave a site where there is sewage in a street or parking lot until the threat of public contact is eliminated and it is clear that the site will be effectively cleaned up by the private party. If it becomes clear that the site will not be effectively cleaned up by the private party, or if it is unclear who the responsible party is, and if there is a risk of public contact, then the first responder is required to initiate cleanup. Maintain proper documentation for use in billing the responsible party.

6.4.5 Restore Flow

Using the appropriate cleaning tools, set up tools downstream of the blockage and clean upstream from a clear manhole. Attempt to remove the blockage from the system and observe the flows to ensure that the blockage does not recur downstream. Follow Standard Operating Procedures for Gravity Sewer Cleaning, included as Appendix 4-C.

- If the blockage cannot be cleared within a reasonable time (15 minutes), or sewer requires construction repairs to restore flow, then initiate containment and/or bypass pumping. If assistance is required, immediately contact the Utility Maintenance Supervisor.

6.4.6 Initiate Spill Containment Measures

The first responder should attempt to contain as much of the spilled sewage as possible using the following steps:

- Determine the immediate destination of the overflowing sewage.
- Review sewer maps for possible temporary upstream flow diversion bypassing.
- When a spill, leak, and/or overflow occurs, keep sewage from entering the storm drain system to the maximum extent practicable by covering or blocking storm drain inlets and catch basins, or by containing and diverting the sewage away from open channels and other storm drain facilities (using sandbags, inflatable dams, plastic mats, etc.).
- Pump around the blockage/pipe failure/pump station.
- Dike/dam (or sandbag) spill by building a temporary berm to collect spill.
- If overflowing sewage has made contact with the storm drainage system, attempt to contain the spilled sewage by plugging downstream storm drainage facilities.
- Modify these methods as needed to accommodate wet weather conditions where the feasibility of containment may be impacted by both the quantity of sewage and the quantity of stormwater runoff.
- Assess the need for public notification and posting as required in Section 6.7

6.5 Recovery and Clean Up

The recovery and clean up phase begins when the flow has been restored and the overflow of sewage has been stopped.

6.5.1 Water Quality Sampling and Testing

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

- The first responder should notify the Utility Maintenance Supervisor to collect samples. Samples should be collected as soon as possible after the discovery of the SSO event, without delaying the restoration of flow or the containment activities.
- The water quality samples should be collected from upstream of the spill, from the spill area, and downstream of the spill in flowing water (e.g. creeks). The water quality samples should be collected near the point of entry of the spilled sewage and every 100 feet along the shore on impoundments (e.g. ponds).
- A private laboratory will be used to analyze the results to determine the nature and impact of the discharge. Additional samples will be taken to determine when posting of warning signs can be discontinued. The basic analyses should include total coliform, fecal coliform, biochemical oxygen demand (BOD), dissolved oxygen, and ammonia.

6.5.2 Estimate the Volume of Spilled Sewage

Use the methods outlined in Appendices 6-G and 6-H and interviews of any customers who have observed or reported the overflow to estimate the volume of the spilled sewage. Wherever possible, document the estimate using photos of the SSO site before the recovery operation.

6.5.3 Recovery of Spilled Sewage

Remove the spilled sewage using vacuum equipment or use other measures to divert it back to the sanitary sewer system.

6.5.4 Clean Up and Disinfection

When disinfecting a sewage-contaminated area, take every effort to ensure that the disinfectant or sewage treated with the disinfectant is not discharged to the storm drain system or surface waters.

Methods may include blocking storm drain inlets, containing and diverting disinfectant and sewage away from open channels and other storm drain fixtures, and removing the material with vacuum equipment.

Clean up and disinfection procedures below should be implemented 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. Where clean up is beyond the capabilities of City staff, a cleanup contractor will be used as determined by the Utility Maintenance Supervisor or his/her designee.

6.5.4.1 Private Property

Offer assistance with clean up and advise resident or property owner of claim procedures (see Appendices 6-E and 6-F). Review, enter appropriate information and leave the Customer Information Letter with the affected parties.

6.5.4.2 Hard Surface Areas

- Collect all signs of sewage solids and sewage-related material using rakes, brooms, and shovels.
- Wash down the affected area with clean water until the water runs clear. Take reasonable steps to contain and vacuum up the wash down water.
- Disinfect all areas that were contaminated from the overflow using a disinfectant solution. Apply the disinfectant solution using a hand sprayer in amounts adequate to wet the surface but not cause runoff. Document the volume and application method of disinfectant solution that was employed on the Collection System Service Field Report Form, Appendix 6-A.
- Allow area to dry. Repeat the process if additional cleaning is required.
- Do not apply disinfectant solution during wet weather conditions.

6.5.4.3 Landscaped Areas and Unimproved Natural Vegetation

- Collect all signs of sewage solids and sewage-related material either by hand or with the use of rakes, brooms, or shovels.
- Wash down the affected area with clean water until the water is clear. The flushing volume should be approximately three times the estimated volume of the spill.
- Take reasonable steps to contain and vacuum up the wash down water.
- Allow the area to dry. Repeat the process if additional cleaning is required.
- Do not apply disinfectant solution to landscaped areas or unimproved natural vegetation.

6.5.4.4 Natural Waterways

- The Department of Fish and Game should be notified in the event that more than 100 gallons of spilled sewage enters any surface water or natural waterway. Fish and Game will provide the professional guidance needed to effectively clean up SSOs that occur in these sensitive environments.
- Clean up should proceed quickly in order to minimize negative impact. Sewage causes depletion of dissolved oxygen which will kill aquatic life.
- Any water that is used in the clean up should be de-chlorinated prior to use (chlorine compounds are toxic to aquatic life).

6.5.4.5 Wet Weather Modifications

Omit flushing during heavy storm events with heavy runoff where flushing is not required.

6.5.5 Follow-Up Activities

If sewage has reached the storm drain system, sewer cleaning equipment should be used to vacuum/pump out the catch basin and any other portion of the storm drain that may contain sewage.

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

6.6 Public Notification

The public that may be at risk should be warned to avoid contact with sewage or sewage-contaminated water from an SSO which may cause illness. The notification methods are described below. A sample warning sign is included as Appendix 6-I.

Creeks, streams and beaches that have been contaminated as a result of an SSO should be posted at visible access locations until the risk of contamination has subsided to acceptable background levels. The warning signs should be checked every day to ensure that they are still in place.

Posting signs and placing barricades may be necessary to keep vehicles and pedestrians away from spilled sewage. Post the warning signs and block access to the contaminated water areas with "Caution" Tape and barricades. Do not remove the signs until directed by the Utility Maintenance Supervisor.

Major spills may warrant broader public notice. The City Manager will authorize contact with local media when significant areas may have been contaminated by sewage.

6.7 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 future potential for the SSO to recur.

The investigation should include reviewing all relevant data to determine appropriate corrective action(s). The investigation should include:

- Reviewing and completing the Collection System Field Services Report (Appendix 6-A);
- Reviewing past maintenance records;
- 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 received and responded to the spill.
- Interviews with persons reporting and/or observing the spill in the field.

The product of the failure analysis investigation should be the determination of the root cause and the identification of any corrective actions. The completed Collection System Failure Analysis Form (Appendix 6-D) should be used to document the investigation and be included in the individual SSO file for the event.

6.8 SSO Categories

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

There are three categories of SSOs as defined by the SWRCB[1]:

- Category 1 - All discharges of sewage resulting from a failure in the City's sanitary sewer system that:
  - Have a volume of 1,000 gallons or more, or
  - Result in a discharge to a drainage channel and/or surface water; or
  - Discharge to a storm drain pipe that was not fully captured and returned to the sanitary sewer system.
- Category 2 - All other discharges of sewage resulting from a failure in the City's sanitary sewer system.
- Private Lateral Sewage Discharges - Sewage discharges that are caused by blockages or other problems within a privately owned lateral.

6.9 SSO Documentation and Reporting

All SSOs should be thoroughly investigated and documented for use in managing the sewer system and meeting established reporting requirements. City staff will maintain a SSO file management system that includes a separate file for each SSO with all documents resulting from the spill and shall maintain a log of all SSO files for ease of management and to comply with regulations regarding SSO reporting.

6.9.1 Internal SSO Reporting Procedures

6.9.1.1 Category 1 SSOs

- The first responder will immediately notify the Utility Maintenance Supervisor who will in turn notify the Utility Services Manager.
- The Utility Maintenance Supervisor will meet with field crew(s) at the site of the SSO event to assess the situation, document the conditions with photos, and direct the recovery and cleanup activities.
- The first responder will fill out the Collection System Field Services Report (Appendix 6-A) and turn it in as soon as possible to the Utility Maintenance Supervisor following restoration of service in the field.
- In the event of a very large overflow or an overflow in a sensitive area, the Utility Services Manager will notify the Public Works Director who may contact the City Manager. The City Manager may notify the City Council.

6.9.1.2 Category 2 SSOs

The first responder will fill out the Collection System Service Field Report and turn it in to the Utility Maintenance Supervisor by the start of the next work day.

6.9.2 External SSO Reporting Procedures[2]

The California Integrated Water Quality System (CIWQS) electronic reporting system will be used for reporting SSO information to the SWRCB. A flow chart is included Figure 6-2 showing the external reporting response requirements based on the type of SSO, with more detail and contact information provided on Figure 6-3.

[1] State Water Resources Control Board Monitoring and Reporting Program No. 2006·0003-DWQ (as revised by Order No. WQ 2008-0002.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems
[2] State Water Resources Control Board Monitoring and Reporting Program No. 2006·0003-DWQ (as revised by Order No. WQ 2008-0002.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

6.9.2.1 Category 1 SSOs that reach Waters of the State

If a Category 1 SSO results in a discharge to waters of the State (a drainage channel or surface water, if not fully recovered), the following reporting requirements apply:

- Within 15 minutes of being notified of the spill event, the Utility Maintenance Supervisor or his/her designee will notify the Los Angeles County Department of Environmental Health.
- Within two hours of being notified of the spill event, the Utility Maintenance Supervisor or his/her designee will:
    - Notify the State of California Emergency Management Agency (and obtain spill number for use in other reports), and
    - Prepare an initial notification to the RWQCB.
- Within 24 hours of being notified of the spill event, the Utility Services Manager or his/her designee will certify to the RWQCB that EMA and County Health were notified of the SSO event.
- Within 3 business days of being notified of the spill event, the Utility Services Manager or his/her designee will certify the initial report using CIWQS.
- Within 15 calendar days of the conclusion of SSO response and remediation, the Utility Services Manager or his/her designee will certify the final report using CIWQS.
- The Utility Services Manager 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.

6.9.2.2 Category 2 SSOs

Within 30 calendar days after the end of the calendar month in which the SSO occurs, the Utility Maintenance Supervisor or his/her designee will submit an electronic report using CIWQS. The Utility Services Manager or his/her designee will certify the report. The report will include the information to meet the GWDR requirements.

6.9.2.3 Private Lateral Sewage Discharges

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

6.9.2.4 No Spill Certification (Monthly)

If there are no SSOs during the calendar month, the Utility Services Manager will provide, **within 30 days after the end of each calendar month**, a statement using CIWQS certifying that there were no SSOs for the designated month.

Figure 6-2: SSO External Reporting Requirement Flow Chart

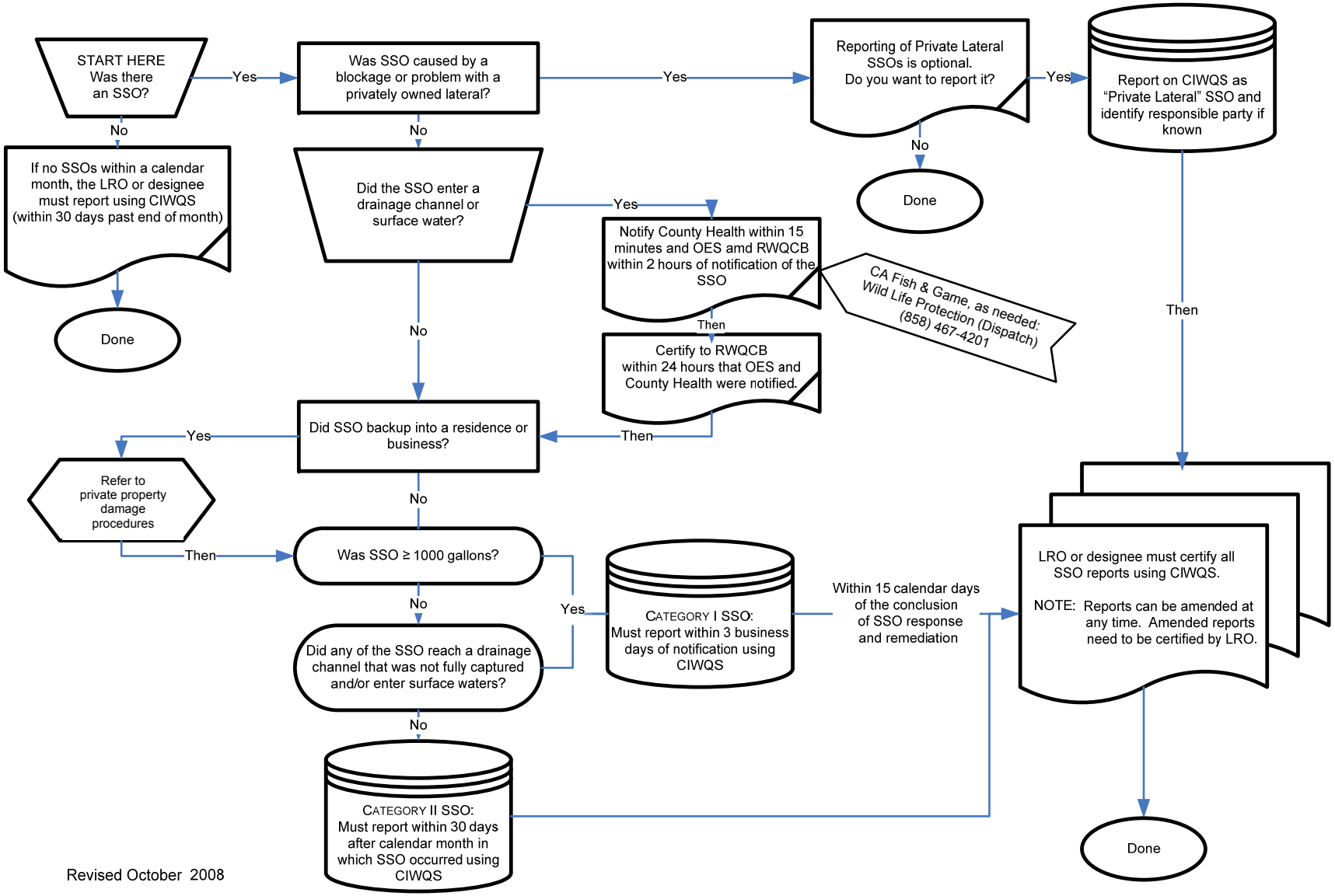


Figure 6-3: SSO External Reporting Checklist and Contact Information

Two-Hour Notification / 24-Hour Certification

1) **OES** (800) 852-7550
   Make sure you ask for an "OES Control Number" (for RWQCB).
2) **Los Angeles County Department of Public Health**
   Phone: (213) 974-1234
3) **RWQCB – Lahontan Region (6B)**
   - o Phone and fax both 2-Hour Notification and 24-Hour Certification (Leave message on voice mail after hours)
     - Victorville office phone number (760) 241-6583
     - Send follow up fax to (760) 241-7308

California Integrated Water Quality Systems (CIWQS: Online SSO Reporting System)

SWRCB reporting timeframes depend on the size and final destination of the SSO. Reports must be certified by the City's Legally Responsible Official (LRO), the Utility Services Manager

- o Online SSO Reporting System must be used for reporting if the website is available
  - http://ciwqs.waterboards.ca.gov
  - User Name: Password:
  - Waste Discharge Identification Number (WDID) # 6SSO11136
- o If website is down, fax RWQCB at (760) 241-7308

Sanitary Sewer Overflow (SSO)

Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system that:

(i) Reach waters of the United States (including storm drains, unless fully captured and returned to sanitary sewer sytem);
(ii) Do not reach waters of the United States; and/or
Iii) Backs up into buildings and on private property that are caused by City-owned lines.

Reporting and Certification Checklist

Category 1 SSOs that reach Surface Waters

15 Minute and 2-Hour Notification:

√ LA County Health must be notified within 15 minutes and OES and the RWQCB must be notified within two hours of **ANY** discharge of sewage to a surface water or drainage channel (that is not fully captured and returned to sewer).

24-Hour Certification:

√ Any SSO requiring notification based on the 15 minute and two-hour rules must be followed up with a certification submitted to the RWQCB within 24 hours.

Within 3 Business Days of Notification:

√ As a Category I SSO, it must be reported to the SWRCB using CIWQS (the Online SSO Reporting System).

Within 15 Calendar Days of Conclusion of Response/Remediation:

√ Must be certified by LRO using CIWQS.

Category 1 SSOs that do not reach Surface Waters

Within 3 Business Days of Notification (SWRCB):

√ As a Category I SSO, it must be reported to the SWRCB using CIWQS.

Within 15 Calendar Days of Conclusion of Response/Remediation:

√ Must be certified by LRO using CIWQS.

Category 2 SSOs (<1,000, no Property Damage or Surface Waters)

Within 30-Days After End of Calendar Month with SSO Event:

√ Must be reported to the SWRCB using CIWQS.

√ Must be certified by LRO using CIWQS.

Negative Reporting (No SSOs in Month)

Within 30 days past the end of the month

√ The LRO or designee must report using CIWQS.

Private Lateral SSOs (Reporting is Optional)

√ If reporting is desired, report to the SWRCB as "Private Lateral" SSO and identify responsible party, if known (not the District), using CIWQS.

√ Must be certified by LRO using CIWQS.

Revised October 2008

6.9.2.5 CIWQS Not Available

In the event that CIWQS is not available, the City will fax all required information to the RWQCB in accordance with the time schedules identified above in Figure 6-3. In such event, the City must also enter all required information into CIWQS as soon as practical. The fax number is (760) 241-7308. A sample form with required information is included as Appendix 6-B.

6.9.3 Internal SSO Documentation

6.9.3.1 Category 1 SSOs

The first responder will complete the Collection System Service Field Report Form (Appendix 6-A) and turn it in to the Utility Maintenance Supervisor by the start of the next work day.

First Responder/Utility Maintenance Supervisor will complete the Sewer Overflow Building History Form (Appendix 6-C) if an SSO has occurred in a residence or building.

The Utility Maintenance Supervisor will prepare a file for each individual SSO and add the event to the City SSO Log using the unique City event number for the event or the EMA Control Number. The file should include the following information:

- Initial service call information.
- Collection System Service Field Report form (Appendix 6-A)
- Failure analysis investigation results (Appendix 6-D).
- CMMS Spill Report and CMMS work order.
- RWQCB/SWRCB report forms (including CIWQS Reports).
- Volume estimate.
- Appropriate maps showing the spill location.
- Photographs of spill location.
- Water quality sampling and test results.
- CCTV video tape and evaluation forms.
- Interviews with customers and the public.

6.9.3.2 Category 2 SSOs

The first responder will complete the Collection System Field Services Report Form and turn it in to the Utility Maintenance Supervisor within one week of the event.

The Utility Maintenance Supervisor will prepare a separate file for each individual SSO and add the event to the City SSO Log using the unique City event number for the event or the EMA Control Number including:

- Initial service call information.
- Collection System Service Field Report form.
- Failure analysis investigation results.
- CMMS Spill Report.
- Any RWQCB/SWRCB report forms (including CIWQS Reports).
- Field photographs taken of the overflow.
- Interview notes from customers or observers contacted by staff.

6.9.4 External SSO Record Keeping Requirements[3]

The GWDR 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 the RWQCB Executive Officer. All records shall be made available for review upon EPA, SWRCB or RWQCB staff's request. Records shall be retained for all SSOs in individual files for each event, including but not limited to the following when applicable:

- Copy of Certified CIWQS report;
- All original recordings from continuous monitoring instrumentation;
- Service call records and complaint logs of calls received by the City;
- SSO calls;
- SSO records;
- SSO CCTV results and reports
- Steps that have been and will be taken to prevent the SSO from recurring 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.

If water quality monitoring is conducted by the City or its agent(s), 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.
- Map identifying sampling locations.

6.10 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 the procedures used and to discuss what worked and where improvements could be made in responding to and mitigating future SSO events. The results of the debriefing should be recorded on the Collection System Failure Analysis Form in Appendix 6-D and tracked to ensure the action items are completed.

[3] State Water Resources Control Board Monitoring and Reporting Program No. 2006·0003-DWQ (as revised by Order No. WQ 2008-0002.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

6.11 Equipment

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

Closed Circuit Television (CCTV) Inspection Unit – A CCTV Inspection Unit is required to determine the root cause for all SSOs from gravity sewers. CCTV inspection services will be provided by a contractor.

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

Emergency Response Truck – A utility body pickup truck is required to store and transport the equipment needed to effectively respond to sewer emergencies. The equipment and tools should include spilled sewage containment and clean up materials.

GPS Unit (Global Positioning System) – A hand held GPS unit is required to determine the coordinates of spills for use in meeting RWQCB SSO reporting requirements.

Portable Pumps and Hoses – Portable pumps and piping will be used to pump around failed facilities and to recover spilled sewage.

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.

6.12 SSO Response Training

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

6.12.1 Initial and Annual Refresher Training

All City personnel who may have a role in responding to, reporting, and/or mitigating a sewer system overflow should receive training on the contents of this 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.

6.12.2 SSO Response Drills

Periodic training drills should be held to ensure that 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, pump 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.

6.12.3 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.

6.13 Contractors Working on City Sewer Facilities

All contractors working on City sewer facilities will be contractually required to develop and maintain a project-specific Overflow Response Plan consistent with the City OERP. All contractor personnel will be required to receive training in the contractor's Overflow Response Plan and to follow it in the event that they cause or observe an SSO.

Appendix 6-A Collection System Field Services Report

COLLECTION SYSTEM SERVICE FIELD REPORT – PAGE 1

INITIAL INFORMATION

DATE: _____ CALL RECEIVED: _____AM/PM

RECEIVED BY:_____ CALLER'S NAME: _____

CALLER'S PHONE #:_____ CALLER'S ADDRESS: _____

LOCATION OF OVERFLOW:_____CROSS STREET: _____

TIME AND NAMES OF CREW MEMBERS CONTACTED: _____

DESCRIPTION OF COMPLAINT: _____

FIELD REPORT: FOR RESPONSE CREW'S USE

TIME ARRIVED AT SITE: _____AM/PM CREW NAMES: _____

ASSET #: _____ U/S ASSET#: _____ D/S ASSET#:_____

SIZE OF LINE:_____ LENGTH OF LINE: _____ EASEMENT: YES ☐ NO ☐

GPS COORDINATES: LATITUDE: 34._____ LONGITUDE: -118._____

COMMENTS: _____

COMPLETE REMAINDER OF FORM IF AN OVERFLOW HAS OCCURRED

TIME SSO STARTED:_____ TIME SSO STOPPED: _____ DURATION OF SSO: _____(DAYS/HOURS)

EST. TOTAL VOLUME: _____(GALLONS) RETURNED TO SEWER SYSTEM: _____(GALLONS)

DID SSO REACH RECEIVING WATERS? YES ☐ NO ☐

VOLUME TO WATERS (INCLUDING STORM DRAIN) THAT WAS NOT RECOVERED: _____(GALLONS)

RECEIVING WATER LOCATION: _____

DESCRIBE HOW OVERFLOW QUANTITY WAS CALCULATED: EYEBALL EST. ☐ DURATION/FLOWRATE ☐
MEASURED VOL. ☐ OTHER _____

WEATHER: SUNNY ☐ CLOUDY ☐ RAINY ☐ RAIN FOR SEVERAL DAYS _____

PRIMARY CAUSE: ROOTS ☐ GREASE ☐ DEBRIS ☐ VANDALISM ☐ CONSTRUCTION DAMAGE ☐ PIPE FAILURE ☐
PUMP STATION FAILURE ☐ POWER FAILURE ☐ CAPACITY (HEAVY RAIN) ☐ OTHER _____

SOURCE OF SSO: MANHOLE ☐ GRAVITY MAIN ☐ FORCE MAIN ☐ CLEAN OUT ☐ PRIVATE LATERAL ☐
PUMP STATION ☐ _____(NAME) OTHER _____

FINAL SSO DESTINATION: STORM DRAIN ☐ CAPTURED FROM STORM DRAIN (100%) ☐ BUILDING ☐
YARD/LAND ☐ SURFACE WATERS ☐ NO SURFACE WATERS INVOLVED ☐ OTHER _____

ADDITIONAL INFORMATION: _____

COLLECTION SYSTEM SERVICE FIELD REPORT – PAGE 2

SPILL MAGNITUDE:
- ☐ SSO REACHED DRAINAGE CHANNEL AND WAS NOT FULLY RECOVERED
- ☐ MORE THAN 1,000 GALLONS, BUT FULLY RECOVERED AND RETURNED TO SEWER
- ☐ BACKED UP INTO A RESIDENCE OR BUSINESS
- ☐ LESS THAN 1,000 GALLONS AND DID NOT REACH DRAINAGE CHANNEL

TIME CLEANUP BEGAN: _____ TIME CLEANUP COMPLETE: _____

DESCRIBE CLEANUP METHOD/ACTIONS TAKEN: _____

DISINFECTION: NO ☐ YES / DISINFECTION AMOUNT/TYPE: _____

SIGNS POSTED: YES ☐ NO ☐ BARRICADED: YES ☐ NO ☐ NEIGHBORS NOTIFIED: YES ☐ NO ☐

LIST ALL PERSONNEL RESPONDING TO SPILL: _____

PICTURES/VIDEO TAKEN: NO ☐ YES / BY:_____ SAVED LOCATION: _____

SAMPLES TAKEN BY: _____ LOCATION OF SAMPLES: _____

CALLER/CUSTOMER NOTIFIED RE: STATUS: YES ☐ NO ☐ IF NOT, REASON: _____

REGULATORY AGENCIES NOTIFIED: YES ☐ NO ☐ OES SPILL #: _____

	NAME OF CONTACT	DATE/TIME
OES:		
COUNTY HEALTH:		
RWQCB (2-HR/24-HR):		
CIWQS (SWRCB):		
FISH/GAME:		
OTHER:		

NAME OF PERSON MAKING NOTIFICATIONS: _____

IF ASSET WAS MANHOLE, PIPE, OR CLEAN OUT, COMPLETE THE FOLLOWING:

OVERFLOWING MANHOLE: #_____ LONGITUDE/LATITUDE:_____

UPSTREAM MANHOLE: #_____ LONGITUDE/LATITUDE:_____

DOWNSTREAM MANHOLE: #_____ LONGITUDE/LATITUDE:_____

CLEAN OUT: #_____ LONGITUDE/LATITUDE:_____

SEWER MAIN: #_____ SIZE:_____(INCHES) MATERIAL:_____

SKETCH AREA: INCLUDE MANHOLES, INTERSECTIONS, LOCATION OF STOPPAGE, ETC.

REPORT COMPLETED BY:_____ ___/___/___ REPORT SUBMITTED TO: _____ ___/___/___

Appendix 6-B Sample Fax Form for SSO Reporting

FAX FORM FOR SSO REPORTING

THIS FORM IS BEING SUBMITTED TO REPORT AN SSO TO SATISFY THE CALIFORNIA SWRCB 2-HOUR/24-HOUR REPORTING REQUIREMENT OR BECAUSE THE CIWQS WEBSITE IS UNAVAILABLE.

TO: RWQCB, LAHONTAN REGION **REPORTING SEWER AGENCY: CITY OF LANCASTER**
FAX NUMBER: (760) 241-7308 **WDID: 6SSO11136**

COUNTY WHERE SSO OCCURRED: **LOS ANGELES** ONGOING INVESTIGATION: YES ☐ NO / COMPLETE ☐

FAX SENT AT: ___/_____/____ AT ___:____ (24-HOUR) VOICE MESSAGE: ___/____/____ AT ___:____

OES CONTROL NUMBER: _____ COUNTY HEALTH CALLED: ___/____/____ AT ___:____

OVERFLOW LOCATION: LATITUDE: 34._____ LONGITUDE: -118._____

STREET ADDRESS: _____

CROSS STREET: _____

CITY: _____ ZIPCODE:_____

DATE/TIME CITY WAS NOTIFIED OF SSO: ___/_____/____ AT ___:____

CITY STAFF ARRIVED: ___/_____/____ AT ___:____ SSO ENDED: ___/_____/____ AT ___:____

WAS A PRIVATE LATERAL THE CAUSE OF THE SSO?	YES ☐ NO ☐
DID SSO ENTER DRAINAGE CHANNEL OR SURFACE WATERS?	YES ☐ NO ☐
WAS 100% OF THE SSO RECOVERED AND RETURNED TO SEWER?	YES ☐ NO ☐
WERE BEACHES IMPACTED?	YES ☐ NO ☐
WAS SSO POSTED?	YES ☐ NO ☐

ESTIMATED SSO VOLUME TOTAL: _____(GALLONS) VOLUME RECOVERED:_____(GALLONS)

ESTIMATED SPILLED SEWAGE VOLUME THAT REACHED SURFACE WATERS: _____(GALLONS)

SSO SOURCE: MANHOLE ☐ GRAVITY MAIN ☐ FORCE MAIN ☐ CLEAN OUT ☐ PRIVATE LATERAL ☐
PUMP STATION ☐ OTHER _____

SSO DESTINATION: STORM DRAIN ☐ CAPTURED FROM STORM DRAIN (100%) ☐ BUILDING ☐ YARD/LAND ☐
SURFACE WATERS ☐ NO SURFACE WATERS INVOLVED ☐ OTHER _____

SSO CAUSE: ROOTS ☐ GREASE ☐ DEBRIS ☐ VANDALISM ☐ CONSTRUCTION DAMAGE ☐ PIPE FAILURE ☐
PUMP STATION FAILURE ☐ POWER FAILURE ☐ CAPACITY (HEAVY RAIN) ☐
OTHER _____

DESCRIBE RESPONSE AND CORRECTIVE ACTION TAKEN:_____

_____

WERE SAMPLES TAKEN? NO ☐ YES: _____ (AGENCY/LABORATORY)

IF YES, TESTING FOR: TOTAL COLIFORM ☐ FECAL COLIFORM ☐ BOD ☐ DISSOLVED OXYGEN ☐ AMMONIA ☐

REPORTING PERSON NAME: _____ PHONE NUMBER: _____

LRO'S NAME: _____ LRO'S PHONE NUMBER: _____

Revised September 2008

Appendix 6-C Sewer Overflow Building History Form

SEWER OVERFLOW BUILDING HISTORY FORM

COMPLETE THIS FORM IF AN OVERFLOW (SSO) HAS OCCURRED IN A BUILDING OR RESIDENCE

CITY STAFF ARRIVED ON-SITE: ____/_____/_____ TIME:_____:_____ EMPLOYEE NAME: _____

RESIDENT NAME: _____ PROPERTY OWER/MANAGER:_____

STREET ADDRESS: _____ MAILING ADDRESS: _____

CITY AND ZIPCODE: _____ CITY AND ZIPCODE: _____

PHONE: _____ PHONE:_____

YEAR HOME WAS BUILT: _____ # OF BATHROOMS: _____ # OF ROOMS AFFECTED: _____

NUMBER OF PEOPLE LIVING AT THIS ADDRESS: _____ APPROXIMATE TIME SEWAGE WAS SITTING: _____

APPROXIMATE AMOUNT OF SPILL: _____ *(GALLONS)* NUMBER OF PICTURES TAKEN:_____ ☐ DIGITAL ☐ FILM

CUSTOMER CLEAN OUT: ☐ NON-EXISTENT ☐ FULL ☐ EMPTY
CITY CLEAN OUT: ☐ NON-EXISTENT ☐ FULL ☐ EMPTY

LOCATION/SEWER: ☐ STREET ☐ REAR EASEMENT ☐ MANHOLE #_____ TO _____
☐ MAINLINE ☐ SERVICE LINE ☐ DOUBLE-WYE

DAMAGE: ☐ BLACK WATER ☐ GREY WATER ☐ FRESH WATER

CLEANING COMPANY CONTACTED BY OWNER: ☐ No ☐ YES/TIME CALLED: ____:____ (WAIT FOR COMPANY TO ARRIVE)

CLEANING COMPANY CONTACT INFORMATION: _____

IS MANHOLE VISIBLY HIGHER THAN THE DRAIN THAT OVERFLOWED? ☐ YES ☐ NO

IS FINISHED FLOOR 12" OR MORE BELOW NEAREST UPSTREAM MANHOLE? ☐ YES ☐ NO

DOES THE CUSTOMER HAVE A BACKFLOW PREVENTION DEVICE (BPD)? ☐ YES ☐ NO

IF YES, WAS THE BPD OPERATIONAL AT THE TIME OF THE OVERFLOW? ☐ YES ☐ NO

TYPE OF FLOORING IN THE AREAS AFFECTED AND CONDITION (CRACKING, VISIBLE OPEN SPACES, ETC.)

☐ TILE ☐ CARPET ☐ WOOD ☐ OTHER: _____

DESCRIBE CONDITION: _____

ARE THERE BASEBOARDS: ☐ NO ☐ YES / BASEBOARD MATERIAL: _____

☐ BASEBOARD BOTTOM HAS TIGHT SEAL WITH FLOOR ☐ BASEBOARD TOP HAS TIGHT SEAL WITH WALL

☐ BASEBOARD HAS SPACE BETWEEN BOTTOM & FLOOR ☐ BASEBOARD HAS SPACE BETWEEN BASEBOARD & WALL

HAS THE RESIDENT HAD ANY PLUMBING WORK DONE RECENTLY? ☐ YES ☐ NO ☐ UNKNOWN

HAS THE AREA BEEN REMODELED? ☐ YES ☐ NO ANY ACTIVE PLUMBING PROJECTS OBSERVED? ☐ YES ☐ NO

ANY PLUMBING PROJECTS WITHIN THE LAST 3 YEARS? _____

HAVE THERE BEEN ANY PREVIOUS SPILLS AT THIS LOCATION? ☐ YES ☐ NO ☐ UNKNOWN

ADDITIONAL INFORMATION: _____

_____

_____

PW UTILITY SUPERVISOR REVIEW DATE:_____ UTILITY SERVICES MANAGER REVIEW DATE: _____

Appendix 6-D Collection System Failure Analysis Form

COLLECTION SYSTEM FAILURE ANALYSIS FORM

CIWQS SPILL ID: _____ PREPARED BY: _____

ADDRESS/LOCATION OF SSO: _____

TOTAL SSO VOLUME: _____ (GALLONS) VOLUME RECOVERED: _____ (GALLONS)

CAUSE: ROOTS ☐ GREASE ☐ DEBRIS ☐ VANDALISM ☐ CONSTRUCTION DAMAGE ☐ PIPE FAILURE ☐
PUMP STATION FAILURE ☐ POWER FAILURE ☐ CAPACITY (HEAVY RAIN) ☐ OTHER _____

SUMMARY OF HISTORICAL SSOS, BACKUPS, SERVICE CALLS, OTHER PROBLEMS

RECORDS REVIEWED BY: _____ RECORD REVIEW DATE: _____

EVENT DATE	CAUSE/PROBLEM	DATE PREVIOUSLY CLEANED	CREW RESPONDING TO CALL

SUMMARY OF CCTV INFORMATION

CCTV INSPECTION DATE: _____ TAPE NAME/NUMBER: _____

CCTV TAPE REVIEWED BY: _____ CCTV REVIEW DATE: _____

CCTV OBSERVATIONS: _____

_____

RECOMMENDATIONS

☐ NO CHANGES OR REPAIRS REQUIRED

☐ MAINTENANCE EQUIPMENT _____

☐ MAINTENANCE FREQUENCY _____

☐ REPAIR (LOCATION AND TYPE) _____

☐ ADD TO CAPITAL IMPROVEMENT REHABILITATION/REPLACEMENT LIST _____

ADDITIONAL INFORMATION: _____

_____

_____

PW UTILITY SUPERVISOR REVIEW DATE: _____ UTILITY SERVICES MANAGER REVIEW DATE: _____

Appendix 6-E Private Property Damage Procedures

Customer Relations Guidelines

It is important for employees to communicate effectively and in a timely manner with the City's customers, especially in a sewage backup situation. How we communicate – on the phone, in writing, or in person – is how we are perceived. Good communication with the homeowner results in greater confidence in our ability to address the problem satisfactorily, less time to resolve the claim, and less damage done to the property.

As a representative of the City, you will occasionally have to deal with an irate homeowner. A backup is a stressful event and even a reasonable homeowner can become irate should he/she perceive us as being indifferent, uncaring, unresponsive, or incompetent.

Although sometimes difficult, effective management of a sewage backup situation is critical. If it is not managed well, the situation can end up in a costly, prolonged process with the homeowner. We want the homeowner assured that we are responsive and that the homeowner's best interest is a top priority.

Communication Tips

1. Give the homeowner ample time to explain the situation or to vent. Show interest in what the homeowner has to say, no matter how many times you have heard it before, or how well you understand the problem.
2. As soon as possible, let the customer know that you will determine if the source of the sewer backup is in the sewer main and, if it is, will have it corrected as quickly as you can.
3. Acknowledge the homeowner's concerns. For example, if the homeowner seems angry or worried about property damage, say something like, "I understand you're concerned about the possible damage to your property, but a professional cleanup crew can restore the area, and if it is determined that the City is at fault, the property owner has the right to file a claim for any reasonable repairs or losses resulting from this incident".
4. Express regret for any inconveniences caused by the incident, but **do not admit fault**.
5. As much as possible, keep the homeowner informed on what is being done and will be done to correct the problem.
6. Keep focused on getting the job done in a very professional manner. Don't wander from the problem with too much unnecessary small talk with the homeowner.
7. **Don't find fault or lay blame on anyone or the City.**
8. Make sure someone follows up with a telephone call to ensure everything is being handled as it should be.

Before you leave, make sure the homeowner has the name and telephone number of someone at the City to call if he/she has questions or wants information. The customer information letter and the City claim form contains this information and you should take the time to review this with the homeowner.

Appendix 6-F Customer Information Letter

CUSTOMER INFORMATION REGARDING SEWER BACKUP CLAIMS

Dear Mr./Ms.: _____ Date: _____

Address: _____

We recognize sanitary sewer backflow incidents can be stressful. The City of Lancaster (City) has prepared this brief set of instructions to help you minimize the impact of the loss by responding promptly to the situation.

The City is not responsible for clean up charges or damages caused by blockages in the property owner's sewer lateral or caused by Code violations. At this time, the City is investigating the cause of the loss and does not assume liability for damages. However, if the investigation determines the City is responsible for this incident, the costs you incur for reasonable and necessary clean up will be included in the settlement of your claim. Regardless of whether you or the City is responsible for the loss, it is up to you to arrange for the repair of your property and to present a claim for the City's consideration.

You or the property owner should immediately contact a contractor for clean up of the affected areas. If you do not know of a company to call for service, the following emergency restoration companies are available to respond:

- A 1 Professional (661) 424-9312
- American Craftsman Restoration (661) 295-5176
- Emergency Service Restoration (800) 577-7537 (thoughout California)
- Kaping Construction (661) 265-7200
- Restoration Management Co. (800) 400-5058 (located in Orange County)
- Service Master Clean (661) 299-9090
- Servpro (661) 272-1499
- United Restoration Services Inc. (661) 945-2555

This list is provided as a resource only. The City does not require or endorse the use of any of these contractors. This list is not to be construed as exclusive, comprehensive or limiting in any way. Qualified contractors can be found in the Yellow Pages under "Water Damage Restoration" or "Fire & Water Damage Restoration". However, be sure you hire a contractor with experience in sewer backups and enough resources to get the job done quickly.

What you need to do now:

- √ Contact a restoration contractor for clean up and removal of affected surfaces.
- √ Do not attempt to clean the area yourself, let the contractor you hire handle this.
- √ Keep people and pets away from the affected area(s).
- √ Turn off heating/air conditioning systems.
- √ Prevent any material from reaching floor vents to prevent contamination.
- √ Do not remove items from the contaminated area – the contractor you hire will handle these contents.
- √ Contact your homeowners' insurance carrier to report a claim.
- √ If you wish to file a claim for damages with the City, do so as soon as practical with _____ at the City of Lancaster, _____, Lancaster, CA _____, (_____)_____-_____. The California Government Code, Sections 900 – 960 requires filing a written claim and outlines specific time lines and notice procedures that must be used.

I/We acknowledge receipt of this letter.

Employee Signature: _____ Date: _____

Customer Signature: _____ Date: _____

Appendix 6-G 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.

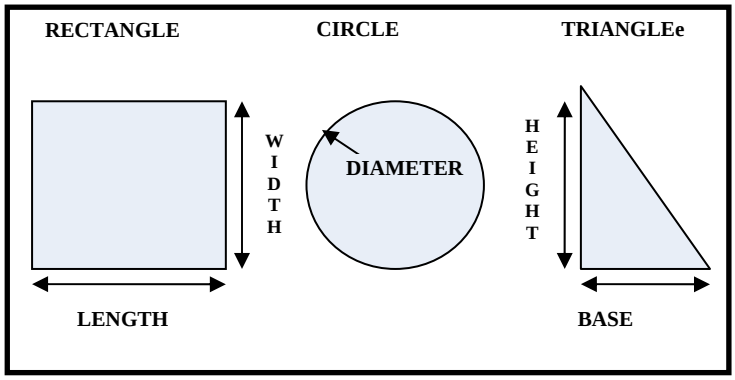
Method 1 Eyeball Estimate

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

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:

  22 upstream connections x 9 gallons per hour per connection

  = 198 gallons per hour / 60 minutes per hour

  = 3.3 gallons per minute

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-H Manhole Overflow Flowrate Guide

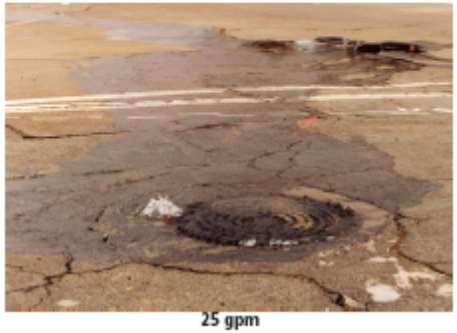
City of San Diego
Metropolitan Wastewater Department

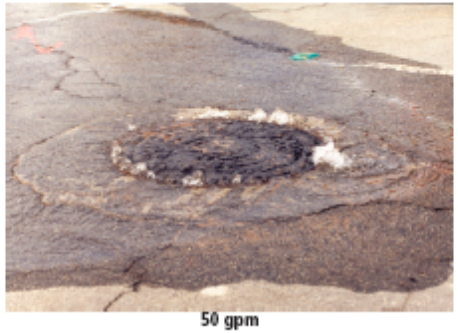
Reference Sheet for Estimating Sewer Spills from Overflowing Sewer Manholes

All estimates are calculated in gallons per minute (gpm)

Wastewater Collection Division
(619) 654-4160


5 gpm

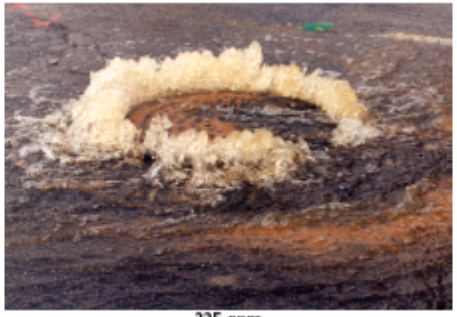

25 gpm


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-I Sample Warning Sign

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, Best Management Practices (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

There are approximately 260 commercial FOG sources (food service establishments-FSEs) in the City's wastewater collection system service area. There are likely other FOG sources (e.g. commercial kitchens, caterers, institutional kitchens) that are also discharging FOG to the City's sewer system. The City preventively cleans approximately 21 miles of sewer lines (Hotspots) at frequencies ranging from monthly to semi-annually in order to prevent blockages and SSOs due to the deposition of FOG and other causes. The City adds sewer lines to its preventive maintenance program following blockages or SSO events and in response to observations of grease or other debris during CCTV inspections or during proactive cleaning of non-Hotspot sewers.

The City identified sewers having significant amounts of grease deposition (over 10 percent reduction in the pipe cross section area) during the 2008 CCTV inspection program. Using the PACP grading system, that level of deposition corresponds to grease Grade 3 or higher. Figure 7-1 shows the location of those sewers, along with the locations of restaurants and the Hotspot sewers. 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.

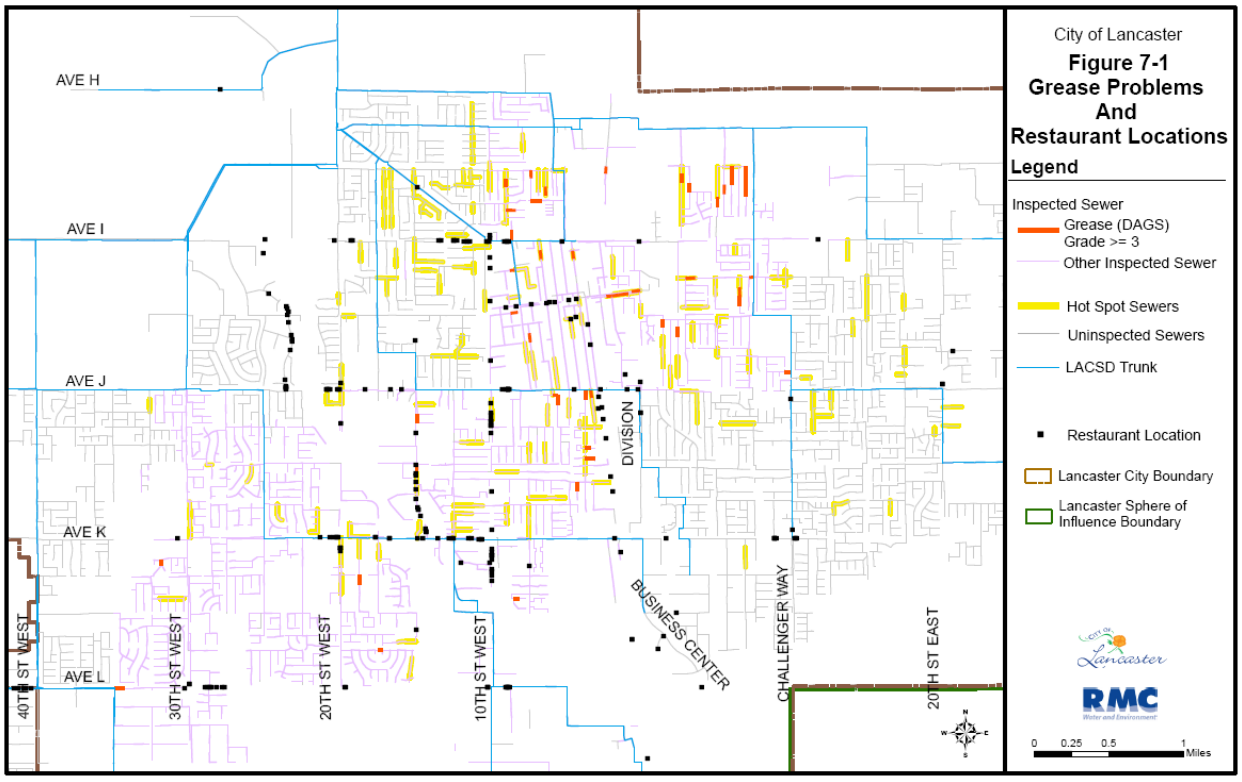
The City's preventive maintenance approach to minimizing FOG-related SSO events has been effective. The City has reported three FOG-related SSOs through the CIWQS SSO Reporting System between

September 2, 2007 and October 11, 2008 (less than one per 100 miles of sewer). These three SSOs represent 50% of the total reported SSOs. The data for the three FOG-related SSOs are shown on Table 7-1. The total volume of sewage spilled to storm drains was small (75 gallons). The majority of the FOG-related SSOs occurred in residential areas where the source was not identified.

Table 7-1: Analysis of FOG-Related SSO Data (9/2/07 – 10/11/08)

Parameter		Value
Number of FOG-related SSO events		3
Total Volume of SSOs, gallons		950
Total Volume Recovered, gallons		700
Total Volume Entering Storm Drains and/or Surface Waters, gallons		75
Nature of Service Area	Residential	67%
	Commercial	33%

Figure 7-1: Commercial Grease Sources, Sewers with Observed Grease, and Hot Spot Sewers



The results of this analysis indicate that the City's FOG-related SSOs are minimal in nature (low number and low volume entering storm drains) and the majority of them occur in residential areas. Though the number and volume of FOG-related SSOs are low, the City will be proactive in ensuring that FOG-related SSOs are kept at a minimum by initiating additional FOG control measures to support/enhance its current efforts to control FOG in the sewer system. These efforts may include inspections of FSE and residential outreach.

7.3 FOG Control Program

The City's FOG Control Program currently consists of providing preventive maintenance for its problematic gravity sewers. The City will continue to collect data related to sewer service calls, sewer cleaning activities, SSOs, and CCTV inspections to identify problematic gravity sewer lines. This data will be analyzed and problematic lines will be added to the City's Hotspot list for more frequent cleaning. The City will re-evaluate the need for a FOG Source Control Program and/or public outreach program during future SSMP updates. Table 7-2 lists the activities that the City will include in its current FOG Control Program.

Table 7-2: Summary of FOG Control Program Activities

Focus	Activity
Commercial Sources	Optimize sewer cleaning using CMMS.
	Repair/replace problem sewers identified during CCTV inspection program.
	Make available information to FSEs regarding their impact on the sewer system and Best Management Practices
	Require problematic FSEs to install grease removal devices (GRDs) using authority provided by California Plumbing Code
	Identify FOG disposal sites and make information available to liquid waste haulers.
Residential Sources	Optimize sewer cleaning using CMMS.
	Repair/replace problem sewers identified during CCTV inspection program.
Plan Review	Review plans for new and remodeled food service establishments (FSEs) and require the installation of GRDs using the sizing criteria in the California Plumbing Code and include inspection ports.
Sewer System Performance	Investigate all blockage and SSO events to determine root cause. In the case of FOG-related blockages and SSO events, the investigation will attempt to identify the problem FSE.
	Gather sewer system performance information for next SSMP update.
Retrofit Problematic FSEs with GRD	Require FSEs that have caused repeated blockages or SSOs to install and maintain appropriate GRDs.

7.3.1 FOG Preventative Maintenance

The City's preventive maintenance program will continue its focus on Hotspots. The City will employ the methods outlined in Chapter 4 – Operations and Maintenance Program to optimize its preventive maintenance activities.

7.3.2 GRD Installation, Design, Maintenance, and Record Keeping

The City anticipates that it will identify one or more FOG dischargers where it would be in the City's best interest to require the installation and proper maintenance of grease removal devices (GRDs). The City has adopted the California Plumbing Code and it can use that authority to require new and remodeled FSEs to install GRDs.

The City is currently considering the adoption of specific legal authority that will allow it to require installation and maintenance of GRDs on a case-by-case basis. The City will resolve this issue no later than the end of 2009.

7.4 FOG Disposal Facilities

The list of identified liquid waste haulers and FOG disposal sites is included as Appendix 7-A. The City will update the list annually and it will make the information available on its website.

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

Appendix 7-A Grease Haulers and FOG Disposal Facilities

Grease Haulers and FOG Disposal Facilities serving the Lancaster area as of May 2009 are shown in the following lists.

FOG Disposal Sites In Vicinity of Lancaster			
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.
LACSD Lancaster Wastewater Treatment Plan	1865 West Avenue D Lancaster, CA	(562) 699-7411, ext. 2301	Accepts grease trap and interceptor waste
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.

Grease Haulers		
Alex Sanitation	(661) 942-2306	Located in Lancaster
Roto-Rooter Plumbing Sewer & Drain Cleaning Services	(661) 948-1048 or (775) 345-5300	Grease and cooking oil removal; grease trap pumping.
Triple A Pumping & Jetting Inc.	(714) 628-0900	Grease and cooking oil removal; grease trap pumping.

Chapter 8 System Evaluation and Capacity Assurance Plan

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

8.1 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.

(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 GWDR).

8.2 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 Lancaster 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 Lancaster sewers larger than eight inches in diameter, all of the trunk sewers owned by the District 14 of the County Sanitation Districts of Los Angeles County (CSD-14) that receive significant flows from City sewers, and additional 6- and 8-inch sewers serving larger areas (generally over 50 acres). Approximately 11 percent of all of the 6- and 8-inch pipes were added. Although ensuring adequate capacity in CSD-14 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 2,900 pipe segments covering 154 miles - roughly 40 percent of the total system. Of the 154 miles of modeled pipe, 53 percent are City-owned sewers, 41 percent are CSD-14 trunk sewers, and 5 percent are CSMD sewers. The model network has one outfall (endpoint) – the Lancaster Water Reclamation Plant (LWRP). 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 in 2007 using information on sewer record drawings and limited field checks. The GIS data were validated to ensure complete and accurate data for modeling, including rectification of elevations to a common vertical datum.

The City's service area was divided into 611 tributary areas (median size of 50 acres) for the purposes of estimating existing (2006) and future (2030 and buildout) wastewater flows. Flows in all tributary area were estimated using a variety of information sources including census household and population data, general plan land uses, City and regional growth projections, and water meter billing records. The unit flow rates for dry weather flow conditions were calibrated using 33 of the temporary flow monitors installed by CSD-14 in the Lancaster sewer system in September and October of 2006.

Wet weather flows, which did not occur during the CSD-14 temporary monitoring program, are difficult to capture in Lancaster due to the rarity of rainfall events and the low rainfall totals (annual average of 7.4 inches) in Lancaster. The best available data on historical wet weather flows comes from influent data recorded at the LWRP. 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 8.3 mgd above the normal dry weather peak flow of about 19 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 1200 gallons per day per acre (pre-1960 sewers) or 400 gallons per day per acre (post-1960 sewers) was added to the dry weather flow to create a wet weather flow 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. However, some of the CSD-14 trunk sewers would exceed the capacity criteria by 2030, although no overflows were predicted by the model. 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, but parts of the CSD-14 system would surcharge over two feet in 2006 and potentially overflow by 2030.

The conclusion of the capacity evaluation was that Lancaster'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.

8.3 Design Criteria

In addition to the criteria used to evaluate the capacity of existing sewers (as described in the preceding section), the City has separate criteria they enforce for the design of all new sewers. The City's *Engineering Design Guidelines, Policies and Procedures* establish design guidelines for private development and public projects within the City of Lancaster. Section 2.4 of that document identifies design criteria for new sewer systems including unit flow factors, peaking factors, hydraulic friction factors, minimum slopes, and maximum allowable depth of flow. Prior to the approval of new sewers, the City requires that developers perform a sewer area study that applies these criteria to confirm the adequacy of the proposed sewers.

8.4 Capacity Enhancement Measures and Schedule

The conclusion of the capacity evaluation was that Lancaster'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. Because of the uncertainty in the wet weather flow estimates and the potential for capacity problems in the CSD-14 system in the future, the City will install passive surcharge monitors in several City manholes near CSD-14 trunk sewers that are predicted to surcharge during major storms, as well as in City manholes that are closest to exceeding capacity criteria. The monitor locations are 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 CSD-14, who are responsible for ensuring that the trunk sewers have adequate capacity.

Chapter 9 Monitoring, Measurement, and Program Modifications

This section of the SSMP describes the City's plans to monitor the implementation of the SSMP, measure the performance of its sanitary sewer system, and update program elements and the SSMP.

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

The summarized regulatory requirements for the SSMP are:

(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.

In addition to these requirements, there is also a regulatory requirement to periodically update this SSMP:

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

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:

- Total number of SSOs and SSO rate per 100 miles per year;
- Portion of SSOs for each cause (roots, grease, debris, pipe failure, capacity, lift station failure, vandalism, and other);
- Portion of sewage contained compared to total volume spilled,
- Portion of spilled sewage discharged to surface water, and
- Planned to actual performance for preventive maintenance as a percentage.

9.3 Baseline Performance

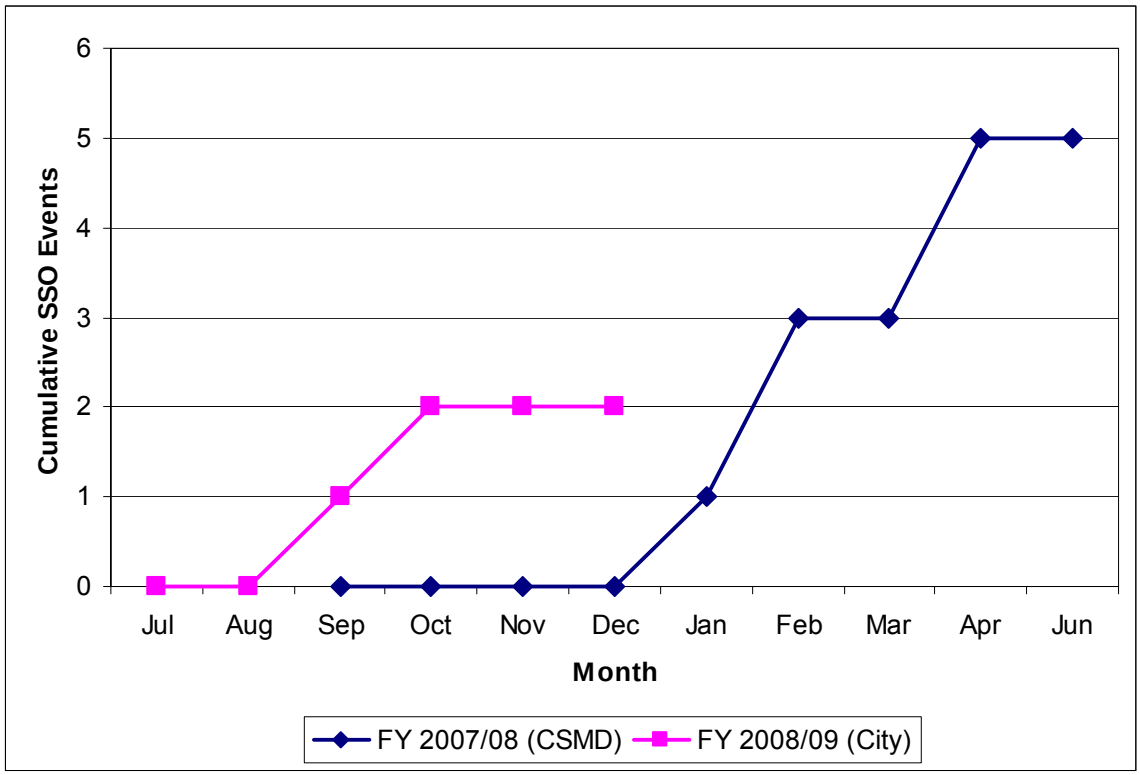
The baseline performance, which shows the performance of the City's wastewater collection system prior to the development and implementation of the SSMP, is shown on Table 9-1. The performance with respect to SSO events is shown on Figure 9-1. Additional trend and geospatial analysis may be added in future years as additional data becomes available for analysis.

Table 9-1: Baseline Performance as of December 20, 2008

Performance Measure		9/2/07 to 12/20/08	7/1/08 to 12/20/08*
Number of SSOs		7	2
SSO Rate, SSOs/100 Miles/Year		2.0	1.2
Portion Contained		48%	91%
Portion to Surface Waters		45%	0
SSO Causes	Roots	0	0
	Grease	42%	50%
	Debris	14%	0
	Pipe Failure	0	0
	Capacity	0	0
	Lift Station Failure	0	0
	Vandalism	42%	50%
	Other	0	0

*City became responsible for sewer system O&M staring 7/1/08; FY 2008/09 data is based on 2 SSO events.

Figure 9-1: SSO Events in FY 2008/09 vs. FY 2007/08



9.4 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 9.3, 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 evaluations. The City will prioritize its actions and initiate changes to this SSMP and the related programs based on the results of the evaluation.

9.5 SSMP Updates

The City will update its SSMP at least every five years. The first update will be completed on or before May 1, 2014.

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 a reasonable time 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. The authority for approval of minor changes such as employee names, contact information, or minor procedural changes is delegated to the Utility Services Manager.

The City will certify that it has completed SSMP updates using CIWQS. Copies of the current SSMP document will be available to all interested parties on the City's website (www.cityoflancasterca.org), and at the Lancaster Public Works Maintenance Yard located at 615 West Avenue H, and at City Hall located at 44933 Fern Avenue during normal business hours.

Chapter 10 SSMP Program Audits

This section of the SSMP presents the process that the City will follow to audit its SSMP program.

10.1 Regulatory Requirements for the SSMP Program Element

The summarized regulatory requirements for the SSMP are:

> 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 GWDR), 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 GWDR, whether the SSMP reflects the City's current practices, and whether the City is following the SSMP. The first audit will be completed by September 15, 2011 and will cover FY 2009 and FY 2010.

The audit will be conducted by a team consisting of City Staff and/or staff of other agencies or consultants.

The scope of the audit will cover each of the sections of the SSMP. The SSMP Audit Checklist, based on the requirements in the GWDR, will be used for the audit is included on Table 10-1.

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 GWDR 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.

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.

Table 10-1: SSMP Audit Checklist

Audit Date_____

Audit Team Members_____

Section	Title	Requirement	SSMP Meets Current Requirements?	SSMP Current?	SSMP Implemented?
1	Goals	Reduce, prevent, and mitigate SSOs			
2	Organization	Names of Agency staff responsible for development, implementation, and maintenance of SSMP			
		Names and phone numbers for key Agency staff			
		Chain of communication for reporting SSOs			
		Designate LRO(s)			
		Chain of communication for reporting SSOs			
3	Legal Authority	Ability to prevent illicit discharges to sanitary sewer system			
		Ability to require sewers and connections be properly designed and constructed			
		Provide regular technical training for City sanitary sewer system staff			
		Require contractors to provide training for their employees who work in the City's sanitary sewer system facilities			
		Maintain equipment inventory			
		Maintain critical spare part inventory			

Section	Title	Requirement	SSMP Meets Current Requirements?	SSMP Current?	SSMP Implemented?
5	Design and Performance Provisions	Design and construction standards for new sanitary sewer system facilities			
		Design and construction standards for repair and rehabilitation of existing sanitary sewer system facilities			
		Procedures for the inspection and acceptance of sanitary sewer system facilities			
6	OERP	Procedures for the notification of primary responders			
		Procedures for the notification of regulatory agencies			
		Program to ensure appropriate response to all SSOs			
		Proper reporting of all SSOs			
		Procedure to ensure Agency staff are aware of, are trained, and follow OERP			
		Procedure to ensure contractor personnel are aware of, are trained, and follow OERP			
		Procedures to address emergency operations such as traffic and crowd control			
		Program to prevent the discharge of sewage to surface waters			
		Program to minimize or correct the impacts of any SSOs that occur			
		Program of accelerated monitoring to determine the impacts of any SSOs that occur			
7	FOG Control Program	Public outreach program that promotes the proper disposal of FOG			

Section	Title	Requirement	SSMP Meets Current Requirements?	SSMP Current?	SSMP Implemented?
		Plan for the disposal of FOG generated within the Agency's service area			
		Demonstrate that the Agency has allocated adequate resources for FOG control program			
		Identification of sanitary sewer system facilities that have FOG-related problems			
		Program of preventive maintenance for sanitary sewer system facilities that have FOG-related problems			
8	System Evaluation and Capacity Assurance Plan	Identification of elements of the sanitary sewer system that experience or contribute to SSOs caused by hydraulic deficiencies			
		Established design criteria that provide adequate capacity			
		Short and long term CIP that includes schedules for projects to addresses known hydraulic deficiencies			
		Procedures that provide for the analysis, evaluation, and prioritization of hydraulic deficiencies			
9	Monitoring, Measurement, and Program Modifications	Maintain relevant information to establish, evaluate, and prioritize SSMP activities			
		Monitor implementation of the SSMP			
		Measure, where appropriate, the performance of the elements of the SSMP			
		Assess success of the preventive maintenance program			

Section	Title	Requirement	SSMP Meets Current Requirements?	SSMP Current?	SSMP Implemented?
		Update SSMP program elements based on monitoring or performance			
		Identify and illustrate SSO trends			
10	SSMP Program Audits	Conduct audits at least every 2 years			
		Record the results of the audit in a report			
		Record the changes made and/or corrective actions taken			
11	Communications Program	Communicate with the public regarding the preparation of the SSMP			
		Communicate with the public regarding the performance of the SSMP			
		Communicate with tributary or satellite sewer systems			

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 Regulatory Requirements for the Communication Program Element

The summarized regulatory requirements for the SSMP are:

(a) The Enrollee shall 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 Enrollee as the program is developed and implemented.

(b) The Enrollee shall also create a plan of communication with systems that are tributary and/or satellite to the Enrollee's sanitary sewer system.

11.2 Communication during SSMP Development and Implementation

The City will post a notice on its website to inform interested members of the public it is developing an SSMP. The notice is:

The City of Lancaster is developing and implementing a Sewer System Management Plan (SSMP) pursuant to State Water Resources Control Board Order 2006-0003, Statewide General Discharge Requirements of Sanitary Sewer Systems. The goal of the SSMP is to minimize the frequency and severity of sanitary sewer overflows. The SSMP will cover the management, planning, design, and operation and maintenance of the City's' sanitary sewer system. The development process began in September 2008 and it is expected to be presented to the City Council in April 2009. The duration of the implementation is unknown at this time. The SSMP Development Plan and Schedule are available for review at the Lancaster Public Works Maintenance Yard located at 615 West Avenue H and at City Hall located at 44933 Fern Avenue during normal business hours. Interested parties can contact Steven A. Dassler, Utility Services Manager at (661)945-6863 or sdassler@cityoflancasterca.org for additional information.

The City published an article with similar information in the January 2009 issue of its Outlook newsletter which is mailed or emailed to all residents directing resident to the city website to review the SSMP and contact Steve Dassler with any questions or input. The final SSMP will be agendized and considered for approval at a regular April 2009 City Council meeting.

The City will make the SSMP documents and contact information available for review at the two locations noted above, and will post them on the City's website at www.cityoflancasterca.org. The City will also post updates to the SSMP on this website to keep interested citizens informed of progress.

11.3 Communicating Sanitary Sewer System Performance

The City reports SSOs electronically to the California Integrated Water Quality System (CIWQS). The City will direct interested parties to the CIWQS public access website and it will provide a link on the City's website. The URL for the CIWQS public access site is:

https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/PublicReportSSOServlet?reportAction=criteria&reportId=sso_overview

The City will post information on the performance of its sanitary sewer system performance on its website. The performance information will include the performance indicators listed in Section 9 Monitoring, Measurement, and Program Modifications and will be compiled annually.

The City will report the performance of its sanitary sewer system to the City Council during September each year at a regularly scheduled meeting and the performance information will be included in the minutes of that public meeting. The performance information will include the performance indicators listed in Section 9 Monitoring, Measurement, and Program Modifications and will be compiled annually.

11.4 Communication with Tributary/Satellite Sanitary Sewer Systems

The City has reviewed the sewer pipelines that are tributary to the City sewer 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). The CSMD flow represents less than 1% of the total flow moving through City sewer lines. The City plans to meet with the CSMD representatives in order to develop the legal documents and agreements to define the relationship between the agencies and possibly set limits for peak flows that may be discharged into the City's sewers, including infiltration and inflow. The City will also develop a process for regular communication with CSMD. The CSMD's local agency coordinator is Richard Yribe, (626) 695-8781, ryribe@ladpw.org.

The City will make reasonable efforts to conclude these discussions including the preparation and adoption of any agreements to define roles and responsibilities during calendar year 2009.

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

GAIL FARBER, Director

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100
http://dpw.lacounty.gov

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

IN REPLY PLEASE
REFER TO FILE: SM-1

April 27, 2011

Mr. Steve Dassler, Utility Services Manager
City of Lancaster
Department of Public Works
Utility Services
615 West Avenue H
Lancaster, CA 93534

Dear Mr. Dassler:

RECIPROCAL AGREEMENT FOR SANITARY SEWER CONVEYANCE

As requested, enclosed are two sets of the adopted Reciprocal Agreement. If you have any questions on this matter, please contact Mr. Nicholas Agbobu at (626) 300-3382 or nagbobu@dpw.lacounty.gov.

Very truly yours,

GAIL FARBER
Director of Public Works

KEITH E. LEHTO
Assistant Deputy Director
Sewer Maintenance Division

NA:dh
SM/CityOfLancaster/ReciprocalAgrreement

Enc.

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

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GAIL FARBER, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

April 05, 2011

ADOPTED
BOARD OF SUPERVISORS
COUNTY OF LOS ANGELES

21 April 5, 2011

SACHI A. HAMAI
EXECUTIVE OFFICER

The Honorable Board of Supervisors
County of Los Angeles
383 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, California 90012

Dear Supervisors:

RECIPROCAL AGREEMENT BETWEEN THE CITY OF LANCASTER AND THE COUNTY OF LOS ANGELES FOR SANITARY SEWER CONVEYANCE
(SUPERVISORIAL DISTRICT 5)
(3 VOTES)

SUBJECT

This action is to approve the Reciprocal Agreement between the City of Lancaster and the County of Los Angeles to provide for the continued joint use of their respective sanitary sewer conveyance facilities for the mutual benefit of both entities.

IT IS RECOMMENDED THAT YOUR BOARD:

1. Find that this action is exempt from the California Environmental Quality Act.

2. Approve the Reciprocal Agreement between the City of Lancaster and the County of Los Angeles.

3. Authorize and instruct the Mayor of your Board to sign three original copies of the Reciprocal Agreement.

PURPOSE/JUSTIFICATION OF RECOMMENDED ACTION

The purpose of the recommended action is to allow the City of Lancaster (City) and the County of Los Angeles (County) the continued joint use of their respective collection sewer pipelines for conveyance of sewage to the County Sanitation Districts of Los Angeles County's (CSD) trunk sewer lines.

Under the new State Water Resources Control Board Waste Discharge Requirements the City and the County are required, among other things, to: (1) properly manage and operate their sanitary sewer collection systems; (2) ensure that adequate capacity exists in the sewer pipelines they share with other agencies for current and future dischargers into the system; and (3) establish a communication plan with owners of sewer systems to which their facilities connect as either a tributary or an outlet system.

The City's public sewer lines were previously part of the Consolidated Sewer Maintenance District of Los Angeles County's (District) sewer system. On December 12, 2006, the City requested and on October 23, 2007, your Board approved the exclusion of the City's sewer system from the District. The City's sewer pipelines are for the most part separated from the County's sewer pipelines. There are certain locations, as shown in Exhibit A, where the two systems are connected and either agency utilizes the other's sewer pipelines to convey sewage to the CSD's trunk sewer lines. Both agencies desire, in those instances, to allow the sewer lines to remain connected rather than separate them because it is more cost effective and less disruptive to the communities they serve.

Implementation of Strategic Plan Goals

The Countywide Strategic Plan directs the provision of Operational Effectiveness (Goal 1) and Community and Municipal Services (Goal 3). The continued provision of sanitary sewer services in the most cost-effective and least-disruptive manner to the residents of the City and County will support the Department of Public Works in meeting these goals.

FISCAL IMPACT/FINANCING

There will be no impact to the County General Fund. The execution of this Reciprocal Agreement (Enclosure A) would not result in any additional cost to either party.

FACTS AND PROVISIONS/LEGAL REQUIREMENTS

In accordance with Section 20793 et. seq. of the Public Construction Act and Section 6500 et. seq. of the Government Code, the board of supervisors of any county may enter into contract and agreement with the legislative body of any city; city and county; municipal corporation; district or other public corporation; or with any person, firm, or corporation for joint use of sewer facilities or disposal of sewage from any area outside the district's jurisdiction designated in the enclosed Reciprocal Agreement.

The Reciprocal Agreement has been approved as to form by County Counsel.

ENVIRONMENTAL DOCUMENTATION

The approval of the Reciprocal Agreement by your Board is exempt from the California Environmental Quality Act, pursuant to California Code of Regulations, Title 14, Section 13301, because it applies to the operation and maintenance of existing sanitary sewer collection systems with no plans for expansion of capacity.

IMPACT ON CURRENT SERVICES (OR PROJECTS)

The recommended action will have no negative impact on current County services.

CONCLUSION

Please return two adopted copies of this letter and three sets of the signed original Reciprocal Agreement to the Department of Public Works, Sewer Maintenance Division.

Respectfully submitted,

Gail Farber

GAIL FARBER
Director

GF:KEL:sb

Enclosures

c: Assessor
Chief Executive Office (Rita Robinson)
County Counsel
Executive Office

77499

RECIPROCAL AGREEMENT BETWEEN

THE CITY OF LANCASTER AND

THE COUNTY OF LOS ANGELES

FOR JOINT USE OF SANITARY SEWER SYSTEM

This Agreement ("Agreement") is made and entered into as of this 5th day of April, 2011, by and between the City of Lancaster, a municipal corporation located in the State of California ("City") and the Board of Supervisors of the County of Los Angeles, State of California ("County"), acting as the governing body of the Consolidated Sewer Maintenance District of Los Angeles County ("Maintenance District").

W I T N E S S E T H

WHEREAS, sanitary sewage in the Antelope Valley is discharged and conveyed to water reclamation plants for treatment in the local area through a series of collection system pipelines and trunk sewers owned and operated by multiple public agencies; and

WHEREAS, Waste Discharge Requirements of the State Water Resources Control Board Order No. 2006-0003-DWQ ("WDR") imposes new requirements on the City and the Maintenance District for the proper management and operation of collection systems including the requirement that the agencies that share capacities in sanitary sewer pipelines assure that adequate capacity exists for all discharges and that each agency creates a plan of communication with systems that are tributary and/or satellite to any sanitary sewer system; and

WHEREAS, prior to July 1, 2008, operation and maintenance of the sanitary sewage collection system pipelines was handled entirely by the Maintenance District and the maintenance of the trunk sewers was performed by the Los Angeles County Sanitation Districts of Los Angeles County ("Sanitation Districts"), an agency separate from the Maintenance District; and

WHEREAS, at the City's request of December 12, 2006, on October 23, 2007, the Los Angeles County Board of Supervisors approved to have the incorporated City territory be excluded from the Maintenance District, as of July 1, 2008; and

WHEREAS, the Lancaster City Council has directed that the collection system pipelines within the corporate boundaries of Lancaster after July 1, 2008 be operated and maintained by the City with the Sanitation Districts continuing to operate and maintain the trunk lines; and

WHEREAS, the Maintenance District administers, operates, and maintains a sewage system (the "County Sewage System") for the conveyance of sewage generated within the unincorporated territory of the County and from certain sewer lines owned and operated by the City within the City (the "City Lines") in and around Lancaster; and

WHEREAS, the City administers, operates, and maintains a sewage system (the "City Sewage System") for the conveyance of sewage generated within its territorial boundaries and from certain sewer lines owned and operated by the Maintenance District outside the City (the "County Lines"); and

WHEREAS, the County Sewage System has the size and capacity to handle the sewage disposal needs of the Maintenance District as well as to continue disposal of the sewage previously generated from the City Lines; and

WHEREAS, the City Sewage System has the size and capacity to handle the sewage disposal needs of the Maintenance District as well as disposal of the sewage previously generated from the County Lines; and

WHEREAS, the current excess capacity of the County Sewage System to handle disposal of sewage over and above the current needs of the Maintenance District may be used for the conveyance of sewage originating from the City Lines without interfering with its use by the Maintenance District; and

WHEREAS, the current excess capacity of the City Sewage System to handle disposal of sewage over and above the current needs of the City may be used for the conveyance of sewage originating from the County Lines without interfering with its use by the City; and

WHEREAS, it will be of mutual benefit to each of the parties to this Agreement to provide for the discharge of sewage from the other party's boundaries through the existing sewage system (Exhibit A) upon the terms and conditions set forth herein.

NOW, THEREFORE, in consideration of the mutual benefits to be derived by the City, County, and Maintenance District hereunder and of the promises herein contained, it is hereby agreed as follows:

(1) COUNTY AGREES:

a. That City may discharge sewage from the City Properties through the County Sewage System.

b. To be responsible for the maintenance of the said County sewer lines within County's territorial boundaries.

c. To be responsible for the costs of operation and maintenance of the said County sewer lines within County's territorial boundaries including all future renewal and replacement costs.

d. That it will assure that currently utilized capacity of the City are included in the design and development planning of existing and future operated and maintained Sewage Systems of Maintenance District.

(2) CITY AGREES:

a. That County may discharge sewage from the County Properties through the City Sewage System.

b. To be responsible for the maintenance of the said City sewer lines within the incorporated boundaries of the City.

c. To be responsible for the costs of operation and maintenance of the said City sewer lines including all future renewal and replacement costs.

d. That it will assure that currently utilized capacity of the Maintenance District are included in the design and development planning of existing and future operated and maintained City Sewage Systems.

(3) IT IS MUTUALLY UNDERSTOOD AND AGREED AS FOLLOWS:

a. That under the terms of this Agreement neither party to this Agreement shall acquire any right, title, or interest in the Sewage System of the other party other than the right to convey sewage therein, in accordance with the terms and conditions of this Agreement and during the continuance thereof.

b. That this Agreement shall take effect as of the date of execution of all parties to this Agreement.

c. The City shall indemnify, hold harmless, and defend County and Maintenance District, and its respective elected and appointed officers, agents, and employees from and against any and all liability, expenses (including defense cost, disbursements, and reasonable legal fees), and claims for damages of any nature whatsoever, including but not limited to bodily injury, death, personal injury, or property damage arising from or relating in any way to the City's negligence or willful misconduct relating to the obligations arising from this Agreement, including, but not limited to, mainline sewer facility flow conditions, the physical condition of the mainline sewer facilities, and sewer laterals leading thereto, and the lack or improper maintenance of backflow valves required by law.

d. The County and Maintenance District shall indemnify, hold harmless, and defend City, and their respective elected and appointed officers, agents, and employees from and against any and all liability, expenses (including defense cost, disbursements, and reasonable legal fees), and claims for damages of any nature whatsoever, including but not limited to bodily injury, death, personal injury, or property damage arising from or relating in any way to the County's or Maintenance District's negligence or willful misconduct relating to the obligations arising from or relating to this Agreement, including, but not limited to, mainline sewer facility flow conditions, the physical condition of the mainline sewer facilities, and sewer laterals leading thereto, and the lack or improper maintenance of backflow valves required by law.

e. This agreement contains the full and complete agreement and understanding of the Parties regarding the subject matters herein and shall supersede all oral or written agreements or communications between the parties on said matters; The Parties acknowledge that certain Assumption of Liability Agreement between the City and the County dated December 27, 1977, does not apply to the matters in this Agreement.

f. Each Party shall be responsible for its own costs of operation and maintenance of its Sewage System and shall not expect reimbursement from the other agency, including maintenance costs associated with this Agreement.

g. The parties agree that this Agreement shall continue in effect until terminated: (i) by the express, written mutual agreement of both parties; or (ii) for any material breach of this Agreement by either of the parties; or (iii) automatically upon annexation of all areas covered by this Agreement on which County lines are located and which are located within the Sphere of Influence of the City into the corporate limits of the City of Lancaster.

h. Each party agrees to reasonably assist the other as requested in the event of emergencies and/or sanitary sewer overflows.

i. Each party agrees to communicate with the other on a regular basis regarding the continued use and operation of the satellite sewer systems in full compliance of the Waste Discharge requirement of the WDR.

j. Each party will consult with the other regarding future or new capacity needs. To the extent allowed by law, each party will require all new development, including, without limitation, via conditions in land use approvals, to provide adequate capacity and infrastructure within the other party's Sewage System.

k. For purpose of this Agreement, the term "Sewage System" shall mean the facilities used to collect and convey sewage, including, pipelines, pump stations, and related appurtenances.

IN WITNESS WHEREOF, the Board of Supervisors of Los Angeles County caused this Agreement to be executed by its CHAIRMAN PRO TEM. and attested to by its Clerk and the City Council of the City of Lancaster caused this Agreement to be executed by its City Mayor and attested to by its Clerk all as of the day and year first hereinabove written.

CITY OF LANCASTER

Approved by Department Head:

Robert C. Neal, Director of Public Works

By:

Mark V. Bozigian, City Manager

Dated:

ATTEST:

Geri K. Bryan, CMC, City Clerk

APPROVED AS TO FORM:

City Attorney

COUNY OF LOS ANGELES

CHAIRMAN PRO TEM, BOARD OF SUPERVISORS

APR 5 2011

Date

ATTEST:

By: Deputy

Sachi A. Hamai, Executive Officer, Clerk of the Board of Supervisors

APPROVE AS TO FORM:
Andrea S. Ordin
County Counsel

By:

Deputy

ADOPTED
BD OF SUPERVISORS
OF LOS ANGELES

#21 APR 5 2011

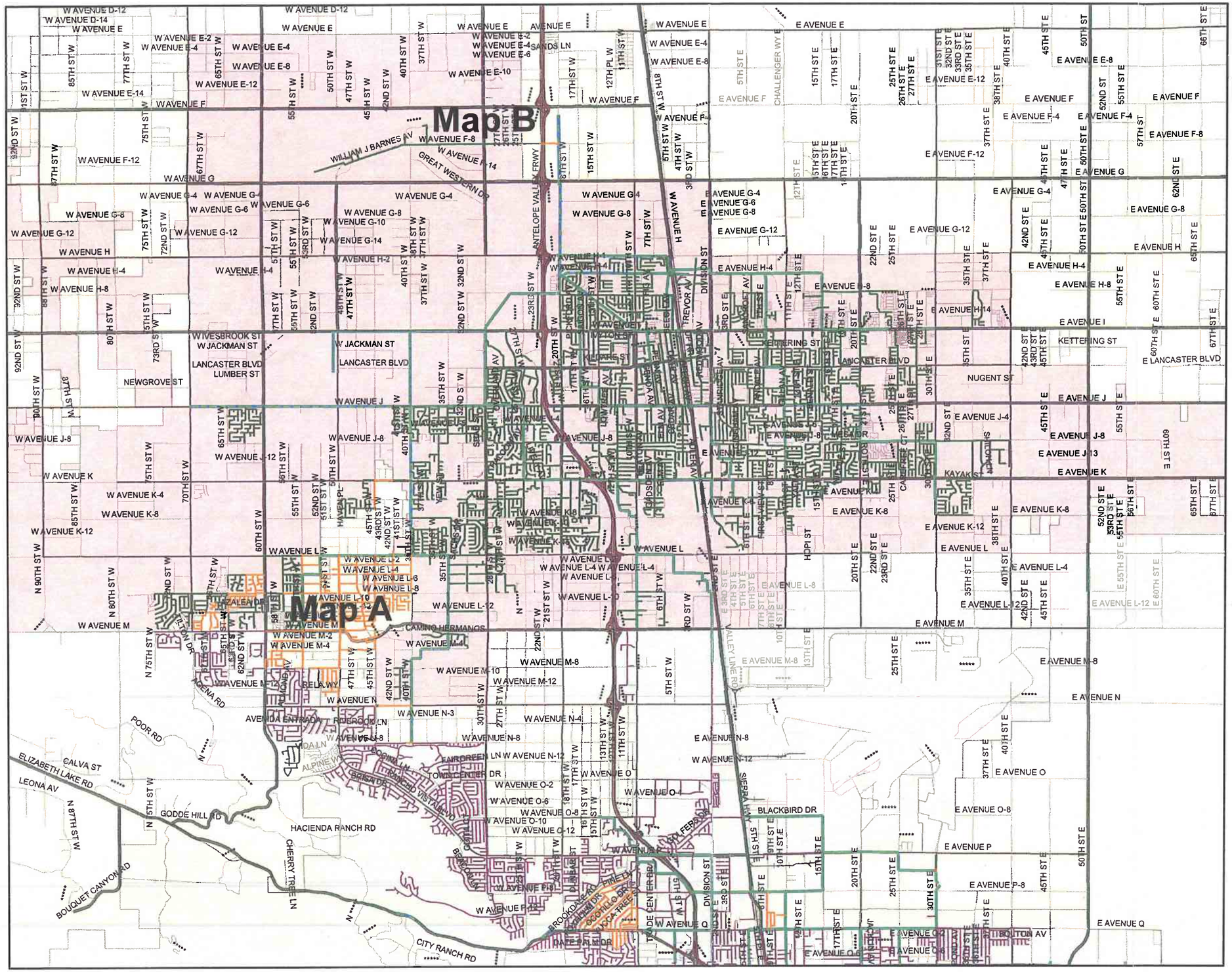
SACHI A. HAMAI
EXECUTIVE OFFICER

COUNTY OF LOS ANGELES CALIFORNIA

EXHIBIT "A"

City of Lancaster Sewer Locations

Key Map



0 3,600 7,200 10,800 14,400

Feet

Legend

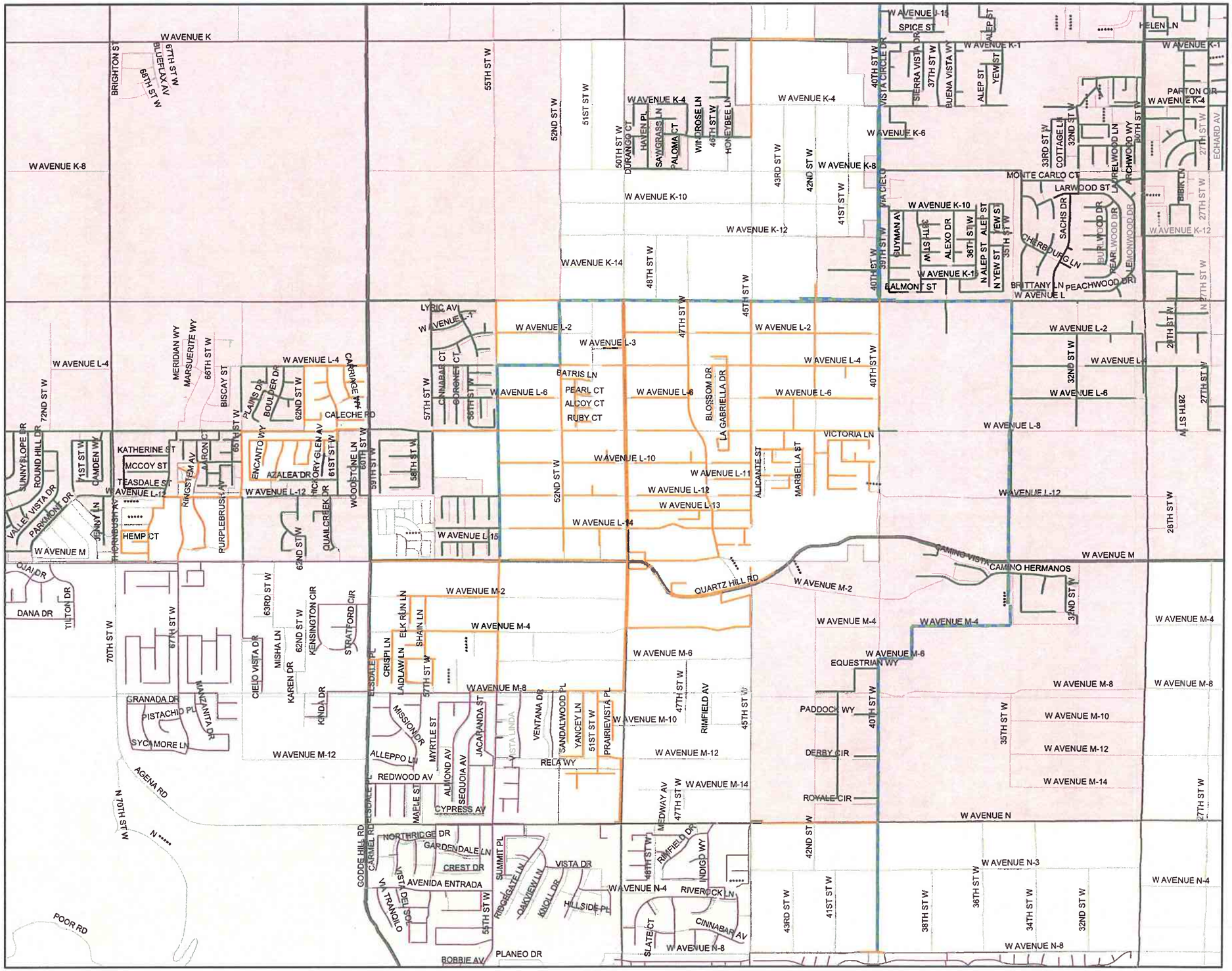
Local Sewer Lines

- Unincorporated County of Los Angeles
- City of Palmdale
- City of Lancaster
- Trunk Sewerlines

Cities

- Unincorporated County of Los Angeles
- City of Lancaster
- City of Palmdale

City of Lancaster
Sewer Locations
Map A



0 1,000 2,000 3,000 4,000

Feet

Legend

Local Sewer Lines

- Unincorporated County of Los Angeles
- City of Palmdale
- City of Lancaster
- Trunk Sewerlines

Cities

- Unincorporated County of Los Angeles
- City of Lancaster
- City of Palmdale

City of Lancaster
Sewer Locations
Map B

0 960 1,920 2,880 3,840
Feet

Legend

Local Sewer Lines
- Unincorporated County of Los Angeles
- City of Palmdale
- City of Lancaster
- Trunk Sewerlines

Cities
- Unincorporated County of Los Angeles
- City of Lancaster
- City of Palmdale