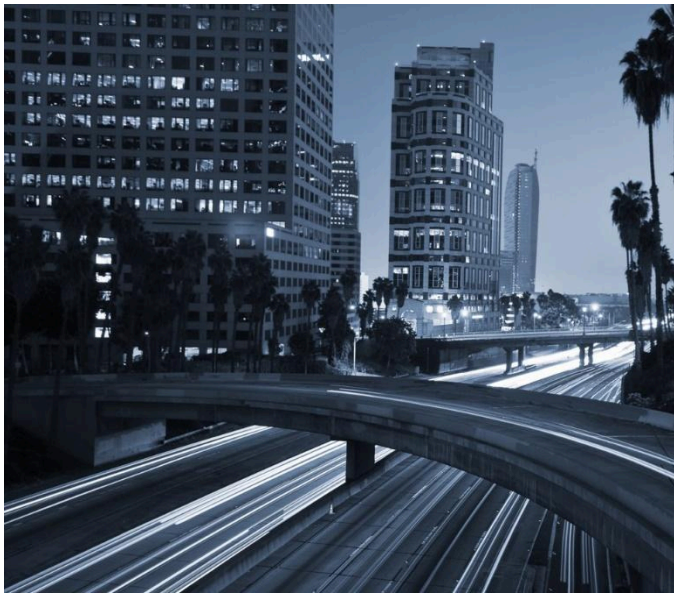

Sewer System Management Plan

2025 SSMP Update

City of Los Angeles

LA Sanitation & Environment

Los Angeles, California

FINAL – August 2, 2024

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ID	Title	Owner	SSMP Element
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H2	Wastewater Capital Improvement Program (latest version)	FMD	Element 4 – Operation and Maintenance Program; Element 8 – System Evaluation, Capacity Assurance and Capital Improvements

Acronyms

Acronym	Definition
BCE	Business Case Evaluation
BMPs	Best Management Practices
BOD	Biological Oxygen Demand
CCTV	Closed-Circuit Television
CEQA	California Environmental Quality Act
City	City of Los Angeles
CS	Collection system
CIWQS	California Integrated Water Quality System Project
CWNCD	Clean Water North Collection Division
CWSCD	Clean Water South Collection Division
d/D	The ratio of the depth of flow (d) in a sewer pipe to the diameter (D) of the pipe
DPW	Department of Public Works
EMPAC	Enterprise Maintenance Planning and Control
ERP	Enforcement Response Plan
FAST	Field Automation Sanitation Trucks
FMD	Financial Management Division
FOG	Fats, Oils, and Grease
FSE	Food Service Establishment
FY	City of Los Angeles's Fiscal Year (July 1 through June 30)
GIS	Geographic Information System
GPD	Gallons per day
IWMD	Industrial Waste Management Division
LABOE	Los Angeles Bureau of Engineering
LABCA	Los Angeles Bureau of Contract Administration
LASAN	Los Angeles Sanitation & Environment
MIKE+	A GIS-based hydrodynamic modeling software
MWS	Municipal Water District
NEIS	Northeast Interceptor Sewer
NEPA	National Environmental Policy Act
NOV	Notice of Violation
PDWF	Peak Dry Weather Flow

Acronym	Definition
PIMS	FOG Permitting Information Management System
SIIP	Stormwater Inflow and Infiltration Prevention
SMD	Sewer Maintenance District
SPT	Strategic Planning Team
SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow
SWRCB	State Water Resources Control Board
WCIP	Wastewater Capital Improvement Program
WDID	Waste Discharger Identification
WESD	Wastewater Engineering Services Division

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1 Goal and Introduction

1.1 Regulatory Context

The City of Los Angeles LA Sanitation & Environment (LASAN) has prepared this updated Sewer System Management Plan (SSMP) pursuant to the State Water Resources Control Board (SWRCB) December 6, 2022, Statewide Sanitary Sewer Systems General Order 2022-0103-DWQ (General Order). This SSMP provides a management plan for the City's three collection systems:

- Hyperion Collection System;
- Terminal Island Collection System; and,
- City of Los Angeles Regional Collection System (Harbor Gateway).

Table 1-1 summarizes the General Order requirements addressed by this SSMP[1]. These requirements are defined by General Order specifications and associated General Order attachments. All agencies that own and operate collection systems greater than one mile in length must comply with these requirements.

Table 1-1: Summary of General Order Requirements

Specification	Description	Linkage to SSMP
5.2 SSMP Development and Implementation	Requires development and implementation of a SSMP	Entire SSMP
5.3 Certification of SSMP and Plan Updates	Requires the City to certify and upload the SSMP to CIWQS	Entire SSMP
5.5 Six-Year SSMP Update	Requires update of the SSMP every 6 years, at a minimum. Requires governing board approval of SSMP. Requires City to certify and upload SSMP to CIWQS.	Entire SSMP
5.6 System Resilience	Requires City to include and implement system-specific procedures to proactively prioritize operations and maintenance, condition assessments and repair and rehabilitation to address system resilience	D.4 Operations and Maintenance D.8 System Evaluation, Capacity Assurance and Capital Planning
5.10 System Capacity	Requires City to maintain system capacity to convey dry weather and forecasted wet weather flows	D.8 System Evaluation, Capacity Assurance and Capital Planning
5.19 Operation and Maintenance	Requires City to maintain in good working order and operate as design any facilities, treatment or control systems design to contain and convey sewer.	D.4 Operations and Maintenance D.8 System Evaluation, Capacity Assurance and Capital Planning

[1] Summarized from the *SWRCB Order No. 2022-0103-DWQ Statewide Waste Discharge Requirements General Order for Sanitary Sewer Systems*

This document serves as the City's 2025 update to the SSMP approved by the Board of Public Works. Attachment A1 includes the General Order.

By agreements, the City accepts, conveys, and treats wastewater from 29 municipal contract agencies. Because the City does not own, operate, fund, or control any of the collection systems of these communities, and the collection systems for these communities are not included under the NPDES permit conditions of the City's treatment facilities, it is assumed that these contract agencies are required to apply for coverage under the General Order separately and to develop and implement their own SSMPs.

A pdf copy of this SSMP is available on the internet at:

https://www.lacitysan.org/ssmp

1.2 SSMP Goal and System Management Objectives

The goal of the SSMP is to provide a plan and schedule to properly manage, operate, and maintain all parts of the collection system. This will help reduce and prevent spills, as well as mitigate any spills that do occur.

The long-standing City policy as affirmed by the City Council on December 7, 1956, provides the basis for and guides the actions of operating departments and bureaus in protecting the waters of the City and the region.

> *"It is the policy of the City of Los Angeles to provide and maintain facilities for the treatment and disposal of sewage which shall be, at all times, adequate in capacity and adequate for protection of the public health and public interest in this and neighboring communities including maintenance of the beaches and coastal waters in an attractive condition suitable for recreational and other beneficial uses equal to or better than the conditions specified by the State agencies having control over the subject water."*

Consistent with the City policy and its mission to protect public health and the environment, the LASAN has adopted and is dedicated to achieving the following collection system management objectives:

- Repair, rehabilitate, replace, and upgrade system components as/when needed;
- Provide sufficient sewage capacity to accommodate current and projected flows;
- Eliminate all preventable dry-weather overflows;
- Eliminate wet-weather overflows from all storm events less severe than or equal to 10-year design storm;
- Maintain an effective spill response plan to mitigate in a timely manner any spills that do occur;
- Control corrosion and minimize odor releases; and
- Provide operational reliability and flexibility.

This SSMP documents how the City's collection system practices are integrated toward the achievement of the City policy and LASAN objectives.

1.3 SSMP Update Schedule

Pursuant to the General Order, the City conducts program monitoring and triennial audits of its SSMP, prepares SSMP updates, and implements planned activities to achieve LASAN collection system program objectives. This SSMP update was prepared upon completion of the most recent SSMP Program Audit dated June 30, 2024.

The schedule for auditing and updating this SSMP is provided in Table 1-2. Element 10 of the SSMP includes a longer-term schedule for SSMP audits and updates.

Table 1-2: SSMP Audit and Update Schedule

Activity	Due Date
2027 SSMP Audit	November 2, 2027
2030 SSMP Audit	November 2, 2027
2031 SSMP Update	May 2, 2031

The City plans to complete implementation of several significant initiatives addressing the prevention of sewer spills. Table 1-3 provides a schedule for incorporation of these activities into the City's SSMP program implementation.

Table 1-3: Planned SSMP Implementation Milestones Addressing Prevention of Sewer Spills

Element	Milestone	Milestone Due Date	Relevance to Spill Prevention
D.4 Operation and Maintenance Program	Implement IT Pipes CCTV Inspection software	June 30, 2027	Improves staff access to CCTV inspection data and system deficiencies
D.4 Operation and Maintenance Program	Implement use of NASSCO PACP standard for CCTV inspection defect coding	June 30, 2027	Facilitates implementation of industry analytical tools and methods

1.4 Sewer System Asset Overview

The three collection systems owned and operated by the City of Los Angeles convey wastewater via approximately 6,477 miles of gravity mains, 32 miles of force mains, and 46 pumping plants. Currently, an average wastewater flow rate of approximately 272 million gallons per day (MGD) is conveyed by the three collection systems. The three collection systems also convey the flows of 29 contact agencies to plants for treatment. Table 1-4 provides a summary of the collection system assets for each collection system. This SSMP applies to all three collection systems operated and owned by the City of Los Angeles. All three systems are operated in the same manner, using the same plans, equipment, protocols and operating organization. Attachment A2 lists the contract agencies for which LASAN conveys flows.

Table 1-4: Summary of Collection System Assets

	Collection System	Unified System

	Hyperion	Terminal Island	Regional	
CIWQS WDID	4SSO10450	4SSO10491	4SSO10502	
Population (count)	4,624,459	199,081	90,334	4,913,874
Total Mains (miles)	6,099	309	101	6,509
Gravity Mains (miles)	6081	296	100	6477
Force Mains (miles)	18	13	1	32
Pump Stations (count)	31	18	1	50
Siphons (count)	289	23	6	318
Stormwater Diversions to Sewer (count)	8	0	0	8
Wastewater Conveyed (MGD)	260	12	0.26	~272
Treatment Facility	Hyperion	Terminal Island	County Sanitation Districts' Joint Water Pollution Control Plant	

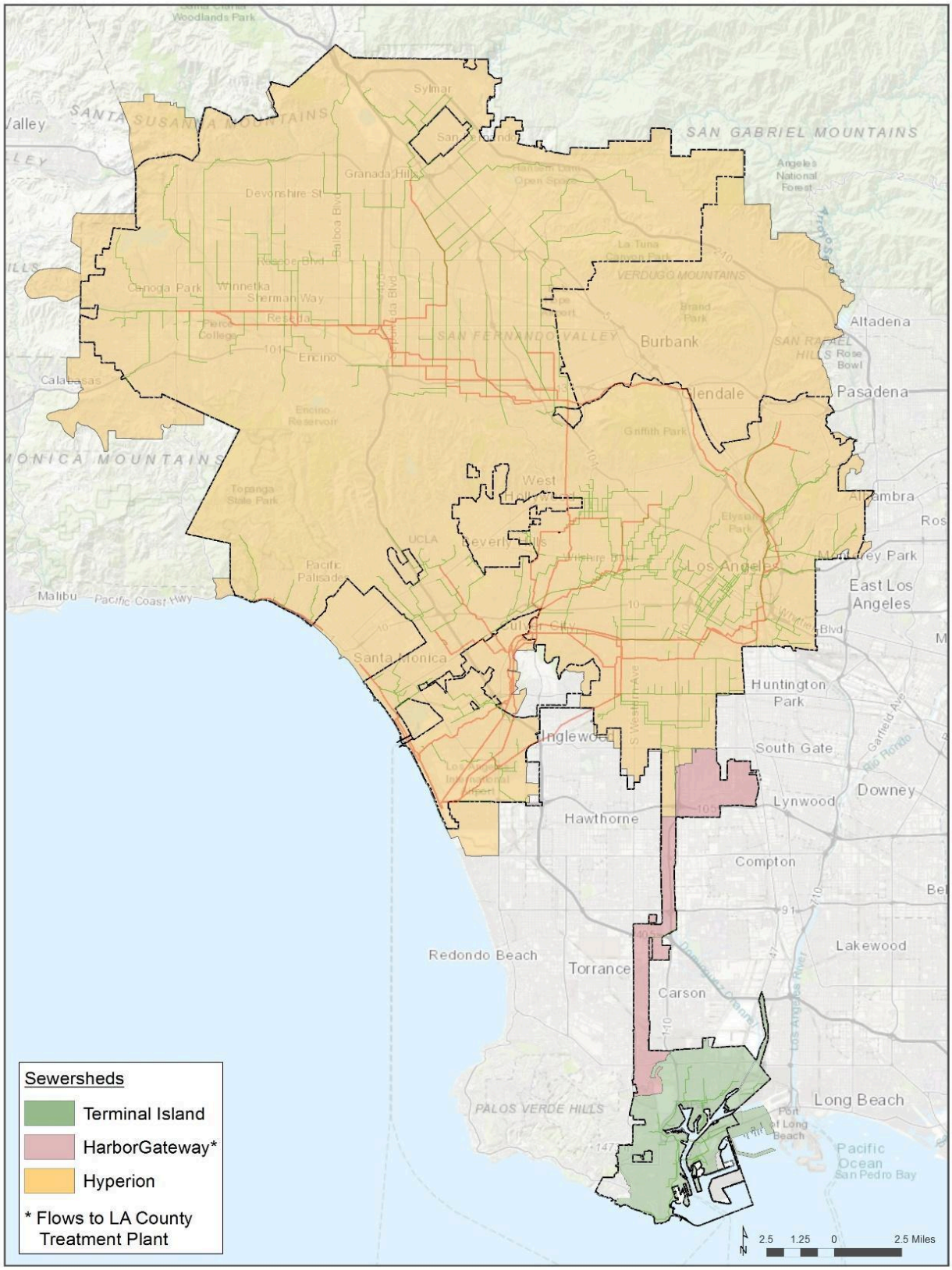
Other relevant information regarding the City's collection systems and management program includes:

- **Location**: All three collections systems are located in Los Angeles County.
- **Service Area Boundary:** Figure 1-1 shows the geographic service area boundary of each collection system.
- **Community Served:** The City serves a diverse set of communities, including disadvantaged communities and commercial and industrial enterprises over the 469 square miles of area within the City limits.
- **Data Management Systems:** LASAN uses the following data management systems
    - **CCTV Database:** A Microsoft Access database application serving as the repository for historical CCTV inspection data.
    - **EMPAC:** A computerized maintenance management system (CMMS) used for managing maintenance activities.
    - **FAST**: Field Automation Sanitation Trucks (FAST) is a mobile application enabling access to EMPAC work order data and field data collection.
    - **MIKE+:** A GIS-based hydrodynamic modeling software.
    - **MS Access:** Various collection system programs are managed using Microsoft Access data tables to store the schedule for program activities.

  - **PIMS**: Fats, Oils and Grease Control Program Permitting Information Management System used to schedule and track FOG source control inspections of industrial and commercial establishments.
  - **SCADA**: Supervisory Control and Data Acquisition system used to collection and store pump station alarm and instrumentation data.

- **Lateral Ownership and Operational Responsibilities:** The City does not own any portion of the service lateral. The private property owner is responsible for upper and lower lateral maintenance and repair from the building connection to the wye connection at the sewer mainline. The City owns the wye connection at the mainline.
- **Breakdown of Service Connections**: The breakdown of services connections is roughly 85% residential, 11% commercial, and 4% industrial.
- **Unique Service Boundary Conditions and Challenges**: The Harbor Gateway Area of the City (see Figure 1-1) poses an operational efficiency challenge. The City also has pipelines traversing Beverly Hills and Santa Monica, posing investigative challenges during initial spill response activities.

Figure 1-1: City of Los Angeles Collection Systems



1.4.1 Access to Up-to-Date Mapping

The Bureau of Engineering also provides public access to up-to-data sewer mapping through NavigateLA and City of Los Angeles Hub.

- NavigateLA: https://navigatela.lacity.org/navigatela/
- City of Los Angeles Hub: https://data-lahub.opendata.arcgis.com/

1.5 SSMP Overview

This SSMP complies with the General Order and meets the following General Order objectives:

a) Properly fund, manage, operate and maintain, with adequately trained staffs and/or contractors possessing adequate knowledge, skills, and abilities as demonstrated through a validated certification program at all times, all parts of the collection system owned and/or operated by the discharger.

b) Provide adequate capacity to convey base flows and peak flows, including flows during wet weather events, to the minimum design criteria as defined in the discharger's System Evaluation and Capacity Assurance Plan (a required component of the SSMP), for all parts of the collection system owned and/or operated by the discharger.

c) Take all feasible steps to stop and mitigate the impact of spills in the collection system owned and/or operated by the discharger.

The City achieves these objectives by implementing a comprehensive sewer infrastructure asset management program that is documented in the following 11 SSMP elements:

1. Goal and Introduction
2. Organization
3. Legal Authority
4. Operation and Maintenance Program
5. Design and Performance Provisions
6. Spill Emergency Response Plan
7. Sewer Pipe Blockage Control Program
8. System Evaluation, Capacity Assurance and Capital Improvements
9. Monitoring, Measurement, and Program Modifications
10. SSMP Program Audits
11. Communication Program

When appropriate, the SSMP references other program documentation for greater detail.

1.5.1 References for Further Information

- City Charter, City of Los Angeles, City Council Resolution of December 7, 1956

2 Organization

2.1 Overview

The City is governed by the Mayor, who serves as the City's chief executive, and 15 full-time Council Members. The Mayor and the City Council authorize the necessary funding for the collection system.

The Board of Public Works, a full-time Board, whose members are appointed by the Mayor and confirmed by the City Council, serves as the "governing body" for the Department of Public Works and the City's three collection systems. The collection systems are organized and managed under the Department's Clean Water Program. The Department of Public Works reports directly to the Mayor.

The Department of Public Works has five bureaus, three of which participate in the various functions of collection system management: the bureaus of Sanitation, Engineering, and Contract Administration.

- **LASAN**: Bureau of Sanitation (LASAN) is responsible for advance planning, financial management, and operation and maintenance of the collection system.
- **LABOE**: Bureau of Engineering (LABOE) is responsible for capital improvement project design; bid and award; construction management; facility start-up and optimization; issuance of permits for lower private laterals which run in public right-of-way; and develops standards and specifications for the collection system.
- **LABCA**: Bureau of Contract Administration (LABCA) provides inspection for construction contracts for work done in public right-of-way and enforces contract and permit compliance.

2.2 Authorized Representatives

The City has designated primary and secondary Legally Responsible Officials (LROs) for each collection system operating division pursuant to General Order Specification 5.1 Designation of a Legally Responsible Official. The secondary LROs serve as a backup LRO in the event the primary LRO is on leave or unavailable. Below is the contact information for both the primary and secondary LROs.

Table 2-1: List of Authorized Representatives

	Clean Water North Conveyance Division (CWNCD)	Clean Water South Conveyance Division (CWSCD)
Primary LROs	Kwasi Berko Division Manager (213) 675-0470	Gerald Watson Division Manager (213) 422-7780

Secondary LROs	Azya Jackson Assistant Division Manager (213) 207-0818 Vincent Tan Assistant Division Manager (323) 342-6039	Mark Fernandez Assistant Division Manager (213) 280-2018 Regidia Voong Assistant Division Manager (323)-342-6256

2.3 Positions Responsible for Implementing Specific SSMP Elements

2.3.1 Positions Responsible

A list of positions responsible for specific SSMP elements is provided in Table 2-2. They may be reached by dialing the toll-free number 311, or (213) 485-2121 if calling from outside the Los Angeles areas. The operator will transfer the call to the intended office. Additionally, Attachment B1 contains the names currently filling each position, and telephone number.

Table 2-2: Positions Responsible for SSMP

Org. Unit	Position	Responsibilities
LASAN Executive Management	LASAN Director Chief Financial Officer Assistant Director, Clean Water Assistant Director, Technical Services	Final oversight of all programs Leadership of strategic plan, goals
LASAN, Clean Water North Collection Division	Division Manager (LRO) Sanitation Wastewater Manager II Sanitation Wastewater Manager II	Operation and Maintenance Programs Spill Emergency Response Monitoring, Measurement and Program Modifications for O&M
LASAN, Clean Water South Collection Division	Division Manager (LRO) Sanitation Wastewater Manager II (LRO) Sanitation Wastewater Manager II	Operation and Maintenance Programs Overflow Emergency Response Monitoring, Measurement and Program Modifications for O&M
LASAN, Wastewater Engineering Services Division	Division Manager Senior Engineer, Water Resources Planning Senior Engineer, Collection System Planning Senior Engineer, Regulatory Compliance Environmental Engineer, SSMP Audits and Updates	System Evaluation, Capacity Assurance and Capital Planning Monitoring, Measurement and Program Modifications for Capital Improvements GIS and Mapping Communication Program

Table 2-2: Positions Responsible for SSMP

Org. Unit	Position	Responsibilities
LASAN, Industrial Waste Management Division	Division Manager Senior Engineer, Industrial Waste Pretreatment Program Senior Engineer, FOG Engineering Chief Environmental Compliance Inspector, Industrial Users Chief Environmental Compliance Inspector, FOG	FOG (FOG) Control Program: permitting, outreach, and inspection Implementation of FOG Source Control Legal Authorities
LASAN, Financial Management Division	Division Manager Senior Engineer, WCIP Senior Management Analyst, Financial Services	Budget and Financial Support for Capital Improvement and O&M Programs Sewer Charge Administration Communications with Contract Agencies
LASAN, Information and Controls System Division	Division Manager	Support of operation information management systems (monitoring technologies, SCADA, etc.)
LABOE Executive Management	City Engineer Deputy City Engineer, Clean Water Infrastructure Program Deputy City Engineer, Development Services and Permits Program	Design and Performance Provisions
LABOE, Wastewater Conveyance Engineering Division	Division Engineer	Sewer Rehab/Replacement Planning, Design, Bid & Award
LABOE, Wastewater Conveyance Construction Division	Division Engineer	Sewer Rehab/Replacement Construction Management
LABOE, Land Development and GIS Division	Division Engineer Senior Engineer, Permits Senior Engineer, GIS Section GIS Supervisor, NavigateLA	Development review Utility connection permitting and review GIS and NavigateLA
LABCA Executive Management	Director Assistant Director Division Chief, Wastewater Construction	Contract compliance
Department of Building and Safety	General Manager	Uniform Plumbing Code enforcement Los Angeles Municipal Code Sewer Ordinance enforcement for work on private properties

2.3.2 Lines of Authority

Attachment B2 includes an SSMP Program Implementation organization chart showing the lines of authority for the positions responsible for the management of the collection system and implementation of the SSMP. Due to the size of the service area and the complexities of its operations, LASAN recently divided operational management responsibilities of the City's collection system into two branches with equal authority and responsibility, the Clean Water North Collection Division (CWNCD) and Clean Water South Collection Division (CWSCD). describes how this change is reflected in the organization.

Table 2-3: Matrix of Responsibility for Collection System Operations

	Clean Water North Conveyance Division (CWNCD)	Clean Water South Conveyance Division (CWSCD)
Division Manager	Kwasi Berko	Gerald Watson
Assistant Division Managers	Azya Jackson Vincent Tan	Mark Fernandez Regidia Voong
Secondary Sanitary System	Reseda North Hollywood	Central LA West LA South LA Hollywood Watershed North Watershed South
After-hours and emergency response	Reseda	West LA South LA Watershed South
Other	Primary Sewers Customer Service Prop O/Green Infrastructure Engineering Support	Pumping Plants Facilities Maintenance Odor Control

2.4 Spill Reporting Chain of Communication

Both CWNCD and CWSCD follow procedures that provide for effective notification of each Category of spills through a clear and step-by-step method, as described further in *Element 6 Spill Emergency Response Plan* and the associated *Response and Reporting Procedures for Sanitary Sewer Overflows and Sewer or Stormwater Contamination*. The policies and procedures for spill reporting are reviewed annually to ensure that they remain current and in full compliance with all regulatory and legal requirements. These reporting procedures are described in *Element 6: Spill Emergency Response Plan* and included in Attachment F1.

2.4.1 References for Further Information

- Sanitary Sewer Overflow Response and Reporting Procedures, latest version

3 Legal Authority

3.1 Overview

The California State Constitution provides in Article 11, Section 7 that "A county or city may make and enforce within its limits all local, police, sanitary, and other ordinances and regulations not in conflict with general laws." The City of Los Angeles Charter, Section 101 specifies the Powers of the City. It states that "The City of Los Angeles shall have all powers possible for a Charter City to have under the constitution and laws of this state as fully and completely as though they were specifically enumerated in the Charter, subject only to the limitations contained in the Charter."

The Los Angeles Charter and Administrative Code, Article V, Sec. 580 (a) gives the Department of Public Works the powers and duties to design, construct, excavate and maintain streets and public works improvements including but not limited to bridges, public parkways and rights-of-way, sanitary sewers and storm drains, water and sewer treatment facilities, landfills and public rights-of-way lighting facilities owned by the City.

More specifically, the City possesses the necessary legal authority to meet the requirements of the General Order through the City of Los Angeles Municipal Code (LAMC) and the City of Los Angeles Board of Public Works Rules and Regulations. Table 3-1 summarizes these authorities and relates them to elements of the SSMP that are impacted or utilize these authorities. Specific legal authorities are described in more detail in the elements that follow.

Table 3-1: Legal Authorities Summary

Requirement	Reference in Municipal Code	Reference in Rules and Regulations	Related SSMP Element
PREVENT ILLICIT DISCHARGES			
Prevent illicit discharges into the wastewater collection system	Sec 64.25; Sec 64.30.B Sec. 64.30.C.1.(a) Sec. 64.30.C.1.(b) Sec. 64.30.C.1.(l).(4)	Sec. 3	N/A
Limit the discharge of FOG and other debris that may cause blockages	Sec 64.30.B.1.(a).(3); Sec 64.30.B.2.(a) Sec. 64.30.C.1.(a) Sec. 64.30.C.1.(b) Sec. 64.30.C.1.(l).(4)	Sec. 11.A Sec. 11.B	7. Sewer Pipe Blockage Control Program

Table 3-1: Legal Authorities Summary

Requirement	Reference in Municipal Code	Reference in Rules and Regulations	Related SSMP Element
Control infiltration and inflow (I/I) from private service laterals	Sec 64.25; Sec 64.30.B.1.(12) Sec. 64.30.C.1.(l).(4) Section 1101.2 (Los Angeles City Plumbing Code)	Sec. 3	8. System Evaluation, Capacity Assurance and Capital Planning
PROPER DESIGN AND CONSTRUCTION			
Require that sewers and connection be properly designed and constructed	Sec. 64.11; Sec. 64.11.1 Sec. 64.12 Sec. 64.17		5. Design and Performance Provisions
ACCESS TO SEWER LATERALS AND SEWER MAINS			
Ensure access for maintenance, inspection, or repairs for portions of the service lateral owned or maintained by the Agency	The City does not own or maintain any portion of the lateral.		4. Operation and Maintenance Program
Obtain easement accessibility agreements for locations requiring sewer system operations and maintenance, as applicable			
SEWER PIPE BLOCKAGE SOURCE CONTROL			
Requirements to install grease removal devices (such as traps or interceptors)	Sec. 64.30.C.1.(d).(11) Sec. 64.30.C.1.(l).(2)		7. Sewer Pipe Blockage Control Program
Design standards for the grease removal devices	Sec. 64.30.C.1.(l).(4)	Sec. 11.F	7. Sewer Pipe Blockage Control Program 5. Design and Performance Provisions
Maintenance requirements, BMP requirements, record keeping and reporting requirements for grease removal devices	Sec. 64.30.C.1.(l).(4)	Sec. 11.B Sec. 11.F Sec. 11.H	7. Sewer Pipe Blockage Control Program
Authority to inspect grease producing facilities	Sec. 64.30.C.1.(b).(21)		7. Sewer Pipe Blockage Control Program
ENFORCEMENT			

Table 3-1: Legal Authorities Summary

Requirement	Reference in Municipal Code	Reference in Rules and Regulations	Related SSMP Element
Enforce any violations of its sewer ordinances	Sec. 64.30.C.2 Sec 64.30.C.5.(c) Sec 64.30.E		7. Sewer Pipe Blockage Control Program 5. Design and Performance Provisions

3.1.1 Authority to Prevent Illicit Industrial Waste Discharges into the Collection System

The City implements the industrial waste pretreatment requirements set forth in the United States Environmental Protection Agency's Standard Pretreatment Implementation Requirements for Municipal NPDES Permits (40 CFR Section 403.8) in the manner specified in the LAMC, Section 64.30, as more specifically described herein. The pretreatment standards are applied to individual industrial users through Industrial Wastewater Permits issued to the users, which specify the limits at which an industrial user may discharge to the public system for things like Biological Oxygen Demand (BOD) and FOG, which are prohibited.

The LAMC Section 64.30 provides the legal authority to implement provisions specified under Part 40 CFR Section 403.8(f)(1), which provides the basis for each procedure under 40 CFR Section 403.8(f)(2), as follows:

> *"General Provisions - The City, pursuant to LAMC Section 64.30, commonly referred to as the Industrial Waste Control Ordinance (Ordinance) regulates industrial wastewater discharges into the Publicly Owned Treatment Works (POTW). Section 64.30 (A)(2) sets forth the objectives of the Ordinance. The objectives are met through a permit and inspection program administered under the jurisdiction of the Board of Public Works (Board) to ensure City compliance with all applicable State and Federal laws. The Director of the Bureau of Sanitation (Director) under the jurisdiction of the Board is given the authority to administer, implement and enforce the provisions of the Ordinance. The Ordinance gives the Board and the Director the power, jurisdiction, and supervision over places of discharge of wastewater into the POTW, necessary to adequately enforce and administer all applicable State and Federal laws. Section 64.30(A)(3) of the Ordinance states "This section shall apply to all dischargers within the City of Los Angeles and to all persons outside the City of Los Angeles who discharge to the City's POTW except as otherwise provided herein, the Director of the LASAN under the jurisdiction of the Board of Public Works shall administer, implement and enforce the provisions of this section."*

The City's Industrial Wastewater Permit is the control mechanism employed in applying pretreatment standards to industrial users: Section 64.30(A)(3) of the LAMC provides for the regulation of dischargers to the Publicly Owned Treatment Works (POTW) through the issuance of Industrial Wastewater Permits containing specific discharge requirements and through enforcement of general discharge prohibitions. It also authorizes monitoring and enforcement activities, imposes reporting requirements on specific permittees, and sets fees for the recovery of program costs.

An Industrial Wastewater Permit must be issued before any entity may discharge into the POTW. The LAMC Section 64.30 (C)(1)(a) states "No person shall discharge industrial wastewater to the POTW without permission as provided in an Industrial Wastewater Permit. The permit shall not be issued until determination has been made by the City's Board of Public Works that the wastewater to be discharged shall not violate any provisions of this Code, the Board's Rules and Regulations, the water quality objectives for receiving waters established by the California Water Quality Control Board, Los Angeles Region, or any applicable federal or state statutes, rules or regulations. Such determination shall be made from the information set forth in the application for permit." Sect 64.30(B) specifies the conditions and prohibitions placed on Industrial Wastewater Permits. Industrial Wastewater Permits may deny or condition new or increased contribution of pollutants, or changes in the nature of pollutants to the POTW by industrial users where such conditions do not meet applicable pretreatment standards and requirements or where such conditions would cause the POTW to violate its NPDES Permit.

The LAMC Section 64.30(B)(3) specifies conditions on the Industrial Wastewater Permits that require compliance with applicable pretreatment standards and requirements by industrial users. Industrial Wastewater Permits incorporate pretreatment standard limitations based on such standards and requirements. It provides that upon the promulgation of mandatory National Categorical Pretreatment Standards (NCPS) for any industrial category, the NCPS, if more restrictive than limitations otherwise imposed under the Ordinance, shall apply, and that a discharger shall comply with applicable NCPS as set forth in 40 CFR Part 401 et seq. Section 64.30(C)(1) includes a statement which states that the granting of the permit shall not relieve the discharger from the responsibility for compliance with all provisions of the Ordinance. All other general pretreatment standards and prohibitions and local limits developed to implement the general and specific standards are included as permit conditions.

3.1.2 Discharges from Tributary/Contract Agencies

There are twenty-nine contributing jurisdictions (8 cities and 21 agencies) that discharge wastewater into the City's POTW. The City has sewage disposal contracts with all contributing jurisdictions including the Cities of Beverly Hills, Burbank, Culver City, El Segundo, Glendale, La Canada Flintridge, San Fernando, and Santa Monica. The sewage disposal contract requires the contract cities to ensure compliance with federal, state and local regulations, including pretreatment regulations. Section VI.B.1 makes regulatory liability a cost of the Amalgamated System and therefore proportionally chargeable to the City of Los Angeles and the contract cities and agencies, if this liability

results from the construction or operation of the Amalgamated System (treatment plants and large trunk sewers). This liability may be related to industrial waste enforcement inside the contract cities and agencies. The sewage disposal contract allows the City to enter an agency's or contract city's jurisdiction if: (1) the federal or state government require the City of Los Angeles to establish a program, prepare a study, or undertake some other action, and (2) the action would require Los Angeles to enter the agency's or contract city's jurisdiction, and (3) the agency or contract city fails to take action that results in liability that is payable from the Amalgamated System (which means that the liability must also result from the City's operation of the Amalgamated System).

Contract cities and agencies will pay any fines resulting from their failure to comply with state or federal requirements. The term of an agency's or city's agreement will revert to a month-to-month relationship eventually leading to removing its wastewater from the City of Los Angeles' system if the agency is in default for more than 90 days. The sewage disposal contract also allows the City to sue for specific performance if a contracting city or agency defaults or breaches the agreement.

3.1.3 Prevention of Illicit Discharge and Infiltration/Inflow

The LAMC prohibits connections of storm drains, downspouts, area drains, storm sewer connections and other sources that could contribute infiltration and/or inflow to the public system, either directly or through lateral connections. The ordinances also provide for the inspection of new and rehabilitated private sewer laterals and mainline sewers to ensure that installation meets the City's performance standards and prevent infiltration. The ordinances also provide for enforcement actions for noncompliance.

Plumbing on private properties is under the jurisdiction of the Department of Building and Safety. The LAMC and Section 1101.2 of the Los Angeles City Plumbing Code prohibit the connection of storm water or surface water drains to sanitary sewers.

In an effort to achieve better compliance with this requirement, on June 12, 2001, the City Council approved a motion, Council File 01-1055, authorizing the Department of Building & Safety and LASAN to bring properties into compliance. Sanitation and Building & Safety jointly implemented measures to detect and eliminate sources of infiltration and inflow through a program titled Sewer Infiltration and Inflow Prevention (SIIP) Program. The program was designed to reduce the impacts from unauthorized discharges from roof drains, area drains, parking lot drains, and downspouts. An estimated average extraneous flow of 8 million gallons per day was eliminated from the system during the duration of the SIIP Program. Since the program formally ended, no significant increases in infiltration and inflow have been observed.

Currently in the Hyperion Collection System, dry weather urban runoff is diverted from storm drains into the City sewers and conveyed to the Hyperion Treatment Plant for treatment. This is to protect groundwater, inland surface water, bays, estuaries, and the ocean from pollutants present in urban runoff that could reach these waters. The Hyperion Treatment Plant's current National Pollutants Discharge Elimination System (NPDES) Permit provides for this diversion. Originally, dry weather urban runoff diversion was only during the period of April 1 to October 31. However, since 2009, dry weather urban runoff has been diverted year-round to conform to the compliance schedule for

bacteria concentrations contained in the Santa Monica Bay Beach Dry-Weather Bacteria Total Maximum Daily Load (TMDL) regulation (Resolution No. 02-004 and Resolution No. 2002-022, adopted by the Los Angeles Regional Water Quality Control Board). There is no dry weather runoff diversion to the Donald C. Tillman, the Los Angeles-Glendale, or the Terminal Island Water Reclamation Plants There is no wet weather flow diversion to any plants.

3.2 Authority to Collaborate with Storm Sewer Agencies

Spills from the City collection systems flow into City storm drainage systems and Los Angeles County Flood Control drainage systems. Los Angeles County Public Health requires all cities in the County to report sewer spills that reach a drainage system within 15 minutes of knowledge of the event. As a result, Los Angeles County Flood Control is notified and can provide support to provide information and access to County drainage system facilities, if needed. The City has keys to access Los Angeles County Flood Control drainage channels and open lines of communication to access support.

With regards to preventing cross connections of sanitary sewer infrastructure to storm sewer infrastructure, the City has a permitting process and utility locating process designed to prevent utility conflict and unintentional cross connections for all work performed on the sewer system.

3.3 Authority to Require Proper Design and Construction of Sewers

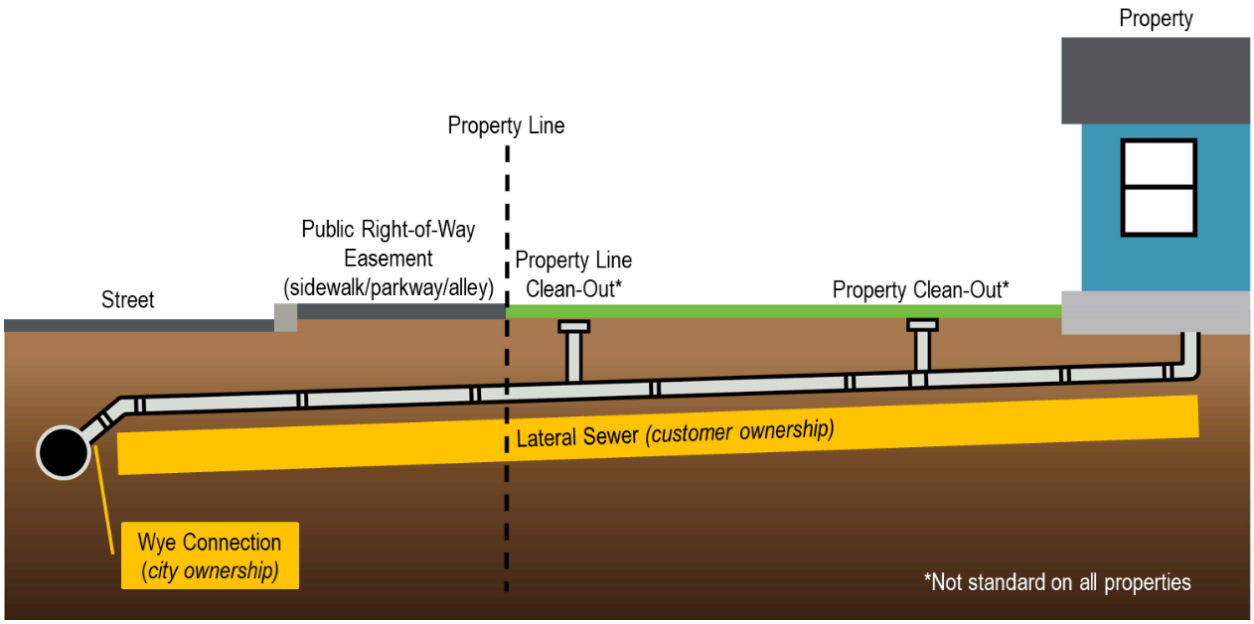
LAMC Chapter VI, Article 4 – Sewers, Watercourses, and Drains (Section 64.00) codifies the City's policy for the design and construction of sewers and connections. The LAMC requires that all sewers constructed in the City comply with LABOE's standard plans, specifications, policies and practices. These standards are continuously updated to incorporate new materials and construction methods to ensure that the completed installations meet construction and performance standards. Service connections must be designed and constructed to meet the Los Angeles City Plumbing Code. The Department of Public Works' LABCA enforces construction and performance standards for projects in the public right-of-way. *Element 5 Design and Performance Provisions* provides more detail on the City's standards and specifications.

3.4 Authority to Ensure Access to Publicly Owned Portion of Lateral

The City does not own or maintain private lateral sewer lines. Property owners are responsible for proper installation, operation, and maintenance laterals (the pipe that connects from the building to the main) and clean-outs (which provide access to clean and repair the pipe from the building to the main). This includes laterals on the City-owned easement. The City owns the wye connection to the public main line (which connects the lateral to the main line). Property owners are required to obtain permits

from the Department of Building & Safety for work on private properties and the Department of Public Works for work in the public right-of-way.

Figure 3-1 Schematic of City- vs. Privately-Owned Sewer Components



3.5 Authority to Limit the Discharge of FOG and other Debris

LAMC Section 64.30.B.1(a) states “Except as expressly allowed in an Industrial Wastewater Permit, no person shall discharge, permit the discharge, cause the discharge or contribute to the discharge of the following to the publicly owned treatment works (POTW): Any solid or viscous materials which could cause obstruction to the flow or operation of the POTW, and any material which will cause the POTW to violate its NPDES Permit, applicable Federal and State statutes, rules or regulations.” The Ordinance requires the installation of a grease interceptor at all FSE that are to be newly constructed that have the potential to generate waste FOG (FOG) and any remodels of existing FSEs valued at $100,000 or more. A grease interceptor is a plumbing device, with a minimum size of 300 gallons that is installed in an FSEs onsite wastewater drainage system to intercept and prohibit FOG from entering the collection system. Certain exceptions for grease interceptors are made based on an FSE’s size and type of food product; these FSEs are required to install a grease trap. These exceptions are granted by LASAN Industrial Waste Control staff. Similarly, Industrial Waste Control Staff certify the types of equipment that may be installed using guidelines from the International Association for Mechanical Plumbing.

The Industrial Wastewater Permit applies to FSEs to control the introduction of FOG into POTW. Section 64.30(C)(1)(g) specifies the duration of Industrial Wastewater Permits.

Section 64.30(C)(1)(e) controls the transfer of permits. The Ordinance specifies that any discharger may be required by the Director, by permit or otherwise, to engage in periodic monitoring and sampling of its discharge. Section 64.30(C)(1)(d) specifies that the Director shall have authority to impose permit conditions including limits regarding the discharge of specific pollutants, requirements, which may include specific sampling locations, frequency of sampling, times of sampling, number, types, test standards and reporting schedules, for monitoring programs, and requirements for maintaining and affording City access to plant records relating to discharges, including hauled waste records and manifests.

LAMC Section 64.30 (C)(1)(b)(12) requires the development of a compliance schedule by each industrial user for the installation of technology required to meet applicable pretreatment standards and requirements. Section 64.30(C)(1)(d)(11) specifies that the Director may require all industrial users to install pretreatment systems, upgrade existing pretreatment systems and/or install additional pretreatment systems, implement BMPs, and any other conditions deemed appropriate to achieve the objectives of the Ordinance. Section 64.30(C)(2) requires industrial users to submit reports necessary to assess and assure compliance.

The *Rules and Regulations Governing Disposal of Industrial Wastewater into the Publicly Owned Treatment Works of the City of Los Angeles* are maintained by LASAN and are provided in Attachment C1.

3.6 Authority to Enforce Violations of Sewer Ordinances

LAMC Sec 64.30.E provides the authority to carry out all inspection, surveillance, and monitoring procedures necessary to make a determination on compliance or noncompliance by industrial users and FSEs with applicable pretreatment standards and requirements, independent of information supplied by industrial users. The Ordinance gives the Board and the Director the power, jurisdiction, and supervision over places of discharge of wastewater into the POTW, necessary to adequately enforce and administer all applicable State and Federal laws. Section 64.30(C)(5) of the Ordinance specifies that whenever it is necessary to make an inspection to enforce any of the provisions of, or perform any duty imposed by this section or other applicable law, or whenever the Director has reasonable cause to believe that there exists upon any premises any violation of the provisions of this section or other applicable law, or any condition which makes such premises hazardous, unsafe, or dangerous, the Director or his/her designate is authorized to enter such property at any reasonable time and to inspect the same and perform any duty imposed upon the Director or his/her designate by this section or other applicable law.

The City ensures industrial user compliance with pretreatment standards, requirements, and conditions of the permit by taking administrative enforcement actions consistent with the IWMD's Enforcement Response Plan and Enforcement Response Guide (ERP/ERG) in the event of noncompliance, included as Attachment G1. The City's first ERP/ERG documented existing enforcement procedures in October 1990 and was submitted to the EPA on October 30, 1991. The enforcement procedures described in the ERP/ERG have

established criteria and other considerations for responding to violations of pretreatment regulations and discharge standards in a consistent and timely manner. The procedures provide a range of enforcement responses with the objectives of regulating industrial users to achieve and maintain consistent compliance and subjecting repeat offenders to escalated enforcement actions in a timely manner. The types of escalated enforcement actions can range from notices of violation and administrative orders to suspension of discharge privileges, permit revocation, water or utility service termination, and/or City Attorney referral for filing of civil/criminal charges. The City reviews and updates its ERP/ERG periodically to ensure that it accurately reflects modifications to its authority and describes current operating practices.

3.7 Authority to Obtain Easement Accessibility Agreements When Applicable

The City has easement accessibility agreements for locations requiring operations and maintenance and is not aware of any locations where easement accessibility is an issue.

3.7.1 References for Further Information

- City of Los Angeles Municipal Code (https://codelibrary.amlegal.com/codes/los_angeles/latest/lamc/0-0-0-107363)
- City of Los Angeles Board of Public Works Rules and Regulations (*https://www.lacitysan.org/san/sandocview?docname=cnt008647*)
- Los Angeles City Plumbing Code

4 Operation and Maintenance Program

4.1 Up-to-Date Map of the Collection System

The City maintains separate sewer and storm drain systems. Plans for both systems were originally digitized into the City's GIS database from the historic "S" maps for sewer lines and "D" maps for the storm drain system. The City has separate mapping layers publicly available on the internet through NavigateLA for gravity and pressurized sewer pipelines, maintenance access holes, sewer laterals, and stormwater pipelines. The City also maintains a separate GIS layer of sewer pump plant locations. Air release valves are not currently mapped in GIS.

4.1.1 Procedures for Maintaining and Providing Access to Water Boards Staff

Both sewer and storm drain systems can be queried through the City's NavigateLA web mapping system which also combines over 250 layers of data, linked databases, and reports. The URL for the NavigateLA website is:

https://navigatela.lacity.org/navigatela/

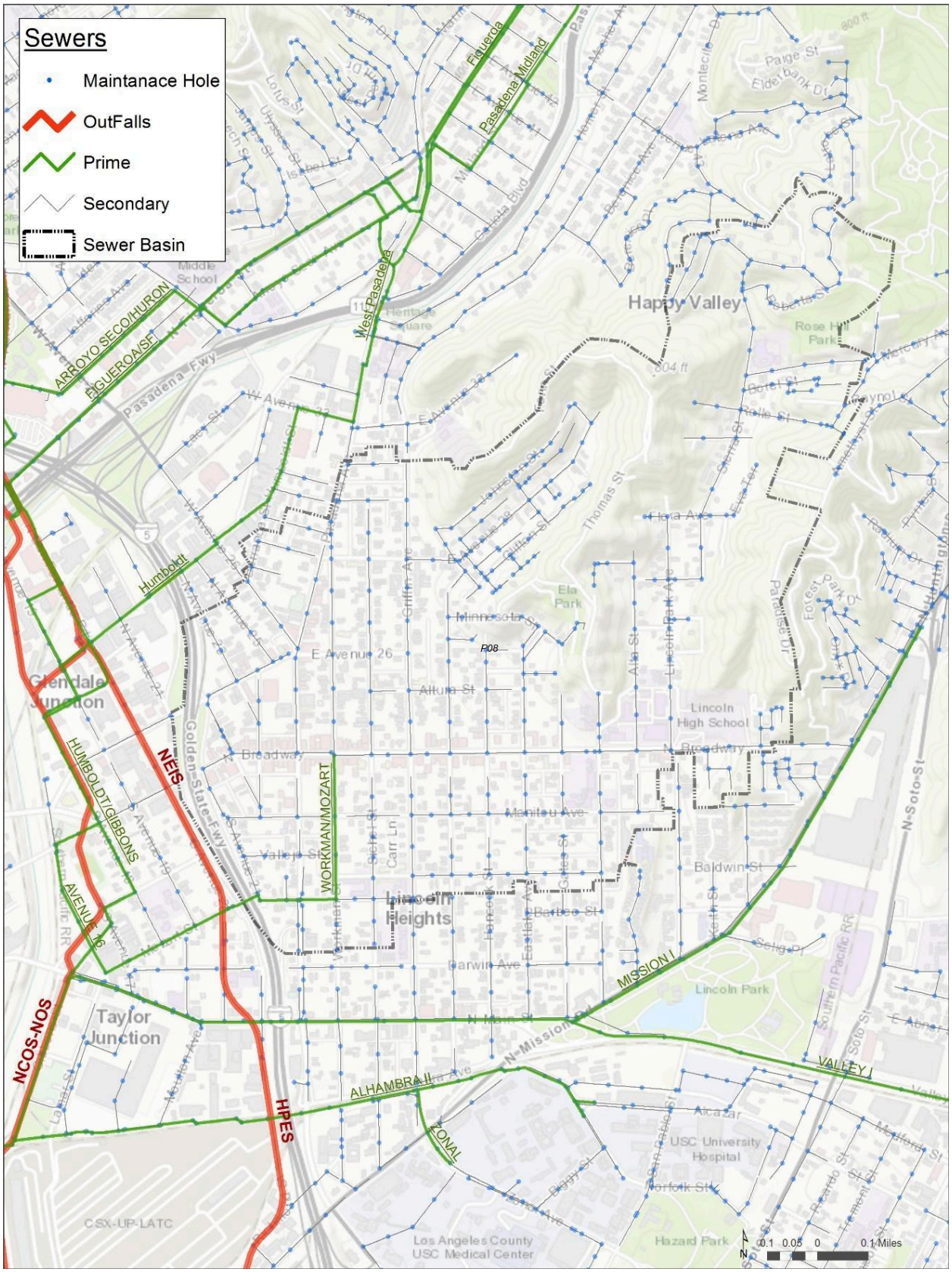
The NavigateLA "help" features provide support for using the NavigateLA website, searching NavigateLA, and use of advanced options. WaterBoards staff can access technical support on use of the NavigateLA website by contacting: eng.navsupt@lacity.org.

4.1.2 Availability of Up-to-Date Mapping to Support Collection System Management

Collection system field staff have access to up-to-date mapping through the City's Field Automation Sanitation Trucks (FAST) mobile application. NavigateLA is also available to field crews for locating pipelines, maintenance holes, service connections, and other features of the City's sewer and storm drain systems.

LASAN engineering staff have access to up-to-date mapping by using ArcGIS layers updated by the Bureau of Engineering and managed by LASAN GIS staff. For operation and maintenance, customized GIS datasets of sewer and storm drainage systems and other information layers are used in work prioritization and other decision-making processes. The GIS datasets are used in multiple tasks ranging from pipe cleaning to chemical treatment for roots, corrosion, and odor control, to hydrodynamic sewer modeling and stormwater capture project placement. Figure 4-1 shows a section of the City's system, represented in the mapping database. The map contains different asset types in the system, including primary and secondary gravity mains, maintenance holes, and sewer basin delineations.

Figure 4-1: Sanitary Sewer Map Database (example)



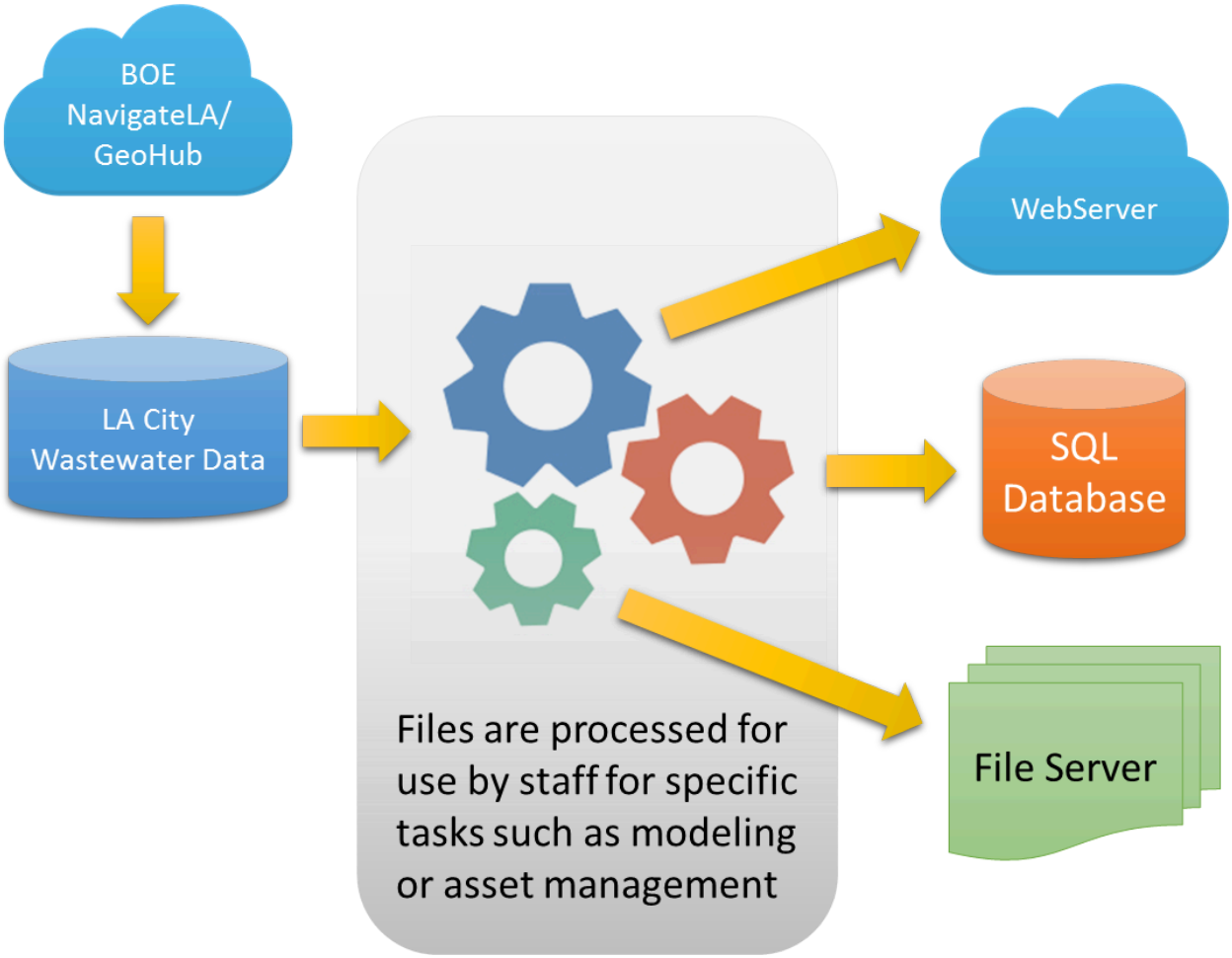
4.1.3 GIS Maintenance Process

The City's maps are routinely updated to include new and rehabilitated sewers as well as the addition of any new developments or tracts. Contractors and developers are required to provide as-builts of new and rehabilitated assets, as well as corresponding asset attribute information. LABOE District Offices and LABCA provide this as-built information to the LABOE Mapping Group as part of the acceptance and close-out process. The Mapping Group then enters this information into the GIS database. A project cannot be closed until the Mapping Group has acknowledged that all the necessary information has been received. This includes a process to document the rehabilitation of an existing pipe segment. The rehabilitation material and date are stored in GIS along with the host pipe segment original installation date and material.

The GIS database is also updated to correct inconsistencies between the maps and conditions in the field on an on-going basis. LASAN maintenance crews, basin planners, and contractors may find errors in GIS maps that do not reflect what is found in the field (missing maintenance holes, inaccurate locations, etc.). These errors are noted in work order notes and may include a sketch or photo. This information is packaged into a work referral, which is then sent to the Mapping Group for correction. If there is a considerable difference between what is shown in the maps and found in the field, the Mapping Group may dispatch a team to perform a survey. Typically, these changes are made within one week, however they can be expedited as needed.

The GIS layer for sewer pipelines maintained by LABOE must be modified by LASAN to migrate it into their databases. LASAN tracks all maintenance activities for each maintenance hole to maintenance hole pipe segment. LABOE tracks pipe segments to a deeper level and will place "phantom nodes" at changes in slope or material and track potentially more than one record for a maintenance hole-to-maintenance hole pipe segment. LASAN will periodically pull sewer pipe GIS data from LABOE, process the data to remove the phantom nodes, and migrate the updated GIS into the Field Automation Sanitation Trucks (FAST) mobile interface for maintenance data. The process is routine and LASAN has models and subroutines to streamline the workflow.

Figure 4-2: GIS Maintenance Process Diagram



4.2 Preventative Maintenance Program

The City operates and maintains one of the largest collection systems in the nation, serving a population of over four million within a 600 square mile service area. It consists of approximately 6,500 miles of sewers, 140,000 maintenance holes, and 44 pumping plants. In addition, there are about 700,000 privately owned sewer laterals with an estimated total length of 11,000 miles. Laterals are owned and maintained by private property owners.

The City also provides wastewater conveyance and treatment services to 29 contract collection systems under contractual agreements, as listed in Attachment A2, but is not responsible for management of the 29 contract agency collection systems.

Six maintenance yards are strategically located throughout the city to manage the system, minimize travel time, and maximize efficiency of reactive, preventive, and corrective maintenance activities.

The preventative maintenance program is largely carried out by CWNCD and CWSCD through the following programs:

- Cleaning and Easement Maintenance
- Root Control
- Odor, Roach, and Pest Control
- Maintenance Hole Raising
- Pumping Plant Maintenance
- Emergency Repairs

For each program, tasks and their frequency are determined based on operation and maintenance experience, past performance of an asset or area of the system, manufacturer's recommendations, and site-specific conditions. A manager is assigned to each program, and they are responsible for developing an annual schedule for the work to be performed, updating the schedule to accommodate new needs, and monitoring the performance of the program. To do this, each manager uses a program-specific database to track assets included in the program. Scheduled and completed tasks are cataloged and tracked by work orders in the EMPAC maintenance management system (EMPAC). EMPAC also houses asset level performance information, which is used by the managers to determine asset specific maintenance frequencies. Maintenance program includes preventive, proactive, predictive, and corrective maintenance; maintenance engineering; and quality control, with a focus on the most critical or problematic areas of the system. Problem sewers are identified, prioritized and scheduled for maintenance based on comprehensive review of the maintenance history and system characteristics including overflows, blockages, excessive maintenance, age, material, and sewer condition.

The City uses the EMPAC to manage work, track warehouse parts, and streamline maintenance related purchases. The City uses FAST to provide field employees with an interface to EMPAC data. FAST greatly reduces the amount of paperwork required to collect closure data for work orders. Work orders are closed in the field, thus reducing data entry by clerks and supervisors. GIS integration ties EMPAC assets to actual field locations, searchable by street address or intersection. Real-time access to data in the field enables crews to work more efficiently.

The primary means for preventing spills through system maintenance are regular cleaning, which includes cleaning due to control FOG build-up and root intrusion.

4.2.1 Scheduled System Cleaning and Easement Maintenance

LASAN uses a combination of high velocity sewer cleaning, mechanical and manual rodding of sewers to clean them of various types of debris that may impede flow or cause an overflow. The City's sewers are classified into two groups: primary sewers (greater than 15 inches in diameter) and secondary sewers (15 inches or smaller in diameter). Primary sewers are divided into 24 basins and secondary sewers into 240 basins along drainage boundaries.

Both primary and secondary sewers are cleaned on a frequency that is determined primarily by its performance history and previous cleaning findings. Pipe segments with a history of overflow are cleaned more frequently than others. Any pipe that has had an overflow is inspected using CCTV to identify any necessary repairs or special maintenance needs as soon as possible, usually within 48 hours after the initial occurrence of an overflow. Additionally, during cleaning, findings are collected as to the type and severity of debris removed during cleaning. The cleaning findings are reviewed periodically to analyze maintenance history to optimize and modify the maintenance approach and cleaning frequency.

Spills caused by FOG-related blockages are monitored to identify locations and determine cleaning frequency. Cleaning frequency is increased for sewers with repeated FOG-related blockages or overflows. Additionally, LASAN's FOG inspectors are notified whenever a FOG-related spill has occurred, so that they may perform inspections of all FSEs within two blocks of the event. Crews also distribute door hangers and mailers to homes in the surrounding area. Both measures help to reduce future occurrences of spills in the same area. Additionally, flow monitoring, CCTV inspection records, GIS spill layers, and pipe attribute information are reviewed by the primary basin to identify performance deficiencies. High d/D (flow depth to pipe diameter) levels or operational failure (spill history) trigger further reviews to determine cause and take immediate or accelerated corrective actions, which may include cleaning. Priorities and schedules are set based on the severity of the problem.

In addition to the preventive maintenance, LASAN implements a proactive maintenance program where "non-problem" sewers are scheduled for maintenance and cleaning, but on a less frequent basis than pipes with a history of problems. The City's goal is to clean all "non-problem" pipes that are less than 16 inches in diameter on a three-year cycle; clean pipes that are 16-30 inches on a 5-to-6-year cycle; and clean pipes greater than 30 inches as needed. Proactive maintenance of secondary sewers is performed on a basin-by-basin basis. LASAN may also perform some lateral cleaning on a case-by-case basis depending upon the CCTV results of mainline cleaning. Although lateral maintenance is the responsibility of the homeowner, LASAN may opt to perform this work to protect the performance of the public system.

The City maintains a master schedule for cleaning that includes all pipes. The master cleaning schedule is updated annually and the resulting workload is used for resource planning and to level load the work with each maintenance zone. The master schedule is updated on a month-to-month basis to accommodate pipes that must be put on a more frequent cleaning schedule.

As part of the cleaning program and schedule, easements are maintained to ensure that access to a pipe for cleaning or other maintenance is clear. The City can use an emergency contractor to support easement cleaning, if needed.

LASAN has historically conducted maintenance hole inspections when visually checking for flow obstructions at maintenance holes. However, due to the effectiveness of the cleaning program these maintenance hole inspections found very few blockages. Currently, crews will visually inspect maintenance holes when opened and will only

create a referral work order for maintenance holes in need of repair, and maintenance holes that have caused odor problems are inspected and sealed.

4.2.2 Sewer Cleaning Quality Control

The City implements a sewer cleaning quality control/quality assurance program designed to examine the effectiveness of cleaning. After cleaning a sewer, sample pipes are inspected by CCTV to ensure that cleaning has restored the flow area of the sewer to at least 95 percent of the pipe diameter. Any sewer that fails the inspection is re-cleaned and the crew is retrained on the proper cleaning procedures.

4.2.3 Root Control

In addition to the City's routine mechanical root removal, sewers that are prone to tree root intrusion (primarily through privately owned sewer laterals) are treated for root control using environmentally safe chemicals. These pipes are identified through a comprehensive review of spill history and CCTV results. The effectiveness of chemical root control treatment is carefully monitored, and the frequency of treatment and application rates adjusted as required to eliminate blockages caused by roots. A schedule for root control is maintained for the system. Every pipe that is on the schedule undergoes the following maintenance cycle:

- Pipe is cleaned, chemical root control is applied, then;
- Pipe is cleaned again six months after application of chemical root control, then;
- Pipe is cleaned one year after application of chemical root control, then;
- Chemical root control is applied

This cycle repeats to reduce or eliminate root re-growth. In some cases, the City will modify the root foaming application frequency from every year to once every 2 years as root growth shows signs of being managed using the root foaming approach. A pipe is only taken off the schedule once there has been no evidence of roots.

The City also implements a community outreach and education program to control roots in private sewer laterals located in areas where tree roots intrusion into mainline sewers require frequent root removal and chemical treatment. A root control pamphlet is periodically mailed to properties in these areas.

4.2.4 Odor, Roach, and Pest Control

LASAN tracks and monitors the odor, roach, and pest complaints that are received throughout the system. Each complaint received is investigated and added to a map tracking all complaints. The appropriate remediation measure is determined by looking systematically at each area. LASAN keeps a sewer odor master plan containing a multitude of odor control and response measures including:

- Ongoing sewer air pressure and odor monitoring;
- Air manipulation in the sewer using flow diversion and air curtains;

- Odor removal from air in the sewer using carbon scrubbers and bio-trickling filters;
- Sewer cleaning and maintenance;
- Chemical treatment;
- Sewer construction and repair;
- Sealing of sewer maintenance holes;
- Trap maintenance hole inspection, cleaning, repair, and replacement.

Assets that require cleaning and maintenance are added to the master cleaning schedule and cleaned at the appropriate frequency.

4.2.5 Maintenance Hole Raising

LASAN operates a Maintenance Hole Raising program to ensure that all pipe segments of the system are accessible for maintenance renewal activities. Work is identified by crews and contractors, who can report a paved over maintenance hole, and during inspections following street paving and repair projects. Maintenance holes requiring raising are added to a master schedule and addressed based on immediacy of need and pipe segment criticality.

4.2.6 Gravity Pipeline Inspection

LASAN conducts comprehensive and systematic inspections and assessments of all components of its collection system. Inspections are used to identify problems requiring repair and prioritize the needed improvement projects for inclusion in the Wastewater Capital Improvement Program (WCIP). Sewers are classified into two groups: primary sewers (greater than 15 inches in diameter) and secondary sewers (15 inches or smaller in diameter). Primary sewers have been divided into 24 basins and secondary sewers into 240 basins.

The City inspects and assesses the condition of its sewers in an ongoing condition assessment program which includes CCTV, pole camera inspections, visual inspections, assessment of operating history and performance, and analysis and projection of performance based on asset attributes. Structural deficiencies are identified or estimated and the needed improvements developed and implemented systematically as a part of the City's sewer rehabilitation and replacement planning.

The City uses state-of-the-art CCTV equipment as its primary means of inspecting and assessing the condition of secondary sewers in support of operation and maintenance and for capital improvement planning purposes. In some cases, the City performs multi-sensor inspections consisting of CCTV, sonar and laser.

CCTV inspection of secondary sewer basins are scheduled in a priority order using a ranking system that incorporates age, size, construction material, overflow history, and known problems related to the pipes in a basin. The City maintains a secondary sewer basin prioritization spreadsheet documenting the basis for the inspection schedule. Some primary sewers are also inspected using CCTV depending on size and flow levels.

Inspection and maintenance of the remaining primary sewers at the City's discretion may be contracted to private contractors. The current annual inspection capacity is approximately 600 miles per year consisting of a combination of internal and external inspection resources. In some years, additional specialized inspection contracts enable the City to inspect and monitor the condition of an additional 40 miles of pipelines annually. These inspection resources enable the City to inspect the majority of the collection system on a 15-year cycle and to perform higher frequency inspections on a subset of pipes to monitor known conditions.

4.2.7 Pumping Plant Inspection, Maintenance and Monitoring

All of the City's 42 sewage pumping plants have built-in backup emergency and redundancy systems. The Venice Pumping Station serves as the main center for monitoring and control of all pumping plants. The City has upgraded its pumping plants and equipped them with state-of-the-art controls, emergency backups, and redundancy systems. This has eliminated overflows caused by power outages and mechanical failure.

As a part of routine preventive maintenance program, CWSCD conducts scheduled preventive maintenance of pumps and related accessories. On the average, each station is visited for inspection/maintenance about 80 times in each year by various crafts, consisting of monthly visits for inspection, equipment testing, pump flow monitoring, and checking run times and amperage, etc. Crews performing these inspections will complete corrective maintenance during inspection activities, as time permits. Any other maintenance needed is scheduled using the work order system. More in-depth maintenance occurs on an annual, semi-annual basis, biennial, and according to manufacturer recommendations. This maintenance consists of motor testing, valve exercising, cleaning, oil changes, etc. A crew spends about 30 minutes to 2 hours in a station for every scheduled preventive maintenance visit.

The Venice Pumping Plant has a control center with access to SCADA at all pump plants. The SCADA system is programmed to perform performance trending for pump plants. The Venice Pumping Plant is staffed 24/7 enabling the City to immediately respond to pump plant alarms.

4.2.8 Work Scheduling and Tracking

Each maintenance program has a master schedule and tracks work in a separate database. The master schedule is migrated to the EMPAC system so that crews and contractors may be scheduled via work order. Once the work has been performed, all pertinent information is entered into EMPAC, and each program updates its database with any findings that would impact future scheduling and need. Each master schedule is developed on an annual basis, so that adequate resources are available to perform the work. The annual schedules are updated throughout the year to account for new work.

4.3 Training

City staff are trained in a number of functions related to wastewater system management including safety, equipment operation and standard operating procedures (SOPs), overflow response and mitigation, emergency management, cross-training, and professional development for wastewater professionals (certifications). Training is provided in both a classroom setting, and through on-the-job, hands-on training. Training is facilitated by both City staff and through outside training workshops. Most internal functional and safety training is provided through LASAN's Industrial Safety and Compliance Division (ISCD). New training courses are added and existing courses are modified to stay current with the rapidly changing technology and requirements, including computer-aided and online training. Training records are maintained in a training information management system, used to monitor completed classes and to schedule employee training on appropriate frequencies to keep skills current and meet certification requirements. Table 4-1 summarizes the training provided to staff for operation and maintenance of the sewer system.

The City identifies training needs for staff development in its annual budget and provides adequate funding for tuition reimbursement. The City also maintains an online library of self-improvement training courses and encourages self-training. Contractors are required to demonstrate proficiency in meeting the City's standards and specifications, and for eliminating construction-related overflows.

Table 4-1: Summary of Training Program

Training Type	Description	Recurrence
General Order Requirements	Training on General Order requirements incorporated into onboarding and annual spill emergency response training provided to all staff operating and maintaining the sewer system.	On-boarding for new employees, annually for all staff
Spill Emergency Response and Spill Volume Estimation	All crews responsible for responding to sewer spills receive training on response and reporting protocols, and volume estimation methods. Re-training is provided when significant updates to standard procedures are made. Tailgate and tabletop exercises for major/regional events are held periodically.	On-boarding for new employees, annually for all staff
Electronic CIWQS Reporting	The primary method for electronic CIWQS reporting training is through on-the-job training with experienced data submitters showing new data submitters how to enter reporting data. Staff are also utilizing training videos available on SWB website/	As-needed
Safety	Safety training is integral to City's training program. All staff receive formal classroom training on important safety topics (e.g. confined space entry; hazardous materials management). Crews are not allowed to begin work until proficiency is demonstrated. Ad hoc training on a variety of topics is performed via "tailgates".	On-boarding for new employees, scheduled tailgates and refreshers

Table 4-1: Summary of Training Program

Training Type	Description	Recurrence
Equipment	Crews are initially trained in the proper operation and maintenance of all new major mobile equipment and facilities by the contractor/manufacturer. Written operation and maintenance manuals are used as resource material for initial start-up training as well as new staff training. ISCD is responsible for providing operational training on sewer cleaning equipment.	As needed
SOPs	On-the-job and classroom training for standard operating procedures is provided for the following functions: Nozzles and applications	Annual
Emergency Management	ISCD prepares employees to respond to major emergencies and disasters and has established an operation center and emergency response teams. Emergency training exercises are conducted and documented annually.	Annual
Technology	Information Systems staff visits field staff to perform training for new hires and for all staff when major updates occur. Training documents have been developed and are available for staff through supervisors.	Roll-out and major updates (as needed)
Cross-Training	On-the-Job cross training is actively pursued to ensure that staff has a proficient working knowledge of their tasks and subtasks. City Staff is cross-trained so that critical tasks can be performed without interruption when assigned crew members are not available.	As needed
Certifications/Professional Development	All new staff must be certified level 1 or 2 by the California Water Environment Association for collection system maintenance within 36 months of hire. Studying is done on the employee's time, although the City process seminars and internal training geared toward the test.	On-going continuing education credits, continued training to advance
FOG Inspection	Training consists of a comprehensive series of courses designed to provide inspectors with specific skills and knowledge necessary for their duties. Training is enhanced with presentations conducted by staff who continually research and develop new training materials. Staff also routinely attend and present at seminars and specialty conferences. The City also acquires training presentations by vendors. Inspectors are also trained on FSE inspection Standard Operating Procedures (SOPs).	As needed

4.4 Equipment and Replacement Part Inventory

The City maintains an electronic inventory of equipment, replacement parts, and supplies and follows a structured process to maintain an up-to-date inventory of equipment and

replacement parts. The City has a procedure for pre-qualifying manufacturers and equipment vendors and for sole-sourcing when necessary to standardize equipment and parts. This additional procurement option reduces inventories, simplifies procurement procedures, and reduces training and operation & maintenance costs.

4.4.1 Equipment and Replacement Part Inventory

Parts needed for preventive maintenance are identified ahead of time for each maintenance task and secured prior to the start of preventive maintenance tasks. Repair and replacement of underground pipelines are contracted out to licensed contractors who have the equipment, materials and staff to complete the work. An inventory of non-critical pumping plant parts and equipment is stored either onsite or in a centralized location. Equipment needed to perform maintenance tasks, such as cleaning nozzles, are maintained by city staff, inspected regularly, re-built when necessary, and replaced according to a set schedule, depending on the equipment type.

4.4.2 Critical Spare Parts

Redundancy is provided for key pumping plant equipment and most pumping plants have backup power and replacement parts onsite to minimize the risk of a complete shut-down. As a backup, managers have credit authority to purchase needed materials and supplies from local vendors of non-stock items when they are critically needed. There has been little need to purchase parts through this means, which attests to the City's advance preparation and readiness. The City also maintains equipment such as sump pumps, portable generators, traffic control and night lighting systems, in a ready state for immediate deployment in an emergency. This is equipment is stored both at locations throughout the City and in centralized locations within each zone.

References for Further Information

- CCTV Inspection Manual
- FAST User Manual
- NavigateLA User Manual

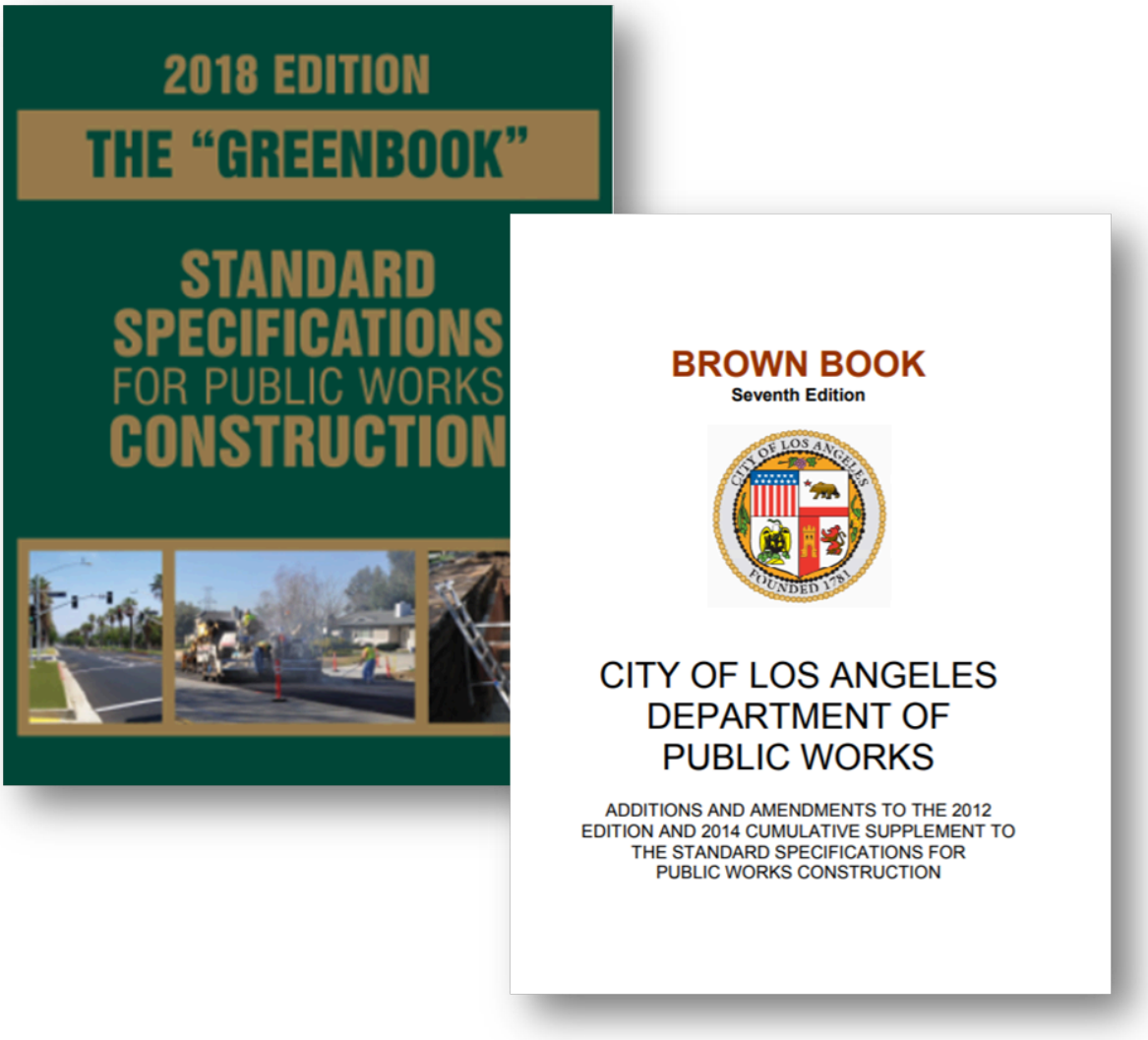
5 Design and Performance Provisions

5.1 Design and Construction Standards and Specifications

New and rehabilitated conveyance pipelines and pumping plants are planned, designed, and constructed to meet the highest performance standards in the industry in accordance with the City's standards and specifications. These are comprised of:

- Sewer Design Manual. The Manual contains criteria for planning and design of new gravity sewers, pumping plants, force mains, and appurtenances; and for the rehabilitation of existing assets. It includes sections on:
    - Flow projections and sewer hydraulics
    - Sewer alignments
    - Sewer materials and structures
    - Planning and design for sewer rehabilitation and replacement
    - Sewer construction
    - Pumping plants and force mains
    - Collection system operation and maintenance
- Standard Plans: standard designs for rehabilitation and replacement of collection system assets. Contractors are expected to utilize these standards where possible and must receive approval for deviations.
- Construction Manual: specifies standards for estimating, change orders, and other processes related to construction management.
- Approved Products and Materials Lists: provides a list of approved sewer pipeline materials, structure materials, sewer rehabilitation materials, and miscellaneous products, as well as procedures for pre-qualification testing of new materials.
- "Green Book" Standard Plans for Public Works Construction, and the Special Provisions Guide for use with the Standard Specifications for Public Works Construction: provides standards and specifications for construction in Southern California, produced under the oversight of Public Works Standards Inc.
- "Brown Book": contains a set of amendments to the Green Book for areas not addressed, such as pumping plant design.

Figure 5-1: Green and Brown Book Manuals

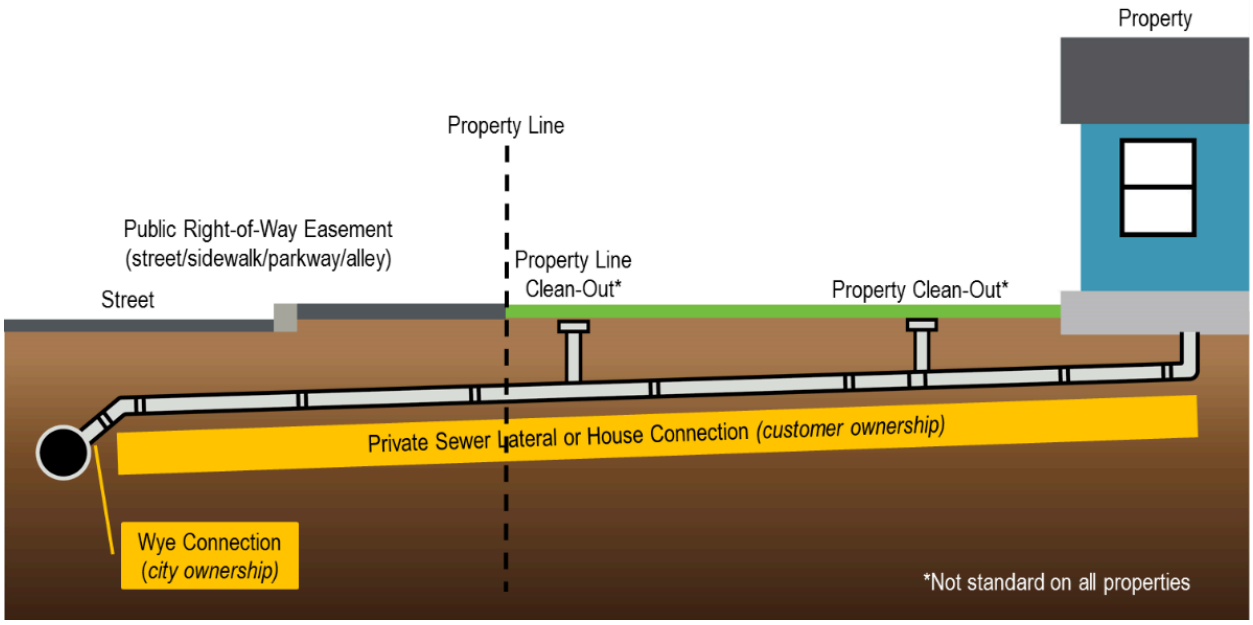


All system components are designed to meet permit requirements of the various federal, state and local agencies. In addition, environmental documents are prepared to comply with the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), or both as appropriate. This process ensures that projects benefit from the input of all affected and interested parties including the communities. Standard Plans are used to provide consistency and quality in design. Complicated connection, diversion, and transition structures are modeled in the City's hydraulic research laboratory to ensure that each structure will perform equal to or better than designed. Modelers work closely with designers to optimize performance.

Finally, LABCA provides constructability reviews of sewer, pumping plant, and force main designs. All City designs are independently reviewed before they are signed by the City Engineer. Emergency repairs are conducted according to the "Green Book" standards. Specifications for larger diameter sewers are tailored to meet the unique project needs.

The standards for private sewer laterals, also known as House Connections in the Los Angeles Municipal Code, are specified by the Department of Building and Safety through the Uniform Plumbing Code. The City constructs a wye connection to the public mainline sewer for each House Connection and is responsible for connecting a House Connection to the public mainline sewer. The House Connection is privately owned from the home or business to the connection with the mainline, including the portion of the House Connection within a public right-of-way (i.e., under a street) as shown in Figure 5-2.

Figure 5-2: Sewer Lateral Responsibility



5.1.1 Updating Standards and Specifications

The LABOE Wastewater Conveyance Engineering Division (WCED) is responsible for maintaining and updating the City's design standards and specifications. The City encourages users of the Sewer Design Manual and Standard Plans to critique and provide feedback on the guidelines and standards for consideration in future updates. In addition, LABCA provides recommendations to LABOE for modifying the standard details and master specifications for construction projects. CWNCD and CWSCD provide input for improved performance of system components based on experience gained in operation and maintenance. Proposed changes to the criteria and the Standard Plans are evaluated thoroughly before they are adopted.

As new products and methods are introduced, they undergo a thorough review and evaluation by the "Green Book" Committee, a group of public works officials in the Southern California area that is dedicated to high performance construction materials and standards. The "Green Book" Committee is a clearinghouse for the review of new products and construction methods. It develops standard specifications that become part

of the “Green Book.” The City supports this committee and references applicable “Green Book” specifications as appropriate for the construction of new and rehabilitation sewer projects. Every two years, the City conducts a formal review of its standards and specifications and makes specific modifications to the Brown Book to incorporate anything relevant to the City that is not included in the Green Book.

5.1.2 Construction-Related Overflow Prevention

In a determined effort to reach the City’s goal to have no preventable dry weather overflows, LABOE, LABCA, and LASAN issued a “Joint Statement of Policy Pertaining to the Prevention of and Response to Construction Contract-Related Sewage Spills.” The policy states the responsibilities of each bureau in overflow prevention, response, reporting, public information dissemination and follow up. The policy requires, among other provisions, coordination among the bureaus in pre-design reviews to determine appropriate means for preventing overflows and to determine appropriate flow control requirements during construction to be included in the bid and contract documents. The Policy further requires that flow control requirements be explained to potential bidders at the pre-bid meeting. The contractor is required to provide an Emergency Response Plan (ERP) for controlling sewage flow during construction. LASAN reviews and approves the Contractor’s ERP prior to the start of construction. The policy also requires a sign-off for private development projects by LASAN.

A map of all sewer construction projects is continuously updated by LABOE. Contact information for each ongoing construction project, including the names and contact information of the inspector, the inspector’s supervisor, and contractor’s contact person, is prepared by the LABCA and forwarded to LASAN’s CWNCD and CWSCD.

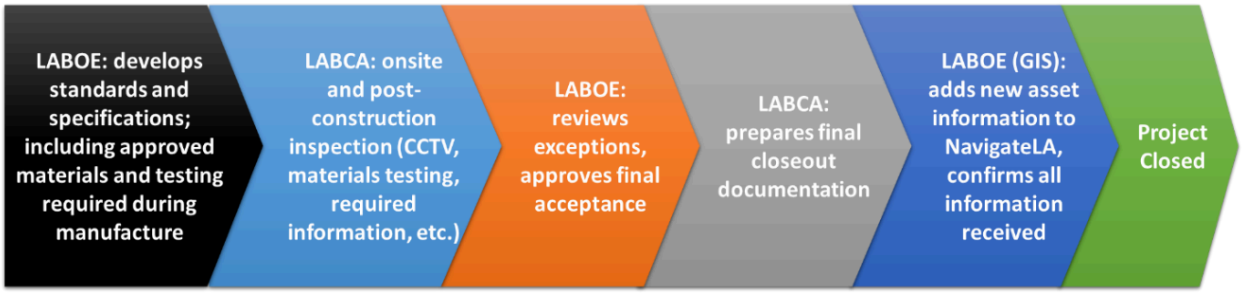
The LABCA inspector is responsible for communicating the City’s “no-spills” policy and project plans and specifications to the contractor, enforcing the plans and specifications, and ensuring the contractor responds appropriately in case of emergencies. The inspector is required to explain the City’s “no-spills” policy to the contractor, remind them of their responsibility to prevent overflows, and respond with quick mitigating action if an overflow does occur. LABCA form M-159, Sewage Spill Prevention Preconstruction Meeting Check List, covering the bypass plan and implementation and ERP is discussed during the pre-construction meeting with the contractor. The contractor is required to sign the checklist and agree to comply with the plans. A City inspector is on site during sewage bypasses.

5.2 Procedures and Standards for Inspecting and Testing System Improvements

LABCA performs inspection on all rehabilitation and new collection system construction contracts. Written inspection procedures are followed to ensure that collection system facilities and components are built to conform to the plans and specifications. Inspections are conducted both on the jobsite and at material fabricators during manufacture and testing. For example, during a cured-in-place re-lining project for a gravity main, a BCA inspector is on site during construction to ensure that the proper methods for installation are followed. They also do follow-up testing after installation to ensure the specifications

are met before work is accepted. The LABCA coordinates its work with the design engineers to ensure the intent of the design is met. The City does not accept the installed components until they pass all required performance tests and a field acceptance from the LABCA final inspector is issued. If something is not accepted or a test is failed, the LABCA notifies the overseeing engineer to resolve the issue. New or rehabilitated system components are placed into service upon certification by the BCA's inspectors that they have been installed in accordance with plans and specifications, and all necessary asset information has been received by the contractor.

Figure 5-3: Process for Inspection, Testing, and Approval



For emergency repairs (address severe environment or human health threats), some standards may be waived in order to resolve the problem. An engineer is onsite at all times while the repairs are made, and must approve any deviations from the standard. Contractors that perform emergency repairs are pre-selected from a list of sewer contractors, and so are familiar with the City's standards and specifications. The City also has standard plans that can be used for emergencies, with project-specific modifications.

5.2.1 Asset Information Requirements

Within the last two years, the City has changed its requirements for final delivery of asset-related information. Before a project can be accepted, the contractor must:

- Provide as-builts in CAD format
- Include O&M manuals, spare parts inventory, etc. in delivery
- All asset attribute information, which are specified to the contractor so they may be input into the City's GIS
- Upon receipt of this information and verifying completeness, the GIS group signs off on the standard acceptance form before the project may be closed.

References for Further Information

- City of Los Angeles Design and Construction Manuals, Standards and Specifications (*http://eng2.lacity.org/techdocs/index.htm*)
- City of Los Angeles, Bureau of Engineering, Sewer Design Manual (*http://eng2.lacity.org/techdocs/sewer-ma/index.htm*)

- City of Los Angeles, Department of Public Works, Bureau of Engineering, Standard Plans (*http://eng2.lacity.org/techdocs/stdplans/index.htm*)
- City of Los Angeles, Department of Public Works Approved Lists, Construction Materials and Product Suppliers for the Public Right-of-Way (*http://eng2.lacity.org/techdocs/product_material/Product_materials.htm*)
- *City of Los Angeles, City Uniform Plumbing Code, Latest Edition (http://library.amlegal.com/nxt/gateway.dll/California/lamc/municipalcode/chapterixbuildingregulations/article4plumbingcode?f=templates$fn=default.htm$3.0$vid=amlegal:losangeles_ca_mc$anc=JD)*
- Building News, "Standard Specifications for Public Works Construction," (referred to as the "Green Book"), Anaheim, California, Latest Edition
- City of Los Angeles, Department of Public Works, Brown Book, 7th Edition (*http://eng2.lacity.org/brownbook/frame.cfm*)
- Building News, "Public Works Inspectors' Manual," Anaheim, California, Latest Edition

6 Spill Emergency Response Plan

6.1 Proper Notification Procedures

CWNCD and CWSCD maintain the *Response and Reporting Procedures for Spills and Sewer or Stormwater Contamination* included in Attachment F1. These procedures ensure that all permit and regulatory requirements are met.

6.1.1 Spill Notification

The City encourages citizens to report overflows to LASAN. Customers may use the toll-free telephone number “311” or (213) 773-CITY to report spills and other sewer problems. Staff is available 24 hours per day, seven days per week to receive calls. The appropriate phone numbers are listed in local phone directories and posted on the bureau’s web sites. Additionally, anyone with access to the internet can go to the “myla311” webpage and create a general service request. Calls to the Fire Department (LAFD), Police Department (LAPD), 911, and directly to LASAN departments are relayed to CWNCD and CWSCD. Calls relayed to CWNCD and CWSCD during after-hours are forwarded to the On Duty Operator at Venice Pumping Plant.

6.1.2 Receipt of Notification

During working hours, a 311 operator uses a layer in NavigateLA to determine where to direct the call and forwards the call to the appropriate district yard. Each yard is staffed by a clerk to receive calls during working hours. Each yard’s direct telephone number is published on LASAN’s website, and yard clerks may receive calls directly. During after-hours, all 311 calls or calls directly to a yard are automatically forwarded to the Venice Pumping Plant to ensure that none are missed. Notification of possible spill through other sources are reviewed and manually routed to the Venice Pumping Plant. A responder is dispatched to verify the overflow. (In the event an overflow is not verified, either CWNCD or CWSCD notifies WPD Enforcement that other pollutants have spilled or that the spill does not involve the City’s wastewater collection system. WPD Enforcement performs an investigation and reports to management.)

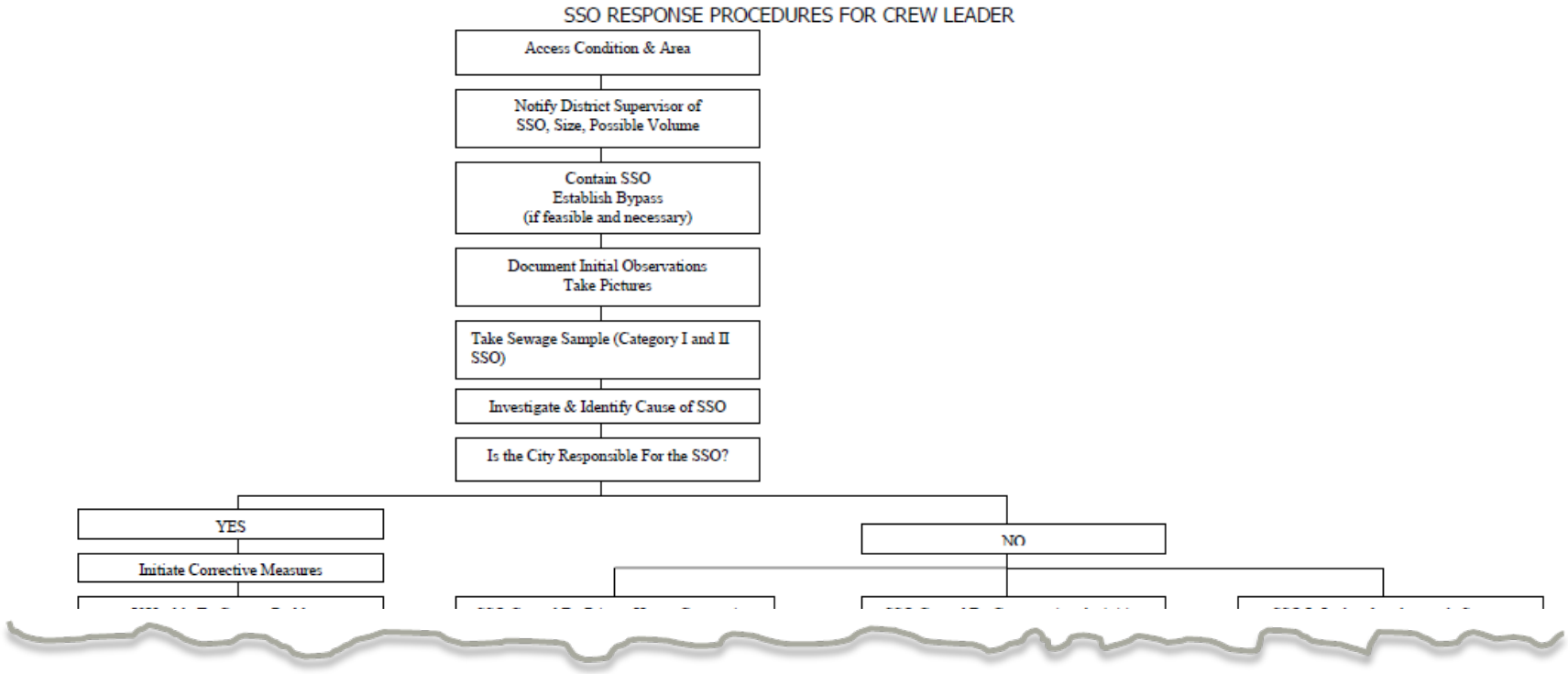
6.1.3 Notification of Internal and External Parties

Once verified, the lead operating division for the spill event (CWNCD or CWSCD) notifies all appropriate internal and external parties in the chain of communication, regardless of volume or potential impact. The chain of notification is documented in detail in LASAN’s *Response and Reporting Procedures for Spills and Sewer or Stormwater Contamination*. A snapshot is shown in Figure 6-1. When a spill is due to private construction activities, the construction contractors and City inspectors are required to report the spill to LASAN immediately.

Immediate notification to appropriate parties is required for all sewer spills that enter waters of the state such as ocean and waterways. For the purposes of reporting to the

Health Officer, the term immediate is defined as within 15 minutes of the knowledge of a spill event. Immediate notification is made when a spill results in a direct discharge into the waters of the State and/or when CWNCD or CWSCD personnel determine that a spill could potentially reach the waters of the state based on their knowledge of the sewer and storm drain infrastructure. Notification to the Health Officer and the RWQCB must occur within two hours of the knowledge of a spill event for all other events. In addition, other agencies must be notified depending on the size and impact of the spill. A contact flow chart and contact list is included in LASAN's *Response and Reporting Procedures for Spills and Sewer or Stormwater Contamination, Latest Edition, Appendix A Sanitary Sewer Overflow Sampling Protocol*.

Figure 6-1: Snapshot of Spill Response Workflow in *Response and Reporting Procedures for SSOs and Sewer or Stormwater Contamination*



6.2 Appropriate Response Program

The City's *Response and Reporting Procedures for SSOs and Sewer or Stormwater Contamination* require full, immediate, and appropriate attention and response to a spill with the ultimate goal of minimizing impacts to public health and safety and the environment. It is the City policy that "Every reported sewage spill affecting public or private property within the City of Los Angeles shall be acted upon by the Division." Telephone calls to report spills or other maintenance problems are answered 24 hours per day, 7 days per week. Crew leaders are immediately notified upon receipt of a reported potential sewer spill and are instructed to respond immediately. Written procedures are provided for assessing the spill, notifying supervisors, documenting the spill, estimating the volume of the spill, sampling and laboratory analysis, posting warning signs and following up.

The highest priorities are to contain the spill and minimize, if not prevent sewage from reaching the storm drain system, and to minimize or eliminate exposure to the public and impact on public health. LASAN's procedures are designed to protect public health and safety, meet all regulatory reporting requirements, and ensure immediate and effective response. Spill response procedures require responders to:

Contain: Contain the spill and establish bypass if feasible or necessary. The respondent is to first determine the direction of the of flow of sewage, then implement immediate containment methods, which include plugging storm drains using sandbags, plastic sheeting, and/or other means to contain the spill, whenever appropriate. Additional containment measures include containing/directing the spilled sewage using dike/dam, sandbags, or earthen berms in landscaped or undeveloped areas.

Restore flow: Respondents should use appropriate cleaning tools such as flushing or rodding to clear the blockage, cleaning in the upstream direction from a set-up downstream of the blockage. While cleaning, the respondent should observe the flows to ensure that the blockage does not recur downstream. Standard operating procedures for cleaning include procedures for blockage trapping and removal. If the blockage cannot be cleared or requires construction repairs, the respondent is to initiate additional containment measures and/or bypass pumping.

Bypass, if needed: If bypass pumping is required, it should be set up to pump around the blockage/pipe failure to convey the wastewater to the nearest downstream maintenance hole or facility.

To ensure the fastest possible response, the closest crew to a reported spill is dispatched to respond. The first responding crew will set up immediate containment measures and, upon assessing the spill, may notify a supervisor if more people or equipment is needed. The first responding crew will work to break the blockage and restore flow while a second crew is en route, if a second crew was requested. Bypass pumps, extra materials and equipment, sandbags, etc. are located at maintenance yards around the city. If necessary, LASAN will coordinate with neighboring agencies to expedite spill containment and recovery.

Depending upon the location of the spill, LASAN performs the following activities:

6.2.1 Hard Surface Areas

Take reasonable steps to contain and vacuum up the wastewater and return it to the wastewater collection system. Collect all signs of sewage solids and sewage-related material either by hand or with the use of rakes and brooms. Wash down the affected area with high pressure water using nozzles on the hydro-vac units and vacuum the wash water using the hydro-vac units. Allow area to dry. Repeat the process if additional cleaning is required.

6.2.2 Landscaped and Unimproved Natural Vegetation

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

6.2.3 Natural and Man-Made Waterways

Notify the appropriate staff or corresponding system owner in the event a spill impacts any storm drain infrastructure or waterways. Clean the spill area and drainage conveyance system in a manner that does not inadvertently impact beneficial uses in the receiving waters. Contain contaminated creeks where feasible. Remove all contaminated water by pumping to the collection system or vacuuming by means of vacuum truck and return all collected water to the sewer system. Introduce additional wash water as needed to flush contaminated areas towards the containment area. Construction contractors are required to have an approved sewage flow bypass system and Emergency Response Plan in place prior to start of construction. Contractors are instructed to take immediate action to stop any spill. These are discussed at the pre-construction conference and enforced by LABCA.

6.2.4 Equipment and Procedures for Implementing New Technologies

LASAN has at its disposal a wide range of state-of-the-art specialized equipment that is used to support responding to sewer spills. This includes hydro-vac trucks equipped with high-pressure jet nozzles as well as high volume vacuums. Bypass pumping equipment is also available for use in the event of a sewer blockage. In addition to its current equipment, LASAN continually explores additional equipment by employing a structured procedure to implement new technologies aimed at improving spill response. First, a need is identified, where a pilot program may be initiated. These pilot initiatives evaluate the technology's performance, reliability, and integration with existing systems. If successful, the next step involves determining the broader applicability and scalability of the technology. Should the pilot demonstrate broader utility and benefits, efforts focus on

securing necessary funding to support full-scale implementation. This procedural approach ensures that new technologies are tested, validated, and integrated into the City's operations.

6.2.5 Procedures for Prompt Notification of Spills Potentially Affecting Public Health

LASAN's *Response and Reporting Procedures for SSOs and Sewer or Stormwater Contamination* outlines notification steps following an overflow. Notification depends on the severity and potential impact of the spill. All sewer spills that enter the waters of the state such as ocean and waterways must be reported immediately. For the purposes of reporting to the Health Officer, the term immediate is defined as within 15 minutes of the knowledge of a spill event. Immediate reporting is made when a spill results in a direct discharge into the waters of the State and/or when the CWNCD or CWSCD personnel determine that a spill could potentially reach the waters of the State based on their knowledge of the sewer and storm drain infrastructure. The Reporting Procedures also require internal chain of command notification within 30 minutes. All other spills must be reported to the Health Officer and the RWQCB within two hours of knowledge of overflow event. In addition, immediate notification of the public, health agencies, and others of spills "that may imminently and substantially endanger human health" is required. For example, schools that may be impacted must be notified so that staff and students can stay away from the affected area. If there is a potential for beach closure, the LASAN Assistant Director must be notified within 1 hour, and in turn make the appropriate notifications to the Board of Public Works, Mayor's Office, affected Council Office, and Heal the Bay. Initial notification includes posting warning signs and barricades as necessary by the responding crews. Appropriate agencies and impacted entities are notified in accordance with City procedures. Other notifications are required for specific areas and are identified in the Procedures. Finally, procedures are provided in the event that a spill is verified, but it is not the responsibility of the City. In all cases, crews will continue to contain and bypass as necessary until relieved by a Supervisor.

Construction contractors are required to take immediate measures to mitigate and report spills as soon as they are discovered. The Department of Public Works' LABCA inspectors report construction-related spills to LASAN and document the time, location, cause, estimated quantity, and any impact of the spill, and take mitigation measures as needed.

6.2.6 Notification List

LASAN's *Response and Reporting Procedures for SSOs and Sewer or Stormwater Contamination* includes a comprehensive contact and notification list. The notification lists are updated to keep names and positions current.

6.3 Emergency Response Plan and Appropriate Staff Training

The emergency response plan is clearly documented and available to all personnel. It is used as a resource in emergency response training. All wastewater operation and maintenance staff are trained on emergency response procedures at least annually. Additional training is provided if reporting requirements or response procedures are updated. New employees receive this training as part of their orientation and this training is reinforced during tailgate training sessions. Construction inspectors are also trained in emergency response procedures. The City emphasizes its goal to have no construction-related overflows during pre-bid and pre-construction meetings. Construction contractors are required to submit and obtain approval of all flow bypasses and emergency response plans prior to the start of construction.

6.4 Emergency Operation Procedures

LASAN has developed and implemented an advanced and comprehensive spill prevention, response and reporting program. These include timely reporting to the impacted agencies and stakeholders, computer templates for estimating spill volume, and follow-up CCTV inspection to accurately determine cause and prevention methods. Field crews are trained in flagging and traffic control, and follow procedures identified in the Work Area Traffic Control Handbook (WATCH) manual. Section 2.07 documents traffic control, which is set up depending on the location and nature of the spill. The WATCH manual was updated in 2024, and all staff are required to be trained on and understand the manual. Additionally, section 5 of the *Response and Reporting Procedures for SSOs and Sewer or Stormwater Contamination* include the posting of community warning signs and barricades if necessary.

Adequate staff is placed on standby status to supplement existing staff as needed or respond to an emergency after hours. The City maintains a list of pre-qualified on-call contractors who provide specific equipment, materials, and crews to the City in emergency operations. Operation Staff at the Venice Pumping Plant constantly monitor the status of the remote pumping plants and are authorized to dispatch standby personnel as necessary. In addition, the City's Police Department, Fire Department, and Department of Transportation can be utilized to assist in emergency situations. The LASAN conducts tabletop exercises to simulate a multi-agency response to major sewer emergency. Section 6.1.13 of the *Response and Reporting Procedures for SSOs* includes steps to notify ISCD to support multi-agency response coordination.

6.5 Containment and Prevention Program for Discharges into Waters of State

The City seeks to protect public health & safety and the environment through the implementation of all Federal and State laws, standards, and orders applicable to untreated wastewater. Through a comprehensive and systematic program of cleaning, condition assessment, repair, and upgrade of its collection system, the City controls the discharge of untreated and partially treated wastewater into receiving waters such as

ground water, streams, and rivers by minimizing the number of spills that occur in the first place.

When a spill occurs, the highest priorities are to contain the spill and minimize, if not prevent, the spill to discharge into the storm drain system, and to minimize or eliminate exposure to the public and impact on public health. LASAN's *Response and Reporting Procedures for SSOs and Sewer or Stormwater Contamination* provide guidance to the crews in order to accomplish this objective through an array of methods for containment along with the use of staff's best judgment.

To prevent spills from entering storm drain systems, LASAN utilizes asphalt patching to create berms to protect storm drain inlets and can block storm drain outlets with containment plugs to prevent spills from going further into the conveyance system. When spills do enter storm drain conveyance systems, LASAN will trace the downstream network and proceed to contain the spill and begin removal of sewage. If the spill occurs in a drain conveyance system not owned or operated by LASAN, the corresponding system owner will be contacted, and coordination will take place while the containment and removal of sewage occurs. A comprehensive investigation is performed for each spill event to diagnose cause and take remedial measures to prevent and mitigate similar future events. When Category 1 spills occur, the City is communicating with the Regional Board on the monitoring of impacts, remedial/cleanup measures, and corrective/preventive actions taken.

Furthermore, the City has ongoing public outreach and education programs on untreated or partially treated wastewater, its health risk and impact to the receiving waters.

The City's response and containment have proved very effective in protecting public waterways and the environment. In most cases, 80 percent or more of spill volume is recovered during containment.

6.5.1 References for Further Information

- Bureaus of Engineering, Contract Administration and Sanitation; "Joint Statement of Policy Pertaining to the Prevention of and Response to Construction Contract-Related Sewage Overflows."

6.6 Operations Handbook Procedures

LASAN has create the Operations Handbook, a library of procedures available electronically to Clean Water North and South Conveyance Division field crews. The library includes *Response and Reporting Procedures for Spills and Sewer or Stormwater Contamination* provide procedures specific to sewer spill response. The library also includes other general procedures relevant to spill response, including communication protocols during emergency events and protocols for stormwater structure cleaning.

6.7 Annual Review and Update

Annually, LASAN will review and assess effectiveness of the *Response and Reporting Procedures for Spills and Sewer or Stormwater Contamination*, and update the Plan as needed.

7 Sewer Pipe Blockage Control Program

7.1 Program Overview

In July 1997, the City launched a study to assess the impacts of excessive FOG (FOG) discharges on its collection system. The study was intended to identify the sources of FOG discharges into the system and recommend measures to control FOG and minimize related sewer blockages and overflows in a cost-effective manner. The study revealed that, at the time, approximately 50 percent of all spills were caused by FOG. Major FOG contributors were food service establishments (FSEs), residential dwellings and non-profit organizations involved in food processing or preparation.

The study recommended the establishment of a grease control program that included a more aggressive preventive maintenance program, more extensive sewer inspection and cleaning, and the implementation of a source control program that would restrict the amount of grease from various sources.

Following an extensive outreach to and in partnership with the City's approximately 10,000 FSEs, a FOG Control Program was developed. The following are the principal elements of the program:

1. Source Control
2. Sewer Cleaning
3. Community Outreach and Education

Effective August 5, 2001, the City Council enacted the FOG Control Ordinance (Number 174,047). This Ordinance amended the Los Angeles Municipal Code Section 64.30 and the Board of Public Works' (Board) Rules and Regulations Governing Disposal of Industrial Wastewater into Publicly Owned Treatment Works (POTW) of the City of Los Angeles (Rules and Regulations), included as Attachment C1.

As a result of these efforts, the City has since consistently achieved greater than 90 percent reduction in FOG-related sewer spills, from a high of over 290 spills in the baseline FY2001 and is averaging approximately 20 grease-related spills annually over the last 6 fiscal years.

7.2 Implementation Plan and Schedule for Public Outreach

Ongoing public and stakeholder education, outreach, and participation are one of the three pillars of the FOG Control Program. This includes outreach to both commercial and residential FOG generators. LASAN maintains an up-to-date website, www.lacitysan.org, which serves as an additional source of information to the food service industry and the community at large. A summary of the FOG Control Ordinance, BMP Guidebook for FSEs, and general information about eliminating FOG discharges into the collection system are provided.

7.2.1 Summary of Outreach Activities

LASAN performs the following outreach and educational activities:

- Educational videos and brochures on BMPs (BMPs) are distributed to FSEs (FSEs) in five languages: English; Spanish; Korean; and two Chinese dialects, Mandarin and Cantonese.
- The City currently staffs six “champions” to liaison with different industries (swimming pools, car washes, etc.); it is in the process of adding one for FOG. In the City’s Industry Newsletter, it features spotlights on different industries and their role in protecting the collection system.
- BMP pamphlets and door hangers are distributed to Los Angeles residents following a FOG-related spill in the area.
- Periodic education events are hosted throughout the year, including:
    - Sewer Science Program (educational outreach to kids on the function and workings of the collection system)
    - Holiday flyers and TV ads prior to the Thanksgiving and Christmas holidays
- LASAN hosts six safe disposal sites across the City for the safe disposal of grease.
- LASAN maintains an up-to-date website, www.lacitysan.org, which serves as an additional source of information to the food service industry and the community at large. A summary of the FOG Control Ordinance, BMP Guidebook for FSEs, and general information about eliminating FOG discharges into the collection system are provided.
- Various outreach materials include a description of prohibitions on non-FOG debris like flushable wipes and rags.
- Participation in conferences and expositions, and annual workshops to communicate FOG Control Program requirements to and obtain feedback from the general public, FSEs, and regulatory agencies.

Figure 7-1 shows some of LASAN’s outreach materials, which is produced in a number of different languages, and distributed at FSEs, to homeowners, and at outreach events.

Figure 7-1: Example Outreach Materials

7.2.2 Annual Plan and Schedule of Events, Spill Driven Activities

Outreach is conducted on both according to a planned schedule and on an ad hoc basis. Planned outreach is timed around FSE inspections. FOG inspectors visit each FSE to inspect grease traps and interceptors and check for any violations. At this time, they also provide educational material on BMPs. Newly permitted FSEs are also provided with material on BMPs. In addition, educational material is shared with residents every holiday season, and other sewer educational material that is shared at scheduled events contains information on FOG control. Finally, LASAN distributes door hangers and BMP pamphlets to homes in the area following a spill event. FOG inspectors also perform surprise inspections of FSEs approximately two blocks up and down of the spill event.

7.3 Plan and Schedule for Disposal of FOG within the Service Area

The City does not own or operate any FOG disposal facilities. The FSEs must, at a minimum, collect waste FOG and prevent its discharge into the collection system by implementing the following BMPs to reduce the amount of FOG requiring disposal:

- “Dry wipe” pots, pans, dishware and work areas prior to washing. Use rubber scrapers or paper towels to remove FOG from cookware, utensils, and serving ware.
- Use absorbent products to clean under fryer baskets and other locations where FOG may be spilled or dripped.

For waste FOG that is generated, it must be collected and stored properly in recycling barrels or drums. FSEs must use a licensed hauler or recycling facility to dispose of this waste.

LASAN provides FSEs with a list of licensed grease haulers and rendering companies. FSE must save receipts for the proper disposal, which may be requested during an FSE inspection by FOG inspectors. Currently, there are 14 approved grease haulers operating in the City.

7.4 Authority to Prohibit FOG Discharges and Identify Measures to Prevent FOG SSOs

7.4.1 Authority

The City's FOG Control Ordinance (Number 174,047) prohibits FOG discharges by FSEs and any homeowners or businesses that discharge to the collection system. *Element 0*

Legal Authority provides more detail on LASAN's legal authority to prevent and control FOG discharges through ordinance.

7.4.2 Preventative Measures

LASAN's measures for preventing FOG-related SSOs are two-fold:

1. **Outreach and Enforcement**: as described above, LASAN conducts both planned and ad hoc outreach to educate customers on what they can do to reduce or eliminate the amount of FOG (and other debris such as rags and flushable wipes) that get into the system. For FSEs, this includes regular inspections of their grease interceptors and traps. For those FSEs that are found to be out of compliance, enforcement actions can be taken to ensure any additional FOG does not get into the system.
2. **Sewer Cleaning**: LASAN has an aggressive cleaning schedule for the collection system to keep FOG from building up in pipes. All pipes up to 30 inches in diameter are cleaned on a set frequency, and pipes in known problem areas are cleaned at a higher frequency. As pipes are inspected and cleaned if they are found to contain FOG deposits, their cleaning frequency can be adjusted.

For FOG-related spills that do occur, LASAN implements *Referral and Enforcement Response Procedures for Fats, Oils, and Grease Discharges Resulting in a Sanitary Sewer Overflow,* included as Attachment G1*,* to mitigate the impact of spills resulting from blockages caused by FOG accumulation. These procedures also provide guidelines for investigating FOG-related spills and taking enforcement and corrective actions to prevent future occurrences.

7.5 FOG Program Requirements and Design Standards

Major provisions of the FOG Control Ordinance and its Rules and Regulations address requirements related to grease removal devices, specifically, installation, design

standards, maintenance, BMPs, and record keeping and reporting. They are summarized in the sections below.

7.5.1 Requirements to Install Grease Removal Devices

Installation of a grease interceptor(s) is required at all FSEs that have the potential to generate waste FOG unless a Conditional Waiver is granted, including: (1) FSEs that are to be newly constructed, (2) any existing non-FSE converting to an FSE, (3) FSEs with remodeling valued at $100,000 or more, and (4) any FSE deemed by the Director of LASAN, for example, any FSE that is known to cause FOG-related sewer blockages or overflows or fails to implement BMPs.

A grease interceptor is a plumbing device, with a minimum size of 300 gallons that is installed in an industrial wastewater drainage system to intercept and prohibit FOG from entering the collection system. If an FSE can demonstrate that installation of a grease interceptor is not feasible due to space constraints or other considerations, the Director may issue a variance from grease interceptor requirements and authorize the installation of alternative grease removal devices, such as a grease trap.

7.5.2 Design Standards for Grease Removal Devices

The design, construction, installation and testing of commercial kitchen grease interceptors or grease traps is determined by Section 94.1000 of the City of Los Angeles Plumbing Code. The Industrial Waste Control group also works with FSEs on a continual basis to accept feedback on the standards. As appropriate, it may change rules and regulations. For example, the requirement for a minimum 750-gallon grease interceptor has been reduced to a 300-gallon grease interceptor. FSEs must still be permitted, with the ultimate size reviewed and approved by LASAN's Industrial Waste Management Division.

7.5.3 Maintenance Requirements

FSEs must comply with the following requirements for the operation and maintenance of grease interceptors:

- Grease interceptors shall be maintained in efficient operating condition by periodic removal of accumulated grease including floating material, sludge and solids.
- Grease interceptors shall be cleaned at a frequency such that the combined FOG and solids accumulation does not exceed 25% of the total liquid depth of the grease interceptor.
- A logbook of grease interceptor cleaning and maintenance practices shall be maintained.
- Copies of records and manifests of hauled waste FOG or hauled interceptor wastewater shall be maintained in FSE files.

FSEs are also required to comply with the requirements for the operation and maintenance of grease traps as follows:

- Grease traps shall be cleaned on a daily basis.

- A visual inspection of grease traps shall be conducted on a daily basis to check for leaking seams and pipes and ensure effective operation of the baffles and flow regulating device.
- Grease traps and baffles shall be maintained free of all caked-on FOG and food waste.
- Removable baffles shall be removed and cleaned during the maintenance process.
- Grease traps shall be maintained free of all food residues and any FOG waste dislodged during the cleaning and scraping process.
- Any waste including FOG and solid material removed from the grease removal device shall not be discharged into the sanitary sewer.

7.5.4 Best Management Practices Requirements

LASAN's Rules and Regulations for Industrial Waste Control includes best management practices in Section 11 *FSEs*. Section 11.B contains 11 best management practices, which all FSEs are required to comply with as applicable.

Acceptable fulfillment of all requirements is subject to approval by LASAN. The specified BMPs are:

1. Dispose food waste directly into the trash or garbage and not in sinks.
2. Install drain screens on all drainage pipes. Periodically clean the screens and dispose screened solids into trash or garbage cans.
3. "Dry wipe" pots, pans, dishware and work areas prior to washing. Use rubber scrapers or paper towels to remove fats, oil and grease from cookware, utensils, and serving ware.
4. Collect waste cooking oil and store properly in recycling barrels or drums. Use a licensed hauler or recycling facility to dispose of this waste.
5. Use absorbent products to clean under fryer baskets and other locations where fats, oil and grease may be spilled or dripped.
6. Use water temperatures less than 140° F in all sinks.
7. Train kitchen staff and other employees to follow BMPs.
8. Post all applicable BMPs in the food preparation and/or dishwashing area.
9. Routinely clean kitchen exhaust system filters.
10. Observe proper grease trap or interceptor cleaning and maintenance procedures to ensure the device is properly operating.
11. Comply with other BMPs deemed appropriate by the Director.

These best management practices are provided to newly permitted FSEs, and are checked during routine, follow-up, and surprise inspections of FSEs.

7.5.5 Record Keeping and Reporting Requirements

Most FSEs are required to comply with the following record keeping and reporting requirements:

1. Maintain a logbook of grease interceptor or grease trap cleaning and maintenance practices.
2. Maintain copies of records and manifests of hauled waste FOG or hauled interceptor wastewater.
3. Maintain a record of any required self-monitoring reports or sampling data.

These records must be made available upon request to LASAN staff. Additional may be specified in an FSE's industrial wastewater permit; some requirements may also be omitted at the discretion of LASAN staff.

7.6 Inspection and Enforcement Program

7.6.1 Authority to Inspect Grease Producing Facilities

The FOG Control Ordinance provides LASAN with the legal authority to visit and inspect FSEs and monitor the implementation of BMPs. Section 64.30(C)(5) of the Ordinance specifies that whenever it is necessary to make an inspection to enforce any of the provisions of, or perform any duty imposed by this section or other applicable law, or whenever the Director has reasonable cause to believe that there exists upon any premises any violation of the provisions of this section or other applicable law, or any condition which makes such premises hazardous, unsafe, or dangerous, the Director or his/her designate is authorized to enter such property at any reasonable time and to inspect the same and perform any duty imposed upon the Director or his/her designate by this section or other applicable law. IWMD protocols for performing FOG inspections are documented in *Standard Procedures for FOG Inspections for Industrial Facilities*, included in Attachment G2.

7.6.2 Authority to Enforce

The FOG Control Ordinance also provides the authority to take enforcement actions for FSEs that are non-compliant with their Industrial Waste Permit. Enforcement actions can range from notices of violation and administrative orders to suspension of discharge privileges, permit revocation, water or utility service termination, and/or City Attorney referral for filing of civil/criminal charges. IWMD has developed an FOG Program *Enforcement Response Plan and Enforcement Response Guide*, included in Attachment G3, providing both a plan and implementation guidance for FOG program enforcement.

7.6.3 Resource Plan to Inspect and Enforce

There are approximately 10,000 FSEs in the service area of LASAN. LASAN IWMD is staffed appropriately to ensure that all of these FSEs can be inspected on a routine basis and on an ad hoc basis following spill events, and that new FSEs can be permitted and monitored for initial compliance before they are transitioned to the standard inspection frequency of once per year.

The following represents the standard inspection schedule for FSEs:

- New FSEs requesting an Industrial Discharge Permit are inspected and a permit specific to the FSE is issued.
- Newly permitted FSEs are inspected 30 days after initial inspection to ensure compliance, answer questions, etc.
- Routine inspections are conducted once per year for compliant FSEs. Inspections occur at a random time throughout the year to ensure that the inspection is not expected.
- In the event of a sewer spill, all FSEs within two blocks of the spill are inspected.

In order to achieve this inspection, schedule, the system area is divided into four zones with a Senior Compliance Inspector overseeing each zone. Eighteen inspectors are divided between the zones. After-hours inspectors inspect FSEs that are only open in the evenings.

Any non-compliance issues found by Inspectors are elevated to the FOG Engineering group for investigation and follow-up. Initial non-compliance typically results in a Notice of Violation issued to the FSE. An Enforcement Response Plan is developed for each FSE and usually includes a compliance meeting and follow-up inspections, which are performed by a FOG Engineer. Serious or chronic non-compliance can be elevated to a cease and desist order or administration hearing, which are both carried out by the Industrial Waste Control. As a last result, the City Attorney's office may deem the issue a public nuisance, issue fines, etc. All inspection and enforcement activities are tracked in LASAN's FOG Permitting Information Management System (PIMS) database.

7.7 Maintenance Program to Address FOG Issues

The maintenance program to address FOG and reduce FOG-related spills consists of two parts:

1. Identification of FOG accumulation and problems related to FOG
2. Maintenance of pipes subject to FOG accumulation

7.7.1 Identification of Specific Pipe Segments with FOG Accumulation Issues

Pipe segments with FOG accumulation are identified in three ways:

1. Routine CCTV inspections
2. Cleaning, which pulls back FOG and other debris visible by the cleaning crew

Findings from inspections and cleanings are used to adjust a pipe's cleaning frequency, so that pipes found to have accumulation can be cleaned more frequently to prevent build up that might cause a spill.

3. Spill event investigation and inspection

Spills caused by blockages from FOG are monitored for location and required cleaning frequency. All blockages are plotted on a GIS overlay map. Locations with a high number

of FOG blockages are given special investigation and cleaning status. Sewers prone to FOG accumulation or blockages are given high priority and cleaned more frequently in an effort to prevent FOG-related spills.

The process for adjusting the cleaning frequency of pipes is described in more detail in *Element 4 Operation and Maintenance Program*. Maintenance Program to Address Pipe Segments with FOG Accumulation Issues

LASAN uses cleaning of pipes to reduce FOG accumulation. Pipes with a history of FOG accumulation of FOG-related spills are cleaned more frequently than the system-wide cleaning frequency of one of three years. These pipes may be cleaned on a monthly basis, every three months, six months, etc., depending on the severity of the problem. Pipes with observed FOG deposits during inspection are cleaned immediately. All pipe segments, including “non-problem” sewers, are included in a routine preventive maintenance cleaning schedule of once every three years.

7.8 Implementation of Source Control Measures to Address FOG Issues

7.8.1 Summary of Source Control Measures

IWMD investigates potential source(s) of FOG waste through its permit program for FSEs. All FSEs are required to obtain an Industrial Waste Discharge permit and install grease control devices. This helps to prevent FOG waste from getting into the collection system. To verify compliance, FOG inspectors carry out inspections of FSEs to ensure they are in compliance with their industrial wastewater permit, comply with source control measures for all sources of grease, implement BMPs, and maintain their grease control device(s) as applicable.

As part of routine inspection activities, inspectors from IWMD provide information and training materials such as multi-language DVDs, BMP posters, an ordinance summary, lists of licensed grease waste haulers, and pretreatment equipment manufacturers.

7.8.2 Summary of Source Control Program Enforcement Measures

In the event an industrial discharger fails to comply with the requirements of the FOG Control Ordinance, IWMD takes immediate enforcement action to reduce the risk of FOG entering the collection system by applying one or more appropriate enforcement action(s). The enforcement actions available to the City of Los Angeles are outlined in an Enforcement Response Plan (ERP), and an individual ERP is developed for the non-compliant FSE. ERPs may include the following:

- NOV – A notice by certified mail or personal service which identifies the permit condition(s) violated, the circumstances surrounding the violation(s), and provides the FSE with an opportunity to correct the noncompliance on its own initiative.
- Within 10 days of the NOV, the FSE is required to conduct an investigation and submit a written response describing the cause of the violation, the actions taken to correct the violation or prevent future violations and the date those corrective actions will be completed.

- Telephone Assistance – A telephone call or verbal notification to an FSE official used to address violations, usually of a minor nature. All phone or verbal notifications are documented in the FSE's file.
- Conditional Waiver Revocation – IWMD personnel revoke the FSEs Conditional Waiver for cause and require an installation of a grease interceptor.
- Administrative Enforcement Order – An order that requires the FSE to cease a specific activity and implement corrective actions to permanently achieve and maintain compliance. An Order may be issued when an FSE fails to achieve compliance after a NOV is issued or when a pattern of noncompliance is observed.

The City may pursue civil and criminal penalties, as well as injunctive relief.

References for Further Information

- City of Los Angeles Municipal Code
- FOG Guide for Discharging Industrial Wastewater to the Sewer

8 System Evaluation, Capacity Assurance and Capital Improvements

The City has implemented procedures for system evaluation, capacity assurance, investment prioritization, and capital improvement planning. This section documents the procedures and activities for:

- Routine evaluation and assessment of system conditions;
- Capacity assessment and design criteria;
- Prioritization of corrective actions; and
- Capital improvement planning.

8.1 System Evaluation and Condition Assessment

8.1.1 Best Practices and New Technology

The City explores new technologies and best practices through industry contacts, conferences, vendors, or council members' input. The City's procedure to evaluate best practices and technology for system evaluation involves:

- Identifying a need
- Conducting a pilot for feasible options, and then
- Determining if the pilot has any further available use.

These pilot initiatives evaluate each technology's performance, reliability, and compatibility with existing systems. When a technology is proven to be successful, the next step involves determining the broader applicability and scalability of the technology. Should the pilot demonstrate broader utility and benefits, the technology is approved for expanded implementation for similar applications, when appropriate. If a strong business case exists for full-scale implementation, efforts are focused on securing funding and resources necessary for successful implementation. At this stage in the process, the City considers cost factors including the resources required to support successful implementation, business process updates, training and documentation, additional computational needs, cloud storage requirements, migration of historical data and models, and other critical factors.

8.1.2 Amount of System Condition Assessment

LASAN operates approximately 6,500 miles of sewer pipelines with plans to inspect collection system pipes on a 15-year cycle. The City is also performing higher frequency inspections on a subset of sewer pipes to monitor previously identified asset condition issues. A 15-year inspection cycle requires approximately 500 miles of annual inspection. The City's current annual sewer inspection capacity is approximately 600 miles per year consisting of a combination of internal and external sewer pipeline inspection resources. In some years, additional specialized inspection contracts enable the City to inspect and monitor the condition of an additional 40 miles of pipelines

annually. In any given year, the City has approximately 100 to 140 miles of excess CCTV inspection capacity to perform investigative inspections of emergency system issues and condition monitoring inspections of known system condition issues.

8.1.3 Inspection and Condition Assessment Prioritization

The City's current condition assessment prioritization methodology considers spill rate lineal density, groundwater inflow and infiltration, pipe age and material as the primary factors for sewer basin condition assessment prioritization. In the primary system, the hydraulic modeling efforts have identified high risk areas that are prioritized. However, based on the General Order the City must incorporate additional factors into condition assessment prioritization. These include areas that:

- Hold a high level of environmental consequences if vulnerable to collapse, failure, blockage, capacity issues, or other system deficiencies;
- Are located in or within the vicinity of surface waters, steep terrain, high groundwater elevations, and environmentally sensitive areas;
- Are within the vicinity of a receiving water with a bacterial-related impairment on the most current Clean Water Act section 303(d) List;

The City plans to develop and implement an approach to incorporate these factors into condition assessment prioritization by December 2027.

8.1.4 Inspection Methods

LASAN uses CCTV inspection as the primary means for collecting visual observations of system conditions. Historically, the City coded inspection observations using a unique sewer pipeline defect coding system the City developed in the 1990's. LASAN is planning to complete transition to using the standardized National Association of Sewer Service Companies (NASSCO) Pipeline Assessment Certification Program (PACP) defect coding standard to code visual observations by December 2027.

In some cases, the City will collect additional sewer pipe inspection data such as sonar and LIDAR on a case-by-case basis to support pipeline rehabilitation planning for larger diameter pipelines.

LASAN has piloted the use of untethered video cameras for system condition monitoring and is planning on incorporating this technology into on-going use. This technology uses an untethered floating platform to capture geolocated video and is designed for use in large diameter sewers. The procedure and plan for use of this technology will be developed by December 2027.

8.1.5 Condition Assessment

City staff review CCTV inspection videos and data for each pipe segments and assign a condition rating from A (Excellent) to E (Emergency Condition). Each segment is assigned an initial inspection rank by CCTV contractors (who are required to use the City's defect rating system) or City crews and entered into the CCTV sewer inspection database along with defect codes. Each CCTV video is reviewed again for quality

control. LASAN basin planners use the condition rating and defect observations to prioritize and select pipe segments for condition remediation.

The City's A to E condition rating program was developed specifically for its collection system. The City plans to continue using the A-E condition rating with NASSCO PACP defect coding once the transition to NASSCO PACP is complete. The A to E condition rating will continue to be used as a means of prioritizing pipes for renewal by the severity of their condition; LASAN will assign NASSCO PACP defect observations with an appropriate A to E rating.

Most pipe segments selected for condition or capacity remediation have visual or CCTV inspection data to inform construction activities. Pipes that do not have condition data are typically larger diameter, older pipes with numerous curves. For purposes of basin planning, LASAN uses a Risk Assessment Management System (RAMS) algorithm to predict system condition when condition data is not available. This algorithm relies on available condition data for pipes in a similar location or with similar characteristics, hydrogen sulfide levels, and age, material type, and other attribute information to predict condition.

8.1.6 Inspection and Assessment Recordkeeping

The City follows detailed record keeping of all system evaluation and condition assessment. The City currently stores CCTV data in the City's CCTV database and all CCTV videos are stored on a server. An internal quality assurance and quality control review team reviews all CCTV data and videos provided by contractors. The Planning team then reviews, assesses and analyzes inspection data to determine recommended condition remediation actions to incorporate into basin planning reports. For the primary system, the Primary Sewer Basin Plans document the procedures used to assess the hydraulic condition of the City's larger diameter pipelines and outfalls. If there are operational issues that hydraulic models haven't predicted, these are reviewed, and necessary documentation is followed. For the secondary system, the Secondary Sewer Basin Plans detail the review process conducted for recommending pipe upsizing, improvements, or additional monitoring.

8.1.7 Assessing Assets Vulnerable to Climate Change

The City has also begun to incorporate resilience and climate change information into its analysis. The City's GIS department has developed a climate resilience data analysis tool that supports evaluation of system assets potentially affected by climate change factors such as liquefaction, coastal flooding, and sea-level rise. The City has evaluated the impact of sea-level rise on pumping plants and storm intensity is being modeled dynamically to show variations in timing, velocity, and depth. The City also analyzes how power disruption at pump station could affect overall collection system operation, and has identified components vulnerable due to power outages. Based on this analysis, the City has installed back-up generators to provide redundancy in the event of a power outage.

8.2 Capacity Assessment and Design Criteria

8.2.1 Monitoring for Hydraulic Deficiencies

LASAN identifies current and predicted hydraulic deficiencies of system components through an ongoing flow monitoring program, hydraulic modeling, CCTV inspections, and feedback from collection system field operations.

The City uses three (3) different flow gauging programs to collect data to evaluate sewer hydraulic condition.

- **Near-time Gauging**: Continuously monitors approximately 194 locations in major outfall, interceptors, and primary sewers (pipes 16-inch and greater in diameter).
- **Periodic Gauging**: Monitors over 500 locations in the primary sewers and some secondary sewers (pipes 15 inch or smaller in diameter).
- **Special Gauging**: Provides for short-term gauging of one day to one week duration and is conducted at any sewer location upon requests by planners, engineers, and operation & maintenance staff.

The flow rates and flow depth to pipe diameter ratios (d/Ds) provided by the Flow Monitoring Program are inputs into the City's dynamic GIS-based hydraulic model of the Primary System. LASAN simulates operating scenarios to identify system deficiencies and to develop and prioritize capacity relief projects. The City also uses this data to assist in the preparation of wet-weather operation plans.

The City maintains a database to store all flow monitoring data. LASAN staff use the data to compare current flows to historic flows and to develop trending reports. LASAN staff will also generate exception reports for the monitoring locations where the flow depths are equal or greater than 75 percent of the pipe diameter. LASAN staff determine the causes of high flow rates through flow analysis and field investigations (CCTV, visual inspections, etc.) and may include sewer blockage, structural failure, unusually high and excess discharges by industrial users, or continued growth in the basin. LASAN will take immediate actions through the City's emergency repair process, as appropriate, to address pipes that have failed or are in imminent danger of failing. Similarly, LASAN maintenance crews may be dispatched to perform sewer cleaning to remove debris, or industrial inspectors may be dispatched to investigate excessive discharges. LASAN will track and monitor locations where gauged flow depth is equal to or greater than 50 percent but is less than 75 percent of the pipe diameter.

LASAN has configured the hydraulic model to receive input from other planning tools to identify and estimate potential future capacity constraints due to economic and population growth. For example, the Sewer Flow Estimation Model delineates the system into growth areas, and then provides population forecasts and other growth factors by area. These can be added to the hydraulic model to predict areas that may need to be upsized in the future. For new development requests, the City follows a process to review the impacts of increased flow to the system and ensure there is sufficient capacity to meet the demand. For developments projected to add no more than 10,000 GPD, a standard permit is issued if the model shows the development does not result in any new capacity constraints. For developments projected to add more than 10,000 GPD, the City

Planning Department works with LASAN to determine if additional capacity is needed using the model, placement of special gauges, etc.

8.2.2 Summary of Criteria and Differences by Asset Type

LASAN models the primary collection system against a 10-year design storm and has determined the primary system has the capacity to convey 10-year storms and, in some parts of the system, can convey larger less frequent storms. LASAN monitors primary sewers indicating greater than 50 percent d/D but less than 75 percent d/D. LASAN performs targeted evaluation, monitoring and identification of capacity remediation measures on primary sewers with greater than 75 percent d/D by 2040. In the secondary collection system, LASAN staff review CCTV data to determine the height of the watermark to identify pipe segments with pipe segments showing greater than 50 percent d/D targeted for upsizing in secondary basin plans.

For new or rehabilitated infrastructure, the City has a long-established Sewer Design Manual that undergoes periodic review and updates to incorporate the latest advances in design and construction techniques. LABOE maintains the Sewer Design Manual and is responsible for design, construction, start-up and optimization of public works projects.

8.2.3 Capacity Enhancement Measures

Through hydraulic condition assessment, population forecast, and modeling, the City identifies current capacity needs, predicts future capacity requirements and develops capital improvement projects to address identified capacity deficiencies. City staff analyze and evaluate flow data in GIS map overlays, tables and other forms to determine capacity remediation measures. When the peak flow in a sewer reaches a predetermined level, it triggers a planning study that is initiated to determine additional capacity is provided to meet future demands before the sewer d/D (ratio of flow depth to pipe diameter) reaches 0.75 in conformance with the City's Sewer Design Manual criteria. The study results are summarized in a concept report.

LASAN staff prepare concept reports for locations in need of additional capacity. The reports validate and quantify capacity needs; develop and evaluate alternative solutions considering current and future structural, hydraulic, and operational needs; and recommend preferred solutions consistent with long-term Master Plans. LASAN prepares environmental documents and performs public outreach to incorporate community feedback in project planning and meet the requirements of National Environmental Policy Act (NEPA) and/or California Environmental Quality Act (CEQA), as appropriate.

The City has few capacity enhancement measures in the capital planning process as the result of past efforts and reduced flows. All projects identified from the 2008 planning effort are either completed or determined unnecessary based on project review. For example, the City reviewed the NEIS 2A project prior to final design and determined the project was unnecessary resulting in removal of the project from the WCIP. Efforts are still underway to relieve flows on the North Outfall Sewer. The San Fernando Relief Sewer is in the conceptual planning stage and moving towards the design phase. The City has experienced an increase in capacity requests since the 2013-2014 timeframe. LASAN is close monitoring several capacity issues previous identified as borderline that are transitioning into capacity constraints due to increased development.

In case of sewer spills that may impact freshwater bodies, the City has a comprehensive protocol established in the Wet-Weather Preparedness and Operations Plan 2023-2024. The plan identifies the monitoring parameters, sampling locations and laboratories the City uses when a spill reaches surface waters.

The City has identified and monitors areas that are considered high risk during wet weather events. Mitigation measures for peak flow events or capacity related spills are in place; for example, the City has surge control tanks which function as temporary storage for excess flows which may lead to spills. Attachment 6 of the Wet-Weather Preparedness and Operations Plan 2023-2024 provides details of the City's procedure for activities performed prior, during and after a storm event.

8.2.4 Wet Weather Preparedness and Response

Through its network of flow monitors, LASAN collects flow information in the system real time. During wet weather events, LASAN summarizes this data using FlowWorks to inform decision-making regarding flow diversion to prevent overflows in constrained parts of the system. In general, the City does not experience capacity-related spills and has procedures for identifying major sources that contribute to the peak flows associated with capacity-related spills. The City's Wet Weather Preparedness Plan documents detailed procedures for peak flow actions of the secondary system. For example, the City's uses the results of modeling a 10-year, 24-hour storm to identify areas that may be an issue during a rain event. The City also identifies areas prone to street flooding that may need pumping.

8.2.5 Sewer System Vulnerability to Erosive Forces in Canyon and Streams

The City's sewer system does not have pipelines situated in or near streams. The City's sewer system assets are not vulnerable to increased erosive forces during larger and/or higher-intensity storm events.

8.3 Corrective Action Planning and Prioritization

8.3.1 Corrective Action Planning

An outcome of LASAN's planning process is the identification of preliminary recommendations for condition remediation. LASAN will decide between near-term condition remediation actions (e.g., one or more spot repairs) or longer-term condition remediation actions such as rehabilitation or replacement. LASAN then applies average unit costs to these preliminary remediation actions to forecast capital costs associated with the basin plan. The Financial Management Division places these costs estimates into the capital plan and uses these to project funding needs.

Immediate and Near-Term Renewal Needs

A Category E condition rating indicates a pipe failure has occurred or there is a full flow obstruction and is considered as an emergency resulting in action to rectify the issue. Category D condition sewers are in a condition that may require monitoring and/or

near-term rehabilitation and, if remediation is needed in the near-term, are included in the Wastewater Capital Improvement Program (WCIP) for planning, design, and construction. LASAN conducts more frequent inspections at locations with known problems to avoid emergency situations. Some pipes are scheduled for routine CCTV inspections, typically once per year, if a capital project is pending. In addition, follow-up CCTV inspections are conducted at overflow locations usually within 48 hours of overflow occurrence to determine the root cause of the overflow and identify the extent of necessary repairs or any special maintenance needs. The inspection schedule is used to build the long-term renewal plan by basin for the collection system.

Long-Term Condition Monitoring and Renewal Planning

In addition to supporting identification of immediate and near-term rehabilitation and renewal needs, the City uses the Condition Rating to prioritize long-term condition monitoring and renewal needs. The condition ratings trigger a follow-up action that includes either rehabilitation within a certain time frame or a follow-up inspection. Rehabilitation projects are developed and scheduled for implementation on a prioritized basis with other identified needs. Category A and B sewers rated with excellent to good condition and are scheduled for continued inspections and monitoring on a regular frequency, which is dictated by the basin prioritization and inspection schedule. Category C condition sewers are, by definition, rated in fair condition and are scheduled for follow-up inspections until condition remediation addresses identified issues.

8.3.2 Project Planning Process

LASAN prepares sewer basin planning reports based on a combination of condition ratings and hydraulic model results and include both condition and capacity remediation actions in primary and secondary basin plan recommendations. Basin plans and concept reports identify deficiencies and evaluate alternatives for needed improvements to propose recommendations and serve as the basis for capital improvement projects. LASAN uses different evaluation approaches, methods and tools depending on the type of asset. Table 8-1 summaries each.

Table 8-1: Planning Cycles for Collection System Infrastructure

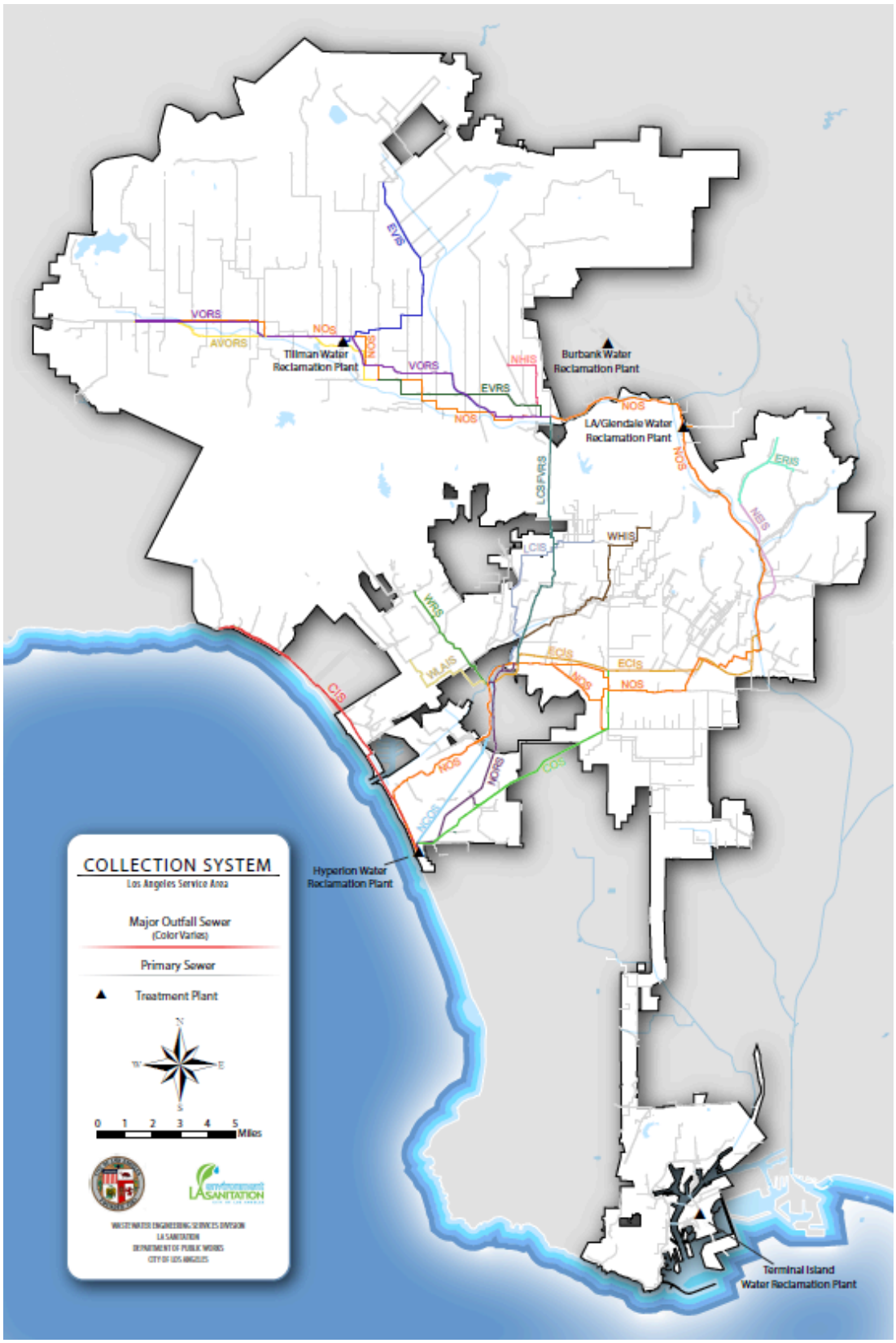
Collection System Infrastructure	Evaluation Methods	Model Uses	Planning Cycle
Interceptor/Outfall	Backwater modeling, visual inspection, CCTV	Dynamic model with input from flow monitoring, capacity forecasting tools	In line with Primary Basin Plans
Primary Sewer	Hydraulic model, visual inspection, CCTV, sonar	Dynamic model with input from flow monitoring, capacity forecasting tools	10 years
Secondary Sewer	Visual inspection, CCTV, flow monitoring	N/A	15-20 years
Pumping Plants	Hydraulic model, visual inspection	Dynamic model with input from flow monitoring, capacity forecasting tools	Ad hoc

The following sections describe specific processes and projects related to record keeping, interceptors and outfalls, primary basis, and secondary basins.

Project Planning Process - Interceptors and Outfalls

LASAN staff study the long-term hydraulic, structural, environmental, and operational needs for interceptors and outfalls during the primary basin planning cycle and on an as-needed basis. Based on identified needs, staff will evaluate operating (flow routing) options and alternatives for major physical facilities for wastewater collection, conveyance, and storage to identify recommendations for capital improvement. During this process, LASAN models backwater flows to project the receiving treatment plant's ability to treat predicted flows and assign findings to the corresponding primary basin plan. Figure 8-1 show the interceptors and outfalls that are included in the evaluation and planning process.

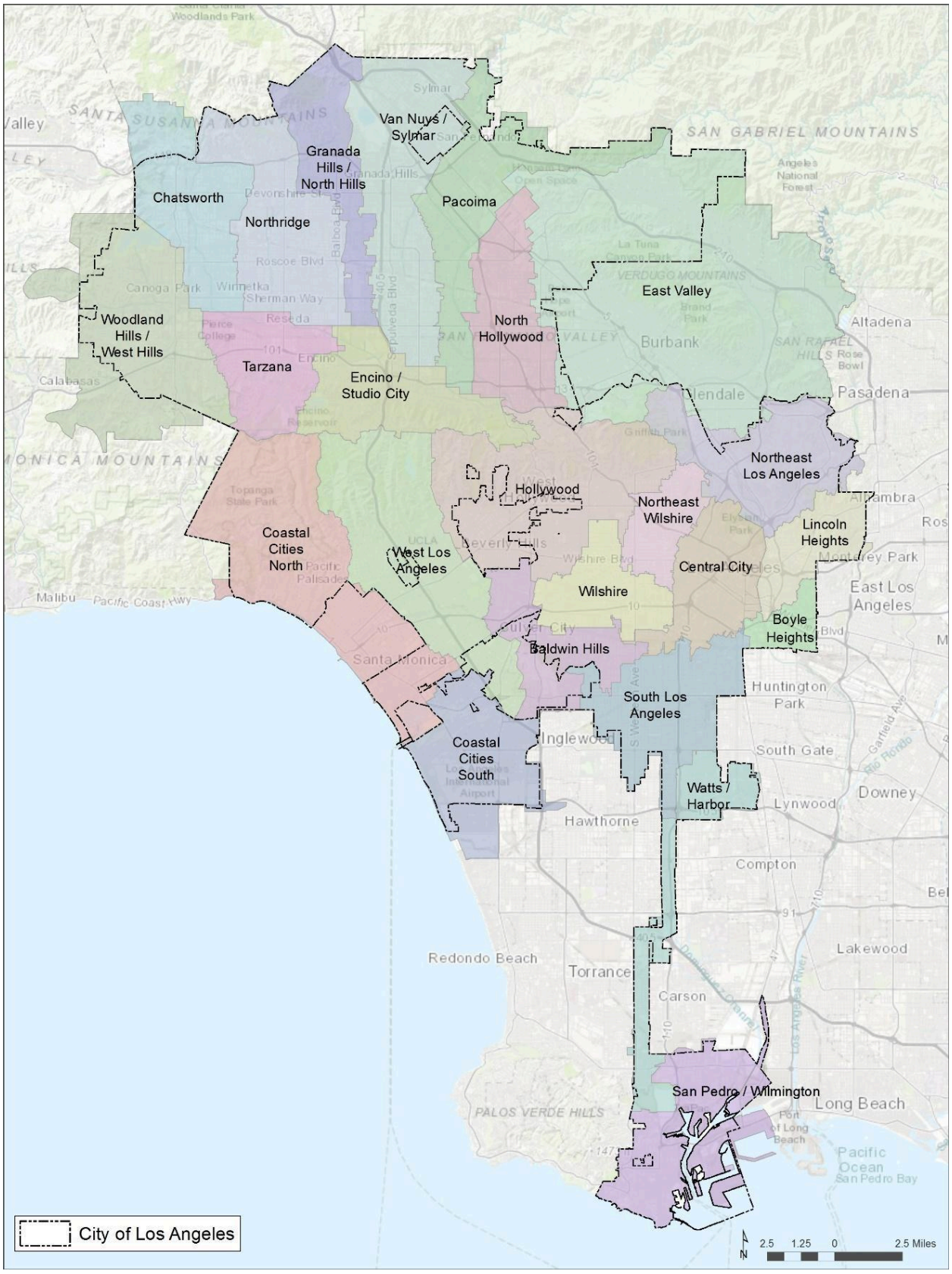
Figure 8-1: Map of Major Outfalls and Interceptors



Project Planning Process - Primary Basins

LASAN classifies sewers 16 inches and larger in diameter as primary sewers. As shown in Figure 8-2, the City has divided primary sewers into 24 primary sewer drainage basins. Basin boundaries coincide with natural drainage boundaries. Primary basin plans provide comprehensive analysis of basin conditions and recommendations for needed primary sewer improvements to meet current and future demands. LASAN identifies primary sewer basin through hydraulic, structural, and environmental (odor) condition assessment; develops, screens and evaluates alternative solutions based on selection criteria for technical feasibility, and cost-effectiveness, community and environmental impact; and recommends selected alternatives for inclusion with the city's Wastewater Capital Improvement Program (WCIP). The City updates primary basin plans on a 10-year cycle to meet new demands due to changes in population and population forecast, aging system components, and application of new and superior technologies. The last basin planning cycle began in 2006, and planning work was substantially completed by 2009. The current basin planning cycle began in 2018, with projects to be substantially completed by 2026.

Figure 8-2: Map of Primary Sewer Basins

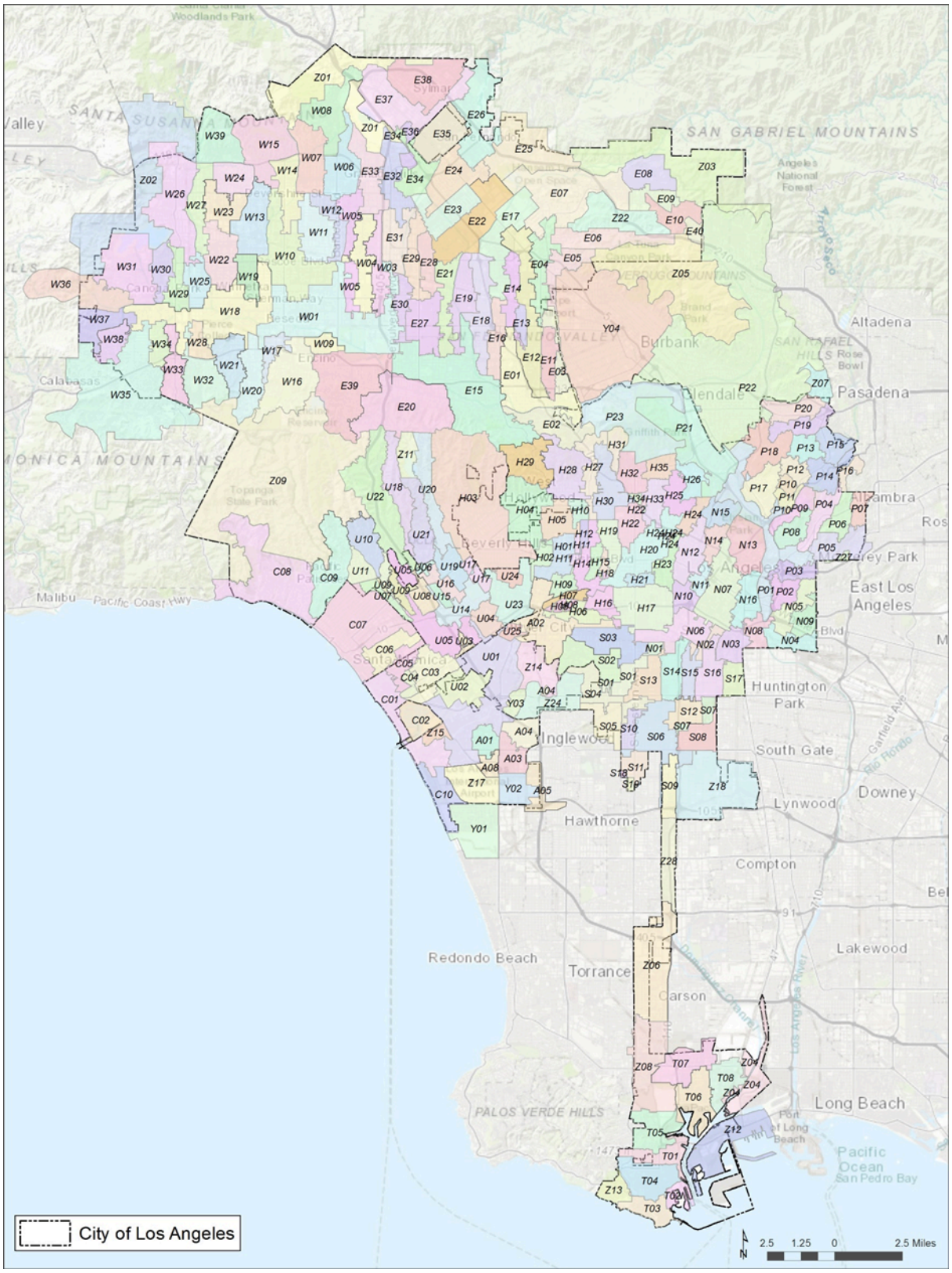


Project Planning Process - Secondary Basins

The City classifies sewers smaller than 16 inches in diameter as secondary sewers. The City's entire collection system, including all three collection systems, is divided into 220 secondary sewer basins (also known as sewer sheds), shown in Figure 8-3. The secondary sewer basins follow the natural sewer drainage boundaries. The City prioritizes secondary sewer basin condition assessment and planning using weighted risk factors such as number of spill count per unit length of sewer, inflow and infiltration, and percentage of known problem material, and age categories. To date, LASAN has completed 145 secondary basin plans. For re-inspections being performed, when defects are found, they are evaluated to determine if an emergency repair is needed, or if the needed repair can be added to a project developed for another basin.

Secondary basin planners evaluate condition and capacity remediation needs for all secondary sewer pipelines within a secondary basin and create a secondary basin plan. Pipes within a sewer basin are selected for remediation based on the condition rating and the number and severity of structural defects. Condition remediation decisions identified during this review are combined and coordinated with pipe segments selected for capacity remediation. The basin plans provide comprehensive analysis of the secondary sewer basins; identify structural, operational, and hydraulic deficiencies in the system; and provide corresponding renewal recommendations.

Figure 8-3: Map of Secondary Sewer Basins



8.3.3 Project Planning Process - Pumping Plants

The City completed a physical condition assessment of all pumping plants in 2015 that assessed the condition of all major infrastructure and componentry of each pumping plant. From this, the City developed a list of pumping plant rehabilitation projects, which include everything from complete rehabilitation of a pumping plant to minor upgrade projects. The City has also completed a separate plan analyzing the hydraulic capacity of all pumping plants to project flow based on system growth and found no capacity constraints in the pumping plants. The City is monitoring two to three pumping plants for future hydraulic upgrades. Based on these planning efforts, the City has prioritized pumping plant rehab projects and the top 20 to 25 pumping plants will be incorporated into the WCIP.

8.4 Prioritization of Corrective Actions

Projects in the WCIP are prioritized using a Business Case Evaluation (BCE) risk rating framework. The BCE risk assessment framework includes a consequence factor to rate the regulatory and environmental impact of spills. Representatives from both LASAN and LABOE are involved in the BCE risk rating review and project prioritization. Each BCE is also independently evaluated by FMD to ensure a standard approach is used.

Projects recommended in concept reports are first prioritized within basins, and then across basins. This occurs in an annual WCIP prioritization workshop. During this workshop all capital projects are evaluated and prioritized based on their risk scores and BCEs. LABOE and LABCA's ability to resource and manage projects and other city infrastructure projects are considered in this evaluation.

Projects scoring the highest are prioritized first to meet near-term needs and accommodate future growth. Any projects that do not get funded in the current year CIP are monitored monthly. Attachment H1 includes the *Capital Improvement Program Project Prioritization Criteria Definitions*. New projects may be identified throughout the year and are also reviewed monthly except for emergencies, which are addressed immediately. For severe pipeline deficiencies found during inspection that could lead to or have led to a spill, emergency and expedited repairs are planned ahead of basin plan projects to address the deficiencies as appropriate. Monthly monitoring allows for review and re-prioritization on a continual basis. Twice annually, the entire renewal portfolio is reviewed.

In some cases, components of a packaged project may be accelerated if they are high enough risk. LABOE is responsible for reviewing the data provided by LASAN to finalize planned remediation actions, develop design solutions, create bid packages, and manage capital delivery. Pipes included in a basin planning package typically remain together through the capital delivery process. In the past, pipes with difficult access, or other issues holding up streamlined capital delivery, were separated from the basin package to be addressed separately, yet this approach is no longer in practice.

8.5 Capital Improvement Plan

Rehabilitation and replacement projects are developed and included in the WCIP for pipes requiring condition remediation within the 10-year planning horizon and that are not at imminent risk of failure. The City's 10-year WCIP, included as Attachment H2, is reviewed and updated annually. It is an expenditure plan for the wastewater collection, conveyance, treatment, disposal, reclamation, and reuse projects. The collection and conveyance projects description and expenditure plans are included in a section titled "Collection System".

The two identified capacity upgrade projects to address previously borderline issues that are now triggered due to new capacity requests are in the current WCIP. Aside from this, LASAN will be updating the 24 Primary Sewer Basin Plans in the next 18-24 months to identify any condition and capacity remediation required on these pipelines prior to the World Cup and Olympics, which the City is hosting in the late 2020s. The City has a separate line item in the WCIP for the North Outfall Sewer of approximately $50 million per year to address condition and capacity issues.

8.5.1 WCIP Review and Update Process

The WCIP project schedules and funding are approved by a Program Review Committee (PRC) which holds regularly scheduled meetings. The PRC is made up of members of executive management from LASAN and LABOE. The PRC process includes a mechanism for project change authorization as justified based on a variety of reasons including technical and financial considerations and changing needs or requirements.

The WCIP is funded by revenues generated through collection of fees for wastewater services that are determined based on a fair and equitable system of cost-sharing by all users of the system. These include Sewerage Facilities Charge (SFC), Sewer Service Charge (SSC), Quality Surcharge Fees, and fees paid by the City's contract agencies under contractual arrangements. WCIP funding is augmented through the issuance of revenue bonds. The City has a financial management system that tracks internal and external funding sources for each project in the WCIP. Any expenses on the project are tracked in this database.

Interagency or joint coordination is an integral part of City's operation. Joint coordination with different agencies includes, but is not limited to, Metro, Low Income Housing group, and LADWP. The City team coordinates with the Metro team for any re-routing of lines required for upcoming projects, such as the 2028 Olympics, and any foreseeable impacts to wastewater. Coordination with low-income housing groups and LADWP is conducted to estimate discharges into the wastewater and requests from these agencies are treated like customer requests. The City follows a standard procedure for check-ins throughout the CIP process.

9 Monitoring, Measurement and Program Modifications

9.1 Overview of Performance Management System

The City employs a robust performance management system to track, assess and improve collection system program performance at both tactical (operational) and strategic (organizational) levels. To do this, the City has created a “line-of-sight” between citywide and organizational level goals, and individual division business plan objectives and initiatives. These are in turn supported by measures and metrics that range from key performance indicators such as spill rates, to operating metrics that are measured on a weekly and monthly basis. The performance management system also tracks the progress of implementation of various initiatives, actions, and tasks identified to help the City achieve its goals. Figure 9-1 demonstrates the organization line-of-sight created between various levels of goals and objectives, and also the relationship between the measures and metrics that measures the organization’s progress and performance. Figure 9-2 is an example of LASAN’s balanced scorecard tracking system.

Figure 9-1 Performance Line-of-Sight

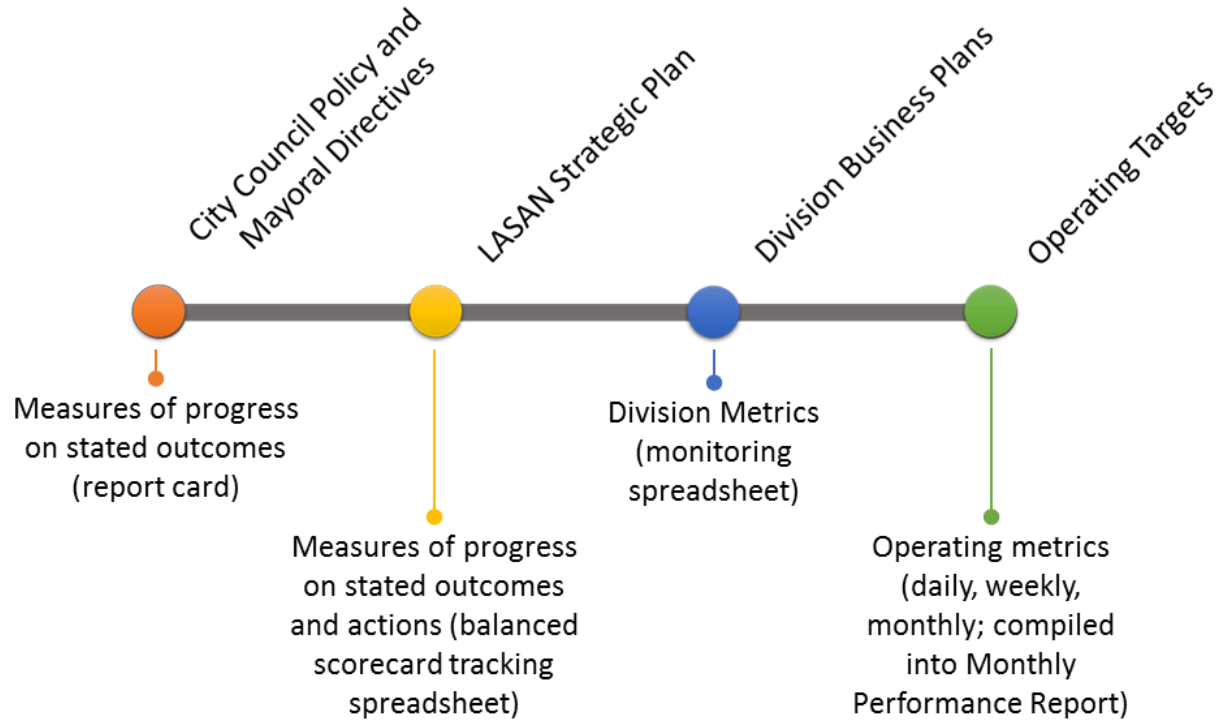
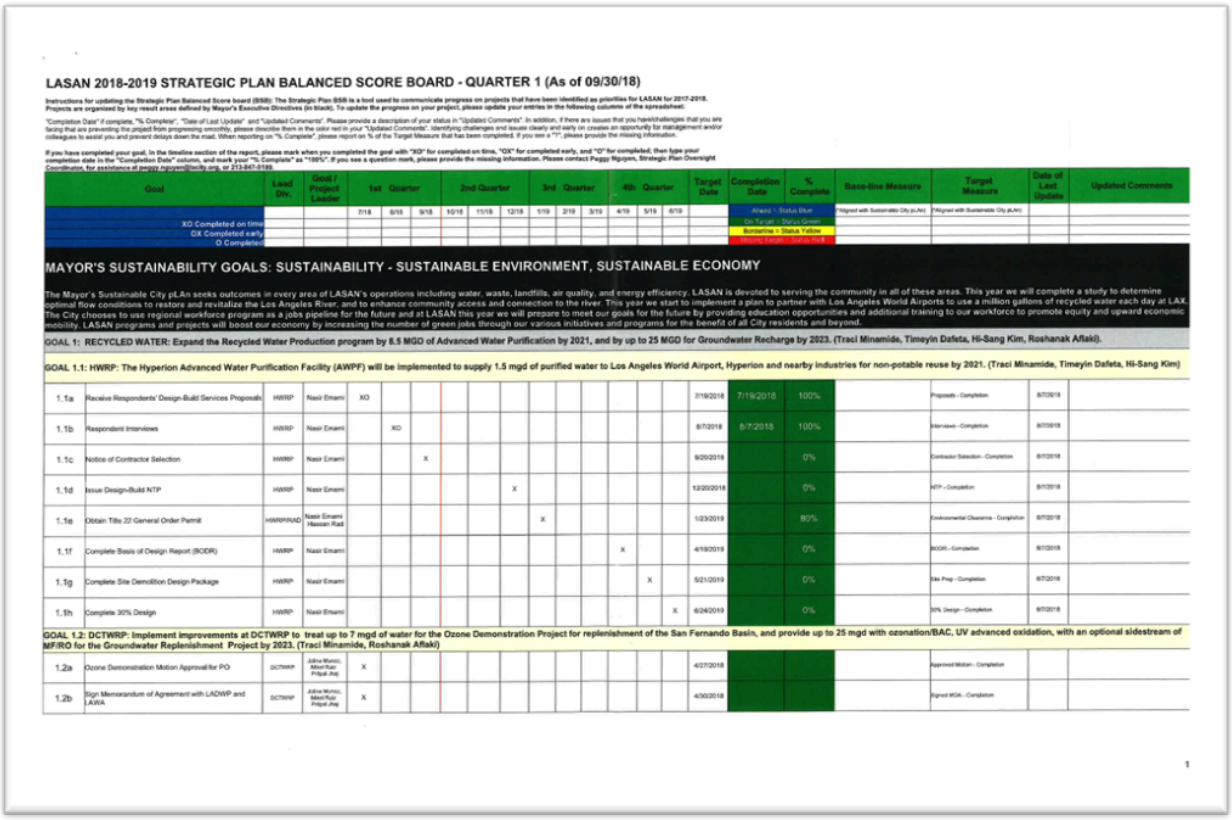


Figure 9-2: "Snapshot" of Performance Management Reporting Tool



LASAN 2018-2019 STRATEGIC PLAN BALANCED SCORE BOARD - QUARTER 1 (As of 09/30/18)

MAYOR'S SUSTAINABILITY GOALS: SUSTAINABILITY - SUSTAINABLE ENVIRONMENT, SUSTAINABLE ECONOMY

GOAL 1: RECYCLED WATER: Expand the Recycled Water Production program by 8.5 MGD of Advanced Water Purification by 2021, and by up to 25 MGD for Groundwater Recharge by 2023. (Traci Minamide, Timeyin Dafeta, Hi-Sang Kim, Roshanak Aflaki).

GOAL 1.1: HWRP: The Hyperion Advanced Water Purification Facility (AWPF) will be implemented to supply 1.5 mgd of purified water to Los Angeles World Airport, Hyperion and nearby industries for non-potable reuse by 2021. (Traci Minamide, Timeyin Dafeta, Hi-Sang Kim)

GOAL 1.2: DCTWRP: Implement improvements at DCTWRP to treat up to 7 mgd of water for the Ozone Demonstration Project for replenishment of the San Fernando Basin, and provide up to 25 mgd with ozonation/BAC, UV advanced oxidation, with an optional sidestream of MF/RO for the Groundwater Replenishment Project by 2023. (Traci Minamide, Roshanak Aflaki)

9.2 Maintenance of Information to Prioritize SSMP Activities

The City maintains several software systems to collect, store, and translate data on the collection system for the purposes of monitoring and decision-making. Table 9-1 inventories the City's software systems relevant to implementation and monitoring of the SSMP.

Table 9-1: Information Systems Relevant to SSMP Implementation and Monitoring

System	Description of Primary Functions	Related SSMP Activities
FAST	Crew-facing work order management system, interfaces with EMPAC system	Contains work order information needed by crews to complete work, and tracks work order completion information (time completed, materials used, etc.)
EMPAC	Work order management system, interfaces with FAST system, interfaces with program management databases	Central repository for all preventative maintenance schedules (PMs) and record of work performed on individual assets, tracks and aggregates work order information by maintenance program
Program Management Databases	Development and tracking of individual program preventative and corrective maintenance, interfaces with EMPAC system, directs contractor work	Used to plan and schedule work for individual SSMP maintenance programs: Cleaning, Maintenance hole Raising, Roach/Pest Control, Root Control, Cleaning QA/QC, CCTV, Emergency Sewer Repair, Odor Control, Inventory

Table 9-1: Information Systems Relevant to SSMP Implementation and Monitoring

System	Description of Primary Functions	Related SSMP Activities
		Reconciliation Program, Lateral Cleaning; manages contractor information
NavigateLA (GIS)	Asset database of record, including asset attribute information such as material type, diameter. Represents asset physical location spatially.	Work order planning and schedule, emergency response, system modeling and evaluation, asset on-boarding, retirements, etc.
Wastewater Information Systems Enterprise (WISE) database	Maintains record of all spills that occur in the system	Used for regulatory reporting, maintains individual asset spill history and maintenance history. Can be queried for spill performance analysis, trending, and spatial analysis.
CCTV Log (database)	Tracks condition scores for assets that have been CCTV'ed; links to video file for inspections	Referenced by engineers and planners when determining renewal needs and severity, prioritizing work, and determining appropriate renewal technology/method.
Sewer Flow Estimation Model (SFEM)	Delineate system into growth areas, forecast population and other growth factors	Capacity assurance forecasting tool used to assess population and employment growth; input into modeling program
Sewer Capacity Availability Review (SCAR)	Primary tool for evaluating current capacity against proposed new development; interfaces with system hydraulic model	Evaluates the existing collection system to determine if there is adequate capacity to safely convey sewage from proposed development projects, proposed construction projects, proposed groundwater dewatering projects and proposed increases of sewage from existing facilities
MIKE+	Collection system modeling of primary collection system; receives input from flow monitors, SFEM, and SCAR	Dynamic model designed to model system capacity, potential constraints and points of overflow, incorporate population and employment development, and ensure sufficient current and future capacity. Model outputs are used extensively by planners when identifying and prioritizing basin improvement projects.
Supervisory Control and Data Acquisition (SCADA) system	Tracks pumping plants operating data	Monitors real-time performance of pumping plants to trigger maintenance action; makes control decisions to maximize flows through the system.
Permit Information Management System (PIMS)	Maintains inventory of FSEs, permitted variances, grease traps and interceptors, etc.	Primary database for FOG program, including planning and scheduling of inspections, tracking permitted variances, and tracking violations and follow-up enforcement actions.
Uniform Project Review System (UPRS)	Capital project tracking and reporting system	Tracks capital projects through design, construction, inspection, and close-out; reports on improvements of the collection system through renewal activities.
Financial Management System	Financial management system for O&M and capital expenditures	Capital and operating expenditure tracking, renewal planning (prioritization against funding levels).
SSMP Audit Findings Spreadsheet	Tracks SSMP audit findings	Tracks SSMP audit findings and implementation of corrective actions

These information systems support the Operations and Maintenance program, Sewer Condition Assessment program, emergency response, odor and corrosion abatement programs, and system survey and capacity assurance programs, serving as a repository of information for analysis. This in turns provides for the prioritization of SSMP activities, such as work order planning and scheduling, hydraulic modeling to identify capacity constraints and other issues, performance trend analysis based on asset attribute information. The following sections provide examples of how these programs interact with information to support SSMP activities.

9.2.1 Preventative Maintenance and GIS

Information regarding all maintenance activities, sewer condition, spills, and odor complaints are entered into EMPAC, which serves as the central repository for maintenance data. This information is routinely evaluated to document maintenance needs, identify problem locations, and assist in analysis of spill events and odor complaints. This data is periodically coupled with flow information and overlaid on a GIS base map of the collection system to quickly identify and visualize problem areas, communicate actual condition and maintenance needs to operation and maintenance staff, prioritize cleaning and root removal activities, and provide corrective measures. The GIS maps are among the primary tools used in prioritizing and scheduling sewer assessments and maintenance activities in the preventive maintenance program.

9.2.2 Spill Prevention

In an effort to prevent spills, the City reviews flow monitoring and CCTV records to identify sewer system locations exhibiting high flow levels and sewers that are in poor condition. These assessment activities may trigger further reviews to determine cause and/or may trigger immediate or accelerated corrective actions. Maintenance priorities are set based on the relative severity of the problem. This process relies on information from multiple sources, including the collection system model, CCTV log, and EMPAC work order management system.

9.3 Monitoring of Implementation and Effectiveness of the SSMP

The SSMP is a well-integrated plan with each element designed to complement and support the others. Each year LASAN managers set sewer system management performance goals through the annual strategic planning process, define and prioritize the deliverables required to meet goals, assign lead and support offices and resources, and measure and report progress towards meeting or exceeding goals. LASAN tracks operations and maintenance program metrics monthly through the City's operational performance management system. Overall, the City reports and evaluates sewer system management performance monthly, quarterly, and annually following the end of each fiscal year. Any plan updates necessary to enhance sewer system management performance are identified and become a part of the following business planning process. These cyclical reviews are described below.

9.3.1 Collection System Operational Monthly Report

This report is compiled monthly and includes metrics for each of the maintenance programs (root control, maintenance hole raising, etc.), performance compared to plan, and stormwater, customer service, and resource management metrics. Much of this information is tracked on a weekly and daily basis through the City's work order management system which is collected into reports by sewershed and yard. Is it used by CWNCD and CWSCD management teams, from the Division Manager to Zone Managers and other staff responsible for overseeing daily collection system operational activities.

9.3.2 Monthly and Quarterly SSMP Performance Evaluations

On a monthly basis, collection system program progress is reported on to executives and division heads. This progress report is focused primarily on implementation progress metrics including percent spent and percent complete, compared to plan. The quarterly report focuses on similar metrics but reports to a wider internal audience. The evaluations serve as an opportunity to course correct and reallocate resources if progress is not meeting plan.

9.3.3 Annual Reporting

The City issues a Collection System Annual Performance Report, produced jointly by WESD, CWNCD and CWSCD. The annual report covers all program sections (cleaning, condition assessment, basin planning, capacity, etc.), reporting on metrics for each, such as spill performance, annual renewal quantities, etc. During the review of this annual report, targets and goals are revisited, and each division reviews resource allocations and determines the next year's targets and resources. SSMP implementation progress is also reported at this time, and any updates necessary are incorporated into the next year's business plan.

9.3.4 Program Audits

Every three years, the City performs an internal audit of the SSMP and the SSMP program implementation. The various City business units and positions responsible for SSMP implementation, as identified in Table 2-2, are involved in the audit. Each element of the SSMP is reviewed for effectiveness towards reducing the frequency and/or mitigating the impacts of spills and for compliance with the General Order requirements. Corrective actions to address identified deficiencies are prioritized, scheduled and incorporated into division business plans.

9.4 Assessment of Preventative Maintenance Program

The City assesses the success of its programs by analyzing condition assessment results and responding with the appropriate corrective measure and keeping track of the quantities and trends of various types of sewer blockages and overflows as well as odor problems and complaints. Based on these trends, successful practices are continued, and program adjustments are made when appropriate.

Examples of these assessments include weekly condition assessment review meetings, monthly spill reviews, monthly performance meetings with chemical root control contractors, and a comprehensive annual review of the preventive maintenance program.

The City's preventive measures also include community outreach and education programs on the workings of the collection system and steps the public can take to help reduce blockages and overflows, such as lateral root control and the City's FOG outreach and enforcement program. The effects of these efforts are tracked by reviewing condition assessment results for these types of defects, and trends in FOG- and root-related SSOs.

9.5 Identification and Illustration of Spill trends

Data acquisition, analysis, and management of sewer spills is supported by an integrated information management system. Spill trends are identified and tracked through a state-of-the art GIS tracking system. When events are reported, they are uploaded to a master database and plotted on a City-wide map. Attributes of each sewer pipe gravity and pressure segment are included in a comprehensive spill event inventory database. Information collected during the response to an overflow or odor complaint is also entered into a maintenance management database. This information is evaluated to document locations, causes, and frequency of overflows and odors (which are public nuisance but also might indicate a greater problem in a particular area). This data is then superimposed on a GIS base map of the collection system to quickly identify and visualize problem areas; communicate conditions and needs to City policy makers and management; and prioritize maintenance activities, urgent and emergency repairs, and mid- and long-term solutions. This system allows the City to review spill and odor performance by frequency (seasonal variations, year-over-year comparisons), location (known problem areas, system characteristics such as pipe material and installation timeline), and volume (totals hitting surface waters, average volumes, changes to volume over time, which can indicate effectiveness of response time). The following figures are examples of some of the analyses the City performs routinely to identify spill trends; each is included in either the monthly or annual collection system performance report.

Figure 9-3: Analysis of Spill Performance

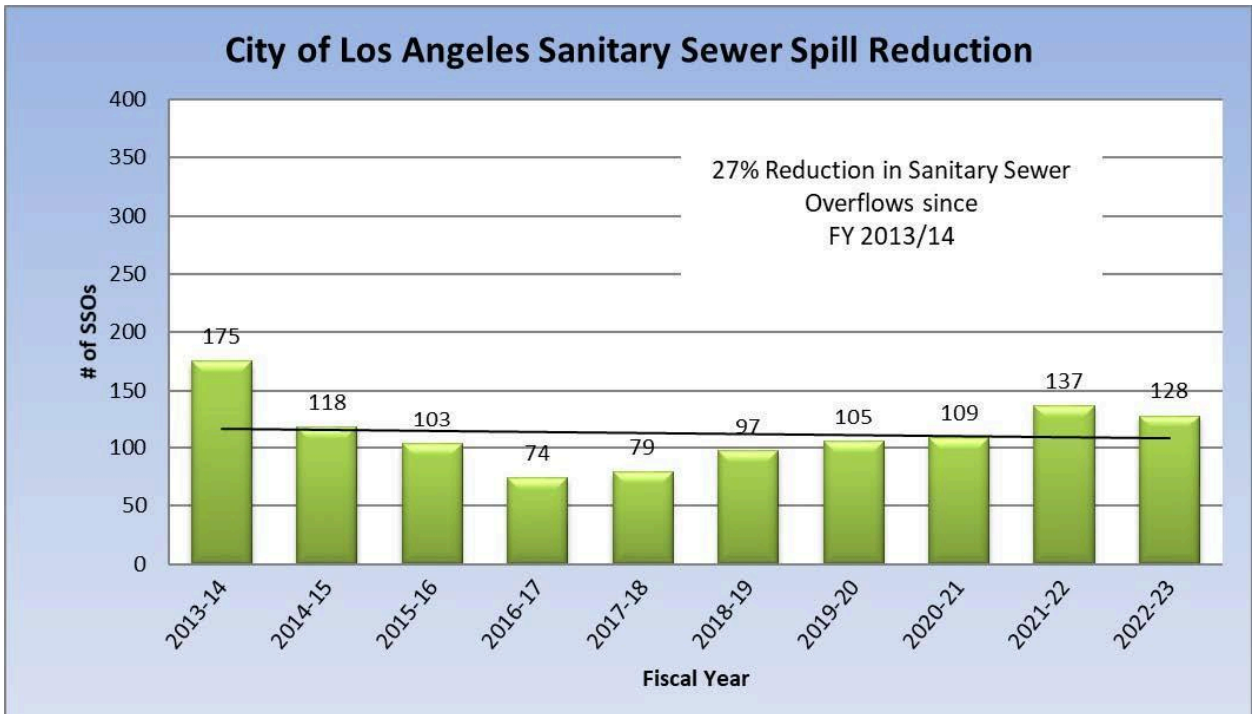
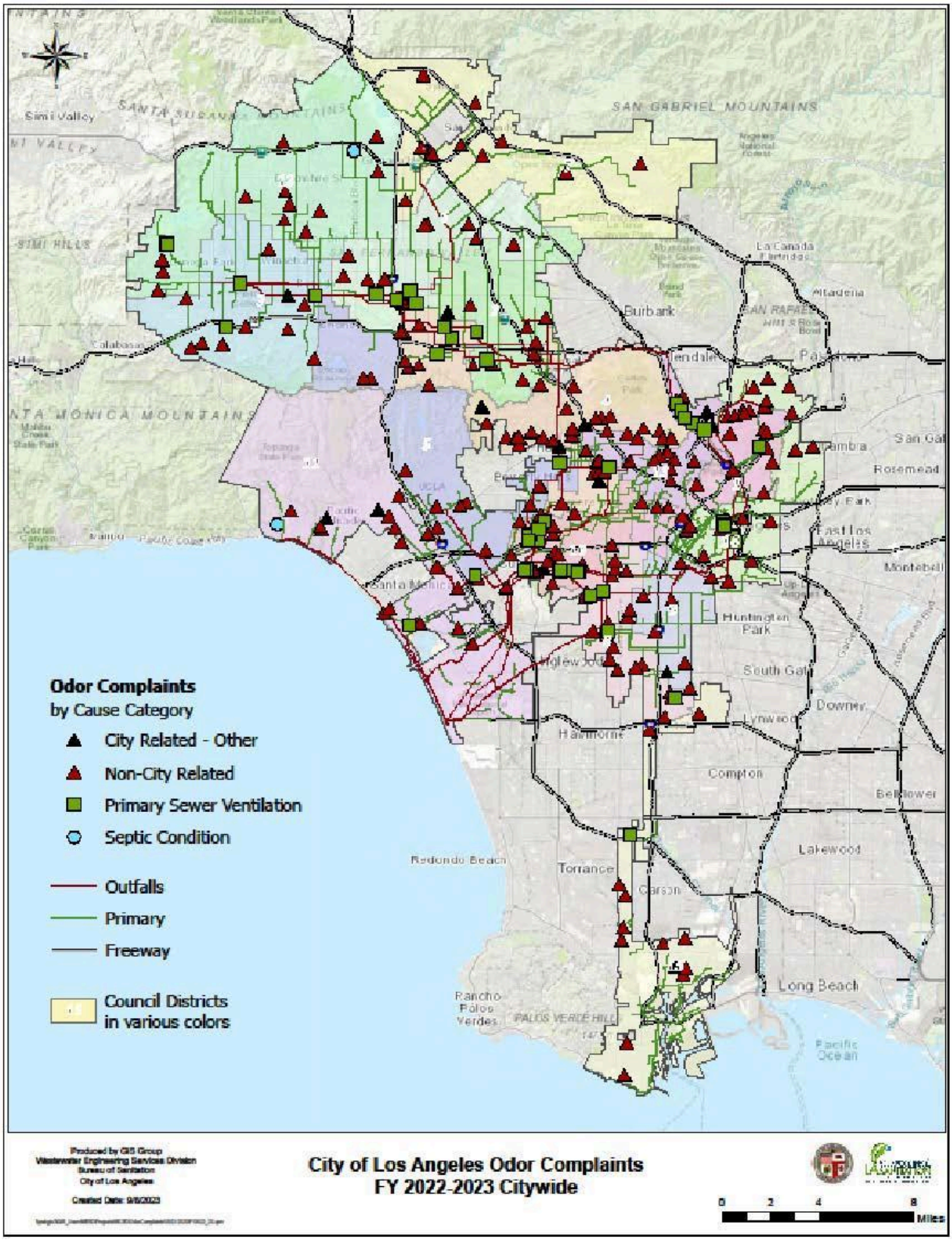


Figure 9-4: Geographic Distribution of Odor Complaints



9.6 Approach to Program Modifications and Plan Updates

The City uses its cyclical performance evaluations (weekly, monthly, quarterly, annually) to review and update the procedures and activities of the SSMP elements and collection system program implementation. Specifically, the city tracks both progress of implementation, and the performance of the various elements.

9.6.1 Course Correction Measures

Depending on the nature of the finding of performance or progress, the City may act in one of three ways:

1. ***Do nothing***: Progress or performance is going according to plan, and no action is required. This indicates that the schedule, resource allocation, and implementation plan is appropriate.
2. ***Address acute/isolated incident***: If an action is behind schedule or a program element is not performing as expected, it is assessed to determine the cause, and whether that cause is an isolated instance or an acute problem. If it is an isolated instance, then a corrective measure appropriate to the specific incident is taken.
3. ***Address programmatically for on-going issues***: If the reason for unexpected performance is chronic, then a programmatic solution is developed. For instance, if spills due to root intrusion are increasing in a particular area, then the entire area may be put on a chemical root control schedule, rather than just the individual pipes that have caused a spill.

Table 9-2: Program of Work and Typical Program Modifications Identified for Core SSMP Elements

SSMP Element	Program of Work	Typical Program Modifications
Operations and Maintenance Program	Sewer cleaning Sewer inspection Sewer repairs Pump plant operations and maintenance	Cleaning frequency changes Cleaning method changes Cleaning referrals Inspection referrals Sewer repairs and renewal identified
Overflow Emergency Response Plan	Spill Response and Reporting	After Action Review leads to lessons learned for response team
FOG Control Program	FOG inspections FOG enforcement Outreach	FOG investigations Targeted outreach
System Evaluation and Capacity Assurance	Primary basin planning Sewer Capacity Availability Request Watermark review Gauging	Problem areas identified Flow monitoring Capacity upgrades identified

Ad hoc teams are also formed to address specific issues as they are identified. For example, Strategic Planning Teams (SPTs) which are joint labor and management teams, meet regularly to identify opportunities for task enhancement and determine optimal workload, resource and personnel requirements. Core business activities are identified and a task analysis of each activity is used to determine appropriate staffing levels and equipment needs. The following sections provide examples of program modifications the City has implemented to address specific issues affecting the collection system.

Stormwater Inflow and Infiltration Prevention (SIIP) Program

The Los Angeles Municipal Code prohibits connections of storm drains, downspouts, area drains, storm sewer connections and other sources that could contribute infiltration and/or inflow to the system. In early- to mid-2000s, the City identified sources of unauthorized discharges of stormwater into the collection system using smoke testing. These included roof drains, yard area drains, parking lot drains, downspouts, and other sources draining directly to the collection system. To address this systemic problem, LASAN and Department of Building & Safety jointly sent notices to property owners, including evidence of such unauthorized connections and the need for corrective action as required by City ordinances. Follow-up inspections and surveys conducted in the mid-2000s confirmed the success of the SIIP Program. An estimated annual average of more than 8 million gallons per day (mgd) of extraneous water has been excluded from the system due to the SIIP Program.

FOG Control Program

In order to reduce FOG-related SSOs, the City implemented a robust prevention program including FOG control at the source (FSE education and enforcement and homeowner outreach), frequent sewer cleaning, and ongoing user education and involvement. The goal is to eliminate all preventable FOG-related sewer overflows. Program modifications continue to be made with active support and input from FSEs as needed and appropriate.

9.6.2 Proactive Planning of Program Elements

In addition to tracking the various program elements and implementing course correction measures as appropriate, the City incorporates data review and analysis into the proactive planning for each of the program elements. Examples of this are described below.

Annual Review of Preventive Maintenance

On an annual basis in a comprehensive review the critical sewers are identified, prioritized, and scheduled for maintenance based on parameters such as blockage and spill records, frequent maintenance requirement, age, pipe material, and condition assessment results.

Flow monitoring and CCTV records are reviewed to identify potential weaknesses in the system. Sewer locations that exhibit high flow levels and sewers that are in poor

condition are identified through this process. As appropriate further reviews may follow to determine cause, develop and prioritize corrective actions. Based on this review, the City can then plan its upcoming year for preventative maintenance, appropriate targets, etc.

Root Control Program

The City has an aggressive root control program that entails chemically treating problem sewer reaches using environmentally friendly chemicals. The program includes root growth monitoring by CCTV inspection, mechanical root removal, and chemical treatment with herbicide to prevent root re-growth.

Recognizing that private sewer laterals are a major source of tree root intrusion into the collection system, the City expanded the root control program in 2006 by adding a community outreach and education program. Property owners are provided helpful information on routine maintenance and corrective actions required to protect the laterals from root intrusion and damage and to prevent root-related blockages.

Flow Monitoring Program

Flow monitoring provides important support to sewer planning and operation & maintenance. Trending reports are used to project future flows and prioritize planning studies, design and construction projects. Sewers where peak dry weather flow levels reach 0.75 d/D (75 percent of the pipe diameter) receive the highest priority. When the unrestricted flow in a pipe reaches a predetermined “trigger flow” depth, a planning study will be initiated to define and validate the problem; evaluate future needs; and develop recommended alternatives for implementing sewer relief or replacement projects. The trigger flow concept identifies emerging capacity issues and provides sufficient time for project planning and design to deliver planned upgrades to address capacity issues.

Construction

To avoid construction related sewer overflows to comply with the City’s “zero spill” policy, the LABCA requires that a spill prevention and response plan be developed and implemented for all sewer construction projects. The City‘s “zero spill” policy is documented in the Brown Book which is an adaptation of the “Standard Specifications for Public Works Construction (Green Book)” including the City’s amendments and additions that address specific City needs and wants and policy requirements.

9.6.3 Monitoring and Audit-Driven Program Modifications

Every six years the SSMP document is updated. The update consists of:

- Reviewing the existing SSMP language and updating any outdated information. This includes updates to staff positions, names and organizational lines of authority that have changed, changes to system characteristics such as basin areas, etc.
- Updates to reflect new goals identified through the City’s business planning process.

- Incorporation of the adopted and implemented recommendations from previous SSMP program audits.

Upon completion of the six-year SSMP update, the SSMP is provided to the Board of Public Works with a request for approval. Upon acceptance by the Board, the SSMP is re-certified under State Water Board CIWQS database and made publicly available on the LASAN website.

References for Further Information

- Collection System Annual Performance Report
- LASAN Strategic Plan, latest version

10 SSMP Program Audits

The City uses the SSMP audit process to identify actions for improving how it manages, operates, and maintains the collection system. This process identifies the tasks and actions that are required to meet SSMP goals and defines and prioritizes them. Resourcing and planning for delivery of the actions identified in the SSMP audit are incorporated into division-level business plans as described in *Element 9 Monitoring, Measurement and Program Modifications*.

10.1 Schedule of Program Audits and Updates

The City monitors the performance of the collection system on an on-going basis through monthly performance reviews performed at the operating unit level, and annually during division level business planning and goal setting and the annual business plan review. It also performs a formal audit of its SSMP every three years in accordance with General Order requirements. Every six years, the City formally updates and recertifies the SSMP. Table 10-1 shows the anticipated schedule for SSMP audits and updates for the next six years.

Table 10-1: SSMP Audit and Update Schedule

Year	Audit
2024	Three-year self-audit planned in early 2024, complete by November 2, 2024
2025	6-year SSMP update planned in early 2025, complete by May 2, 2025
2027	Three-year self-audit planned in early 2027, complete by November 2, 2027
2030	Three-year self-audit planned in early 2030, complete by November 2, 2030
2031	6-year SSMP update planned in early 2031, complete by May 2, 2031

10.2 SSMP Audit Process

LASAN forms a team of experienced personnel every three years to perform an internal audit in accordance with the General Order requirements for Sewer System Management Plan Audits. The team consists of representatives from the relevant city departments and is led by WESD. In a series of in-person meetings over the course of approximately three months, the audit team evaluates the effectiveness of each SSMP Part and Sub-part, identifies any deficiencies, and makes recommendations for improvements and updates. This is accomplished through a combination of reviewing the program documentation in the Sewer System Management Plan, the current state of procedures and practices employed by staff, and through discussion of potential program modifications to improve program effectiveness. It also includes referencing and reviewing performance reports and measures monitored throughout the year in accordance with department business plans.

10.3 SSMP Audit Report

The findings from the SSMP audit are documented in an audit report. The audit report includes the following elements:

- Audit findings and recommended corrective actions;
- A statement that sewer system operators' input on the audit findings has been considered; and
- A proposed schedule to address identified deficiencies

Once the audit report is complete, a QC review of the audit report is performed, with a focus on consistency and completeness. The final audit report is reviewed by the City's LRO before final acceptance. Audit reports and related materials are maintained in a hard copy and an electronic document tracking and management system.

10.4 Audit Implementation and Tracking of Results

The SSMP program audit recommended corrective actions are incorporated into the annual business plan review and budgeting process to provide the necessary resources to implement audit corrective actions and recommendations. Through that process, implementation progress is measured and reported on an ongoing basis to ensure timely completion of corrective actions. Deficiencies in meeting the schedule are identified or anticipated and mitigation measures developed and implemented to manage completion of the corrective actions from the audit. Each subsequent audit update begins with a review of the previous audit to determine if the corrective action remains relevant and, if so, to reiterate the program deficiency and recommended corrective action in the current SSMP audit report. As described in *Element 9 Monitoring, Measurement and Program Modifications*, identified program updates necessary to enhance SSMP effectiveness are included as a part of the following year's business plan process and/or the formal SSMP program audit.

References for Further Information

- *SSMP Program Audit Report, 2024*

11 Communication Program

The City employs a variety of means for communicating with the public and contract agencies on the development, implementation and update of the SSMP. The following sections describe the City's procedures for:

- Communicating with the public for spills and discharges resulting in closures of public areas, or that enter a source of drinking water.
- Communicating with the public on the development, implementation, and update of its SSMP, including opportunities for public input to Plan implementation and updates.
- Owners/operators of systems that connect into the Enrollee's system, including tributary systems, for system operation, maintenance, and capital improvement-related activities.

11.1 Procedures to Communicate with Public for Spills and Discharges

The City's procedures for spill emergency response are included in Attachment F1 *Response and Reporting Procedures for Sanitary Sewer Overflows and Sewer or Stormwater Contamination*. Section 6 of these procedures provides instructions for communicating with the public when spills result in closure of public areas or enter a source of drinking water. These procedures include:

- **Communication with Regulatory and Health Agency Notifications (6.1.4)**: The District Supervisor must notify the County Operator immediately (within 15 minutes) of becoming aware of the discharge. Then the Area Manager, or his/her designee, must notify all other agencies including State Department of Health Services, the RWQCB, the State Office of Emergency Services, EPA / NRC and Heal the Bay must be notified within 2 hours of becoming aware of the discharge. In addition, a written follow up report must be provided to the County of Los Angeles Department of Health Services, the RWQCB and USEPA Region IX within 24 hours of becoming aware of the discharge.
- **Communication with Schools (6.1.6)**: For any Category I SSO that has the potential to impact schools, the District Supervisor notifies by phone the school principal and the Los Angeles Unified School District headquarters (if a public school is impacted) of the SSO. The District Supervisor informs the school of the SSO and the need to ask the students and staff to stay away from the affected area.
- **Communication with Public on Beach and Other Public Area Closures (6.1.7)**: The Manager II or Manager III notifies the Assistant Director in charge of CWCD within 1 hour if there is a potential for a beach closure. Then, the Assistant Director or his/her designee notifies Board of Public Works representatives, the Mayor's Office, the affected Council Office, and Heal the

Bay. If a beach advisory or closure occurs, then the Board of Public Works, Public Affairs Office is to be notified so that a press release can be prepared.

- **Spills Potentially Impacting Drinking Water Sources (6.1.12)**: For a Category I SSO that could impact shallow groundwater the Area Manager notifies the Department of Water and Power, Water Control Office, of the incident within 2 hours.

11.2 Procedures for General Communication with Public on SSMP

The City communicates to its customers on topics ranging from informational and educational, to ways customers can help improve collection system performance, to upcoming impacts to the community. The City's procedures for communicating with the public on the development, implementation, and update of the SSMP are as follows:

- **Public Access to SSMP**: LASAN publishes the most recent version of the SSMP on a webpage dedicated to communicating the SSMP and program implementation, along with the most recent audit report, which includes findings on performance like spill trends.
- **Opportunity for Public Input to the SSMP During Development, Implementation, and Update**: The top of the LASAN website includes a ribbon with links to all of the LASAN social media accounts and an email icon the public can click to open a feedback form. The public can use this form to provide input, share concerns, suggestions, feedback, or inquire about the SSMP during development, implementation, or update of the SSMP.
- **Public Comment and Governing Board Approval**: City staff submit each six-year SSMP update for Board of Public Works approval at a public meeting. The SSMP is placed on the Board of Public Works meeting agenda and posted electronically on the City website. The public has the opportunity to review the SSMP and provide comment directly to the Board of Public Works at a public meeting.
- **Communication through Educational Engagement**: LASAN participates in the Annual Congress of Neighborhood Councils, presenting on different issues. It also hosts events, activities, and tours at the Los Angeles Environmental Learning Center, an education center located at the Hyperion Treatment Plant. The Center was developed to bring textbook and classroom learning to life while showcasing the City's commitment to protecting public health and the environment.
- **Communication through Community Outreach**: The City reaches out to its communities through LASAN's website (www.lacitysan.org), newsletters; surveys; community events; presentations to neighborhood councils and other community organizations; advisories and press releases; and toll-free helplines. Outreach events are held for the general public, commercial and industrial entities, trade associations, professional organizations, and students. Outreach events include community fairs, LASAN Maintenance Yard Open Houses, and school visits. Outreach materials are available in several languages. Electronic

versions of the outreach materials are made available on CDs, DVDs and on the website.

11.3 Procedures for Targeted Communication with the Public on the SSMP

The City seeks public input using questionnaires sent out at appropriate intervals on selected programs to gauge the effectiveness of the programs and make changes as appropriate. The following are procedures for program-related community outreach and targeted communication efforts.

- **Communication through FOG Control Program Outreach**: The FOG Control Program outreach is geared towards FSEs, non-profit groups that have large food preparation services, and residents. The City conducts outreach both through the FSE inspection process, and in visits to schools and through educational material. City staff participates in conferences and expositions and conducts annual workshops to communicate Program requirements and obtain feedback from the general public, FSEs, and regulatory agencies on various requirements and BMPs for the control of FOG.
- **Communication through Private Lateral Sewer Maintenance and Root Control Outreach**: This outreach is focused in the areas of the City designated as “root hot spots” where sewers are susceptible to blockages and overflows caused by tree root intrusion through laterals. Properties in the “root hot spot” areas are sent pamphlets which contain information regarding causes of root growth in private laterals, prevention methods, and proper operation and maintenance for private laterals. Customers can use a telephone helpline and an e-mail address to contact City staff for further assistance. A website provided on outreach material also provides additional information and useful tips.
- **Communication of Capital Improvement Projects**: Capital Improvement Projects are listed on lasewers.org and are advertised in the community on billboards throughout the community. Phone numbers are posted on project signs that customers can call either for more information on a project or to report dust or noise coming from the project site, as well as project start and end dates. Outreach is also conducted by meeting with local businesses and the community. These activities inform communities about projects in their neighborhoods, provide information on how to get further information and how to report adverse project effects.

11.4 Procedures to Communicate with Contract Agencies

The City provides wastewater conveyance and treatment services to 29 contract agencies under contractual agreements but does not fund, operate or have control over the collection systems of these communities. LASAN has regular communication with all 29 contract agencies listed in Attachment A2. The primary points of contact with the City’s Contract Agencies are city staff in the LASAN-Financial Management Division (FMD). FMD is responsible for the contracts and the ongoing billing for parties that

discharge into the LASAN collection system to convey and treat their wastewater. Within FMD, an engineer is assigned to specific contract agencies who monitor the flows (as applicable) as well as having regular communication with the agency's designated contact regarding any issues related to billing, flow, and any discharge related issues. Procedures for communicating with contract agencies include:

- **Communications on System Operation, Maintenance and Capital Improvement-Related Activities**: LASAN staff internal meetings are held to discuss contract agency issues on a weekly basis. Contact with contract agencies is primarily through email, unless urgent and time sensitive, which would necessitate a phone call and/or meeting with relevant parties to resolve. Depending on the complexity of the issue, multiple meetings may be necessary with action items documented and tracked. If the FMD engineer deems it necessary, he or she will contact operations (Clean Water North/South Conveyance Divisions) to investigate.
- **Annual Meetings with Contract Agencies**: Annual meetings are held where all contract agencies are invited to hear about LASAN's goals and budgets, along with upcoming CIP projects that will occur. Any urgent or operational issues are made via the FMD contact.