LONG BEACH Utilities
Water · Gas · Sewer

BOARD OF PUBLIC UTILITIES COMMISSIONERS

1800 E. Wardlow Road, Long Beach, CA 90807
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September 18, 2025

Recommendation

Approve the Long Beach Public Utilities Department's (LBPUD) 2025–2031 Sewer System Management Plan (SSMP), and authorize the General Manager to implement the SSMP to meet current state regulatory requirements.

Executive Summary

The State Water Resources Control Board (SWRCB) regulates sanitary sewer systems under General Order WQ 2022-0103-DWQ. It requires agencies to develop and implement an updated SSMP every six years. The scale and complexity of the SSMP must match the size, scale and complexity of the sanitary sewer system. At minimum, the Plan must address these required elements:

1. SSMP Goals 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. Internal Audits
11. Communication Program

Every SSMP must detail procedures for the management, operation, and maintenance of the sanitary sewer system for which the SSMP applies. The procedures must: 1) identify prioritization of system repairs and maintenance to proactively prevent spills, and 2) address implementation of current standard industry practices through available equipment, technologies, and strategies.

LBPUD worked with consultant, Water Works Engineers, to update the SSMP and ensure our department is in full compliance with SWRCB's current General Order. The LBPUD's updated SSMP incorporates current best practices and reflects Long Beach's commitment to proactive and effective sewer system management. The full 2025-2031 SSMP is available online at: Long Beach Utilities WDID 4SSO11423 2025 SSMP.pdf

Fiscal Impact

Costs to implement the 2025-2031 SSMP are included in the Sewer Operating and Sewer CIP FY Budgets and financial projections.

Diana C. Tang
Assistant General Manager

B. Anatole Falagán
General Manager

Attachment

LONG BEACH Utilities
Water · Gas · Sewer

Long Beach Utilities Department Sewer System Management Plan

Long Beach, CA
August 2025

Updated by:

WATERWORKS ENGINEERS

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Acronyms and Abbreviations

BMP	Best Management Practice
CalOES	Office of Emergency Services, State of California
Caltrans	California Department of Transportation
CCTV	Closed-Circuit Television
CIP	Capital Improvement Program
City	City of Long Beach
CIWQS	California Integrated Water Quality System
CMMS	Computerized Maintenance Management System
DCS	Drainage Conveyance System
Department, LBUD	Long Beach Utility Department
FOG	Fats, Oils, and Grease
FSE	Food Service Establishments
GIS	Geographic Information System
I/I or I&I	Inflow and Infiltration
LACFCD	Los Angeles County Flood Control District
LACSD	Los Angeles County Sanitation District
LBDHHS	Long Beach Department of Health and Human Services
LBGWTP	Long Beach Groundwater Treatment Plant
LBMC	City of Long Beach Municipal Code
LBUD	Long Beach Utility Department
LBWD	Long Beach Water Department
LGB	Long Beach Airport
LRO	Legally Responsible Official
NASSCO	National Association of Sewer Service Companies
OCSD	Orange County Sanitation District
O&M	Operations and Maintenance
PACP	Pipeline Assessment & Certification Program

PSL	Private Sewer Lateral
PSSS	Private Sanitary Sewer System
RWQCB	Regional Water Quality Control Board
SCADA	Supervisory Control and Data Acquisition
SERP	Spill Emergency Response Plan
SOP(s)	Standard Operating Procedures
SSMP	Sewer System Management Plan
SSS	Sanitary Sewer System
STSS	Satellite Sewer System or Tributary Sewer System
SWRCB	State Water Resources Control Board
VCP	Vitrified Clay Pipe
WDR	Waste Discharge Requirement
WWTP	Wastewater Treatment Plant

List of Terms

Annual Report	An Annual Report (previously termed as Collection System Questionnaire in Order 2006-0003-DWQ) is a mandatory report in which the Enrollee provides a calendar-year update of its efforts to prevent Spills.
Basin Plan	A Basin Plan is a water quality control plan specific to a RWQCB, that serves as regulations to: (1) define and designate beneficial uses of surface and groundwaters, (2) establish water quality objectives for protection of beneficial uses, and (3) provide implementation measures.
Beneficial Uses	The term “Beneficial Uses” is a Water Code term, defined as the uses of the waters of the State that may be protected against water quality degradation. Examples of beneficial uses include but are not limited to, municipal, domestic, agricultural, and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.
California Integrated Water Quality System (CIWQS)	CIWQS is the statewide database that provides for mandatory electronic reporting as required in State and Regional Water Board-issued waste discharge requirements.
Data Submitter	A Data Submitter is an individual designated and authorized by the Enrollee’s LRO to enter Spill data into the online CIWQS SSS Database. A Data Submitter does not have the authority of an LRO to certify reporting entered into the online CIWQS SSS Database.
Design Storm	A prescribed hyetograph and total precipitation amount (for a specific duration recurrence frequency) used to estimate runoff for a hypothetical storm for the purposes of analyzing existing drainage, designing new drainage facilities or assessing other impacts of a proposed project on the flow of surface water. (A hyetograph is a graph of percentages of total precipitation for a series of time steps representing the total time during which the precipitation occurs.)
Disadvantaged Community	A disadvantaged community is a community with a median household income of less than eighty percent (80%) of the statewide annual median household income. For the purpose of this General Order, there is no differentiation between a small and large disadvantaged community.
Drainage Conveyance System (DCS)	A drainage conveyance system is a publicly- or privately-owned separate storm sewer system, including but not limited to drainage canals, channels, pipelines, pump stations, detention basins, infiltration basins/facilities, or other facilities constructed to transport stormwater and non-stormwater flows.

Enrollee	An Enrollee is a public, private, or other non-governmental entity that has obtained approval for regulatory coverage under the WDR, including:
	• A state agency, municipality, special district, or other public entity that owns and/or operates one or more sanitary sewer systems:
	  ○ greater than one (1) mile in length (each individual sanitary sewer system);
	  ○ one mile or less in length where the SWRCB or a RWQCB requires regulatory coverage under the WDR, or
	• A federal agency, private company, or other non-governmental entity that owns and/or operates a SSS of any size where the SWRCB or a RWQCB requires regulatory coverage under the WDR in response to a history of Spills, proximity to surface water, or other factors supporting regulatory coverage.

Environmentally Sensitive Area	An environmentally sensitive area is a designated agricultural and/or wildlife area identified to need special natural landscape protection due to its wildlife or historical value.
Exfiltration	Exfiltration is the underground exiting of sewage from a sanitary sewer system through cracks, offset or separated joints, or failed infrastructure due to corrosion or other factors.
Flood Control Channel	A flood control channel is a channel used to convey stormwater and non-stormwater flows through and from areas for flood management purposes.
Governing Entity	A governing entity includes but is not limited to the following: • A publicly elected governing board, council, or commission of a municipal agency • A Department or Division director of a federal or state agency that is not governed by a board; • A governing board or commission of an organization or association; and • A private system owner/manager that is not governed by a board
Hydrologically Connected	Two waterbodies are hydrologically connected when one waterbody flows, or has the potential to flow, into the other waterbody. According to the WDR, groundwater is hydrologically connected to a surface water when the groundwater feeds into the surface water. (The surface waterbody in this example is termed a gaining stream as it gains flow from surrounding groundwater.)

Lateral (including Lower and Upper)	A lateral is an underground segment of smaller diameter pipe that transports sewage from a customer's building or property (residential, commercial, or industrial) to the Enrollee's main sewer line in a street or easement. Upper and lower lateral boundary definitions are subject to local jurisdictional codes and ordinances, or private system ownership. A lower lateral is the portion of the lateral located between the sanitary sewer system main, and either the property line, sewer clean out, curb line, established utility easement boundary, or other jurisdictional locations. An upper lateral is the portion of the lateral from the property line, sewer clean out, curb line, established utility easement boundary, or other jurisdictional locations, to the building or property.
Legally Responsible Official (LRO)	A Legally Responsible Official is an official representative, designated by the Enrollee, with authority to sign and certify submitted information and documents required by the WDR.
Nuisance	As outlined in the WDR, a nuisance, as defined in Water Code section 13050(m), is anything that meets all of the following requirements: • Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; • Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and • Occurs during, or as a result of, the treatment or disposal of wastes.
Percent Reaching Surface Water	Volume of sewage discharged from the SSS estimated to have reached surface water divided by the total volume of sewage discharged.
Percent Recovered	Volume of sewage discharged that was captured and disposed of properly, divided by the total volume of sewage discharged.
Potential to Discharge, Potential Discharge	Potential to Discharge, or Potential Discharge, means any exiting of sewage from a SSS which can reasonably be expected to discharge into a water of the State based on the size of the sewage spill, proximity to a DCS, and the nature of the surrounding environment.
Private Sanitary Sewer System (PSSS)	A private sanitary sewer system is a SSS of any size that is owned and/or operated by a private individual, company, corporation, or organization. A private sanitary sewer system may or may not connect into a publicly owned SSS.
Private Sewer Lateral (PSL)	A private sewer lateral is the privately-owned lateral that transports sewage from private property(ies) into the SSS.
Receiving Water	A receiving water is a water of the State that receives a discharge of waste.

Resilience	Resilience is the ability to recover from or adjust to adversity or change, and grow from disruptions. Resilience can be built through planning, preparing for, mitigating, and adapting to changing conditions.
Sanitary Sewer System (SSS)	A sanitary sewer system is a system that is designed to convey sewage, including but not limited to, pipes, manholes, pump stations, siphons, wet wells, diversion structures and/or other pertinent infrastructure, upstream of a WWTP headworks, including: • Laterals owned and/or operated by the Enrollee; • Satellite sewer systems; and/or • Temporary conveyance and storage facilities, including but not limited to temporary piping, vaults, construction trenches, wet wells, impoundments, tanks, and diversion structures. For the WDR, SSS include only systems owned and/or operated by the Enrollee.
Satellite Sewer System or Tributary Sewer System (STSS)	A satellite sewer system or Tributary sewer System is a portion of a SSS owned or operated by a different owner than the owner of the downstream WWTP ultimately treating the sewage.
Service Area	The geographic area that wholly encapsulates the portion of a sanitary sewer system that an enrollee is responsible for, expressed in square miles.
Service Connection(s)	A physical connection to the enrollee's SSS for the discharge of a customer's sewage from a private sewer lateral.
Sewage	Sewage, and its associated wastewater, is untreated or partially treated domestic, municipal, commercial and/or industrial waste (including sewage sludge), and any mixture of these wastes with inflow or infiltration of stormwater or groundwater, conveyed in an SSS.
Sewer System Management Plan (SSMP)	A sewer system management plan is a living document an Enrollee develops and implements to effectively manage its SSS(s) in accordance with the WDR.
Spill	A Spill is a discharge of sewage from any portion of a SSS due to a sanitary system overflow, operational failure, and/or infrastructure failure. Exfiltration of sewage is not considered to be a Spill under the WDR if the exfiltrated sewage remains in the subsurface and does not reach a surface water of the State.
Storm Drain	For the purposes of complying with the WDR, any pipe that is part of a DCS used for collecting or conveying storm water.
Total Volume Reaching Surface Water	Amount of sewage discharged from a SSS estimated to have reached surface water.
Total Volume Recovered	Amount of sewage discharged that was captured and disposed of properly.

Training	Training is in-house or external education and guidance needed that provides the knowledge, skills, and abilities to comply with the WDR.
Wash Down Water	Wash down water is water used to clean a Spill area.
Waste	Waste, as defined in Water Code section 13050(d), includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.
Waste Discharge Identification Number (WDID)	Waste Discharge Identification Number assigned as a unique identifier by the SWRCB to each Enrollee for regulatory recordkeeping and data management purposes.
Waters of the State	Waters of the State are surface waters or groundwater within boundaries of the state as defined in Water Code section 13050(e), in which the State and Regional Water Boards have authority to protect beneficial uses. Waters of the State include, but are not limited to, groundwater aquifers, surface waters, saline waters, natural washes and pools, wetlands, sloughs, and estuaries, regardless of flow or whether water exists during dry conditions. Waters of the State include waters of the United States.
Waters of the United States	Waters of the United States are surface waters or waterbodies that are subject to federal jurisdiction in accordance with the Clean Water Act.
Water Quality Objective	A water quality objective is the limit or maximum amount of pollutant, waste constituent or characteristic, or parameter level established in statewide water quality control plans and Regional Water Boards' Basin Plans, for the reasonable protection of beneficial uses of surface waters and groundwater and the prevention of nuisance.

1 Goals and Introduction

1.1 Regulatory Context

On December 6, 2022 the California State Water Resource Control Board (SWRCB) adopted a revised WDR order No. 2022-0103-DWQ (General Order) that superseded the previous WDR. This General Order regulates sanitary sewer systems designed to convey sewage. The general order defines a sanitary sewer system as including, but is not limited to, pipes, valves, pump stations, manholes, siphons, wet wells, diversion structures and/or other pertinent infrastructure, upstream of a wastewater treatment plant headworks. A sanitary sewer system also includes:

a) Laterals owned and/or operated by the Enrollee;

b) Satellite sewer systems; and/or

c) Temporary conveyance and storage facilities, including but not limited to temporary piping, vaults, construction trenches, wet wells, impoundments, tanks and diversion structures.

An Enrollee is a public, private, or other non-governmental entity that has obtained approval for regulatory coverage under the revised General Order, including:

a) A state agency, municipality, special district, or other public entity that owns and/or operates one or more sanitary sewer systems:

    a. greater than one (1) mile in length (each individual sanitary sewer system);

    b. one (1) mile or less in length where the State Water Board or a Regional Water Board requires regulatory coverage under the revised general order; or

b) A federal agency, private company, or other non-governmental entity that owns and/or operates a sanitary sewer system of any size where the State Water Board or a Regional Water Board requires regulatory coverage under the revised general order in response to a history of spills, proximity to surface water, or other factors supporting regulatory coverage.

LBUD has more than one mile of sewer pipe and therefore, is subject to this Order. LBUD applied for coverage under the original WDR in 2006 for one collection system and was assigned a Wastewater Discharger Identification Number of **4SSO11423** in the California Integrated Water Quality System (CIWQS). The revised general order requires an enrollee to:

a) Comply with federal and state prohibitions of discharge of sewage to waters of the State, including federal waters of the United States;

b) Comply with specifications, and notification, monitoring, reporting and recordkeeping requirements in this General Order that implement the federal Clean Water Act, the California Water Code (Water Code), water quality control plans (including Regional Water Board Basin Plans) and policies;

c) Proactively operate and maintain resilient sanitary sewer systems to prevent spills;

d) Eliminate discharges of sewage to waters of the State through effective implementation of a Sewer System Management Plan (SSMP);

e) Monitor, track, and analyze spills for ongoing system-specific performance improvements; and

f) Report noncompliance with the revised General Order per reporting requirements.

A Spill is any overflow, release, discharge, or diversion of wastewater from a sewer system. Spills include:

a) Any discharge from a sanitary sewer system that has the potential to discharge to surface waters of the State is prohibited unless it is promptly cleaned up and reported

b) Any discharge from a sanitary sewer system, discharged directly or indirectly through a drainage conveyance system or other route, to waters of the State is prohibited; and

c) Any discharge from a sanitary sewer system that creates a nuisance or condition of pollution as defined in Water Code section 13050(m) is prohibited.

Pursuant to the General Order the City of Long Beach (City) Utilities Department (LBUD) is required to develop and maintain a Sewer System Management Plan (SSMP), which is documented herein. The purpose of this SSMP is to provide a plan and schedule to properly manage, operate, and maintain all parts of LBUD's sewer system. The overall objective of LBUD's SSMP program implementation is to reduce and prevent spills and to contain and mitigate spills that do occur.

This SSMP is organized by 11 elements, as mandated by the General Order:

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

Each SSMP element has specific criteria to meet compliance with the general order. These requirements shall be presented at the beginning of each element in this document. Below are the requirements for the Goal and Introduction Section:

Order WQ 2022-0103-DWQ Attachment D SSMP – Required Elements:

Goal and Introduction: The goal of the Sewer System Management Plan (Plan) is to provide a plan and schedule to: (1) properly manage, operate, and maintain all parts of the Enrollee's sanitary sewer system(s), (2) reduce and prevent Spills, and (3) contain and mitigate Spills that do occur. The Plan must include a narrative Introduction section that discusses the following items:

Regulatory Context:
The Plan Introduction section must provide a general description of the local sewer system management program and discuss Plan implementation and updates.

Sewer System Management Plan Update Schedule:
The Plan Introduction section must include a schedule for the Enrollee to update the Plan, including the schedule for conducting internal audits. The schedule must include milestones for incorporation of activities addressing prevention of sewer Spills.

Sewer System Asset Overview
The Plan Introduction section must provide a description of the Enrollee-owned assets and service area, including but not limited to:

- Location, including county(ies);
- Service area boundary;
- Population and community served;
- System size, including total length in miles, length of gravity mainlines, length of pressurized (force) mains, and number of pump stations and siphons;
- Structures diverting stormwater to the sewer system;
- Data management systems;
- Sewer system ownership and operation responsibilities between Enrollee and private entities for upper and lower sewer laterals;
- Estimated number or percent of residential, commercial, and industrial service connections; and
- Unique service boundary conditions and challenge(s)

1.2 SSMP Update and Audit Schedules

LBUD intends to meet the minimum frequency requirements for SSMP updates and audits as required by the revised general order. The SSMP must be updated by May 2nd, 2025, and every six years after (May 2nd, 2031). During the development of this Sewer System Management Plan update, the timeline extended beyond the mandated May 2nd, 2025, deadline. LBUD prioritized delivering a comprehensive and quality SSMP update that required additional time due to the significant organizational restructuring that occurred to the former Long Beach Water Department that was consolidated into LBUD in 2023 and 2024. LBUD duly notified the Regional Water Quality Control Board (RWQCB) of this schedule adjustment in advance of the deadline.

The three-year internal audit was conducted in October 2024. The following audit is scheduled for May 2027 with a due date within six months after the end of the 3-year audit period.

SSMP updates will be presented to the Board of Utility Commissioners in a public meeting for approval. LBUD has incorporated milestones for the activities addressing prevention of sewer spills and completing areas of the SSMP that are deficient, as discussed in its most recent Audit and as further defined herein under various SSMP elements. In addition, LBUD intends to annually review the effectiveness of its SSMP and incorporate changes as needed during the preparation of the annual report (formerly collection system questionnaire) and the annual review and assessment of the Spill Emergency Response Plan (SERP). Changes are logged in **Attachment A1**.

1.3 System Overview

LBUD is a commission-governed department of the City consisting of over 500 employees and operating with an annual budget of approximately $350 million. In 1911, the City created its own water utility via City Charter and bought out its two private suppliers, the Long Beach Water Company and the Alamitos Water Company. LBUD was originally only the water department and functioned to regulate and control the use, sale, and distribution of water owned or controlled by the City. In 1931, voters amended the City charter to establish the Board of Water Commissioners, 5 citizens appointed for 5-year terms by the department General Manager (now by the Mayor) with City Council approval.

In 1988, LBUD assumed responsibility for O&M of the City's sanitary sewer system. In 1990, voters amended the City charter to allow greater autonomy for LBUD in administering sanitary sewer operations. In November 2022, the voters of Long Beach approved a change to the City's charter to create the Public Utilities Department (LBUD), consolidating the City's water, natural gas, and sewer services into one department. In January 2023, Long Beach Water merged with the City's natural gas utility, forming Long Beach Utilities and renaming the commission the Board of Utilities Commissioners

LBUD's service area is located in Los Angeles County within Southern California, approximately 20 miles south of downtown Los Angeles. This coastal city is approximately bordered by the Pacific Ocean, the Los Angeles River, and the San Gabriel River, as shown on **Figure 1-1**. The majority of Long Beach is located on flat coastal plains.

With a population of approximately 500,000, the City is currently the second largest city in Los Angeles County and the fifth largest city in the state of California. The City is heavily developed, with a downtown at 4.2 million square feet of commercial office space. The City is a major tourist destination with idyllic beachfronts, large hospitality industry, and dedicated special event spaces. Major landmarks include the convention center and arena and the Port of Long Beach, one of the busiest shipping ports in the world. The City hosts the annual Grand Prix and was selected to host water-based sporting events for the upcoming 2028 Summer Olympics.

Shown in **Table 1-1** below is an estimated number and percent of residential, commercial, and industrial service connections.

Figure 1-1. City of Long Beach Map

Table 1-1 LBUD Service Connections by Land Use Type

Type	Count	Percent
Boat Dock	4	0.00
Combination – Residential and Commercial	382	0.44
Commercial	5,997	6.86
Commercial Queen Mary Corridor	23	0.03
Duplex	9,501	10.87
Institutional	186	0.21
Mobile Home Park	16	0.02
Multi-Family – 3 or More Units	10,912	12.49
Single Apartment Unit	1,860	2.13
Single Family	58,519	66.96
Total	**87,400**	

Major components of LBUD's sanitary sewer system are summarized in **Table 1-2** below. Operation and maintenance of the LBUD system components is further described in Section 4 of this SSMP.

Table 1-2 LBUD Sanitary Sewer System Overview

System Overview	
Gravity Sewer Mains (mi)	705
Force-mains (mi)	7.9
Manholes (#)	16,629
Service Connections (#)	87,400
Pump Stations (#)[1]	19
Siphons (#)	101

[1] LBUD maintains 9 other pump stations owned by other entities.

LBUD owns 19 pump stations and maintains an additional 9 other pump stations owned by other City departments. Ownership and further information on the pump stations is listed in **Table 1-3** below, including decommissioned stations. LBUD maintains a comprehensive sewer pump station inventory list (available upon request) for all 28 pump stations that tracks the following information:

- General Information (Location, year installed, most recent CIP)
- Emergency Information (First manhole location to spill)
- Hydraulic Information Pump capacity, number of pumps, type of pumps, VFDs, pump station configuration, wet well volumes, emergency storage volumes)
- Force-main Information (number of force-mains, size, length, year installed, pipe materials, valves and appurtenances)
- Monitoring, Instrumentation, Controls (SCADA connection, primary and backup telemetry, station output)
- Ancillary features (active ragging management, HVAC, onsite standby generator, hookup for external standby generator, bypass hookups for force-mains, bypass hookups for pumps)
- Ownership, operation, and maintenance information

Note that comfort stations are small restroom facilities located at beaches that collect and discharge flow to nearby gravity sewer mains. Pump station O&M procedures are described in Section 4 of this SSMP.

Table 1-3 Pump Station Overview

Station ID	Station Name	Ownership	O&M Responsibility	Pump Capacity (gpm)
S-1	Hill & Atlantic	LBUD	LBGWTP Staff	1200
S-2	North Airport	LBUD	LBGWTP Staff	600
S-3	South Airport	LBUD	LBGWTP Staff	450
S-4	Los Altos	LBUD	LBGWTP Staff	700
S-5	Westminster	LBUD	LBGWTP Staff	200
S-6	Ultimo	LBUD	LBGWTP Staff	350
S-7	Belmont Park	LBUD	LBGWTP Staff	1000
S-8	Marina 2	LBUD	LBGWTP Staff	340
S-9	Marina 1	PRM	LBGWTP Staff	150
S-10	Naples	LBUD	LBGWTP Staff	1100
S-11	Alamitos Bay	LBUD	LBGWTP Staff	550
S-12	Belmont Shore	LBUD	LBGWTP Staff	2240
S-13[1]	Belmont Pier	N/A		N/A
S-14[2]	Coronado	PRM	LBGWTP Staff	60
S-15[2]	Molino	PRM	LBGWTP Staff	100
S-16[2]	Cherry	PRM	LBGWTP Staff	550
S-17[2]	8th Place	PRM	LBGWTP Staff	100
S-18	Hart Place	LBUD	LBGWTP Staff	290
S-19	Harbor Scenic	LBUD	LBGWTP Staff	250
S-20[2]	Shoreline #1	PRM	LBGWTP Staff	200
S-21[2]	Shoreline #2	PRM	LBGWTP Staff	200
S-22[2]	Shoreline #3	PRM	LBGWTP Staff	200
S-23[2]	Shoreline #4	PRM	LBGWTP Staff	200
S-24[1]	Shoreline #5	N/A		N/A
S-25	Magnolia	LBUD	LBGWTP Staff	500
S-26	Sante Fe	LBUD	LBGWTP Staff	820
S-27[1]	Airport admin	N/A		N/A
S-28	Marine Stadium	LBUD	LBGWTP Staff	Unknown
S-29	Catalina Station	LBUD	LBGWTP Staff	Unknown
S-30	Queen Mary	LBUD	LBGWTP Staff	Unknown
S-31	Gas Department	LBUD	LBGWTP Staff	Unknown

1 decommissioned station
2 “comfort” beach-front restroom pumpstation
LGB = Long Beach Airport (not under LBUD)
LBGWTP = Long Beach Groundwater Treatment Plant (under LBUD)
PRM = Parks, Recreation, and Marine (not under LBUD)

LBUD has several satellite/tributary sanitary sewer systems owned and maintained by others, that which discharge into LBUD's collection system:

- Long Beach Harbor Department
- Long Beach Parks, Recreation, and Marine
- City of Signal Hill (only one interconnection point)
- Lyons Mobile Homes
- Lakewood Douglas Park
- Friendly Village Mobile Home Park
- Bixby Terrace Homeowners
- Carmelitos Housing Project (LA County Public Works)
- Riverdale Homeowners Association

LBUD's collection system discharges into the Sanitation Districts of Los Angeles County (LACSD) regional collection system and treatment facilities for disposal. There are many interconnection points between LBUD and LACSD systems.

Additionally, LBUD's Pump Station S-05 serves a small private tract of homes of approximately 20 acres, known as the "Island Village," located south of 2nd Street and east of the San Gabriel River. Flow collected in this area is carried through a force-main that extends eastwards to Seal Beach Boulevard to Orange County Sanitation District (OCSD) facilities. Consequently, the LBUD is a satellite system of both the LACSD and OCSD systems.

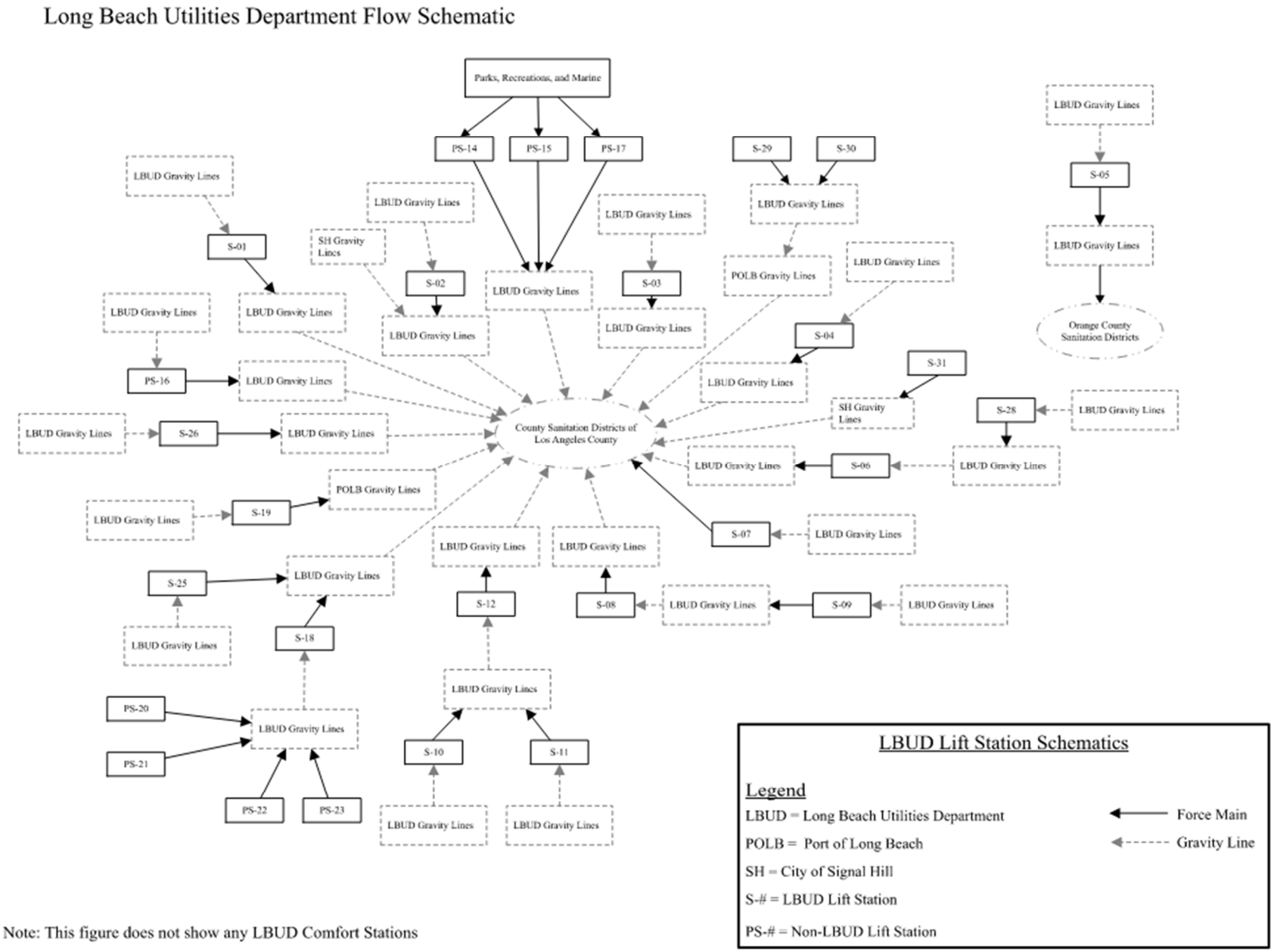
A flow schematic that delineates the interconnected structure of how the LBUD satellite/tributary systems and pump stations works is shown in **Figure 1-2** below.

LBUD utilizes data management systems to track, organize, and document all the sanitary sewer assets in its service area. Each sewer asset has a unique identification that is used for mapping as well as operations and maintenance. These systems and activities are described in more detail in Section 4 of this SSMP.

LBUD does not maintain or own any stormwater infrastructure. There are two primary stormwater conveyance agencies within the City of Long Beach limits:

1. City of Long Beach Public Works
2. Los Angeles County Flood Control District (LACFCD)

Figure 1-2. Long Beach Utilities Department Pump Station Flow Schematic



Note: This figure does not show any LBUD Comfort Stations

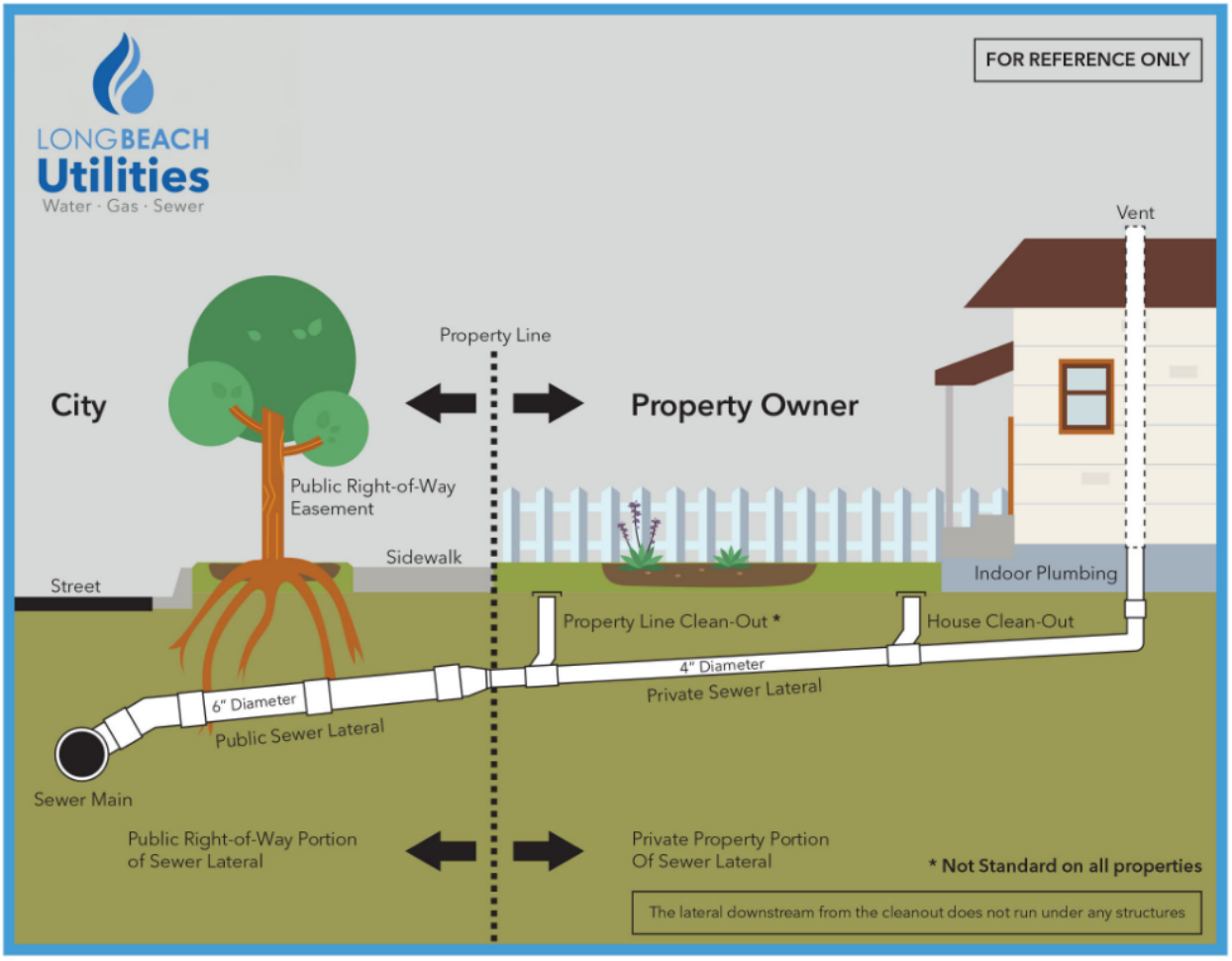
Section 1406 of LBUD's Rules and Regulations documents the property owner's sewer lateral responsibility versus LBUD's responsibility, as follows:

1. The property owner is responsible for ensuring sewage flow through the Building Sewer extending from the building to the property line, including the investigation and repair of the line. The responsibilities shall not be limited to root cutting, so as to ensure sewage flow.

2. The Department is responsible for ensuring sewage flow through the House Connection, extending from the property line to the sewer main within the public right-of-way, including repairs to the House Connection. The Department has the sole discretion in the House Connection repair process

LBUD is not responsible for any portion of the Sewer Lateral on private property or on an easement that is not a public right-of-way. More information on LBUD's legal authority can be found in Section 3 of this SSMP. **Figure 1-3** below illustrates the property owner's sewer lateral responsibilities versus LBUD's responsibilities.

Figure 1-3: Property Owner versus Long Beach Utility Department Sewer Lateral Responsibility



In addition, LBUD has created a two-page Sewer Systems Fact Sheet that staff provides to property owners to clearly explain the division of responsibilities between property owners and LBUD regarding sewer system operation, maintenance, repair, and replacement. The Sewer Systems Fact Sheet is included as **Attachment A2**.

2 Organization

Order WQ 2022-0103-DWQ Attachment D SSMP – Required Elements:

2. Organization

The Plan must identify organizational staffing responsible and integral for implementing the local Sewer System Management Plan through an organization chart or similar narrative documentation that includes:

- The name of the Legally Responsible Official as required in section 5.1 (Designation of a Legally Responsible Official) of this General Order;
- The position titles, telephone numbers, and email addresses for management, administrative, and maintenance positions responsible for implementing specific Sewer System Management Plan elements;
- Organizational lines of authority; and
- Chain of communication for reporting Spills from receipt of complaint or other information, including the person responsible for reporting Spills to the State and Regional Water Boards and other agencies, as applicable. (For example, county health officer, county environmental health agency, and State Office of Emergency Services.)

Order WQ 2022-0103-DWQ Section 5:

5.1. Designation of a Legally Responsible Official

The Enrollee shall designate a Legally Responsible Official that has authority to ensure the enrolled sanitary sewer system(s) complies with this Order, and is authorized to serve as a duly authorized representative. The Legally Responsible Official must have responsibility over management of the Enrollee's entire sanitary sewer system, and must be authorized to make managerial decisions that govern the operation of the sanitary sewer system, including having the explicit or implicit duty of making major capital improvement recommendations to ensure long-term environmental compliance. The Legally Responsible Official must have or have direct authority over individuals
that:

- Possess a recognized degree or certificate related to operations and maintenance of sanitary sewer systems, and/or
- Have professional training and experience related to the management of sanitary sewer systems, demonstrated through extensive knowledge, training and experience.

For example, a sewer system superintendent or manager, an operations manager, a public utilities manager or director, or a district engineer may be designated as a Legally Responsible Official.

The Legally Responsible Official shall complete the electronic CIWQS "User Registration" form (https://ciwqs.waterboards.ca.gov/ciwqs/newUser.jsp). A Legally Responsible Official that represents multiple enrolled systems shall complete the electronic CIWQS "User Registration" form for each system. The Enrollee shall submit any change to its Legally Responsible Official, and/or change in contact information, to the State Water Board within 30 calendar days of the change by emailing ciwqs@waterboards.ca.gov and copying the appropriate Regional Water Board as provided in Attachment F (Regional Water Quality Control Board Contact Information) of this General Order.

2.1 Positions Responsible for Implementing Sewer System Management Plan Program

The SSMP organization chart in **Attachment B** shows the lines of authority within LBUD, key positions responsible for implementing various elements of the SSMP program and

their contact information. This includes LBUD's legally responsible officials (LROs). LBUD maintains a minimum of two LROs at any given time to ensure the department complies with the general order at any given time, regardless of position vacancies or staff availability.

2.2 Chain of Communication for Reporting Spills

The chain of communication for reporting and notification of spills is documented in the *Spill Emergency Response Plan,* which is included in **Attachment F1**. Key positions described in the workflow include:

Water Communications Dispatch Control 1 (7:00 a.m. to 5:00 p.m.): The Water Communications Dispatch Control 1 receives complaint calls during Normal Working Hours and forwards these calls to Radio #530.

Radio #530 (6:30 a.m. to 5:00 p.m.): Radio #530 receives spill complaints during Normal Working Hours and contacts the Water Utility Supervisor II (WUS II) to notify the potential spill and also contacts a Cleaning Truck Crew to be dispatched and investigate.

Water Utility Supervisor II (6:30 a.m. to 5:00 p.m.): The WUS II receives notification of a potential spill and sends out information to LBUD's spill email list. After receiving spill facts from Radio #530, the WUS II will send out confirmation of the spill with additional information to the spill email list. If there is no reportable spill, the WUS II will notify the spill email list and is responsible for spill notifications to the Regional Board and other stakeholders. The WUS II is responsible for draft spill reporting in CIWQS.

Cleaning Truck Crew (6:30 a.m. to 5:00 p.m.): The cleaning truck crew will respond to all spills notified by Radio #530. If the spill is confirmed, the cleaning truck crew will notify the WUS II and the Office of Emergency Services and begin leading spill response activities and documentation of the spill event.

Water Communications Dispatch Control 1 (After Hours 5:00 p.m. to 7:30 p.m.): The Water Communications Dispatch Control 1 receives complaint calls during After Hours, from 5:00 p.m. to 7:30 p.m., and contacts the Standby Sewer Lead of a potential spill.

Gas Dispatch (After Hours 7:30 p.m. to 7:00 a.m., Weekends and Holidays): Gas Dispatch receives complaint calls after 7:30 p.m. Monday through Friday, and on weekends and Holidays. Gas Dispatch notifies the Standby Sewer Lead of a potential spill.

Sewer Standby Lead (After Hours 5:00 p.m., Weekends and Holidays): The Sewer Standby Lead receives notifications of a potential spill and contacts a second standby crew person to pick up a cleaning truck at the Operations Service Center yard and meet at the spill location. The Sewer Standby Lead will call and inform the Standby Water Utility Supervisor II and the Office of Emergency Services and begin leading spill response activities and documentation of the spill event.

Standby Water Utility Supervisor II (After Hours 5:00 p.m., Weekends and Holidays): The Standby Water Utility Supervisor II will send out notification to the spill email list and receive spill facts from the Sewer Standby Lead. Once the facts of the potential spill have been received and spill has been verified, the Standby Water Utility Supervisor II will send additional information out to the spill email list. The Standby Water Utility Supervisor II is responsible for draft spill reporting in CIWQS.

Sewer Operations Manager (6:30 a.m. to 4:00 p.m.): The Sewer Operations Manager is responsible for verifying that all Sewer Water Utility Supervisors follow the established spill protocols pertaining to the SSMP.

A detailed workflow for the spill response is shown on Figure 3-1 in **Attachment F1**.

3 Legal Authorities

Order WQ 2022-0103-DWQ Attachment D SSMP – Required Elements:

3. Legal Authority:

The Plan must include copies or an electronic link to the Enrollee's current sewer system use ordinances, service agreements and/or other legally binding procedures to demonstrate the Enrollee possesses the necessary legal authority to:

- Prevent illicit discharges into its sanitary sewer system from inflow and infiltration (I&I); unauthorized stormwater; chemical dumping; unauthorized debris; roots; fats, oils, and grease; and trash, including rags and other debris that may cause blockages;
- Collaborate with storm sewer agencies to coordinate emergency Spill responses, ensure access to storm sewer systems during Spill events, and prevent unintentional cross connections of sanitary sewer infrastructure to storm sewer infrastructure;
- Require that sewer system components and connections be properly designed and constructed; for portions of the service lateral owned and/or operated by the Enrollee;
- Enforce any violation of its sewer ordinances, service agreements, or other legally binding procedures; and
- Obtain easement accessibility agreements for locations requiring sewer system operations and maintenance, as applicable.

3.1 Sources of Long Beach Utility Department Legal Authorities

All sources of Legal Authority, Rules and Regulations, Ordinances, Municipal Code, Memorandums of Understanding with LBWD were transferred to LBUD when the reorganization of the department occurred. See Section 1.3 of the SSMP for more information.

3.1.1 City of Long Beach Charter

Article XIV of the City's Charter established LBUD and grants LBUD full and complete jurisdiction over all of the City's sewer system. According to Article XIV, LBUD is under the exclusive jurisdiction and control of the LBUD Board of Public Utilities Commissioners (Board) who have complete and exclusive power and duty to supervise, control, regulate, and manage the LBUD and to make and enforce all necessary rules and regulations. These documents are publicly available online and can be made available upon request.

3.1.2 Long Beach Utility Department Rules and Regulations

LBUD's Board adopts Rules, Regulations and Charges Governing Potable Water, Reclaimed Water, Sewer Service, and the Water Shortage Contingency Plan (Rules and Regulations) to govern departmental operations. This document is publicly available online and can be made available upon request.

3.1.3 City of Long Beach Municipal Code

LBUD's Rules and Regulations are codified into Chapter 15, Public Utilities of the City of Long Beach Municipal Code (LBMC), as approved and adopted by City Council. These documents are publicly available online and can be made available upon request.

Table 3-1 summarizes LBUD's legal authorities for each of the legal authorities required by the WDR.

Table 3-1. Summary of Legal Authorities

Requirement	Source of Authority
GENERAL	
Prevent illicit discharges into the wastewater collection system (WDR Point #1)	• Rules and Regulations, Section 1401 – Discharges Prohibited
Limit the discharge of FOG and other debris that may cause blockages (WDR Point #1)	• Rules and Regulations, Section 1301 – Standards for Discharge
Require that sewers and connection be properly designed and constructed (WDR Point #3)	• Rules and Regulations, Section 1402 – Approval Required Prior to Occupancy • Rules and Regulations, Section 1408 – Existing Sewer Laterals • Rules and Regulations, Part 15 – Sewer Installation
Require proper installation, testing, and inspection of new and rehabilitated sewers (WDR Point #3)	• Rules and Regulations, Section 1417 – Inspection • Rules and Regulations, Part 16 – Sewer Inspection and Enforcement
Ensure access to stormwater systems during spill events and prevent unintentional cross connections of sanitary sewer systems to storm sewer infrastructure (WDR Point #2)	• LBMC, Chapter 8.96 – Stormwater and Runoff Pollution Control
Obtain easement access easement accessibility agreements for locations requiring sewer system operations and maintenance (WDR Point #6)	• Rules and Regulations, Section 301 – Facilities Installed under Private Contract • Rules and Regulations, Section 302 – Construction in Utilities Department Easements • Rules and Regulations, Section 304 – Cost Sharing Policy for Transmission Main Relocation • Rules and Regulations, Section 1405 & LBMC, Section 15.20.050 – Building Sewer Connection Across Another Lot • Rules and Regulations, Section 1701 – Installation of Facilities in Subdivisions or other Parcels
LATERALS	
Clearly define City lateral responsibility and policies	• Rules and Regulations, Section 1406 – Sewer Lateral Responsibility
Ensure access for maintenance, inspection, or repairs for portions of the service lateral owned or maintained by the City (WDR Point #4)	• Rules and Regulations, Section 1406 – Sewer Lateral Responsibility, Subsection B.3
Requirement	**Source of Authority**
Control infiltration and inflow from private service laterals (WDR Point #1)	• Rules and Regulations, Section 1401 – Discharges Prohibited, Subsection F • Rules and Regulations, Section 1412 – Disposal of Uncontaminated Water
FOG SOURCE CONTROL	
Installation of grease removal device (WDR Point #1)	• Rules and Regulations, Section 1306 – Grease Trap Requirements • Rules and Regulations, Section 1308 – General Interceptor Requirements

Design standards for grease removal device (WDR Point #3)	• Rules and Regulations, Section 1306 – Grease Trap Requirements • LBMC, Section 8.46.040 – Requirements for Grease Interceptors, Subsection A • LBMC, Section 8.46.050 – Requirements for Grease Traps, Subsections B and C
Maintenance and BMP requirements	• Rules and Regulations, Section 1307 – Operator's Responsibility • LBMC, Section 8.46.030 – Requirements for Food Facilities, Subsection A
Record keeping and reporting	• Rules and Regulations, Section 1307 – Operator's Responsibility, Subsection B • LBMC, Section 8.46.030 – Requirements for Food Facilities, Subsection E
Authority to inspect grease producing facilities	• LBMC, Section 8.46.030 – Requirements for Food Facilities Subsection G • LBMC, Section 8.46.060 - Enforcement
ENFORCEMENT	
Enforce any violations of sewer ordinances (WDR Point #5)	• Rules and Regulations, Section 1101 – Conditions of Sewer Service • Rules and Regulations, Section 1301 – Permit Revocation • Rules and Regulations, Section 1503 – Notice of Noncompliance • LBMC, Section 8.46.060 – Enforcement • FOG MOU (**Attachment G3**)

4 Operations and Maintenance Program

Order WQ 2022-0103-DWQ Attachment D SSMP – Required Elements:

4 Operation and Maintenance Program

The Plan must include the items listed below that are appropriate and applicable to the Enrollee's system.

4.1 Updated Map of Sanitary Sewer System

An up-to-date map(s) of the sanitary sewer system, and procedures for maintaining and providing State and Regional Water Board staff access to the map(s). The map(s) must show gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities within the sewer system service area boundaries.

4.2 Preventive Operation and Maintenance Activities

A scheduling system and a data collection system for preventive operation and maintenance activities conducted by staff and contractors

The scheduling system must include:

- Inspection and maintenance activities;
- Higher-frequency inspections and maintenance of known problem areas, including areas with tree root problems;
- Regular visual and closed-circuit television (CCTV) inspections of manholes and sewer pipes.

The data collection system must document data from system inspection and maintenance activities, including system areas/components prone to root-intrusion potentially resulting in system backup and/or failure.

4.3 Training

In-house and external training provided on a regular basis for sanitary sewer system operations and maintenance staff and contractors. The training must cover:

- The requirements of this General Order;
- The Enrollee's Spill Emergency Response Plan procedures and practice drills;
- Skilled estimation of Spill volume for field operators; and
- Electronic CIWQS reporting procedures for staff submitting data.

4.4 Equipment Inventory

An inventory of sewer system equipment, including the identification of critical replacement and spare parts.

4.1 Asset GIS Mapping

LBUD maintains an ESRI ArcPro Geographic Information System Database (GIS) for its assets. The GIS map was compiled from LBUD's historic Sewer Atlas Maps. The sewer GIS is routinely updated with new and rehabilitated facilities and is corrected as needed when staff identify errors or inconsistencies with existing data. Staff complete a form and attach pictures to report problems with existing GIS data to the GIS group. GIS staff make updates based on a standard operating procedure. As part of these updates, the GIS group adds laterals to GIS based on closed-circuit television (CCTV) inspection videos.

The comprehensive GIS database contains detailed and up to date information on the sanitary sewer network. The network consists of over 30 distinct feature classes to represent different sewer assets notably including:

- gravity sewer main segments
- service laterals

- manholes and cleanouts
- pumping facilities
- pressurized sewer main segments
- valves and other appurtenances
- stormwater conveyance facilities (supplemental reference)

The mapping is used by both engineering and O&M staff in the office and the field to facilitate preventative operation and maintenance activities. O&M staff utilize computerized devices in the field that use the IWater Inframap software.

4.2 Preventive Operation and Maintenance Activities

LBUD staff conduct a proactive operation and preventative maintenance program for its sewer collection and conveyance systems. This program has proven to be effective and successful for LBUD in reducing spills, maintaining system capacity, and mitigating deficiencies.

The program includes:

- Aggressive system-wide sewer gravity main cleaning
- Targeted and higher frequency repeat cleaning of gravity main segments with identified maintenance issues
- Targeted mechanical and/or chemical root control on pipe segments with identified root issues
- Flow level monitoring at locations with an elevated risk of sewer overflow
- Regular CCTV inspection of sewer pipelines
- Reactive CCTV investigations to determine the root cause of sewer pipeline blockages and spills to adjust maintenance approach
- Regular inspection, preventative maintenance, and/or exercising of electrical, controls, and instrumentation equipment, mechanical piping, valves and appurtenance at pump stations.

LBUD utilizes a work order management system and is piloting a standard CMMS program for asset management, O&M, documentation, work orders, scheduling, and data collection. This pilot program is anticipated to be concluded in the next 6 years.

4.2.1 Collection System Operation and Maintenance

Gravity sewer collection system operation and maintenance is provided by LBUD Sewer Operations.

System-wide Sewer Main Cleaning

LBUD cleans all sewer mains on a 2-year rotation. The system is divided into map grids that are divided into 5 Sewer Cleaning Groups. One sewer cleaning crew is assigned to each Sewer Cleaning Group. The map grids within each Sewer Cleaning Group are

systematically assigned to sewer cleaning crews to accomplish the 2-year cleaning cycle. Once a cycle is complete, the sewer cleaning crew repeats the process. The grids are generally cleaned in the same order with each cycle. The Sewer Cleaning Water Utility Supervisor tracks the percentage of sewer map grids completed versus the percentage of the 2-year cycle expended and can easily see which crew is ahead of or behind schedule. Sewer cleaning crews ahead of schedule may be deployed to support crews that are behind schedule.

The cleaning procedure includes the use of a proofer that assesses the diameter of the pipe. Any debris or defect that reduces the diameter or protrudes out will be detected by the proofer and sewer cleaning crews document maintenance issues on the paper service rendered forms and will recommend potential additions to the targeted preventive maintenance program or the reactive CCTV program when significant maintenance issues (i.e., roots, grease, and debris) are found.

Targeted High Frequency Sewer Main Cleaning

LBUD targets more frequent sewer cleaning on specific pipe segments with known maintenance issues or atypical configurations (inverted siphons). The Water Utility Supervisor responsible for sewer cleaning maintains a list identifying pipe segments cleaning on either a 60-day, 90-day,120-day, or 180-day cleaning cycle. Targeted sewer cleaning takes precedence over system-wide sewer cleaning. Water Utility Supervisors analyze cleaning and CCTV data to determine if the specific segment is a recurring issue or if it can be removed from the list. This list is available upon request.

Targeted Mechanical and Chemical Root Control

LBUD performs targeted mechanical and/or chemical root control on pipe segments with root intrusion issues that is applied selectively and is supplemental to the regular gravity sewer main cleaning program.

Sewer Manhole Visual Inspection

LBUD currently performs manhole visual inspection during routine cleaning and CCTV inspection. The following criteria are assessed for each manhole:

- Frame condition
- Overall structural Integrity and degradation
- Grade adjustment
- Flow surcharging
- Channel condition
- Evidence of inflow and infiltration

LBUD performs more detailed inspection of manholes where warranted or when a significant number of manholes have been identified for potential rehabilitation.

Manhole inspection records are documented on paper forms, and a photo is taken. The manhole inspection data is entered into LBUD’s database. Manhole inspections and CCTV inspections are documented and tracked via work orders.

Flow Level Monitoring

LBUD currently maintains forty-seven (47) mobile level sensors which have live monitoring and reporting software that can alarm LBUD Sewer Operations staff of surcharging conditions. Two of the sensors also incorporate flow monitoring. Sensors are applied and relocated at the discretion of LBUD Sewer Operations staff.

Gravity Main Closed Circuit Television Inspection

Routine Program

LBUD Sewer Operations inspects the gravity sewer system over a 5-year period using CCTV and the National Association of Sewer Service Companies (NASSCO) Pipeline Assessment Certification Program (PACP). Crew supervisors perform quality control reviews of CCTV data to maintain data quality and reliability of condition scoring. This quality control review is incorporated into staff training.

LBUD Sewer Operations maintains CCTV inspection data utilizing the PipeLogix inspection software package. The data is then uploaded into an Microsoft Access database and is integrated with LBUD's GIS applications.

Investigative CCTV Inspections

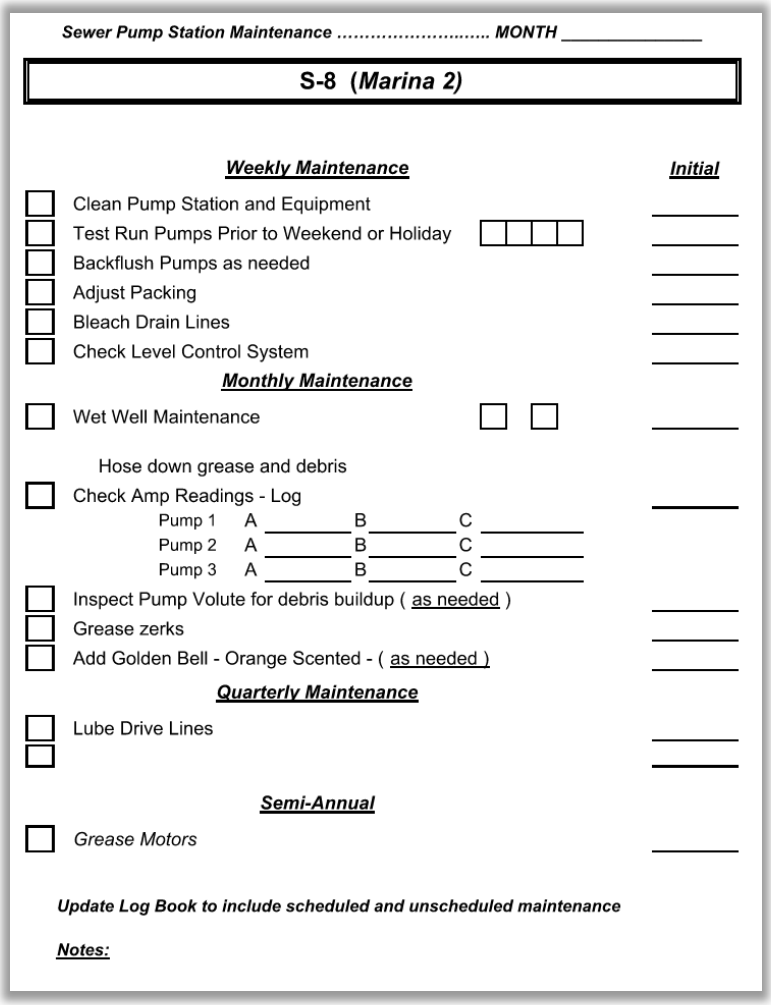
LBUD Sewer Operations performs investigative CCTV inspections on an as-needed basis. In some cases, these investigative CCTV inspections result in targeted adjustments to the preventative Operations & Maintenance program. This type of investigative CCTV inspection is also performed after spills and blockages to determine the root cause of failure and to determine an appropriate corrective action, which in many cases is targeted and increased sewer cleaning.

4.2.2 Conveyance System Operation and Maintenance

LBUD owns 19 pump stations and operates and maintains an additional 9 pump stations owned by other entities as listed in **Table 1-3**. A flow schematic illustrating the relationship of the pump stations is shown on **Figure 1-2**. All operation and maintenance is provided by LBUD Treatment Plant staff.

Pump station inspections/maintenance are performed on a scheduled basis. All pump stations receive weekly, monthly, and annual checks with some stations receiving quarterly checks. Each tier of inspection/maintenance has different procedures. These are detailed in Standard Operating Procedures (SOPs) for each station. **Figure 4-1** shown below is the SOP used for Station S-8 as an example:

Figure 4-1 Example SOP for Pump Station Maintenance



Sewer Pump Station Maintenance ..... MONTH _____

S-8 (*Marina 2*)

Weekly Maintenance — ***Initial***

- ☐ Clean Pump Station and Equipment _____
- ☐ Test Run Pumps Prior to Weekend or Holiday ☐☐☐☐ _____
- ☐ Backflush Pumps as needed _____
- ☐ Adjust Packing _____
- ☐ Bleach Drain Lines _____
- ☐ Check Level Control System _____

Monthly Maintenance

- ☐ Wet Well Maintenance ☐ ☐ _____

  Hose down grease and debris
- ☐ Check Amp Readings - Log _____

  Pump 1 A _____ B _____ C _____
  Pump 2 A _____ B _____ C _____
  Pump 3 A _____ B _____ C _____
- ☐ Inspect Pump Volute for debris buildup (as needed) _____
- ☐ Grease zerks _____
- ☐ Add Golden Bell - Orange Scented - (as needed) _____

Quarterly Maintenance

- ☐ Lube Drive Lines _____
- ☐ _____

Semi-Annual

- ☐ *Grease Motors* _____

Update Log Book to include scheduled and unscheduled maintenance

Notes:

Pump station inspection rounds begin with a visual inspection of the facility for items such as vandalism or damage to the site. All generators located on pump station sites are tested on a monthly basis. A log book is maintained at the pump station and also at LBUD Control 2. Additionally, pump stations S-10, S-12, and S-31 are dosed weekly with degreaser enzymes.

The pump stations are monitored through a Supervisory Control and Data Acquisition (SCADA) system located at the Long Beach Groundwater Treatment Plant (LBGWTP).

Pump station operators respond as-needed to SCADA alarms to ensure stations are operating properly. Each station has been evaluated to determine the required emergency response. Pump station failure is typically addressed through emergency bypass pumping. Larger bypassing needs, such as at pump station S-10 with force-main length of 7,205 feet, may be addressed through an on-call contractor and coordination with LBUD Engineering. Tow-behind generators may also be used in the event of a power outage at a pump station.

Force-main Inspection and Maintenance

LBUD Sewer Operations provides operation and maintenance of sewer force-mains, however there are very few offsite isolation valves, blow off valves, air valves, or other appurtenances that require inspection or maintenance. Consequently, primary monitoring of the force-mains performance is conducted by LBUD Treatment Plant staff during routine pump performance monitoring at the pump station. As discussed further herein, periodic condition assessments will be provided by LBUD Engineering. LBUD monitors the performance of the pumps through SCADA and the routine inspections and will investigate a force-main if pump station performance issues indicate an issue with the force-main.

4.3 Training

LBUD requires O&M staff to undergo routine training and maintains consistency across its O&M activities by utilizing SOPs. Staff are exposed to training material across a combination of in-house and on-the-job classes, conferences and seminars, industry certifications, and other sources.

An introductory training session is provided to staff with an introduction guide to GIS to familiarize new employees with the sewer system GIS. The training also identifies GIS capabilities, such as zoom-in and zoom-out of the mapping system and how to extract sewer system information from GIS.

LBUD trains staff for CIWQs data input, and in spill response procedures and spill volume estimation pursuant to the Spill Emergency Response Plan (Reference Section 6).

LBUD requires contractors to train their staff in the specifications for the work they are performing. General procedures are reviewed with contractor's staff before the work begins.

All internal training for LBUD Sewer Operations is provided by the QA/QC Supervisor, and in addition, mandatory safety training for LBUD is provided by the LBUD Safety Officer.

4.4 Equipment and Replacement Part Inventories

LBUD's major O&M equipment is included in Table 4-1 below:

Table 4-1 Major O&M Equipment

Equipment	Number
Hyrdrojetter Truck(s)	6
CCTV Inspection Vehicle(s)	5
Utility Truck(s)	11
Portable Bypass Pump(s)[1]	5
Portable Generator(s)[1]	7

[1] Three generators are owned by FEMA but may be utilized by LBUD Sewer Operations.

LBUD maintains an inventory of spare and critical parts for the collection system (Sewer Operations) and conveyance system (Treatment Plant Division) in LBUD warehouses. These inventory lists are available upon request.

5 Design and Performance Provisions

Order WQ 2022-0103-DWQ Attachment D SSMP – Required Elements:

5. Design and Performance Provisions:

The Plan must include the following items as appropriate and applicable to the Enrollee's system:

5.1 Updated Design Criteria and Construction Standards and Specifications

Updated design criteria, and construction standards and specifications, for the construction, installation, repair, and rehabilitation of existing and proposed system infrastructure components, including but not limited to pipelines, pump stations, and other system appurtenances. If existing design criteria and construction standards are deficient to address the necessary component-specific hydraulic capacity as specified in section 8 (System Evaluation, Capacity Assurance and Capital Improvements) of this Attachment, the procedures must include component-specific evaluation of the design criteria.

5.2 Procedures and Standards

Procedures, and standards for the inspection and testing of newly constructed, newly installed, repaired, and rehabilitated system pipelines, pumps, and other equipment and appurtenances.

5.1 Design and Construction Standards and Specifications

LBUD requires that all new sewer systems, pump stations and other appurtenances, as well as the rehabilitation and repair of existing sewer facilities, be designed and constructed in accordance with the following design requirements:

- LBMC, Section 15
- LBUD Sewer System Design Guidelines
- LBUD Standard Drawings and Details
- The latest edition of the Standard Specifications for Public Works Construction (Green Book)

Where LBUD standards do not fully cover the design, the new sewer systems, pump stations, and rehabilitated sewer facilities are designed and constructed in accordance with the following design requirements:

- Los Angeles County Sanitation Districts, Standard Drawings for Construction
- City of Los Angeles Department of Public Works, Bureau of Engineering, Part F – *Sewer Design*, latest edition
- Los Angeles County, Department of Public Works, *Private Contract Sanitary Sewer Procedural Manual*, latest edition

Electronic files for sample sewer drawings and for construction specifications are available upon request.

LBUD updates the design and construction standards and specifications on an as-needed basis. The Long Beach sewer service area is largely built out with limited new sewer extensions. Growth within the City is typically associated with redevelopment that may be

more likely to utilize existing sewer infrastructure. If the proposed growth adds significantly to flows in the existing sewers and downstream facilities, LBUD requires the developer to cover design and construction costs for the sewer capacity improvements to accommodate the additional flow.

5.1.1 Standards for Gravity Sewers

LBUD's design requirements include design specifications applying to both new, repaired and rehabilitated assets. The specifications and standards include provisions for but are not limited to:

- Sewer main depth, slope, size, and location
- Sewer lateral depth, slope, size, and location
- Pipeline material types
- Design parameters for gravity sewer main flow and demand
- Pipe Specifications
- VCP Strength and placement
- Pipe Laying Method
- Sewer Structures
- End Structures
- Sewer Requirement per Lot
- Building Sewer Grade
- House Connection Grade
- Reducers
- Cleanouts

LBUD refers to the Standard Specifications for Public Works Construction (Green Book) for gravity sewer rehabilitation and repairs.

5.1.2 General Guidelines for Sewer Force-mains

LBUD force-mains are designed on a case-by-case basis for each pump station. LBUD may refer to The City of Los Angeles Department of Public Works, Bureau of Engineering, Part F – Sewer Design and the Standard Specifications for Public Works Construction (Green Book) for sewer force-main design.

5.1.3 General Guidelines for Sewer Pump Stations

LBUD pump stations are designed on a case-by-case basis for each unique situation. LBUD may refer to The City of Los Angeles Department of Public Works, Bureau of Engineering, Part F – Sewer Design and the Standard Specifications for Public Works Construction (Green Book) for sewer pump station design.

5.1.4 Standard Drawings

LBUD's *Standard Drawings and Designs* contains standard drawings for standard sewer improvements, including:

- WDS-501: Shallow Sewer Manhole <5' depth
- WDS-502: Sewer Manhole
- WDS-503: Drop Sewer Manhole
- WDS-505: Sewer Manhole Frame and Cover

- WDS-506: Sewer Mainline and Lateral Cleanout
- WDS-507: Sewer Chimney
- WDS-510: Sewer Main Support
- WDS-511: House Sewer Connection
- WDS-512: Sewer Manhole Concrete Shelf Retrofit
- WDS-513 Cut-in Wye on Existing Sewer

5.2 Procedures and Standards for Inspection and Testing

All work for LBUD is subject to inspection and gravity sewer construction must be warranted for a minimum of 1 year by the contractor. An internal CCTV inspection may be conducted prior to the end of the warranty period to ensure continued conformance to design standards.

LBUD's Rules and Regulations requires approval by an LBUD authorized inspector prior to use or occupancy of any building or structure for which a sewer has been constructed. The City's Public Works Department assists LBUD with processing applications and issuing permits for new sewer connections on behalf of the LBUD. The department and the authorized inspector have the following authority:

- **Inspection**

  LBUD may inspect as often as deemed necessary, every sewer pumping plant, private sewage disposal system, sewer lateral, dilution basin, neutralization basin, backwater trap or valve, or other similar appurtenances, for the purpose of ascertaining whether such facilities are maintained and operated in accordance with the rules. All persons shall permit LBUD to have access to all such facilities at all reasonable times. No object, whether a temporary or permanent structure, nor any object which is difficult to remove, shall be placed in such a position so as to interfere with the ready and easy access to any such facility. Upon request by LBUD any such obstruction shall be immediately removed at no expense to LBUD and shall not be replaced. (Rules and Regulations: Section 1417)

- **Building Sewer Testing**
  - Upon completion, every house connection and building sewer shall be subjected to a water pressure test by completely filling with water every portion of pipe from the lowest to the highest portion thereof. (Rules and Regulations: Section 1528)
  - No house connections or building sewer shall be approved if any portion thereof, including any fitting, material, work or construction, fails to withstand the test without leaking at any point or does not comply with the provisions of Parts 10 through 18. (Rules and Regulations: Section 1528)

- **Right of Entry**

  LBUD shall have the right of entry into and upon any property, building, structure, or site served by any public or private sewer, cesspool, septic tank, or appurtenances thereon, for the purpose of examining and inspecting the construction or condition of the sewer, cesspool, septic tank or appurtenances, and every person owning, controlling, or otherwise occupying the property, structure, or site shall permit the entrance and give such aid as may be

necessary or required for the examination and inspection. (Rules and Regulations: Section 1601)

- **Inspection Requirements**

  All construction and installation made pursuant to the rules shall be subject to: 1) a permit from LBUD for sewer connections to the main line sewers, 2) an encroachment permit issued by the City Department of Public Works for excavation in City streets, 3) a rider from the California Department of Transportation (Caltrans) for excavation in a Caltrans right-of-way and 4) inspection and approval by each of these agencies. (Rules and Regulations: Section 1602)

- **Work To Be Observed**

  At the time of the inspection the permittee shall have all work uncovered and convenient for the LBUD's examination and shall give the LBUD every facility necessary to make a thorough examination and to apply the required water pressure test. The permittee shall furnish all labor, tools, and materials necessary for the test. No sewer lateral shall be inspected unless the required plug and water for tests are available on the job when the LBUD arrives. The permittee shall demonstrate to the LBUD that every plumbing fixture requiring drainage has been connected to a building sewer and drains into a public sewer. (Rules and Regulations: Section 1603)

- **Defective Work Correction**

  If the LBUD notifies a permittee that the construction or installation of any part thereof is defective, the permittee shall, within ten days after notice from the LBUD, remove and reconstruct the construction or installation of any part thereof found to be defective. (Rules and Regulations: Section 1604)

- **Certificate of Final Inspection**

  Upon request, a certificate of final inspection may be issued to the person constructing the work if it appears that all work done under a permit issued pursuant to these rules has been constructed according to, and meets all the requirements of, the applicable provisions of these rules, and that all charges have been paid. (Rules and Regulations: Section 1605)

6 Spill Emergency Response Plan

Order WQ 2022-0103-DWQ Attachment D SSMP – Required Elements:

6 Spill Emergency Response Plan

The Plan must include an up to date Spill Emergency Response Plan to ensure prompt detection and response to Spills to reduce Spill volumes and collect information for prevention of future Spills. The Spill Emergency Response Plan must include procedures to:

- Notify primary responders, appropriate local officials, and appropriate regulatory agencies of a Spill in a timely manner;
- Notify other potentially affected entities (for example, health agencies, water suppliers, etc.) of Spills that potentially affect public health or reach waters of the State;
- Comply with the notification, monitoring and reporting requirements of this General Order, State law and regulations, and applicable Regional Water Board Orders;
- Ensure that appropriate staff and contractors implement the Spill Emergency Response Plan and are appropriately trained;
- Address emergency system operations, traffic control and other necessary response activities;
- Contain a Spill and prevent/minimize discharge to waters of the State or any drainage conveyance system;
- Minimize and remediate public health impacts and adverse impacts on beneficial uses of waters of the State;
- Remove sewage from the drainage conveyance system;
- Clean the Spill area and drainage conveyance system in a manner that does not inadvertently impact beneficial uses in the receiving waters;
- Implement technologies, practices, equipment, and interagency coordination to expedite Spill containment and recovery;
- Implement pre-planned coordination and collaboration with storm drain agencies and other utility agencies/departments prior, during, and after a Spill event;
- Conduct post-Spill assessments of Spill response activities;
- Document and report Spill events as required in this General Order; and
- Annually, review and assess effectiveness of the Spill Emergency Response Plan, and update the Plan as needed.

LBUD's Spill Emergency Response Plan documents the protocols LBUD staff follow in the event of a spill and is included as **Attachment F1**.

6.1 Summary of the Spill Emergency Response Plan Sections

LBUD's SERP contains the following sections:

- **Section 1 - Purpose**
- **Section 2 - Spill Detection**
- **Section 3 – Spill Response Procedures**
- **Section 4 – Spill Documentation and Reporting**
- **Section 5 - Equipment**
- **Section 6 – Spill Response Training**

6.2 Contractor Spill Prevention and Emergency Response Plans

LBUD requires all construction contractors performing work on the collection system to develop, submit and implement a Spill Prevention Plan in construction contracts. **Attachment F2** includes a LBUD Engineering standard specification that includes a description for the Spill Prevention, Control, and Countermeasure Plan.

7 Sewer Pipe Blockage Control Program

Order WQ 2022-0103-DWQ Attachment D SSMP – Required Elements:

7 Sewer Pipe Blockage Control Program:

The Sewer System Management Plan must include procedures for the evaluation of the Enrollee's service area to determine whether a sewer pipe blockage control program is needed to control fats, oils, grease, rags and debris. If the Enrollee determines that a program is not needed, the Enrollee shall provide justification in its Plan for why a program is not needed.

The procedures must include, at minimum:

- An implementation plan and schedule for a public education and outreach program that promotes proper disposal of pipe-blocking substances;
- A plan and schedule for the disposal of pipe-blocking substances generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of substances generated within a sanitary sewer system service area;
- The legal authority to prohibit discharges to the system and identify measures to prevent Spills and blockages;
- Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, best management practices requirements, recordkeeping and reporting requirements;
- Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the fats, oils, and grease ordinance;
- An identification of sanitary sewer system sections subject to fats, oils, and grease blockages and establishment of a cleaning schedule for each section; and
- Implementation of source control measures for all sources of fats, oils, and grease reaching the sanitary sewer system for each section identified above.

In 2003, LBUD determined that a formal FOG control program was necessary to meet the following objectives:

- Reduce the number of blockages and resultant spills in City sewer lines caused by FOG
- Reduce the frequency of cleaning needed to control FOG in "repeat" sewer lines

In 2005, the City Council implemented FOG Ordinance No. ORD-05-0003, which added regulations for the disposal of FOG into the LBMC under Chapter 8.46. In September 2016, a Memorandum of Understanding (MOU) between the LBUD and the LBDHHS was reinstated to reduce blockages/spills in City sewer lines due to FOG from food service establishments (FSEs). The FOG control program remains active, enforced, and the MOU was updated in 2021. LBDHHS has more than 2,200 FSEs that are required to comply with the FOG regulations.

7.1 Public Education Outreach Program

LBUD's goal is to educate the community about healthy sewers through campaigns, social and digital media, community events, and promotional products. LBUD seeks to utilize prominent events throughout the city and holidays to promote the healthy sewers campaign.

LBUD and LBDHHS have developed the following public education outreach programs in an effort to reduce FOG:

- LBUD frequently distributes brochures at public events to highlight best management practices (BMP) that can be performed in households
- LBUD routinely posts advertisements in local newspapers
- LBUD and LBDHHS distribute BMP posters in several languages for FSE kitchens
- LBUD distributes utility bill inserts and flyers to its customers
- LBUD and LBDHHS utilize social media to spread FOG messaging
- LBDHHS conducts FOG education and outreach during routine food inspections and provided FOG educational materials to FSEs
- LBUD and LBDHHS post FOG brochures and other educational materials on their respective websites
- LBDHHS presents FOG information at community events

In addition, during CCTV inspection, LBUD staff takes initiative to verbally educate homeowners on FOG reduction strategies when the homeowner's lateral is identified as a heavily greased line.

7.2 Disposal of Fats, Oils, and Grease

LBMC 8.46.030 – *Requirements for Food Facilities* outlines the process to adequately dispose of FOG generated within a sanitary sewer system area. A list of several acceptable disposal facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area is included in **Attachment G1**. Note: this list is neither a referral nor a recommendation by the City or LBUD.

7.3 Sewer Pipe Blockage Legal Authorities

7.3.1 Authority to Prevent Illicit Discharges

The LBUD's Rules and Regulations and FOG MOU provide LBUD with the authority needed to limit the discharge of fats, oils, grease, or other debris and is included as **Attachment G3**. These rules, regulations, ordinances, etc. are detailed in Section 3 of this SSMP.

7.3.2 Rules and Requirements for Grease Removal Devices

Section 1306 of the Rules and Regulations includes requirements for food service establishments (FSE) to install grease removal devices (GRDs) to capture grease prior to discharge into the sewer system. Section 1307 details the responsibilities of FSEs to operate GRDs properly. Major components of the section are listed below

- Grease Trap Requirements
- Grease Interceptors
- Grease Recovery Devices
- Operator's Responsibility

Grease Removal Device Requirements

Section 1306 – *Grease Trap Requirements* in LBUD's Rules and Regulations states the GRD requirements. LBUD's requirements to install and design grease removal devices are discussed in LBMC 8.46.040 – *Requirements for Grease Interceptors*.

Best Management Practice, Record-Keeping, and Reporting Requirements

The maintenance requirements, BMP requirements, record keeping, and reporting requirements are found in LBMC 8.46.030 – *Requirements for Food Facilities*. The majority of BMP materials are from the County Sanitation District of Los Angeles County. Examples of BMP practices include:

- Dry clean-up, wiping cookware, utensils and work areas prior to washing; disposing of food waste directly into the trash; avoid use of garbage disposal
- Spill prevention
    - Immediately remove spilled FOG using absorbents
    - Empty grease collection containers before full
    - Properly operate and maintain grease trap/interceptor by having the equipment regularly and frequently cleaned and serviced
- Develop rotation system for multiple fryers
- Clean floor mats in a janitorial sink

7.3.3 Fats, Oils, and Grease Inspection

LBDHHS is responsible for conducting FOG inspections annually at each FSE to ensure compliance with LBMC. Results are reported to LBUD to track how many inspections were in or out of compliance. If required documents are not prepared during the time of the FOG inspection, the FSE can submit at a later time via email. If a violation is determined, the FSE is given an allotted time by the health inspector to correct and sign a Certificate of Compliance Form. If the FSE exceeds the timeframe to correct an outstanding violation, it is up to the discretion of the health inspector whether or not to assess a reinspection fee. The health inspectors evaluate for:

- FOG BMP Compliance:
    - The owners and employees of an FSE shall be able to demonstrate that the food facility complies with BMPs for handling FOG upon request from a LBDHHS representative, as noted in LBMC, 8.46.030.A.
- FOG Storage and Recycling:
    - A food facility shall have one or more drums or containers for the recycling and disposal of FOG, as noted in LBMC 8.46.030.B.
    - Drums and containers used for storage of FOG shall be leak proof and shall be secured with close fitting lids, as noted in LBMC 8.46.030.B.

- The drums and containers shall be removed for recycling as frequently as necessary to avoid unsafe, hazardous, or untidy condition or an impediment to passage, as noted in LBMC 8.46.030.B.

- Clean and Maintain Facility:
  - The owner or operator of a FSE shall keep a written record of the maintenance, repair, and cleaning of grease traps and interceptors for one year, beginning the date a new business is open to the public or, in the case of a modification to the FSE which requires a building permit, on the date of final inspection, as shown on the building permit. A copy of the building permit is to be delivered to LBUD. The written record shall contain (but is not limited to) the following documentation:
    - Receipts showing the times, dates, nature of the maintenance, repair, and cleaning
    - Quantities of FOG removed
    - Name, address, and phone number of the person or entity cleaning the grease interceptor, grease trap, or alternative pretreatment technology (approved by City), as noted in LBMC 8.46.030.E
  - The owner or operator of a food facility shall install grease interceptors at a location easily accessible for inspection and for the cleaning and removal of grease, as noted in LBMC 8.46.040.C.
  - The grease interceptor shall not be installed near or in any part of a building where food is handled. The location of the grease interceptor must have a written approval by the LBDHHS, as noted in LBMC 8.46.040.C.
- Changes to Grease Interceptors
  - An FSE shall submit plans to LBUD for approval prior to installing, removing, or modifying a grease interceptor.
- Records:
  - The owner or operator of an FSE shall inspect the GRD at least once per month. This frequency may be increased, as directed by an enforcement official, if the maintenance of the grease interceptor is found unsatisfactory, as noted in LBMC 8.46.040.E.
  - FSE operators are required to maintain 12 months of written records documenting maintenance, repairs or cleaning of grease traps and grease interceptors, as well as invoices or manifests for grease removal services, as noted in LBMC 8.46.030.E.
- Grease Interceptor Maintenance:
  - The owner or operator of an FSE shall empty grease interceptors of accumulated grease necessary to maintain the minimum capacity or volume of the grease interceptor, as noted in LBMC 8.46.040.D.
  - The owner or operator of an FSE shall keep the grease interceptor free from inorganic-solid materials that could settle into the sludge pocket and reduce the effective volume of the grease interceptor, as noted in LBMC 8.46.040.G.

- The owner or operator of an FSE shall maintain the grease interceptor in clean, good repair, and proper operating condition at all times, in accordance with the manufacturer's directions. This includes proper spillage clean-up, storage of waste grease, frequent disposal of wastewater, food debris, and grease, and grease hauling. Grease shall not accumulate in any drain pipe or public or private sewer line as noted in LBMC 8.46.050.D.
- A health inspector checks maintenance invoices to ensure the grease interceptors are regularly cleaned.

A example of an LBDHHS FOG inspection report is included in **Attachment G2**.

7.4 Preventive Maintenance Program to Address Fats, Oils, and Grease Accumulation

LBUD has identified the pipe segments of the sewer system subject to higher levels of FOG. Heavily greased lines initially undergo hydro jet cleaning prior to being assigned to a repeat schedule. This program is discussed in more detail in **Section 4** of this SSMP.

7.5 Source Control Measures for All Sources of Fats, Oils, and Grease Discharged

LBUD and LBDHHS work together to address all known locations of FOG accumulation through either FOG source control inspections of food service facilities and/or preventive maintenance cleaning on pipe segments with known propensity for FOG accumulation. If LBUD determines that FOG is emanating from a sewer lateral during a routine CCTV inspection, it will notify LBDHHS. FOG related spills are analyzed in the annual SERP assessment and the triennial internal audit.

8 System Evaluation, Capacity Assurance, and Capital Improvements

Order WQ 2022-0103-DWQ Attachment D SSMP – Required Elements:

8 System Evaluation, Capacity Assurance, and Capital Improvements:

The Plan must include procedures and activities for:

- Routine evaluation and assessment of system conditions;
- Capacity assessment and design criteria;
- Prioritization of corrective actions; and
- A capital improvement plan

8.1 System Evaluation and Condition Assessment:

The Plan must include procedures to:

- Evaluate the sanitary sewer system assets utilizing the best practices and technologies available;
- Identify and justify the amount (percentage) of its system for its condition to be assessed each year;
- Prioritize the condition assessment of system areas that:
    - o Hold a high level of environmental consequences if vulnerable to collapse, failure, blockage, capacity issues, or other system deficiencies;
    - o Are located in or within the vicinity of surface waters, steep terrain, high groundwater elevations, and environmentally sensitive areas;
    - o Are within the vicinity of a receiving water with a bacterial-related impairment on the most current Clean Water Act section 303(d) List;
- Assess the system conditions using visual observations, video surveillance and/or other comparable system inspection methods;
- Utilize observations/evidence of system conditions that may contribute to exiting of sewage from the system which can reasonably be expected to discharge into a water of the State;
- Maintain documents and recordkeeping of system evaluation and condition assessment inspections and activities; and
- Identify system assets vulnerable to direct and indirect impacts of climate change, including but not limited to: sea level rise; flooding and/or erosion due to increased storm volumes, frequency, and/or intensity; wildfires; and increased power disruptions.

8.2 Capacity Assessment and Design Criteria

The Plan must include procedures to identify system components that are experiencing or contributing to Spills caused by hydraulic deficiency and/or limited capacity, including procedures to identify the appropriate hydraulic capacity of key system elements for:

- Dry-weather peak flow conditions that cause or contributes to Spill events;
- The appropriate design storm(s) or wet weather events that causes or contributes to Spill events;
- The capacity of key system components; and
- Identify the major sources that contribute to the peak flows associated with sewer Spills.

The capacity assessment must consider:

- Data from existing system condition assessments, system inspections, system audits, Spill history, and other available information;
- Capacity of flood-prone systems subject to increased infiltration and inflow, under normal local and regional storm conditions;
- Capacity of systems subject to increased infiltration and inflow due to larger and/or higher-intensity storm events as a result of climate change;

• Increases of erosive forces in canyons and streams near underground and above-ground system components due to larger and/or higher-intensity storm events;
• Capacity of major system elements to accommodate dry weather peak flow conditions, and updated design storm and wet weather events; and
• Necessary redundancy in pumping and storage capacities.

8.3 Prioritization of Corrective Action

The findings of the condition assessments and capacity assessments must be used to prioritize corrective actions. Prioritization must consider the severity of the consequences of potential Spills.

8.4 Capital Improvement Plan

The capital improvement plan must include the following items:

• Project schedules including completion dates for all portions of the capital improvement program;
• Internal and external project funding sources for each project; and
• Joint coordination between operation and maintenance staff, and engineering staff/consultants during planning, design, and construction of capital improvement projects; and Interagency coordination with other impacted utility agencies

8.1 System Evaluation and Condition Assessment

LBUD conducts programmatic system evaluation and condition assessment activities for its sewer collection system and conveyance system assets as further defined below:

Sewer Gravity Mains

- LBUD Sewer Operations conducts programmatic CCTV condition assessments that lead to the entire collection system being televised every 5 years. It also conducts “repeat” CCTV condition assessment intermittently to confirm that pipeline segments receiving higher-frequency cleaning (e.g, 60, 90, 120, 180 days) should continue on the same cleaning cycle. The repeat CCTV list is available upon request. This condition assessment schedule has proven to be effective and successful for LBUD. However, in the next 6 years, LBUD Sewer Operations intends to utilize consequence of failure buffer zones generated by LBUD Engineering to identify additional pipeline assets that require prioritized condition assessment and may be televised on a higher frequency basis. This is further described below.
- CCTV condition assessment data is logged pursuant to NASSCO PACP procedures and is collected through LBUD’s PipeLogix inspection software. Supplemental information from O&M staff is also logged, as needed. Structural defects are scored (full tabular scoring) and each pipe segment is assigned a totalized quick structural rating.
- LBUD Sewer Operations first assesses the data and supplemental information for any urgent and severe defects or failures (such as but not limited to a large fracture or void) and assigns an emergency repair work order as-needed. Next, the data is uploaded to an Microsoft Access database.
- LBUD Engineering then utilizes the condition assessment data and conducts a likelihood of failure and consequence of failure risk-assessment on a periodic basis to identify repair, rehabilitation, or replacement corrective actions. Updates to the

risk-assessment process were last conducted in 2008 and 2014. This has proven to be effective and successful for LBUD. However, in the next 6 years, LBUD Engineering intends to conduct an updated risk assessment that utilizes the following supplemental consequence of failure criteria:

- Location – higher value for pipelines near critical facilities including schools, medical facilities, and childcare facilities
- Pipe diameter – higher values for pipelines greater than 21-inches in diameter
- Pipe flow – higher values for pipelines with greater flows
- Sewer system type – higher value for force-mains versus gravity
- Traffic – higher values for pipelines constructed within major roads
- Design storm data – higher values for pipelines located near channels
- Terrain type - higher values for pipelines located at the portion of the city with higher elevation and inclined planes
- Hydrology study - higher values for areas with water sources that could lead to water pollution, health risks, and infrastructure damage

Manholes

- LBUD Sewer Operations conducts incidental visual down-hole inspections of sewer manholes (during primary hydro-jetting and CCTV inspection activities) and visually observed defects or deficiencies are logged, flagged, and assessed by LBUD Sewer Operations for potential emergency repair work orders, and then assigned to LBUD Engineering for further risk-evaluation, assessment, and potential assignment of repair, rehabilitation, and replacement corrective actions as-needed.

Force-mains

- LBUD has been effective and successful at managing its force-main assets with minimal inspection and targeted condition assessment. There are very few offsite valves and appurtenances, and majority of its sewer force-mains are made of corrosion-resistant piping materials. However, in the next 6 years, LBUD Engineering will include a force-main condition assessment as part of the scope of work for future sewer pump station rehabilitation projects. Additionally, where possible Engineering will incorporate into sewer pump station rehabilitation designs force-main access points to allow for intrusive condition assessments to visualize the internal condition of the pipe. If not feasible or not preferred, other non-intrusive condition assessment methodologies will be considered and utilized on an as-needed basis.

Pump Stations

- LBUD Treatment Plant staff collects routine inspection data (as observed from visible mechanical, electrical, and instrumentation equipment) for all pump stations it operates and maintains. It creates emergency repair work orders as necessary, or otherwise passes on condition assessment information to LBUD Engineering

for further risk-evaluation, assessment, and potential assignment of repair, rehabilitation, and replacement corrective actions as-needed.

- Since the last 2019 SSMP Update, LBUD Engineering has conducted comprehensive condition assessments of twenty-two (22) sewer pump stations, as documented in the 2023 Sewer Master Plan Update. Additional condition assessments will be conducted on an on-going, intermittent basis when deemed necessary by LBUD staff. Condition assessment data is further evaluated for risk, and are potentially assigned repair, rehabilitation, and replacement corrective actions as needed.

Inflow and Infiltration and Illicit Connections

- LBUD Sewer Operations investigates suspected illicit connections on an as-needed basis utilizing smoke testing and CCTV inspection where feasible. LBUD's current inflow and infiltration investigation procedures have proven to be effective and successful for LBUD, however it has initiated a pilot smoke testing program in a small, targeted sewer basin upstream of a pump station where there is suspected inflow and infiltration issues. In addition, in the next 6 years, LBUD Engineering will deploy additional flow monitors at strategically placed locations throughout the sewer collection system to conduct an inflow and infiltration study over a winter period which will secure data that may be used to inform future hydraulic models and sewer master plans.

8.2 Capacity Assessment and Design Criteria

LBUD Engineering actively evaluates the capacity of LBUD's collection and conveyance systems as documented in the 2023 Sewer Master Plan Update. The executive summary is included as **Attachment H1**. In addition, any anecdotal and supplemental information or data from mobile flow level sensors collected by LBUD Sewer Operations is passed on to LBUD Engineering that is then used to further evaluate the capacity of the collection and conveyance system.

The capacity assessment is based on a comprehensive, all-assets dynamic hydraulic model of LBUD's collection and conveyance system using industry standard software. Projected wastewater base flows (peaked, dry weather) along with seasonal groundwater infiltration were calibrated based off water meter data and flow meter data. Future development was estimated based on available planning documents adopted by various agencies with jurisdiction (varying timelines and assumptions). Existing, Near-Term, and Future Condition project peak flows were simulated across the hydraulic model.

Existing sewers are considered adequate if they flow at a depth over diameter (d/D) of 0.75 (essentially full) or less and deficient if the flows exceed a 0.9 d/D ratio. If an asset is under capacity, the asset is assigned an upgrade or upsizing project.

New gravity sewer main improvements are designed for the following design criteria:

- d/D = 0.9 for all existing mains
- d/D = 0.5 for new mains less than 15-inch
- d/D = 0.75 for new mains 15-inch and greater

- Note: The capacity criteria are established for the evaluation of existing sewer main capacities. For new sewer mains that are connecting to existing mains, LBUD has the discretion to revise the capacity criteria for a specific development based on the existing condition of the sewer mains.

The existing capacity assessment and design criteria utilized by LBUD has proven to be effective and successful. In the next 6 years, however, LBUD Engineering will deploy additional flow monitors at strategically placed locations throughout the sewer collection system to conduct an inflow and infiltration study over a winter period which will secure data that will be assessed to identify any required improvements to the hydraulic model. These eventual improvements may consist of conversion to hydrological-based, rain-derived inflow and infiltration calibrated peak wet weather flow model based on a selected design storm.

8.2.1 Prioritization of Corrective Actions

LBUD Engineering takes assets that have condition-triggered corrective actions and applies engineering judgement and a risk of failure model to score and prioritize corrective actions and bundle them into programmatic projects. Then LBUD Engineering takes assets that have capacity-triggered corrective actions, identifies additional condition-triggered assets nearby, and bundles them into one-time replacement and upsizing projects. LBUD Engineering also applies additional priorities such as but not limited to the 2028 Olympics in this prioritization effort.

8.2.2 Capital Improvement Plan

The Capital Improvement Plan (CIP) represents LBUD's strategic capital investment plan. LBUD Engineering collaborates with Operations and Treatment Plant staff, other departments, and other affected stakeholder agencies to develop the plan. Funding is primarily sourced from the department or agency that owns the asset. Stakeholders assess LBUD's capital needs and prioritize project submittals (schedule and budget) based on the following established criteria:

- The ability of the project to meet health, safety and legal concerns and mandates
- The value of the project to prolong the life of City assets or avoid/minimize future repair costs
- The potential for the project to generate savings or increase productivity
- The extent to which the project will secure future funds through program planning or grant eligibility

The CIP is discussed and approved at the Board of Utilities Commissioners in publicly held and documented meetings. Agendas and minutes are available upon request and at LBUD's website (lbutilities.org).

LBUD's CIP covers a 10-year window and averages approximately $6M (2025 dollars) per fiscal year for sewer collection system and conveyance assets. Refer to **Attachment H2** for the current 2020-2030 sewer CIP list (subject to change – most recent version is available upon request). The projects within any fiscal year may vary, but may include:

- Sanitary Sewer Rehabilitation and Replacement Program Projects

  - As-needed repair projects
  - Programmatic lining rehabilitation and points repair projects for gravity sewer mains and manholes (condition and risk of failure triggered)
- Sewer Improvement Projects
  - One-time Replacement and upsizing projects for gravity sewer mains, manholes, and force-mains that are capacity-triggered or are triggered by additional priorities.
  - One-time pump station rehabilitation, replacement, upgrade, and resiliency projects.

9 Monitoring, Measurement, and Program Modifications

Order WQ 2022-0103-DWQ Attachment D SSMP – Required Elements:

9 Monitoring, Measurement, and Program Modifications:

The Plan must include an Adaptive Management section that addresses Plan-implementation effectiveness and the steps for necessary Plan improvement, including:

- Maintaining relevant information, including audit findings, to establish and prioritize appropriate Plan activities;
- Monitoring the implementation and measuring the effectiveness of each Plan Element;
- Assessing the success of the preventive operation and maintenance activities;
- Updating Plan procedures and activities, as appropriate, based on results of monitoring and performance evaluations; and
- Identifying and illustrating Spill trends, including Spill frequency, locations and estimated volumes.

9.1 Performance Measure Identification

Improved wastewater infrastructure performance is a core task of any properly run utility and LBUD is committed to fulfilling the requirements of the SSMP through a program that:

- Utilizes a formalized program for adaptive improvement
- Institutionalizes continual evaluation of its performance
- Identifies opportunities for continuous improvement
- Rewards or recognizes staff when performance is improved

To accomplish the above goals, LBUD has established a number of performance measures and routinely monitors progress in meeting those performance measures. The performance measures relating to each SSMP program element are listed in **Table 9-1**.

LBUD periodically receives unsolicited feedback from customers whom have had dealings with the department. Those unsolicited responses from customers are in the form of telephone calls or emails and are frequently complimentary of the work performed by LBUD crews. LBUD recognizes these employees at quarterly All Employees' Meetings, to reinforce this positive behavior.

Table 9-1. Performance Measures per Each Sewer System Management Plan Element

Element	Performance Measure	Source
Overall SSMP	<=2 spills/100 miles/year	CIWQS
Organization	Percentage of vacant sewer operations positions	Operations
Operation and Maintenance	Miles of sewer cleaned	Operations
	Miles of sewer inspected	Operations
	Number of sewer repairs (mainline and lateral)	Operations
	Miles of sewer rehabilitated/replaced	Engineering
	Number of wet wells cleaned	Operations

	Number of pump station inspections	Operations
	Number of air relief valves inspected	Operations
Spill Emergency Response Plan	Spill response time	Operations
	Annual SERP Assessment	Operations
Sewer Pipe Blockage Control Program	Number FSE inspections	LBDHHS
	Number of FSE enforcement actions initiated	LBDHHS
	Number of FSE enforcement actions resolved	LBDHHS
	Number of grease-related Spill events	Operations
	Number of FSE enforcement actions initiated	LBDHHS
	List of SPB public outreach conducted	LBDHHS
System Evaluation, Capacity Assurance, and Capital Improvement	Number of capacity-related Spill events (including wet weather-related Spills)	Engineering
	Number of CIP projects completed	Engineering
Internal Audit	Spill trends, including Spill frequency, locations and estimated volumes.	Engineering and Operations Management
Communication Program	Number of sewer-related public information brochures or newsletters distributed	Public Information Officer
	Number of sewer-related public education activities (i.e., events, presentations)	Public Information Officer

9.2 Monitoring

Each operational unit responsible for SSMP program activities (i.e., Operations, Engineering, Public Information Officer, and LBDHHS) is responsible for collecting performance measurement data to track progress. Department management reviews performance data yearly (in conjunction with annual SERP assessment and Annual CIWQS report) to identify trends and progress towards achieving goals and, if performance issues are identified, will work with staff to identify corrective actions.

9.3 Program Modification Plan

The success of the SSMP program elements should lead to a reduction of Spills within the sanitary sewer system. If no reduction in Spills is seen, the program elements should be critically reviewed to determine areas for improvement. Those program elements should be modified as needed to improve performance.

LBUD monitors and measures the effectiveness of the SSMP program to diagnose the root causes of issues impacting SSMP program effectiveness. This includes on-going data analysis and standing meetings with various work groups to discuss performance and best practices. A few examples are weekly tail-gates and supervisor check-ins for LBUD Sewer Operations; Pipeline Sewer Operation Quarterly Coordination between Sewer Operations, Engineering, and Development Services; Monthly General Manager meetings; annual budget review meetings.

In addition, LBUD assesses spill trends and patterns, including frequency, location, and volume estimates as part of its internal audit process. LBUD maintains its previous internal

audits and reassesses the recommendations made to improve the effectiveness of the SSMP.

Program modifications usually occur during the planning process for the following year's budget, but it can also occur at any time during the year if performance issues are identified through performance monitoring. Program modifications are also evaluated during the annual SERP assessment and triennial SSMP program audit process. Planned changes or corrective actions to the SSMP program implementation are monitored and tracked by the Manager of Sewer Operations.

LBUD maintains a log of SSMP changes included in **Attachment A1**.

10 Internal Audits

Order WQ 2022-0103-DWQ:
Attachment D SSMP – Required Elements:
10 Internal Audits:
The Plan shall include internal audit procedures, appropriate to the size and performance of the system, for the Enrollee to comply with section 5.4 (Sewer System Management Plan Audits) of this General Order.

5. Specifications:
5.4 Sewer System Management Plan Audits:
The internal audit shall be appropriately scaled to the size of the system(s) and the number of Spills. The Enrollee's sewer system operators must be involved in completing the audit. At minimum, the audit must:
- Evaluate the implementation and effectiveness of the Enrollee's Sewer System Management Plan in preventing Spills;
- Evaluate the Enrollee's compliance with this General Order;
- Identify Sewer System Management Plan deficiencies in addressing ongoing Spills and discharges to waters of the State; and
- Identify necessary modifications to the Sewer System Management Plan to correct deficiencies.

The Enrollee shall submit a complete audit report that includes:
- Audit findings and recommended corrective actions;
- A statement that sewer system operators' input on the audit findings has been considered; and
- A proposed schedule for the Enrollee to address the identified deficiencies.

10.1 Sewer System Management Plan Program Audit Process

LBUD performs an SSMP Program Audit once every 3 years. The Manger of Sewer Operations is responsible for initiating the SSMP Program Audit process, reviewing performance trends and the overall SSMP program implementation, and developing a set of audit findings and proposed corrective actions. The previous audit, input gathered throughout the term, and an assessment of current SSMP performance are all used to construct the initial draft of a new audit.

This initial set of audit findings and proposed corrective actions are provided to SSMP program implementation stakeholders for their review, comments, and additions. Stakeholders include Sewer Operations staff, Engineering, Pump Station Personnel, LBDHHS, and the Public Information Officer. Each SSMP element is evaluated for compliance with Waste Discharge Requirements, as well as effectiveness. Any deficiencies are identified, along with actions to correct each deficiency. The Manger of Sewer Operations will collect and compile all of the input from the program stakeholders and will document the findings in the audit report.

The final audit report is reviewed by the Primary LRO (Senior Director of Customer Service or the Assistant General Manager) before final acceptance and is then filed. The LBUD's most recent SSMP Program Audit Report from 2024 is included as **Attachment J**.

10.2 Audit Implementation and Tracking of Results

Once audit report findings and corrective actions are finalized, LBUD staff responsible for the various elements of the SSMP program implementation review the SSMP program audit findings to determine an appropriate course of action. The Manger of Sewer Operations tracks implementation progress of SSMP program audit corrective actions. Any deficiencies in meeting the schedule are identified or anticipated and mitigation measures developed and implemented to ensure the corrective actions from the audit are addressed. Each subsequent audit update begins with a review of the previous audit to identify any corrective actions that have been or have not been addressed. Any updates necessary to enhance the SSMP performance are included as a part of the following year's budgeting process and/or the formal SSMP program audit.

10.3 Sewer System Management Plan Update Process

The Manager of Sewer Operations and the Senior Director of Customer Service are responsible for ensuring the SSMP is updated when major changes occur to the SSMP program implementation or at a minimum of 6 years from the previous SSMP update, approval, and recertification. The results of the prior SSMP program audit reports are factored into the SSMP update process.

11 Communication Plan

Order WQ 2022-0103-DWQ Attachment D SSMP – Required Elements:

11 Communication Program:

The Plan must include procedures for the Enrollee to communicate with:

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

11.1 Communication with the Public

11.1.1 Spills and Discharges

LBUD has included procedures in its SERP, included as **Attachment F1,** to address public communication procedures regarding spills and discharges. Furthermore, LBUD has identified and coordinates with other departments and public agencies/entities in its service area to assist and coordinate public notification.

11.1.2 SSMP Implementation and Updates

LBUD communicates with the public on a continual basis through the LBUD website and utility commission meetings, which are open to the public. LBUD's SSMP is reviewed and approved by the Board in a public meeting, providing the public with the opportunity to review the SSMP and, as part of the meeting, to comment on the SSMP.

LBUD's website also provides a continual link for the public to download the SSMP. It is also available upon request.

The webpage also invites the public to send any comments on the SSMP to SewerService@lbutilites.org or call (562) 570-2390. These modes of communication can occur at any time during development and implementation of the SSMP.

Within Long Beach, LBUD's Community Engagement Team publicizes wastewater issues through local newspapers and on the Department's website. The LBUD website provides general information and publicizes sewer projects. If a significant project is planned that will impact a neighborhood, the LBUD will communicate with community leaders and specific informational meetings for residents and businesses in the neighborhood.

LBUD's Communications Dispatch Office has operators who log all complaints and refer callers to the appropriate division for resolution.

11.2 Communication with Tributary or Satellite Systems

LBUD responds to sewer spills and assesses what jurisdiction the spill occurs in, if it is in a tributary or satellite collection system they will notify the owner of the collection system or LBDHHS. Communication between LBUD and LACSD occurs on a regular basis, and

an as-needed basis between LBUD and OCSD. LBUD aims to maintain an updated list of contacts for each tributary and satellite system and to notify them on an informal basis for changes to the SSMP.

12 Attachments

The following letter IDs are assigned to each SSMP element:

A – Goals and Introduction (Section 1)

B – Organization (Section 2)

C – Legal Authorities (Section 3) – *Currently Unused/Blank & Reserved For Future SSMPs*

D – Operation and Maintenance Program (Section 4) - *Currently Unused/Blank & Reserved For Future SSMPs*

E – Design and Performance Provision Section (Section 5)

F – Spill Emergency Response Plan (Section 6)

G – Sewer Pipe Blockage Control Program (Section 7)

H – System Evaluation, Capacity Assurance, and Capital Improvements (Section 8)

I – Monitoring, Measurement, and Program Modifications (Section 9)

J – Internal Audits (Section 10)

K – Communication Plan (Section 11) - *Currently Unused/Blank & Reserved For Future SSMPs*

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Attachment A1.
Summary of Changes to the Sewer System Management Plan

SSMP Update Log

Date	Triggering Event/Reason	Notes/Comments
8/2025	The 2019 SSMP was updated because of the revised SSSWDR General Order No. 2022-0103-DWQ.	Major updates and revisions were made as further detailed in Table 9.

SSMP Element Changes due to SSSWDR General Order No. 2022-0103-DWQ[1]

SSMP Element		Changes
1. Goals and Introduction	(a) SSMP Goals	Updated to meet requirements of revised General Order
	(b) Regulatory Context	
	(c) Update Schedule	
	(d) Sewer System Asset Overview	
2. Organization	(a) Identify Legally Responsible Official (LRO)	Updated to meet requirements of revised General Order
	(b) Titles, telephone numbers, and email addresses for all positions responsible for implementing SSMP elements	
	(c) SSMP responsibility and organization chart	
	(d) Chain of communication for reporting spills	
3. Legal Authority	(a) Prevent illicit discharges	Updated to meet requirements of revised General Order
	(b) Stormwater Collaboration for spill response and system separation	
	(c) Properly designed and constructed sewers	
	(d) Ensure access to laterals owned/maintained	
	(e) Enforce any violation of ordinances	
	(f) Obtain easement accessibility agreements	
4. Operation and Maintenance Program	(a) Updated Map of Sanitary Sewer System	Updated to meet requirements of revised General Order
	(b) Preventive O&M activities	
	(d) Training	
	(e) Equipment Inventory	
5. Design and Performance Provisions	(a) Updated Design Criteria and Construction Standards and Specifications	Updated to meet requirements of revised General Order
	(b) Procedures and Standards	
6. Spill Emergency Response Plan ("SERP")	(a) Notification Procedures	Updated to meet requirements of revised General Order
	(b) Compliance with Notification, Monitoring, and Reporting Requirements	
	(c) Spill Response Staff and Contractors Implementation and Training	
	(d) Emergency Response Procedures	
	(e) Spill Containment/Minimization, Removal, and Cleaning	

SSMP Element		Changes
	(f) Implementation and Coordination/Collaboration of Spill Containment	
	(g) Post-spill Assessments	
	(h) Spill Event Documentation and Reporting	
	(i) Annual Review and Assessment of SERP Effectiveness	
7. Sewer Pipe Blockage (SPB) Control Program	(a) Public Education and Outreach Plan	Updated to meet requirements of revised General Order
	(b) SPB Disposal Plan and Schedule	
	(c) Legal authority	
	(d) FOG Removal Device Requirements	
	(e) Authority to inspect and enforce FOG ordinance	
	(f) FOG Characterization Assessment and Hot Spot Cleaning Schedule	
	(g) FOG Control Program Measures	
8. System Evaluation, Capacity Assurance, and Capital Improvements	(a) System Evaluation and Condition Assessment	Updated to meet requirements of revised General Order
	(b) Design Criteria	
	(c) Capacity Assessment	
	(d) Capital Improvement Plan	
9. Monitoring, Measurement and Program Modifications	(a) Maintain relevant information, including Audit findings, to establish and prioritize SSMP activities	Updated to meet requirements of revised General Order
	(b) Monitoring the implementation and measuring the effectiveness of SSMP elements	
	(c) Assess success of preventative operation and maintenance program	
	(d) Update SSMP procedures and activities as appropriate, based on results of monitoring and performance evaluations	
	(e) Identify and illustrate spill trends, including spill frequency, locations and estimated volumes	
10. Internal Audits	(a) Conduct triennial audits	Updated to meet requirements of revised General Order
	(b) Evaluate the implementation and effectiveness of the SSMP in preventing spills.	
	(c) Evaluate compliance with Revised General Order	

SSMP Element		Changes
	(d) Identify SSMP deficiencies in addressing ongoing spills and recommend corrective modifications to the SSMP with a proposed schedule	
	(e) State the operator's input on Audit findings has been considered	
11. Communication Program	(a) Procedures for communication with public for spills resulting in closures of public areas, or that enter a source of drinking water	Updated to meet requirements of revised General Order
	(b) Communicate with public on the development, implementation, and updating of the SSMP, including opportunities for public input	
	(c) Communicate with Owners/operators of tributary/satellite systems for operation, maintenance, and capital improvement-related activities	

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Attachment A2.
Sewer System Fact Sheet

Sewer Systems Fact Sheet

LONG BEACH Utilities
Water · Gas · Sewer

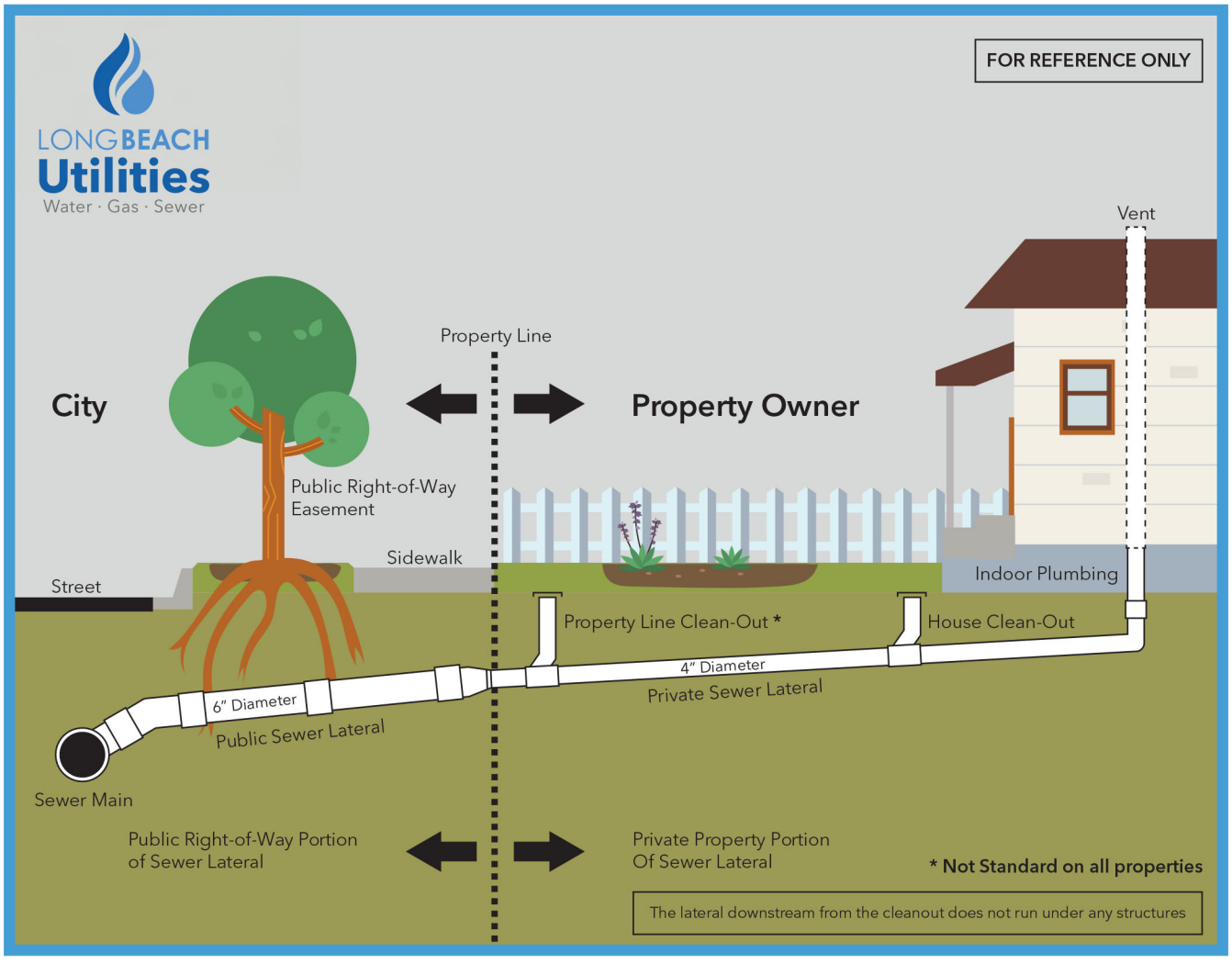
The City of Long Beach owns, operates and maintains the sanitary sewer system that carries water from toilets, showers, sinks, and dish and clothes washers away from homes and businesses. In fact, most of the water used by customers ultimately makes its way to and through the sanitary sewer system.

Long Beach Water operates and maintains over 700 miles of sanitary sewer lines, safely collecting and delivering over 40 million gallons of wastewater per day to the Sanitation Districts of Los Angeles County for treatment for disinfected tertiary recycled water.

THE SANITARY SEWER SYSTEM: WHO'S RESPONSIBLE FOR WHAT?

The pipe that conveys wastewater from your property to the City sewer main is called the sewer lateral. There are two sections to a lateral:

- The first section runs from the building to the sidewalk/property line, commonly 4" in diameter (on private property) is the property owner's responsibility.
- The second section runs from sidewalk/property line, to the center of the street/alley commonly 6" in diameter (on City property) is a shared responsibility between the property owner and the City.
- The property owner is responsible for the routine maintenance of both sections of the sewer lateral.



I HAVE A BACKUP. WHAT SHOULD I DO?

1. Get an initial inspection, clearing, and draining of the sewer lateral performed, ideally by a professional. For ease of inspection, clearing and draining of sewer laterals, we strongly recommend that property owners ensure that a proper cleanout is installed:

- 4” in diameter
- Off Structure, ground level (not located in/on wall of structure)
- On the downstream side of structure (no longer runs under any buildings)

2. Get the lateral to drain by means of snake or hydrojet (by homeowner or private plumber)

3. If the video shows an issue on City property, please submit that video to Long Beach Utilities Department, Attention; Manager of Sewer Operations, 1800 E Wardlow Rd, Long Beach, CA 90807 or call (562) 570-2390 for more information.

If the property owner believes that there is problem on the city property’s line preventing wastewater from draining to the sewer main, Long Beach Water will investigate after the property owner performs the initial inspection, clearing, and draining of the sewer lateral.
For any sewer related questions, emergencies or after hours please call our 24/7 dispatch line at (562) 570-2390.

AGENCIES AND THEIR RESPONSIBILITIES

Long Beach Utilities Department (City Sewer)
Responsible for protecting the local sewage collection system, and other public areas.

Long Beach Health and Human Services Department
Responsible for protecting public health by closing ocean/bay waters and food service businesses if a spill poses a threat to public health.

Long Beach Public Works Department (City Stormwater)
Responsible for stormwater pollution prevention and education.

L.A. County Sanitation Districts
Responsible for collecting, treating and disposing of wastewater.

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Attachment B.
Organization Chart for Key Positions Responsible for Implementing Sewer System Management Plan Elements

Long Beach Utility Department SSMP Organization Chart

Updated: July 24, 2025

LONG BEACH Utilities
Water · Gas · Sewer

NOTE: The following organizational chart only notes key personal related to SSMP and does not list all Long Beach Utilities Department staff.

Board of Utilities Commissioners

General Manager
Anatole Falagan
Anatole.Falagan@lbutilities.org
(562)570-2317

SSMP #1-11

Assistant General Manager
Business Unit 2
Tai Tseng **(LRO)**
tai.tseng@lbutilities.org.org
(562)570-2420

SSMP Element #1-10

Sr. Director of Water Quality
Yan Zhang
Yan.Zhang@lbutilities.org
(562)570-2484

SSMP Element #1, 2, 4-9

Manager
Water Treatment
Skip Fulton
Skip.Fulton@lbutilities.org
(562)570-2493

SSMP Element #4 - 9

Water Treatment Supervisor I
Henry Monzon
Henry.Monzon@lbutilities.org
(562)570-2468

SSMP Element #4 - 7

Laboratory Sevices Officer
Water Treatment
Kevin Hoang
Kevin.Hoang@lbutilities.org
(562)5702479

SSMP Element #4, 5, 7, 9

Laboratory Sevicess Officer
Water Treatment
Kevin Caldwell
Kevin.Caldwell@lbutilities.org
(562)570-2463

SSMP Element #4, 5, 7, 9

Assistant General Manager
Business Unit 3
Diana Tang **(LRO)**
Diana.Tang@lbutilities.org
(562)570-2302

SSMP Element #1-4, 6, 7, 8, 10, 9 ,11

Public Information Officer
Joy Contreras
Joy.Contreras@lbutilities.org
(562)570-2314

SSMP Element #6, 11

Sr. Director of Customer Service
Jennifer Rojas **(LRO)**
Jennifer.Rojas@lbutilities.org
(562)570-2393

SSMP Element #1, 2, 4, 6, 10, 11

Sr. Director of Administration
Wayne Johnson
Wayne.Johnson@lbutilities.org
(562)532-3660

SSMP Element #1-3, 6, 7, 8

Manager of Goverment Affairs
Nick Russell
nick.russell@lbwater.org
(562)570-2405

SSMP Element #1-3, 10, 11

Manager
Sewer Operations
Michael Herrbach
Michael.Herrbach@lbutilities.org
(562)570-2440

SSMP Element #4, 6, 9, 10, 11

Water Utility Supervisor II
Adam Klempke
Adam.Klempke@lbutilities.org
(562)570-2441

SSMP Element #4, 6, 9, 11

Water Utility Supervisor I
Training/Quality Control
Noe Corral
Noe.Corral@lbutilities.org
(562)570-2384

SSMP Element #4, 6, 9

6 - Water Utility Mechanics I-III

SSMP Element #4, 6

Water Utility Supervisor I
Construction
Tyler Powell
Tyler.Powell@lbutilities.org
(562)570-2451

SSMP Element #4, 6, 9

7 - Water Utility Mechanics I-III

SSMP Element #4, 6

Water Utility Supervisor II
Vacant

SSMP Element #4, 6, 9, 11

Water Utility Supervisor I
CCTV Inspections
Andrew Coelho
Andrew.Coelho@lbutilities.org
(562)570-2452

SSMP Element #4, 6 , 9

6 - Water Utility Mechanics I-III

SSMP Element #4, 6

Water Utility Supervisor I
Cleaning
Brady Vilchez
Brady.Vilchez@lbutilities.org
(562)570-2443

SSMP Element #4, 6, 9

6 - Water Utility Mechanics I-III

SSMP Element #4, 6

Director Water of Resources
Dean Wang
dean.wang@lbutilities.org
(562)570-2311

SSMP Element #1-3, 6, 8, 10

Admin Analyst III
Joseph Baquerizo
joseph.baquerizo@lbwater.org
(562)570-2335

SSMP Element #8

Sr. Director of Finance and MIS
Stefanie Clavery
stefanie.clavery@lbutlities.org
(562)570-2007

SSMP Element #1-4, 8, 10

Director of MIS
Alvin Lam
alvin.lam@lbutilities.org
(562)570-2352

SSMP Element #2, 4, 8, 10

GIS (Business Systems Specialist)
Jeff Evans
Jeff.Evans@lbutilities.org
(562)570-2359

SSMP Element #4, 8

Director of Finance
Vacant

SSMP Element #2, 8, 10

Manager of Budget and Rates
Daniel Gutierrez
Daniel.Gutierrez@lbutilities.org
(520)570-2370

SSMP Element #8

Sr. Director of Gas and Water Engineering
Pipeline Infrastructure
Vacant

SSMP Element #1-8, 12

Director of Water & Sewer Engineering
Pipeline Infrastructure
Robert Verceles
Robert.Verceles@lbutilities.org
(562)570-2337

SSMP Element #1-8

Director of Gas Engineering
Pipeline Infrastructure
Kevin Tougas
Kevin.Tougas@lbutilities.org
(562)570-3963

Manager
Engineering - Pipeline Infrastructure
Vacant

SSMP Element #4, 5, 7, 8

Senior Civil Engineer
Engineering – Pipeline Infrastructure
Valeri Karakanov
Valeri.Karakanov@lbutilities.org
(562)570-2331

SSMP Element #4, 5, 8

Manager
Engineering - Construction
Christopher Pincherli
Christopher.Pincherli@lbutilities.org
(562)570-2327

SSMP Element #5, 8

Manager
Engineering - Water/Sewer Systems Infrastructure
Danna Monzon
Danna.Monzon@lbutilities.org
(562)570-2325

SSMP Element #5, 6, 8

Manager
Engineering - Dev. Services
Dennis Santos
Dennis.Santos@lbutilities.org
(562)570-2381

SSMP Element #4, 5, 7, 8

Sr. Civil Engineer
Eric Buelher
Eric.Buelher@lbutilities.org
(562)570-2328

SSMP Element #4, 5, 8

Capital Projects Coordinator III
Leticia Mimila
Leticia.Mimila@lbutilities.org
(562)570-2427

SSMP Element #5, 7, 8

Housing Authority of the County of Los Angeles
Carmelitos Public Housing Development
(800) 850-8908

LA County Sanitation
(562) 437-6520

Recreational & Water Quality Program (LB Health Department)
(562) 570-4161

Los Angeles County Flood Control District
(626) 458-4357

Long Beach Public Works
(323) 240-1624
After Hours – (562) 577-8797

Cal OES
(800) 852-7550

Long Beach Police Department
(562) 435-6711

Long Beach Fire Department
(562) 436-8211

Environmental Clean Up Service
(562) 624- 4120

Los Angeles County Public Works
(800) 675-4357

Long Beach Marine Bureau
(562) 570-1592

Long Beach Airport Maintenance and 24hr Security
(562) 570-1250
(562) 570-2140

Long Beach Parks
(562) 570-3101

Cal Trans
(323) 259-3200

Long Beach Harbor Maintenance and 24hr Security
(562) 283-7300
(562) 590-4185

CSULB Maintenance
(562) 965-4357

LBCC Maintenance
(562) 618-3982

LB Unified Maintenance
(562) 997-7510

LB Job Corps Center Security
(562) 491-5104

Attachment C.
Reserved for Legal Authority Section Attachments

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Attachment D.
Reserved for Operation and Maintenance Program Section Attachments

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Attachment E.
Reserved for Design and Performance Provision Section Attachments

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Attachment F1.
Spill Emergency Response Plan

Sewer Operations Division

Spill Emergency Response Plan

Revised 2025

Contents

Section 1 – Purpose

The purpose of the Spill Emergency Response Plan (SERP) is to support an orderly and effective response to Spill (formerly Sanitary Sewer Overflow). This plan provides guidelines for Long Beach Utilities Department (LBUD) personnel to follow in responding to, cleaning up, and reporting spills that may occur within LBUD's service area.

1.1 Regulatory Requirements

Order WQ 2022-0103-DWQ Attachment D SSMP – Required Elements:

6 Spill Emergency Response Plan

The Plan must include an up to date Spill Emergency Response Plan to ensure prompt detection and response to Spills to reduce Spill volumes and collect information for prevention of future Spills. The Spill Emergency Response Plan must include procedures to:

- Notify primary responders, appropriate local officials, and appropriate regulatory agencies of a Spill in a timely manner;
- Notify other potentially affected entities (for example, health agencies, water suppliers, etc.) of Spills that potentially affect public health or reach waters of the State;
- Comply with the notification, monitoring and reporting requirements of this General Order, State law and regulations, and applicable Regional Water Board Orders;
- Ensure that appropriate staff and contractors implement the Spill Emergency Response Plan and are appropriately trained;
- Address emergency system operations, traffic control and other necessary response activities;
- Contain a Spill and prevent/minimize discharge to waters of the State or any drainage conveyance system;
- Minimize and remediate public health impacts and adverse impacts on beneficial uses of waters of the State;
- Remove sewage from the drainage conveyance system;
- Clean the Spill area and drainage conveyance system in a manner that does not inadvertently impact beneficial uses in the receiving waters;
- Implement technologies, practices, equipment, and interagency coordination to expedite Spill containment and recovery;
- Implement pre-planned coordination and collaboration with storm drain agencies and other utility agencies/departments prior, during, and after a Spill event;
- Conduct post-Spill assessments of Spill response activities;
- Document and report Spill events as required in this General Order; and
- Annually, review and assess effectiveness of the Spill Emergency Response Plan, and update the Plan as needed.

The general order defines a spill as:

> *a discharge of sewage from any portion of a sanitary sewer system due to a sanitary sewer system overflow, operational failure, and/or infrastructure failure. Sewage and its associated wastewater spilled from a sanitary sewer system may threaten public health, beneficial uses of waters of the State, and the environment.*

Section 2 – Spill Detection

The processes that are employed to notify LBUD of the occurrence of a spill include:

1. observation by the public,
2. calls from outside agencies such as the Long Beach City Police Department, Long Beach Fire Department or Public Works,
3. receipt of an alarm (SCADA, SmartCover® Monitoring Systems),
4. or observation by LBUD staff during the normal course of their work.

Public observation is the most common way that LBUD is notified of possible spills. Contact information for reporting sewer spills is located on LBUD's website.

2.1 Normal Work Hours

The normal working hours for LBUD's Administration Building are 8:00 am to 4:30 pm, Monday through Friday. LBUD's Water Communications Dispatch Communication's office (Control 1) staff are responsible for answering emergency calls from 7:00 am to 7:30 pm Monday through Friday.

The normal working hours for LBUD's Collection System Maintenance field crews are Monday through Friday from 6:30 am to 5:00 pm When a report of a possible sewer spill is made, the Control 1 representative receives the call, takes the information from the caller and communicates this information to Radio #530, who then dispatches the closest available cleaning truck to the site and notifies the Water Utility Supervisor II (WUS II). The WUS II will proceed to email all relevant information regarding the Spill to the Spill Notification List which is presented in Table 2-1 below. Emergency calls received by the City of Long Beach's Police or Fire Department are routed to Control 1, and follow the same process listed above.

2.2 After Hours

After hours emergency calls between the hours of 5:00 pm to 7:30 pm, Monday through Friday, go to Control 1. Control 1 gathers basic information regarding a customer complaint and relays this information to the Standby Sewer Lead who will notify the WUS II of a potential Spill. The Sewer Standby Lead will call the second standby crew person to pick up the cleaning truck at the Operations Service Center (OSC) yard and meet at the spill location. The standby lead will call and inform the Sewer Standby Supervisor of the potential Spill, who will then proceed to email all relevant information regarding the Spill to the Spill Notification List which is represented in Table 2-1 below.

From 7:30 pm to 7:00 am, Monday through Friday and on weekends and holidays, all calls are answered by LBUD's Gas Dispatch. Gas Dispatch gathers information regarding the potential spill and notifies the Sewer Standby Lead who will notify the WUS II of a potential Spill, who will then proceed to email all relevant information regarding the Spill to the Spill Notification List which is presented in Table 2-1 below. The Sewer Standby Lead will call the second standby crew person to pick up the cleaning truck at the OSC yard and meet at the spill location.

Figure 2-1 below illustrates the reception of calls received and by whom during normal working, after hours, weekends, and holidays.

Figure 2-1: Spill Communication Reception

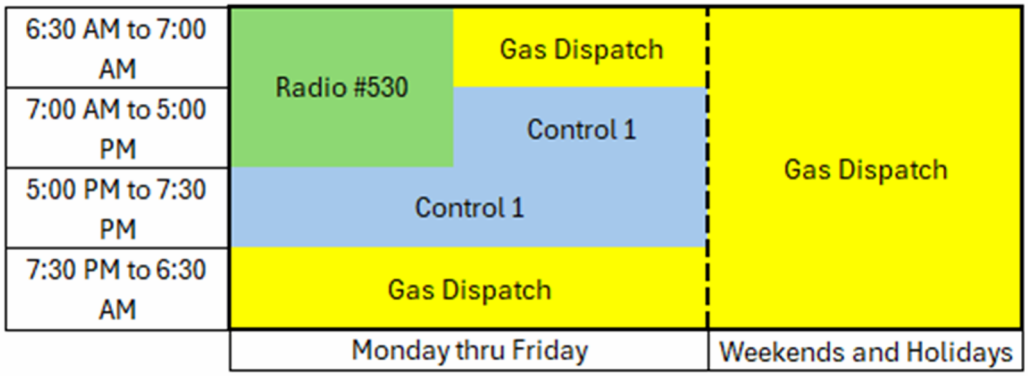


Table 2-1: Spill Notification List

Long Beach Utilities Department
General Manager
Assistant General Manager – Business Unit #2
Assistant General Manager – Business Unit #3
Director of Water & Sewer Engineering
Senior Director of Engineering
Senior Director of Customer Service
Public Information Officer
Manager of Sewer Operations
Manager of Water/Sewer Systems Infrastructure Engineering
Sewer Supervisors (WUS II, WUS I)
Department of Public Works
City Engineer
Public Service Bureau Manager
Project Management Officer
Storm Water/Environmental Compliance Officer
Department of Health & Human Services
Environmental Health Bureau Officer
Environmental Health Specialist IV
Environmental Health Specialist IV
Environmental Health Specialist III
Environmental Health Specialist II
Environmental Health Specialist II
Environmental Health Specialist II

Contact information for the LBUD positions described in Table 2-1 are included in the SSMP Organization Chart included in **Appendix 1**.

2.3 Routing of Calls

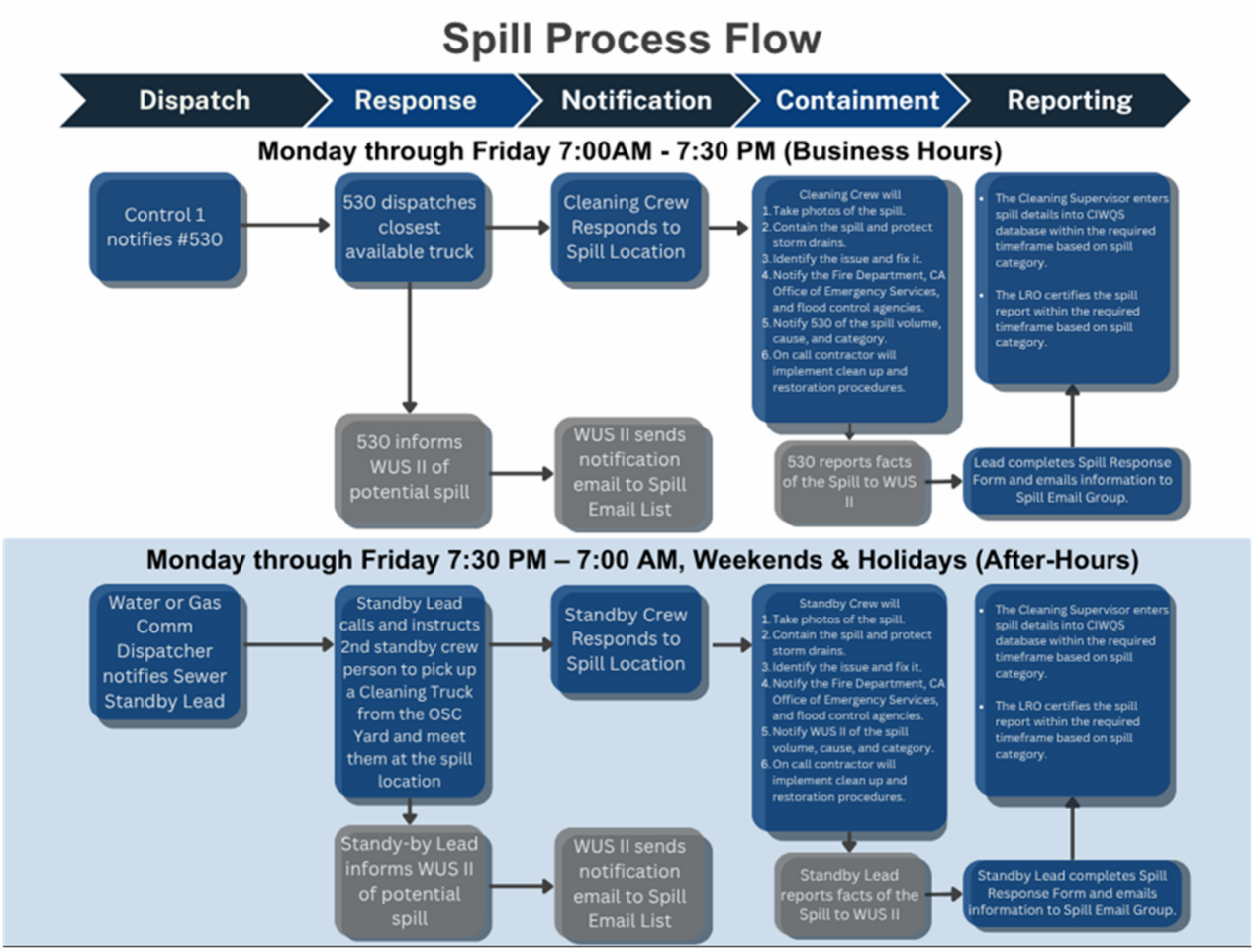
Any calls answered by the City of Long Beach's Police or Fire Department are routed through Control 1, Monday thru Friday from 7:00 am to 7:30 pm or Gas Dispatch from 7:30 pm to 7:00 am and on

weekends and holidays. Additionally, calls made to LBUD's mainline or any calls from Customers are routed to Control 1, Monday thru Friday from 7:00 am to 7:30 pm and Gas Dispatch from 7:30 pm to 7:00 am and on weekends.

Section 3 – Spill Response Procedures

Sewer service calls are high priority events that demand a prompt response to the location of the problem. Upon notification of a potential sewer Spill, an LBUD Cleaning Truck Crew shall be dispatched onsite within 30 minutes during normal working hours and 45 minutes during standby. During normal working hours, LBUD's Primary Responder will be Radio #530 and an LBUD Cleaning Truck Crew. During after hours, the LBUD's Primary Responder will be the Sewer Standby Lead and an LBUD Cleaning Truck who will investigate the service call to determine the appropriate response. The response procedures for Spills caused by LBUD sewers, private laterals within LBUD's service area, and surrounding Agency sewers during working hours and after hours, weekends, and holidays are depicted in Figure 3-1.

Figure 3-1: Spill Response During Business Hours and After-Hours



3.1 Notification of Other Entities

Once a spill has been confirmed and categorized (discussed further in Section 4), the appropriate entities are contacted according to priority set by:

- The notification requirements set in the general order.
- The location and destination of the spill affecting LBUD response access
- Spills affecting public access

LBUD has compiled a list of contact information of potential affected entities and included them in the SSMP organization chart shown in **Appendix 1**. Example reasoning for contacting an affected entity is listed below:

- Marine Bureau - spills that occur at marines jurisdiction/ beaches
- Airport Maintenance/24 hr. Security - spills that occurs at airport/access needed to respond to spill
- Parks - spills that occur at parks
- Cal Trans - spills on Pacific coast highway that require traffic control set up
- Harbor maintenance/24 hr. security - spills that occur at Harbors' jurisdiction/access needed to respond to spill
- CSULB maintenance - spills at Cal State
- LBCC maintenance - spills at City Colleges
- LB Unified Maintenance - spills at schools
- Long Beach Job Corps Center Security - access needed

LBUD has procedures in place to notify the owners of stormwater infrastructure in its service area. LBUD has informal access agreements for both City and County-owned stormwater infrastructure, including their respective catch basins, pipelines, and pump stations. There are no known stormwater collection facilities within LBUD's jurisdiction to which it would be unable to gain access in the event of an emergency.

3.2 Safety

Sewer Operations personnel are responsible for following LBUD safety procedures at all times.

3.3 Traffic and Crowd Control

Traffic control requirements vary depending on the location and the risk to operating personnel and the public. LBUD uses the following traffic control devices, as appropriate:

- Warning signs (signs with the symbol for person working are preferred);
- Directional arrow signs on rear of the truck;
- Traffic cones clearly delineating traffic lanes and directions; and
- One or more flaggers utilized to control and direct traffic where visibility is limited or the possibility of collision exits.

Place warning signs, cones, barricades and caution tape as needed to keep vehicles and pedestrians away from contact with spilled sewage.

City of Long Beach agencies or departments may also serve as a traffic control resource.

3.4 Primary Responder Priorities

The Primary Responder's priorities, as the first person to respond to the call, are:

- To follow safe work practices;
- To respond promptly with appropriate equipment;
- To contain the spill wherever feasible;
- To restore the flow as soon as practicable;
- To minimize public access to and/or contact with the spilled sewage;
- To ensure proper cleanup has occurred;
- To restore the area to its original condition (or as close as possible); and
- To follow response requirements, per Order 2022-0103-DWQ.

3.5 Initial Response

Upon notification of a possible Spill, the dispatch operator receiving the call gathers as much information as available through the caller. Information typically available includes: the time the Spill was noticed, address of the Spill, general location of the Spill (street, alley, easement, parking lot, private property, etc.) as well as a call back telephone number of the calling party in case additional information is needed.

Upon arrival, the dispatched cleaning truck crew will:

- Field verify the address and nearest cross street to determine whether the spill or backup is located in LBUD's service area.
    - Note arrival time at spill site.
- determine appropriate course of action and/or responsible party, and respond accordingly.
- Set up traffic and pedestrian control as necessary for safety of the public and the response crew.
- Use best judgment to determine whether to proceed immediately with blockage removal versus containment. Activities may occur simultaneously.
- If the spill/backup is caused by a private lateral, the responding crew should contain/mitigate the spilled sewage to prevent sewage from entering the public right of way

3.5.1 Restore Flow

Using the appropriate cleaning tools, the crew will attempt to remove the blockage from the system and observe the flows to ensure that it does not recur downstream.

- If the blockage cannot be cleared within a reasonable time, or if the sewer requires construction repairs to restore flow, the crew will initiate additional containment measures and/or bypass pumping.
- If the blockage is too large for the sewer operations crew to bypass, LBUD will mobilize one of three emergency contractors to assist with a larger bypass.

3.5.2 Initiate Spill Containment Measures

The responding crew will attempt to contain as much of the spilled sewage as possible using the following steps:

- Determine the immediate destination of the spill.
- Implement immediate containment measures consisting of plugging catch basins using straw wattles, and/or other dam construction material to contain the spill, whenever appropriate.
- Additional containment measures include containing/directing the spilled sewage by digging a dike/dam or using sandbags.
- If the spill is caused by a sewer lateral, LBUD will check the mainline and ensure this is clear. If this is not, LBUD will proceed to unblock the line to restore flow. If the mainline is clear of any blockages, LBUD will notify the Fire Department who will contact the Health Department. The Cleaning Crew shall remain on-site until the Health Department arrives. The Health Department will assume control of the situation.

Homeowner Responsibilities:
The homeowner is responsible for clearing any blockage in the home's plumbing system or private lateral and for any resulting flood damage to the structure resulting from lack of maintenance or defects in the private lateral.

If the sewage flooding was caused by a blockage in the public sewer main or the public portion of a sewer lateral, LBUD may be responsible for the damages. If this occurs, the property owner will file a claim as soon as possible with the City Clerk's Office. The City Clerk's office will review supporting documentation and determine the responsible party. They will decide if damages are to be awarded. If a blockage occurs in the Public Sewer Lateral due to the customer violating any of LBUD's sewer use ordinances, it is the homeowner's responsibility to clear the blockage. Similarly, all blockages occurring in the Private Sewer Lateral are the responsibility of the homeowner. Regardless of spill responsibility, appropriate reporting of a spill described in section 4 would be documented.

3.6 Water Quality Sampling and Testing

In the event of sewer spills 50,000 gallons or greater that reach surface water, LBUD will perform water quality sampling and analysis as required by the SWRCB. The preferred approach utilizes the qualified Environmental Clean-Up Service vendor to collect and perform the analysis. Alternatively, the Ground Water Treatment Plant laboratory staff can collect samples for processing by sub-contracted laboratories. All sampling and analysis will adhere to specifications outlined in sections 2.3.2 (Water Quality Sampling and Analysis), 2.3.3 (Water Quality Analysis Specifications), and 2.3.4 (Receiving Water Sampling Locations) of the SWRCB General Order.

3.7 Recovery and Clean Up

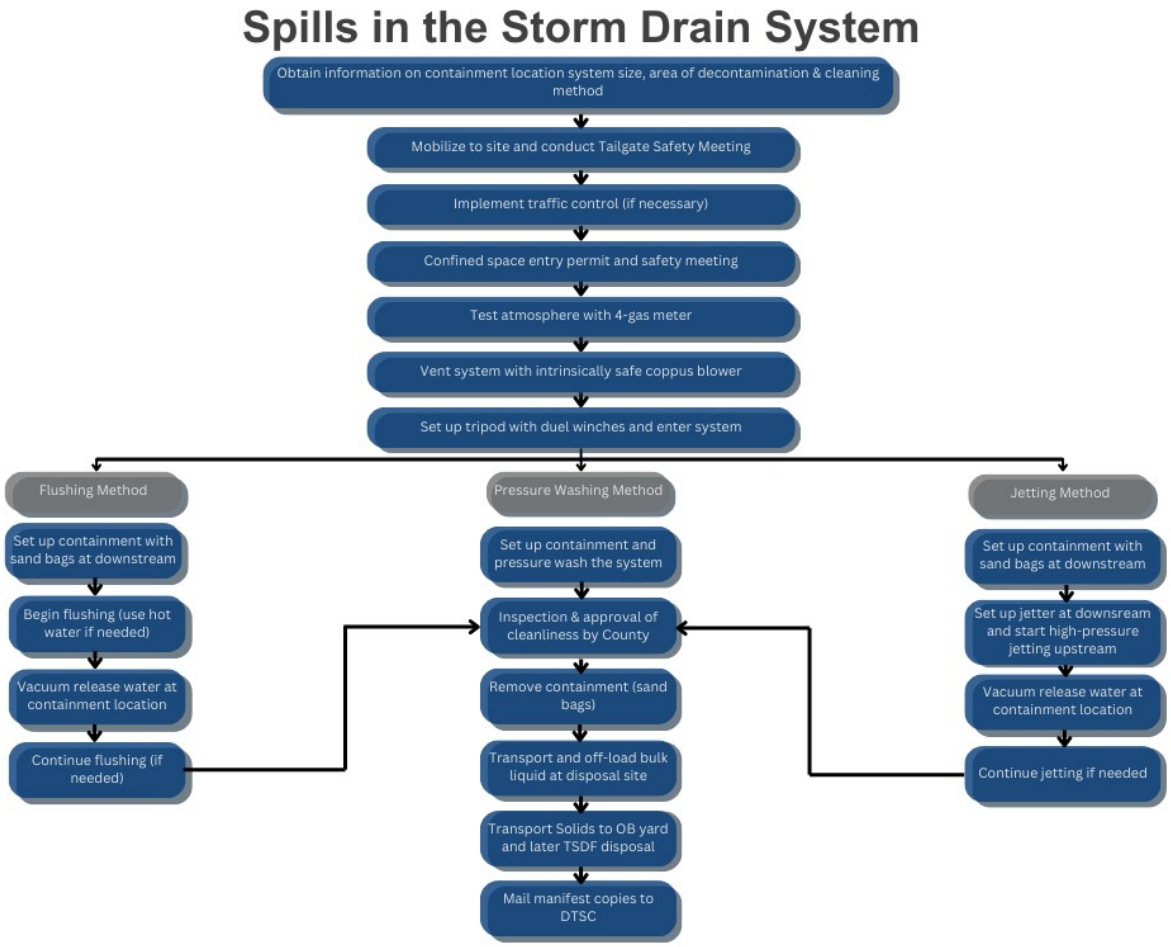
Once the flow has been restored and the spill has been contained to the maximum extent feasible, the recovery and clean-up phase can begin, provided that it is safe to do so. Below is an example of routine procedures performed by the current on-call contractor for LBUD:

1. Upon receiving the initial telephone call from LBUD, a representative will promptly respond to the spill location.
2. The representative will assess the required cleaning equipment to expedite the cleanup process.

3. The representative will collaborate with LBUD staff on-site to evaluate the necessary cleaning procedures, personnel, and equipment for the thorough cleaning and recovery.
4. Upon completion of the cleanup, the highest-ranking LBUD staff member at the site, will fill out a Personnel Work Ticket. The approved time, work performed, and equipment utilized during the cleanup will be indicated by the signature of the approving staff member at the bottom left of the Personnel Work Ticket.

Figure 3-2 provides a process workflow chart for on-call contractor response support activities. Additional information on the Spill recovery and clean up procedures includes the steps detailed in Section 3.7.1 and 3.7.2.

Figure 3-2: On-call Contractor (Ocean Blue) Spill Response Plan



3.7.1 Recovery of Spilled Sewage

Contractor will use a vacuum truck to remove all spilled sewage and any water used to flush the area. All contents collected into the vacuum truck will be taken to an approved treatment location.

3.7.2 Clean Up and Restoration

Contractor will implement clean up and restoration procedures to reduce the potential for human health issues and adverse environmental impacts that are overflowing with a spill event. The procedures

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

Hard Surface Areas

Take reasonable steps to contain and vacuum up the wastewater. Collect all signs of sewage solids and sewage-related material with the use of appropriate equipment. Wash down the affected area with pressure washing equipment and vacuum the wash water utilizing the hydro/combo unit. Allow area to dry. Repeat the process if additional cleaning is required. Use disinfection.

Landscaped and Natural Vegetation

In the event of a spill in a landscaped area, the affected top inch or amount of soil should be removed. The replacement of the soil will be determined by the WUS II and can be carried out by either LBUD or a contractor.

Wet Weather Modifications

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

3.7.3 Follow Up Activities

If sewage has reached the storm drain system, the contractor will use the hydro/combo unit to vacuum/pump out the catch basin. The contractor will flush the storm drain system with wash water downstream to be captured past the affected area, ensuring thorough cleaning. LA County and/or Long Beach Public Works will request the amount/quantity of storm drain to clean/flush. If LBUD sewer causes a spill on a private property, a Hazardous Waste Disposal Contractor will be called to clean and sanitize the affected areas of the home. If the blockage occurs in the main, LBUD will report this as a spill and restore flow and notify the WUS II. The WUS II will notify the Sewer Operations Manager to determine if any immediate steps to rectify the issue are required.

3.8 Public Notification

If a spill enters the ocean or a waterway requiring posting of signage, contact LBHHS. LBHHS will post and remove signage for waterways and beach closures as required and will not remove the signs until the effects of the spill have been mitigated. LBHHS will implement its public notification protocols to inform the public about the temporary closure due to a spill. Additional assistance will be provided by the fire department and police department as needed.

3.9 Spill Event Investigation

The objective of the Spill event investigation is to determine the cause of the spill, document the spill and to identify corrective action(s) needed that will reduce or eliminate potential for the spill to reoccur.

The WUS II conducts an investigation by filling out a spill response form, included in **Appendix 2**, that aids LBUD in meeting the reporting, monitoring and documentation requirements. The goal of the spill event investigation is to determine the cause of the spill and to identify appropriate corrective actions. The WUS II reviews the relevant data to determine the necessary corrective actions. This includes:

- A review of and verification of the information reported on the Spill Response Form;
- A review of on-site photographs;

- A review of historical maintenance activities;
- Completion of a post-spill CCTV inspection to determine the condition of the line segment immediately.
- If it is determined that the spill is due to a commercial FOG-related blockage LBUD will request a FOG inspection from LBHHS; and,
- To ensure adherence to Order 2022-0103-DWQ, the WUS II will conduct a post-spill debriefing to verify the completion of all required documentation and procedures.

LBUD keeps a record of hot spots in high grease areas that are cleaned more often and are considered repeat lines. These are put on a more regular cleaning schedule to reduce the potential of another spill if one had occurred previously. Additionally, LBUD installs SmartCovers® in certain locations if there have been multiple Spills on a particular line.

Section 4 – Spill Documentation and Reporting

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

4.1 Spill Categories

The California State Water Resources Control Board (SWRCB) has established guidelines for classifying and reporting Spills. Notification, reporting, and documentation requirements vary based on the type of spill.

There are four categories of spills as defined by the SWRCB and shown in **Table 4-1** below.

Table 4-1: Spill Categories and Definitions

Categories	**Definitions (see Attachment A of Order 2022-0103-DWQ, for Spill Definition)**
Category 1	A Category 1 spill is a spill of any volume of sewage from or caused by a sanitary sewer system regulated under this General Order that results in a discharge to: • A surface water, including a surface water body that contains no flow or volume of water; or • A drainage conveyance system that discharges to surface waters when the sewage is not fully captured and returned to the sanitary sewer system or disposed of properly. Any spill volume not recovered from a drainage conveyance system is considered a discharge to surface water, unless the drainage conveyance system discharges to a dedicated stormwater infiltration basin or facility. A spill from an Enrollee-owned and/or operated lateral that discharges to a surface water is a Category 1 spill; the Enrollee shall report all Category 1 spills per section 3.1 of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of this General Order.
Category 2	A Category 2 spill is a spill of 1,000 gallons or greater, from or caused by a sanitary sewer system regulated under this General Order that does not discharge to a surface water. A spill of 1,000 gallons or greater that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system, is a Category 2 spill.
Category 3	A Category 3 spill is a spill of equal to or greater than 50 gallons and less than 1,000 gallons, from or caused by a sanitary sewer system regulated under this General Order that does not discharge to a surface water.

	A spill of equal to or greater than 50 gallons and less than 1,000 gallons, that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system is a Category 3 spill.
Category 4	A Category 4 spill is a spill of less than 50 gallons, from or caused by a sanitary sewer system regulated under this General Order that does not discharge to a surface water. A spill of less than 50 gallons that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system is a Category 4 spill.

4.2 Internal Sanitary Sewer Spill Reporting Procedures

The WUS II will submit the completed Spill Response Form, required photographs, and any relevant documents to the Manager of Sewer Operations The manager reviews and completes a draft of the report and is required to enter all necessary information into the State Water Resources Control Board (SWRCB) California Integrated Water Quality System (CIWQS) Online Spill Reporting System. The Legally Responsible Official (LRO) certifies the Spill Report in CIWQS.

4.3 External Sanitary Sewer Spill Reporting Procedures

CIWQS is used for reporting Spill information to the SWRCB whenever required. A summary of external reporting requirements and contact information is included in **Table 4-2** below.

4.3.1 Category 1 Spills

If a Category 1 Spill results in a discharge to a drainage channel or surface waters, the following notification/reporting requirements apply:

- Within two hours of notification of the spill event, the Cleaning Lead will:
    - Notify California Office of Emergency Services (CalOES) and obtain a notification control number;
    - Notify LBHHS
        - Health Department will conduct water sampling of the receiving water within 18 hours of initial knowledge of spill of 50,000 gallons or greater to surface waters;
- Within 3 business days of becoming aware of a spill, a draft report must be entered into the CIWQS Online Spill Reporting System. This is to be completed by the Manager of Sewer Operations.
- Within 15 calendar days of the conclusion of Spill response and remediation, the Legally Responsible Official or his/her designee will certify the final report using the CIWQS Online Spill Reporting System.
- The LRO will update CIWQS and re-certify the Spill report as new or changed information becomes available. The updates should be submitted as soon as new information is verified. The LRO must certify all Spill report updates.
- Within 45 Calendar days the LRO will submit an Amended Spill Report after the spill end date, if applicable.

4.3.2 Category 2 Spills

- Within two hours of notification of the spill event, the Cleaning Lead will:
    - Notify California Office of Emergency Services (CalOES) and obtain a notification control number;
    - Notify Long Beach Department of Health and Human Services (Health Department);

        - Health Department will conduct water sampling of the receiving water within 18 hours of initial knowledge of spill of 50,000 gallons or greater to surface waters;
- Within 3 business days of becoming aware of a spill, a draft report must be entered into the CIWQS Online Spill Reporting System. This is to be completed by the Manager of Sewer Operations.
- Within 15 calendar days of the conclusion of Spill response and remediation, the Legally Responsible Official or his/her designee will certify the final report using the CIWQS Online Spill Reporting System.
- The Legally Responsible Official or his/her designee will update CIWQS and re-certify the Spill report as new or changed information becomes available. The updates should be submitted as soon as new information is verified. The LRO must certify all Spill report updates.
- Within 45 Calendar days the Legally Responsible Official or his/her designee will submit an Amended Spill Report after the spill end date, if applicable.

4.3.3 Category 3 Spills

- Within 30 calendar days after the end of the calendar month in which the Spill occurs, the Legally Responsible Official or his/her designee will submit a certified report using the Online Spill Reporting System.
- Within 90 Calendar days the Legally Responsible Official or his/her designee will submit an Amended Spill Report after the spill end date.

4.3.4 Category 4 Spills

- Within 30 days after the end of the calendar month in which the spills occurs, monthly, the Legally Responsible Official or his/her designee will submit the estimated total spill volume exiting the sanitary sewer system, and the total number of all Category 4 spills into the online CIWQS Sanitary Sewer System Database,
- The Legally Responsible Official or his/her designee will upload and certify a report, in an acceptable digital format, of all Category 4 spills to the online CIWQS Sanitary Sewer System Database, by February 1st after the end of the calendar year in which the spills occur.

4.3.5 Privately-Owned Sewer Laterals and/or Private Sanitary Sewer Systems

Within 24 hours of becoming aware of a spill (as described below) from a private sewer lateral or private sanitary sewer system that is not owned/operated by the Enrollee, the Enrollee is encouraged to report the following observations to the online CIWQS Sanitary Sewer System Database.

- A spill equal or greater than 1,000 gallons that discharges (or has a potential to discharge) to a water of the State, or a drainage conveyance system that discharges to waters of the State; or
- Any volume of sewage that discharges (or has a potential to discharge) to surface waters. In the CIWQS module, the Enrollee is encouraged to identify:
- Time of observation;
- Description of general spill location (for example, street name and cross street names); • Estimated volume of spill;
- If known, general description of spill destination (for example, flowing into drainage channel, flowing directly into a creek, etc.); and
- If known, name of private system owner/operator.

4.3.6 No Spill Certification (Monthly)

If there are no spills during the calendar month, the manager of sewer operations will notify the Legally Responsible Official who will submit and certify an electronic report that LBUD did not have any Spills, within 30 days after the end of each calendar month.

4.3.7 Online Spill Reporting System (California Integrated Water Quality System) Not Available

In the event that the CIWQS Online Spill Reporting System is not available, LBUD would submit all relevant spill reporting information to the Los Angeles Regional Water Quality Control Board (Region 4) via email at: rb4-ssswdr@waterboards.ca.gov. In such event, LBUD will submit the appropriate reports using the CIWQS Online Spill Reporting System as soon as practical.

Table 4-2. External Reporting Requirement Checklist and Contact Information

Reporting & Certification Checklist
Category 1 Spill that reach Drainage Channel or Surface Waters **2-Hour Notification:** **California Office of Emergency Services must be notified within two hours of ANY discharge of sewage (untreated/partially treated) to a surface water or drainage channel (that is not fully captured and returned to sewer).** **Within 3 Business Days of Notification:** **Enter draft report in CIWQS.** **Within 15 Calendar Days of Conclusion of Response/Remediation:** **Must be certified by LRO using CIWQS.**
Category 2 Spill (>1,000 gallons, Did not reach Surface Waters) **Within 3 Business Days of Notification:** **Enter draft report in CIWQS.** **Within 15 Calendar Days of Conclusion of Response/Remediation:** **Must be certified by LRO using CIWQS.**
Category 3 Spill (>50 gallons and <1,000 gallons) **Within 30-Days After End of Calendar Month with Spill Event:** **Must be reported to SWRCB using CIWQS; Must be certified by LRO using CIWQS.**
Category 4 Spill (<50 gallons) **Within 30 days after the end of the calendar month in which the spill occurs** **Certify monthly the estimated total spill volume exiting the sanitary sewer system and the total # of all Category 4 spills into CIWQS** **By February 1st after the end of the calendar year in which the spills occur** **Upload and certify a report of all Category 4 spills to CIWQS**
No Spill Certification (No Spills in Month) **Within 30 days past the end of the month** **The LRO shall certify a No Spill report via CIWQS.**
Privately-Owned Sewer Lateral Discharge (Reporting is Optional) **If reporting, enter into CIWQS as a "Private Lateral Sewage Discharge" and identify responsible party, if known (not LBUD). Must be certified by LRO using CIWQS.**
California Integrated Water Quality Systems (CIWQS)
• **SWRCB Reporting Timeframes Depend on the Size and Final Destination of the Spill.** • **CIWQS must be used for reporting if the website is available (http://ciwqs.waterboards.ca.gov)** • **User Name: xxxx Password: xxxx** • **Waste Discharge Identification Number (WDID): 4spill11423** • **The Spill database will automatically generate an email notification with customized information about the** • **Spill upon initial reporting and final certification for all Category I Spills.** • **Emails will be sent to the appropriate RWQCB staff** • **Email RWQCB (only if website is down)**
Two-Hour Notification / 24-Hour Certification
California Office of Emergency Services **Phone: (800) 852-7550 Make sure you ask for an "OES Control Number"**

4.4 Internal Spill Documentation

4.4.1 Category 1,2, 3, and 4 Spills

The Cleaning Truck Lead will submit the completed Spill Response Form, required photographs, and any relevant documents to the Cleaning Supervisor. The Cleaning Supervisor will review and compile all relevant documentation for WUS II's review. Upon WUS II's review and approval, the Cleaning Supervisor will prepare a file for each individual spill. The electronic file should include the following information, as available:

- Initial service call information (Dispatch has an access database of the history of all calls made to this office);
- Spill Response Form;
- Map showing the spill boundaries;
- Photographs of spill location;
- CCTV inspection data, if applicable;
- Technical report, if applicable;
- Water quality sampling and test results, if applicable;
- spill event investigation results;
- Hazardous Waste Disposal Contractor's Non-hazardous waste manifest and personnel work ticket;
- LBUD has added additional fields along with the standard CIWQS data fields for internal record keeping.

4.4.2 Privately-Owned Sewer Lateral Spills

Service rendered are documented and filed in the Supervisor's office. Communications Dispatch Office also has an extra copy of this. Data from Service Rendered forms is entered in the Computerized Maintenance Management System and Access database also commonly referred to as "Work Order System."

4.5 External Spill Record Keeping Requirements

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

All records shall be made available for review upon State or Regional Water Board staff's request. Records shall be retained for all spills, including but not limited to the following when applicable:

- Records from Hazardous Waste Disposal Contractor;
- GIS map of spill boundaries;
- Spill Response Form;
- Services rendered form;
- Email notification or notice of spill;
- CIWQS report once this is input online;

- Notice of certification from CIWQS;
- Copy of Certified Online Spill Reporting System report(s);
- Relevant photos; and
- Steps that have been and will be taken to prevent the spill from recurring and a schedule to implement those steps.

If water quality samples are required by an environmental or health regulatory agency, or if voluntary monitoring is conducted by the Long Beach Health Department, as a result of any spill, records of monitoring information are kept by the Health Department. This information includes:

- The date, exact place, and time of sampling or measurements;
- The individual(s) who performed the sampling or measurements;
- The date(s) analyses were performed;
- The individual(s) who performed the analyses;
- The analytical technique or method used; and
- The results of such analyses
- Ammonia and appropriate bacterial indicators, applicable to the basin plan water quality objectives

4.5.1 Post Spill Event Debriefing

As soon as possible after major spill events, all of the participants, from the person who received the call to the last person to leave the site, should meet to review the procedures used and to discuss what worked and where improvements could be made in responding to and mitigating future spill events. This usually takes place at the weekly tailgate meetings of field staff.

Section 5 - Equipment

- By-pass pumps:
    - Collections: 2 – 3” Honda GX240 gas-powered pumps; 1 – 2 1/2 “Honda 5.5 pump
    - Pump Stations: 2 – 6” Sewer Transfer Pumps; Diesel 74HP
- Generators:
    - Collections: 2 Honda portable 3000-watt generators
        - 4 Echo portable 2300-watt generators
        - 1 Honda portable 6000-watt generator
    - Pump Stations: 4 general use generators
- Piping or hoses (length or length x number of reels):
    - Collections: 3” hose = 50’ per reel x 10 reels. Total is 500’ of 3” hoses
    - Pump Stations: 6” hose
        - 9 – 20’ Sections
        - 1 – 10’ Sections
        - 1 – 12’ Sections
            - Total of 202’
- Flood lights:
    - Collections: 1 trailer-mounted Light Plant, plus flood lights on all trucks
    - Pump Stations: No Flood Lights.
- Traffic control items:

- Collections: Barricades, Delineators, Cones, Various Signs, Arrow Boards, etc.
- Pump Stations: No additional traffic control items. (Sewer Collections performs traffic control if needed)

Section 6 - Spill Response Training

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

6.1 Initial and Annual Refresher Training

The Sewer Operations Manager is responsible for monitoring all sewer activities, including training, to ensure compliance with State, Federal, and Local regulations. All new employees receive standard "new hire" training before they are placed in a position where they may have to respond. New hires are evaluated for reaching training milestones with a 6-month training checklist, and all employees attend standard safety meetings or training tailgates on a weekly basis.

The following routine SERP-related training occurs:

- As needed after each spill event and when changes have been made to the report form or reporting requirement changes, the Sewer Operations Manager ensures that the necessary LBUD staff receives additional training required by the spill event need or by the changed requirement(s).
- The weekly tailgate meetings in the Sewer Operations meeting area include a discussion of spill events and lessons learned from each event.
- Whenever the spill report form or telephone numbers change, updated forms are distributed and posted in the sewer offices.
- Emergency response and investigation is discussed as needed and after each spill event.
- Sewer Operations Manager and the division supervisors will meet annually to discuss any needed improvements and effectiveness of current spill emergency response practices as part of the SERP assessment.

6.2 Spill Training Record Keeping

LBUD maintains records for all SERP training provided in support of this plan. The records for all scheduled training courses and for each spill emergency response training event include date, time, place, content, name of trainer(s), and names of attendees. Training sign-in sheets are scanned and saved in the network drive in a pdf format. This includes meeting minutes, training checklists, and annual employee evaluations.

Appendix 1 – SSMP Organization Chart

Long Beach Utility Department SSMP Organization Chart

Updated: July 24, 2025

LONG BEACH Utilities
Water · Gas · Sewer

NOTE: The following organizational chart only notes key personal related to SSMP and does not list all Long Beach Utilities Department staff.

Board of Utilities Commissioners

General Manager
Anatole Falagan
Anatole.Falagan@lbutilities.org
(562)570-2317

SSMP #1-11

Assistant General Manager
Business Unit 2
Tai Tseng **(LRO)**
tai.tseng@lbutilities.org.org
(562)570-2420

SSMP Element #1-10

Sr. Director of Water Quality
Yan Zhang
Yan.Zhang@lbutilities.org
(562)570-2484

SSMP Element #1, 2, 4-9

Manager
Water Treatment
Skip Fulton
Skip.Fulton@lbutilities.org
(562)570-2493

SSMP Element #4 - 9

Water Treatment Supervisor I
Henry Monzon
Henry.Monzon@lbutilities.org
(562)570-2468

SSMP Element #4 - 7

Laboratory Sevices Officer
Water Treatment
Kevin Hoang
Kevin.Hoang@lbutilities.org
(562)5702479

SSMP Element #4, 5, 7, 9

Laboratory Sevicess Officer
Water Treatment
Kevin Caldwell
Kevin.Caldwell@lbutilities.org
(562)570-2463

SSMP Element #4, 5, 7, 9

Assistant General Manager
Business Unit 3
Diana Tang **(LRO)**
Diana.Tang@lbutilities.org
(562)570-2302

SSMP Element #1-4, 6, 7, 8, 10, 9 ,11

Public Information Officer
Joy Contreras
Joy.Contreras@lbutilities.org
(562)570-2314

SSMP Element #6, 11

Sr. Director of Customer Service
Jennifer Rojas **(LRO)**
Jennifer.Rojas@lbutilities.org
(562)570-2393

SSMP Element #1, 2, 4, 6, 10, 11

Sr. Director of Administration
Wayne Johnson
Wayne.Johnson@lbutilities.org
(562)532-3660

SSMP Element #1-3, 6, 7, 8

Manager of Goverment Affairs
Nick Russell
nick.russell@lbwater.org
(562)570-2405

SSMP Element #1-3, 10, 11

Manager
Sewer Operations
Michael Herrbach
Michael.Herrbach@lbutilities.org
(562)570-2440

SSMP Element #4, 6, 9, 10, 11

Water Utility Supervisor II
Adam Klempke
Adam.Klempke@lbutilities.org
(562)570-2441

SSMP Element #4, 6, 9, 11

Water Utility Supervisor I
Training/Quality Control
Noe Corral
Noe.Corral@lbutilities.org
(562)570-2384

SSMP Element #4, 6, 9

6 - Water Utility Mechanics I-III

SSMP Element #4, 6

Water Utility Supervisor I
Construction
Tyler Powell
Tyler.Powell@lbutilities.org
(562)570-2451

SSMP Element #4, 6, 9

7 - Water Utility Mechanics I-III

SSMP Element #4, 6

Water Utility Supervisor II
Vacant

SSMP Element #4, 6, 9, 11

Water Utility Supervisor I
CCTV Inspections
Andrew Coelho
Andrew.Coelho@lbutilities.org
(562)570-2452

SSMP Element #4, 6 , 9

6 - Water Utility Mechanics I-III

SSMP Element #4, 6

Water Utility Supervisor I
Cleaning
Brady Vilchez
Brady.Vilchez@lbutilities.org
(562)570-2443

SSMP Element #4, 6, 9

6 - Water Utility Mechanics I-III

SSMP Element #4, 6

Director Water of Resources
Dean Wang
dean.wang@lbutilities.org
(562)570-2311

SSMP Element #1-3, 6, 8, 10

Admin Analyst III
Joseph Baquerizo
joseph.baquerizo@lbwater.org
(562)570-2335

SSMP Element #8

Sr. Director of Finance and MIS
Stefanie Clavery
stefanie.clavery@lbutlities.org
(562)570-2007

SSMP Element #1-4, 8, 10

Director of MIS
Alvin Lam
alvin.lam@lbutilities.org
(562)570-2352

SSMP Element #2, 4, 8, 10

GIS (Business Systems Specialist)
Jeff Evans
Jeff.Evans@lbutilities.org
(562)570-2359

SSMP Element #4, 8

Director of Finance
Vacant

SSMP Element #2, 8, 10

Manager of Budget and Rates
Daniel Gutierrez
Daniel.Gutierrez@lbutilities.org
(520)570-2370

SSMP Element #8

Sr. Director of Gas and Water Engineering
Pipeline Infrastructure
Vacant

SSMP Element #1-8, 12

Director of Water & Sewer Engineering
Pipeline Infrastructure
Robert Verceles
Robert.Verceles@lbutilities.org
(562)570-2337

SSMP Element #1-8

Director of Gas Engineering
Pipeline Infrastructure
Kevin Tougas
Kevin.Tougas@lbutilities.org
(562)570-3963

Manager
Engineering - Pipeline Infrastructure
Vacant

SSMP Element #4, 5, 7, 8

Senior Civil Engineer
Engineering – Pipeline Infrastructure
Valeri Karakanov
Valeri.Karakanov@lbutilities.org
(562)570-2331

SSMP Element #4, 5, 8

Manager
Engineering - Construction
Christopher Pincherli
Christopher.Pincherli@lbutilities.org
(562)570-2327

SSMP Element #5, 8

Manager
Engineering - Water/Sewer Systems Infrastructure
Danna Monzon
Danna.Monzon@lbutilities.org
(562)570-2325

SSMP Element #5, 6, 8

Manager
Engineering - Dev. Services
Dennis Santos
Dennis.Santos@lbutilities.org
(562)570-2381

SSMP Element #4, 5, 7, 8

Sr. Civil Engineer
Eric Buelher
Eric.Buelher@lbutilities.org
(562)570-2328

SSMP Element #4, 5, 8

Capital Projects Coordinator III
Leticia Mimila
Leticia.Mimila@lbutilities.org
(562)570-2427

SSMP Element #5, 7, 8

Housing Authority of the County of Los Angeles
Carmelitos Public Housing Development
(800) 850-8908

LA County Sanitation
(562) 437-6520

Recreational & Water Quality Program (LB Health Department)
(562) 570-4161

Los Angeles County Flood Control District
(626) 458-4357

Long Beach Public Works
(323) 240-1624
After Hours – (562) 577-8797

Cal OES
(800) 852-7550

Long Beach Police Department
(562) 435-6711

Long Beach Fire Department
(562) 436-8211

Environmental Clean Up Service
(562) 624- 4120

Los Angeles County Public Works
(800) 675-4357

Long Beach Marine Bureau
(562) 570-1592

Long Beach Airport Maintenance and 24hr Security
(562) 570-1250
(562) 570-2140

Long Beach Parks
(562) 570-3101

Cal Trans
(323) 259-3200

Long Beach Harbor Maintenance and 24hr Security
(562) 283-7300
(562) 590-4185

CSULB Maintenance
(562) 965-4357

LBCC Maintenance
(562) 618-3982

LB Unified Maintenance
(562) 997-7510

LB Job Corps Center Security
(562) 491-5104

Appendix 2 – Spill Response Form

Last Cleaned Date:
Last CCTV Date:
Post CCTV Date:

LONG BEACH Utilities

Spill Response Form

Spill Address:	Cross Street:	Your Name:
Zip code: Outside Temp:	longitude 33.	latitude -118.

Spill Category

- ☐ Category 1: Spills that flow into a body of water, or not fully recovered.
- ☐ Category 2: Spills of 1,000 gallons or more that do not flow into surface waters, fully recovered.
- ☐ Category 3: Spills of 50-999 gallons that do not flow into surface waters and fully recovered.
- ☐ Category 4: Spills of 49 gallons or less that do not flow into surface waters and fully recovered.

Spill Cause: Number of appearance points:

Spill appearance point(s): 1) 2) 3)

Stoppage occurred between: ☐ N/A Upstream SMH: Downstream SMH:

Destination(s) of the spill event: 1) 2) 3)

Spill Destination Information

☐ Land:	Reached:	Recovered:	Description:
☐ Conveyance system:	Reached:	Recovered:	Description:
☐ Surface water:	Reached:	Recovered:	Description:

Did the spill discharge to a drainage channel and/or surface water? ☐ Yes ☐ No

Did the spill reach a storm drainpipe? ☐ Yes ☐ No

Catch basin affected: ☐ LACFCD: Date: Time: ☐ CLB: Date: Time: ☐ N/A

LACFCD- 626-458-4357 | Was this Spill Associated with a Storm Event: ☐ Yes ☐ No

Spill Volume Calculations - Please explain how you calculated the spill and justify your calculation:

Estimated total spill volume recovered: Gallons	Estimated total spill: Gallons

Notification

Notification to LBUD:	Date:	Time:	Estimated Spill Start:	Date:	Time:
Operator Arrival:	Date:	Time:	Spill end:	Date:	Time:
			Spill response completion:	Date:	Time:

How did you determine when the spill started? - Please explain the method used to determine the start time of the spill

☐ Spoke with residents ☐ Passersby ☐ Surveillance camera ☐ Other - Explain below

Response - External agencies

Notification-CAL OES Phone Number: (800) 852-7550	Date:	Time:	Control Number:
LB Fire Department: (562) 436-8211	Date:	Call Time:	Arrival Time:
Ocean Blue:	Date:	Call Time:	Arrival Time:
LB Health Dept: Arrival: Date:	Arrival Time:	Health inspector name:	

Visual Observations

For all spills, take photos of the affected area before, during, and after cleanup. Email all photos to wa-sewer-supervisors@lbwater.org

Email Subject: "Date-Address-Spill" **Signature:** **Date:**

Description of spill response activities including a description of immediate spill containment and cleanup efforts;

Continue on next page. Pg. 1

Description of spill response activities including a description of immediate spill containment and cleanup efforts (cont'd);

☐ Cleaned Up (specify on next page) ☐ Mitigated Effects of Spill (specify on next page) ☐ Contained All or Portion of Spill
☐ Restored Flow ☐ Returned All Spill to Sanitary Sewer System ☐ Returned Portion of Spill to Sanitary Sewer System
☐ Property Owner Notified ☐ Other Enforcement Agency Notified ☐ Other (specify on next page)

Chronological narrative description of all actions taken to terminate the spill:

Detailed narrative of investigation and investigation findings of cause of spill:

Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the spill, and a schedule of major milestones for those steps:

Was the spill 50,000 gallons or greater to surface waters: ☐ Yes ☐ No Ongoing investigation: ☐ Yes ☐ No

Reasons for an ongoing investigation (as applicable) and the expected date of completion:

Pipe material: Estimated age of the pipe material:

Observed impacts on aquatic life:

Public closure, restricted public access, temporary restricted use, and/or posted health warnings due to spill:

Responsible entity for closing/restricting use of water body:

Number of days closed/restricted as a result of the spill:

Explanation of how the SSMP Spill Emergency Response Plan was implemented to respond to and mitigate the spill: (Supervisor)

located within 1,000 feet of a municipal surface water intake: ☐ Yes ☐ No

Water quality samples required (over 50,000 gallons): ☐ Yes ☐ No

Submit Technical Report within 45 calendar days after the spill end date: Date submitted: Time:

Description of the impact of the spill:

Supervisor I - Map showing the spill failure point, appearance point(s), the spill flow path, and ultimate destinations. Pg. 2

LONG BEACH Utilities

Sewer Spill Documentation Checklist
1: ☐ Work order 2: ☐ Sewer Spill Site Map 3: ☐ Ocean Blue invoice 4: ☐ Photographs in order of spill activities
5: ☐ Sewer Spill follow-up actions plan 6: ☐ Technical Report 7: ☐ Sewer Spill Water Quality Monitoring

SSO Information

Category 1: Spills that flow into a body of water, or not fully recovered

Notification: Within two (2) hours of the Enrollee's knowledge of a Category 1 spill of 1,000 gallons or greater, discharging or threatening to discharge to surface waters:

Notify the California Office of Emergency Services and obtain a notification control number.

Monitoring:

Conduct spill-specific monitoring;

Conduct water quality sampling of the receiving water within 18 hours of initial knowledge of spill of 50,000 gallons or greater to surface waters.

Reporting:

Submit Draft Spill Report within three (3) business days of the Enrollee's knowledge of the spill;

Submit Certified Spill Report within 15 calendar days of the spill end date;

Submit Technical Report within 45 calendar days after the spill end date for a Category 1 spill in which 50,000 gallons or greater discharged to surface waters; and Submit Amended Spill Report within 90 calendar days after the spill end date.

Category 2: Spills of 1,000 gallons or more that do not flow into surface waters, fully recovered.

Notification: Within two (2) hours of the Enrollee's knowledge of a Category 2 spill of 1,000 gallons or greater, discharging or threatening to discharge to waters of the State:

Notify California Office of Emergency Services and obtain a notification control number.

Reporting:

Submit Draft Spill Report within three (3) business days of the Enrollee's knowledge of the spill;

Submit Certified Spill Report within 15 calendar days of the spill end date; and

Submit Amended Spill Report within 90 calendar days after the spill end date.

Category 3: Spills of 50-999 gallons that do not flow into surface waters and fully recovered.

Reporting:

Submit monthly Certified Spill Report to the online CIWQS Sanitary Sewer System Database within 30 calendars days after the end of the month in which the spills occur; and

Submit Amended Spill Reports within 90 calendar days after the Certified Spill Report due date.

Category 4: Spills of 49 gallons or less that do not flow into surface waters and fully recovered.

Reporting:

If, during any calendar month, Category 4 spills occur, certify monthly, the estimated total spill volume exiting the sanitary sewer system, and the total number of all Category 4 spills into the online CIWQS Sanitary Sewer System Database, within 30 days after the end of the calendar month in which the spills occurred.

Key- Spill Cause	Debris from Construction	Flow Exceeded Capacity	Other (Specify)	Root Intrusion
Air Relief Valve/Blow-off Valve	Debris from Lateral	Grease Deposition (FOG)	Pipe Structural Problem/Failure	Siphon Failure
Construction Diversion Failure	Debris-General	Inappropriate Discharge to CS	Pipe Problem/Failure	Surcharged Pipe
CS Maint Caused Spill/Damage	Debris-Rags	Natural Disaster	Pump Station Failure	Vandalism
Damage by Others	Debris-Wipes/Non-Dispersables	Operator Error	Rainfall Exceeded Design - I & I	
Key- Spill Appearance Point	Gravity Mainline	Manhole XXX-SMH/SCO-XXX	Upper Lateral (Public)	
Backflow Prevention Device	Inside Building or Structure	Other Sewer System Structure	Inside Building/Structure	
Combined Sewer	Lateral Clean Out (Private)	Pump Station		
Force Main	Lower Lateral (Public)	Upper Lateral (Private)		
Final Spill Destination	Combined Storm Drain	Pump Station	Surface Water	
Beach	Drainage Channel	Separate Storm Drain	Unpaved Surface	
Building or Structure	Other	Street/Curb and Gutter		

Calculating Spill Volume

1. Measure the length and width of the spill in feet.
2. Measure the average depth of the spill in inches.
3. Convert the average depth to feet by dividing by 12 (e.g. an average depth of 6 inches is equivalent to 0.5 feet).
4. Calculate the area of the spill by multiplying the length, width, and average depth in feet (e.g. area = length x width x average depth).
5. Measure the flow rate in gallons per minute.
6. Calculate the spill volume in gallons by multiplying the area by the flow rate (e.g. spill volume = area x flow rate).

Did the spill reach a drainage conveyance system? If Yes: Description of the drainage conveyance system transporting the spill; - Photographs of the drainage conveyance system entry location(s); - Estimated spill volume fully recovered from the drainage conveyance system; - Estimated spill volume remaining within the drainage conveyance system;

Photographs Illustrating the Spill Origin, Active Spill, the Extent and Reach of the Spill, Drainage Conveyance System Entrance and Exit, Receiving Water, clean up efforts, and Post-Cleanup Site Conditions

Diagram Showing the Spill Failure Point, Appearance Point(s), the Spill Flow Path, and Ultimate Destinations

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Attachment F2.
Spill Prevention, Control, and Countermeasure Plan Specification

SECTION 33 01 30
SEWAGE BYPASSING

PART 1 - GENERAL

1.1 Work Included

A. Temporary bypassing of wastewater flows around cleaning, video inspection, rehabilitation and construction Work.

B. Convey sewage flows in closed conduits and dispose of in sanitary sewers downstream.
   1. Do not allow sewage to enter trenches or be covered by backfill.

C. Minimum flow depths in sewers during bypassing shall be:

OPERATION	MINIMUM (UPSTREAM) DEPTH
Heavy-Duty Mechanical Cleaning	2 inches
Video Inspection – Post Cleaning	0 inches (dry)
Liner Installation	0 inches (dry)
Manhole Rehabilitation, Sewer Construction, Lift Station Rehabilitation	0 inches (dry)
Video Inspection – Post Lining	0 inches (dry)

D.

D. Equipment furnished shall be capable of bypassing sewage flows.

1.2 Related Work

A. Section 01 22 00: Unit Prices
B. Section 01 33 00: Submittal Procedures
C. Section 01 40 00: Quality Requirements
D. Section 01 50 00: Temporary Facilities and Controls
E. Section 01 55 26: Traffic Control and Restriping
F. Section 01 66 00: Product Shipment, Storage and Handling Requirements

1.3 System Description

A. Provide labor, materials and supervision to temporarily bypass flow around Work.

B. Do not begin bypassing Work until applicable submittals have been accepted by Owner.

C. Notify Owner's Representative before bypassing sewage flow.

D. Notify customers whose service will be disrupted in writing before bypassing sewer service.

E. Entire bypassing system shall be in place and tested before bypassing sewage.

F. Notify Owner's Representative immediately in event of sewage spill.

1.4 Quality Assurance

A. Use adequate numbers of skilled workmen trained and experienced in necessary trades and crafts and completely familiar with specified requirements and methods for proper performance of Work of this section.

B. Provide temporary pumps, conduits, and other equipment to bypass sewage flow. Furnish necessary labor and supervision to set up, maintain and operate pumping and bypass system.

C. Engine-driven pumps may be used only for bypassing and shall be equipped with mufflers or enclosed to keep noise level in compliance with City of Long Beach Noise Ordinance requirements.

D. Sewer lateral bypass pumps shall be electric-driven and comply with same noise requirements as engine-driven pumps. Pumps and bypass lines shall be of adequate capacity and size to handle flows.

E. Maintain on-site sufficient equipment and materials to ensure continuous and successful operation of bypass and dewatering systems.
   1. Standby pumps shall be fueled and operational at all times.
   2. Maintain sufficient valves, tees, elbows, connections, tools, sewer plugs, piping, and other parts or system hardware on site to ensure immediate repair or modification of any part of system.

F. Design piping, joints and accessories to withstand at least twice maximum system pressure, or 50 psi, whichever is greater.

G. Where flows are bypassed, bypass flow shall be discharged as accepted by Owner's Representative.
   1. Do not discharge to ground surface, receiving waters, storm drains, or locations which may result in groundwater contamination or potential health hazards.

H. Do not shut down bypassing system between shifts, on holidays or weekends, or during Work stoppages without written permission from Owner's Representative.
   1. Notify parties whose service laterals will be out of service and advise against water usage until main line is back in service.
   2. Do not remove bypass without informing Owner's Representative.

1.5 References

A. Reference publications below form part of this specification to extent referenced and are referred to within text by basic designation only.
   1. SSPWC (Greenbook) Standard Specifications for Public Works Construction §7-8.5

1.6 Submittals

A. Furnish the following submittals.

SUBMITTAL	DESCRIPTION	
Working Drawings	Submit per Working Drawing requirements.	.
	Show location of temporary sewer plugs diversion points and bypass discharge lines.	
	Show expected high water level behind plugs and diversions.	
	Show capacities of pumps, prime movers and standby equipment.	
	Show standby power source.	
	Show materials proposed for temporary surfacing over bypass pipes.	
	Show materials proposed for permanent surface replacement over bypass pipe trenches.	
	Show methods for security and protection of bypass system.	
Spill Prevention, Control, and Countermeasure Plan (SPCCP)	Submit listing of precautions to be implemented to prevent sewage spills, including specific responses and control measures to follow during overflow resulting from breakage or blockage and maintenance and inspection schedules to detect potential problems and mitigate potential release resulting from overflows, bypass pipe ruptures, pipe ruptures, blockages and backups.	
Description of Proposed Equipment	Show suction and discharge pipe diameters, materials and bury depths	
	Show size and model of pumps including pump curve, horsepower, speed, voltage and phase or fuel type and fuel consumption as applicable.	
	Show make, model, horsepower, kW and kVA ratings, speed, voltage, phase, fuel type and fuel consumption of standby generator if used.	
	Show standby equipment provided on-site in case of emergency.	
Staffing Plan and Schedule	Submit staffing plan for maintaining equipment for 24-hour continuous reliable operation including weekends and holidays.	
	Show anticipated times of flow interruption and/or flow diversion	
Engineering Calculations	Provide design calculations, including system head curve analysis showing adequacy of system and selected equipment.	
Noise Control Plan	Refer to Section 01 50 00. Include noise rating for equipment.	
Traffic Control Plan	Refer to Section 01 55 26.	
Warranty	If water levels are raised more than 18" above sewer soffit at points in upstream sewer, provide statement accepting full responsibility and liability for damage to upstream properties due to backflow during bypassing.	

B. Refer to Section 01 33 00 for definition of requirements for Working Drawings.

1.7

1.7 Unit Prices

A. Refer to Section 01 22 00 for measurement and payment clauses for sewage bypassing.

PART 2 – PRODUCTS

2.1 Acceptable Manufacturers

A. Acceptable Manufacturers include:

ITEM	MANUFACTURER	MANUFACTURER LOCATION
Inflatable Plugs	Cherne Industries, Inc.	Minneapolis, MN (952) 933-5501
	Petersen Products	Fredonia, WI (800) 827-5275
	Accepted equal	
Gravity Bypass Piping	Cherne Industries, Inc.	Minneapolis, MN (952) 933-5501
	Petersen Products	Fredonia, WI (800) 827-5275
	Accepted equal	

PART 3 - EXECUTION

3.1 Preparation

A. Make field measurements needed to install sewage bypass equipment before submitting shop drawings or ordering.
   1. Make minor changes in dimensions and alignments as needed to avoid utilities or structural conflicts.

B. Examine areas and conditions under which work of this section will be performed.
   1. Correct conditions detrimental to timely and proper completion of Work.

C. Bypass pumps shall be self-priming, designed, for raw sewage applications, resistant to ragging and capable of passing minimum 3” solid sphere.
   1. Pumping system shall be equipped with sound attenuation to limit noise to meet City of Long Beach Noise Ordinance.
   2. Back-up pumps providing 100% redundancy shall be on-site and connected at all times.

D. In multi-pump applications, back-up pump shall be equal in capacity under same pumping conditions as largest duty pump. Provide pumps capable of pumping over full range of flows for each set-up.

E. Temporary piping may be placed above ground only if it will be in service no more than 1 Calendar Day or is within areas protected by accepted traffic control plans.
   1. Place other temporary piping in recessed trench.
   2. At street crossings, temporary resurfacing over recessed trenches shall be flush with existing grade.
   3. When temporary pipelines cross wheelchair ramps or sidewalks, install pipeline within recessed trench or provide asphalt mound ramped at slope ≤ 1:12.

F. Fully test bypass system (all equipment) prior to commencing bypass operation including:
   1. Pressure testing piping at test pressure specified above with potable water prior to introducing sewage to line.
   2. Inspecting piping for leaks and repair or replace leaking sections and joints.
   3. Testing pumping system, including back-up pumps.

G. Material and equipment identified in spill contingency plan, including control measures in event of spill shall be on-site prior to commencing bypass operation.

3.2 Bypass Pumping Procedures

A. Refer variances between above documents and Contract Documents to Owner’s Representative.

B. Bypass sewage as follows:

1. Where appropriate, keep rehabilitated Work free from water during rehabilitation. Disposal of water shall not damage property nor create public nuisance.
   a. Maintain pumping equipment and machinery in good working condition on hand for emergencies.
   b. Have workmen available for operation of said equipment.
2. During bypass pumping.
   a. When bypass pumping operations are complete, drain piping into sanitary sewer prior to disassembly.
3. If sewage accidentally spills into storm drainage system or street, immediately stop overflow, notify Owner and Owner's Representative, and take necessary action to clean up and disinfect spillage to Owner's satisfaction.
4. If sewage spills onto public or private property, wash down, clean up, and disinfect spillage to satisfaction of Owner, property owner, Owner's Representative, and applicable Regional Water Quality Control Boards.
5. Bypass system shall only be operated when weather forecasts indicate no rain is predicted for at least 5 days.
   a. Immediately remove pipes and equipment within manholes when rain is predicted within 24 hours.
6. Take necessary precautions, including constant monitoring of bypass pumping to prevent sewage spills due to back-up and/or overflow resulting from breakage or blockage of bypass system.
   a. Provide experienced personnel knowledgeable in bypass equipment operation to monitor each bypass when installed and operating.
   b. At no time shall bypass system be left unattended during operation by designated personnel.
   c. Contractor shall be liable for cleanup, damages, and resultant fines in event of a spill.
7. Protect pumps and piping from damage, vandalism, and/or theft to maximum extent possible and as shown on Plans.
8. After Work is completed, remove temporary bypass system.
   a. Return surrounding area, including hardscape and landscape to pre-construction condition.
9. Contractor shall be responsible for labor, materials, equipment, and incidentals associated with temporary controls and diversions required to maintain uninterrupted flow in existing sewer lines associated with this project.

C. Contractor shall repair, without cost to Owner, damage resulting from Contractor's negligence, carelessness, mechanical failures, electrical failures, or inadequate or improper installation, maintenance or operation of Contractor's bypassing and dewatering system.

3.3 Field Quality Control

A. Field testing shall include:

ITEM	TEST FOR	TEST STANDARD (ASTM OR OTHER TEST STANDARD)	FREQUENCY	FIRST TEST PAID FOR BY	RETESTS PAID FOR BY
Bypass System	No Spills		1 inspection	Contractor	Contractor

END OF SECTION

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Attachment G1.
List of Disposal Facilities

CITY OF LONG BEACH

Department of Health and Human Services
Bureau of Environmental Health | FOG Program
2525 Grand Avenue #220 | Long Beach, CA 90815
(562) 570-4132 | Fax (562) 570-4038

Waste Cooking Oil Collection Companies

Name	Number
Baker Commodities	(800) 427-0696
One More Time Inc.	(323) 268-2801
DARPRO (Darling International, Inc.)	(855) 327-7761
Crown Grease	(310) 639-8474
Triple-A-Pumping	(800) 784-6591
Cali Grease	(818) 642-8918
Mahoney Environmental	(800) 892-9392
SMC Grease Specialist Inc.	(951) 788-6042
Martinez Pumping Service	(626) 625-6051
The Grease Bucket	(714) 471-9191
Restaurant Technologies Inc.	(888) 796-4997
Hernandez Grease	(323) 376-8442
Reyes Energy Group	(213) 271-4101
LA Grease Solutions	(323) 232-2629
The Grease Company	(888) 697-8910
Trinity Oil & Grease Recycling	(562) 351-2358
JR Grease Services	(562) 551-8727
Nottingham M C Co	(323) 283-8821 (626) 799-4122 (626) 442-4660
Roberts Liquid Disposal	(562) 864-2953
Southwest Processors, Inc.	(323) 269-9876
United Pumping Services	(626) 961-9326

Grease Interceptor Pumping Companies

Name	Number
Baker Commodities	(800) 427-0696
DARPRO (Darling International, Inc.)	(855) 327-7761
Crown Grease	(310) 639-8474
Triple-A-Pumping	(800) 784-6591
Cali Grease	(818) 642-8918
Mahoney Environmental	(800) 892-9392
SMC Grease Specialist Inc.	(951) 788-6042
Martinez Pumping Service	(626) 625-6051
JR Grease Services	(562) 551-8727

<u>This list is not a referral or a recommendation by the City of Long Beach.</u>
Additionally, this is not a complete list of all firms available for service. Further names can be obtained by contacting appropriate associations or by referring to telephone directories or other resources.

Attachment G2.
Sample LBDHHS FOG Inspection Report and Monthly Summary Report

DISCLAIMER: PRIVATE INFORMATION HAS BEEN REDACTED FROM THIS SAMPLE INSPECTION REPORT

CITY OF LONG BEACH

Department of Health and Human Services
Bureau of Environmental Health | FOG Program
2525 Grand Avenue #220 | Long Beach, CA 90815
(562) 570-4132 | Fax (562) 570-4038

FATS, OILS, AND GREASE (F.O.G.) PROGRAM OFFICIAL INSPECTION REPORT

Email: EnvironmentalHealth@longbeach.gov Website: www.longbeach.gov/eh

Owner/Operator	Service Code	Purpose of Inspection **F.O.G INSPECTION**	Inspection Date **04/02/2025**	Time In **9:45 AM**
DBA / Facility Name	Health Permit #	Program Description **FATS, OILS, & GREASE**	Reinspection Date (on or after)	
Site Address	EHS #	EHS Name	Inspection Result **FAILED TO MEET STANDARDS / NOT IN COMPLIANCE**	

ANY VIOLATION(S) NOTED DURING THE INSPECTION OF THE PREMISES AT THE ABOVE ADDRESS, REQUIRE CORRECTION WITHIN THE TIME INDICATED.

In = In Compliance OUT = Out of Compliance COS = Corrected On Site N/O = Not Observed

Best Management Practices		
	■ IN ☐ OUT ☐ COS ☐ N/O	USE OF HOT WATER
	■ IN ☐ OUT ☐ COS ☐ N/O	FATS, OILS, AND GREASE DISCHARGE
Grease Trap		
	■ IN ☐ OUT ☐ COS ☐ N/O	DISHWATER DISCHARGE
	■ IN ☐ OUT ☐ COS ☐ N/O	MAINTENANCE
	■ IN ☐ OUT ☐ COS ☐ N/O	INSTALLATION
	■ IN ☐ OUT ☐ COS ☐ N/O	FLOW RATE
Records		
	☐ IN ☐ OUT ☐ COS ■ N/O	GREASE TRAP RECORDS MAINTENANCE
	☐ IN ☐ OUT ☐ COS ■ N/O	REGISTERED HAULER
Grease Interceptor		
	☐ IN ☐ OUT ☐ COS ■ N/O	LOCATION
	☐ IN ☐ OUT ☐ COS ■ N/O	MAINTENANCE
	☐ IN ☐ OUT ☐ COS ■ N/O	MONITORING
	☐ IN ☐ OUT ☐ COS ■ N/O	EXCESSIVE GREASE REMOVAL
	☐ IN ☐ OUT ☐ COS ■ N/O	CLEANING
	☐ IN ☐ OUT ☐ COS ■ N/O	DISCHARGE ELIMINATION

CITY OF LONG BEACH

Department of Health and Human Services
Bureau of Environmental Health | FOG Program
2525 Grand Avenue #220 | Long Beach, CA 90815
(562) 570-4132 | Fax (562) 570-4038

FATS, OILS, AND GREASE (F.O.G.) PROGRAM OFFICIAL INSPECTION REPORT

Email: EnvironmentalHealth@longbeach.gov Website: www.longbeach.gov/eh

DBA	Site Address	Inspection Date	Service Code
		04/02/2025	

In = In Compliance OUT = Out of Compliance COS = Corrected On Site N/O = Not Observed

Drum/Other Container			
	☐ IN ■ OUT ☐ COS ☐ N/O	DRUM/OTHER CONTAINER MAINTENANCE	**COMPLY BY: 5/9/2025**

Violation Description: Keep the drums and containers in a location on the site of the food facility so that there is no possibility of an accidental or deliberate spilling of fats, oils or grease onto a public right of way. LBMC 8.46.030

Observed accumulated grease on floor surrounding grease containers.

Clean and maintain the facility to remove grease from surfaces and floors.

Access		
	■ IN ☐ OUT ☐ COS ☐ N/O	INSPECTOR ACCESS
Plan Check		
	☐ IN ☐ OUT ☐ COS ■ N/O	GREASE INTERCEPTOR PLAN REVIEW
	☐ IN ☐ OUT ☐ COS ■ N/O	GREASE TRAP PLAN REVIEW
	■ IN ☐ OUT ☐ COS ☐ N/O	PREVENTION OF SPILLS & BLOCKAGES
	■ IN ☐ OUT ☐ COS ☐ N/O	PLUMBING CODE
	■ IN ☐ OUT ☐ COS ☐ N/O	COMPLIANCE WITH REGULATIONS
	☐ IN ☐ OUT ☐ COS ■ N/O	COMPARTMENTS
	☐ IN ☐ OUT ☐ COS ■ N/O	MANHOLE
	☐ IN ☐ OUT ☐ COS ■ N/O	ALTERNATIVE INTERCEPTORS
	■ IN ☐ OUT ☐ COS ☐ N/O	APPROVED GREASE TRAP
Enforcement		
	■ IN ☐ OUT ☐ COS ☐ N/O	VERMIN
	■ IN ☐ OUT ☐ COS ☐ N/O	GREASE DISCHARGE PREVENTION

Measured Observations

Item/Location	Measurement	Comments
No Measured Observations		

Overall Inspection Comments

This is a newly constructed kitchen. Observed underground grease trap installed outside of kitchen. Facility also maintains two 50 gallon grease containers. Education was provided to regarding proper grease disposal and best management practices for grease trap. Facility is in the process of hiring a grease hauler for grease trap cleaning and grease container pick up. Fats, oil and grease log delivered.

CITY OF LONG BEACH

Department of Health and Human Services
Bureau of Environmental Health | FOG Program
2525 Grand Avenue #220 | Long Beach, CA 90815
(562) 570-4132 | Fax (562) 570-4038

FATS, OILS, AND GREASE (F.O.G.) PROGRAM OFFICIAL INSPECTION REPORT

Email: EnvironmentalHealth@longbeach.gov Website: www.longbeach.gov/eh

DBA	Site Address	Inspection Date **04/02/2025**	Service Code

Signatures

SIGNING FOR RECEIPT OF THE ABOVE NOTICE IS NOT AN ADMISSION OF THE FACTS OF THE VIOLATIONS SET FORTH THEREIN.

Received By:
Title: Person in Charge

Re-inspection Date
(on or after date)

EH Representative:
Phone:
Email: @longbeach.gov

FOG MONTHLY SUMMARY REPORT

PERIOD OF: 2/1/2025 TO 2/28/2025

F.O.G INSPECTION: February 03, 2025

INSPECTOR NAME:

BUSINESS PHONE:
PRIMARY CONTACT:
CONTACT PHONE:

COMPLIANCE STATUS: **MEETS STANDARDS / IN COMPLIANCE**

Reinspection Date: February 03, 2026
Next Routine Inspection Date: February 03, 2026
Last Routine Inspection Date: March 06, 2024

OVERALL INSPECTION COMMENTS: Observed 50 gallon grease container at rear of facility for storing used cooking oil. No other grease recovery devices observed. Grease container is collected every 3 months by Crown Grease.

No violations noted

F.O.G INSPECTION: February 03, 2025

INSPECTOR NAME:

BUSINESS PHONE:
PRIMARY CONTACT:
CONTACT PHONE:

COMPLIANCE STATUS: **MEETS STANDARDS / IN COMPLIANCE**

Reinspection Date: February 03, 2026
Next Routine Inspection Date: February 03, 2026
Last Routine Inspection Date: November 06, 2023

OVERALL INSPECTION COMMENTS: Observed grease interceptor in parking lot near front entrance of facility. Facility also maintains a grease container for used cooking oil. Grease interceptor is pumped by Baker Commodities every 2 months. Grease containers are collected bi-monthly by JC Grease Services.

No violations noted

F.O.G INSPECTION: February 03, 2025

INSPECTOR NAME:

BUSINESS PHONE:
PRIMARY CONTACT:
CONTACT PHONE:

COMPLIANCE STATUS: **MEETS STANDARDS / IN COMPLIANCE**

Reinspection Date: February 03, 2026
Next Routine Inspection Date: February 03, 2026
Last Routine Inspection Date: February 27, 2024

OVERALL INSPECTION COMMENTS: Observed grease trap beneath 3 compartment sink. Facility also maintains a 50 gallon grease container for used cooking oil at rear of facility. Grease trap is cleaned by The Grease Company every 2 months. Grease container is picked up monthly by Kenncoes Grease.

No violations noted

FOG MONTHLY SUMMARY REPORT

PERIOD OF: 2/1/2025 TO 2/28/2025

F.O.G INSPECTION: February 04, 2025

INSPECTOR NAME:

BUSINESS PHONE:
PRIMARY CONTACT:
CONTACT PHONE:

COMPLIANCE STATUS: **MEETS STANDARDS / IN COMPLIANCE**

Reinspection Date: February 04, 2026
Next Routine Inspection Date: February 04, 2026
Last Routine Inspection Date: February 29, 2024

OVERALL INSPECTION COMMENTS: Observed grease container for used cooking oil located outside near rear door. No other grease recovery devices observed. Grease container is collected every 3 months by Mahoney Environmental Solutions. Fats, oil and grease log delivered.

No violations noted

F.O.G INSPECTION: February 04, 2025

INSPECTOR NAME:

BUSINESS PHONE:
PRIMARY CONTACT:
CONTACT PHONE:

COMPLIANCE STATUS: **FAILED TO MEET STANDARDS / NOT IN COMPLIANCE**

Reinspection Date: February 04, 2026
Next Routine Inspection Date: February 04, 2026
Last Routine Inspection Date: March 06, 2024

OVERALL INSPECTION COMMENTS: Joint inspection conducted alongside Long Beach Utilities-Water representatives Inspector from Environmental health was also present.
Arias Grease collects the waste oil from a plastic container bi-weekly and services the grease trap monthly. All records from the past year were made available at the time of inspection.
Long Beach Utilities-Water determined the size of grease trap to be inadequate based on the California Plumbing Code 1014.2.1 calculation.
Fats, Oils, and Grease Maintenance Log given.

Violation(s)

Install a grease trap or other alternative pretreatment technology where the installation of a grease interceptor is not feasible provided that the owner has obtained the prior written approval of the Long Beach Water Department. LBMC 8.46.030

Attachment G3.
FOG Memorandum of Understanding FY 2021

F.O.G (Fats, Oils, and Grease)
MEMORANDUM OF UNDERSTANDING

Between the
City of Long Beach Department of Health and Human Services
and the
City of Long Beach Water Department
Effective FY 2021 (October 1, 2020)

I. BACKGROUND

On March 22, 2005, the Long Beach City Council approved the addition of Chapter 8.46 of Title 8 of the Long Beach Municipal Code (LBMC). This chapter requires all food preparation establishments operating within the City to comply with established Best Management Practices (BMP) for the disposal of fats, oils, and grease (FOG). This chapter is to be implemented and enforced jointly between the Long Beach Water Department (LBWD) and the Long Beach Department of Health and Human Services (DHHS). To implement and enforce the provisions of Chapter 8.46 of the LBMC, the parties agree to the following delineation of responsibilities:

II. PRIMARY OBJECTIVES

There are three primary objectives that the FOG ordinance is intended to achieve:

1. A quantifiable reduction in blockages in City sewer lines due to FOG from City food service establishments (FSE).
2. A reduction in the required frequency of cleaning city sewer lines due to a reduction in the quantity of FOG introduced into City sewer lines.
3. A reduction in the frequency of raw sewage backups in food establishments and overflows into City streets and storm drains.

III. RESPONSIBILITIES

1. As part of its routine inspection program of all food service establishments (approximately 2200), DHHS will conduct a quick assessment of FOG-prone food facility for menu changes requiring the installation of a grease trap in kitchen, with submittal of plans to Water and Health Departments to install a grease trap. Registered Environmental Health Specialists also known as District Inspectors will refer new food facilities, or those for which ownership has changed. This will be performed as an in-kind service.
2. DHHS will conduct an annual FOG inspection of all (approximately 950) Food Service Establishments (FSE) with grease interceptors/traps operating within Long Beach City limits for compliance with the regulations set forth in Chapter 8.46 of Long Beach Municipal Code.
    - DHHS' FOG inspections must include an assessment of the food establishment's grease interceptor, grease trap, or other approved alternative pretreatment technology. A determination should be made as to whether the device adheres to the requirements set forth in sections 8.46.030, 8.46.040, and 8.46.050 of the FOG Ordinance.
    - FOG inspections will be performed annually by a Registered Environmental Health Specialists budgeted under this agreement.
    - Registered Environmental Health Specialist will work with FSEs and ensure that BMPs are followed:

- Each permitted food service facility shall determine the frequency at which their grease trap shall be cleaned, but all grease traps shall be opened, inspected, cleaned, and maintained at a minimum of once per week.
- Each permitted food service facility shall have its grease interceptors pumped at a minimum frequency of once every calendar month. There shall be a minimum period of three weeks between each required pumping.
- In addition to required monthly pumping, each food service facility shall determine an additional frequency at which its grease interceptors shall be pumped according to the following criteria:
  - When the floatable grease layer exceeds six inches in depth as measured by an approved dipping method;
  - When the settled solids layer exceeds eight inches in depth as measured by an approved dipping method;
  - When the total volume of captured grease and solid material displaces more than 25 percent of the capacity of the interceptor as calculated using an approved dipping method; or
  - When the interceptor is not retaining/capturing oils and greases.

- Registered Environmental Health Specialist (REHS) will review written records pertaining to the installation, maintenance, repair, and cleaning of grease traps and grease interceptors during each inspection visit. Each permitted FOG food service facility shall maintain the following:
  - Logbook in which a record of all interceptor maintenance is entered, including the date and time of the maintenance, details of any repairs required and dates of repair completion and any other records pertaining to the interceptor.
  - The logbook shall be made available for review upon request by the REHS Official. REHS will work with FSEs to ensure that Grease Management Practices are followed.
  - Each food service facility shall also maintain a file on-site which contains the following information:
  - As-built drawings of the plumbing system, if available. If as-built drawings are not available, other drawings of enough detail to depict the plumbing layout of the food service facility.
  - Receipts from grease pumpers, plumbers, parts suppliers, etc.
  - Log of pumping or cleaning activities.
  - Log of maintenance activities.
  - Hauler information.

3. DHHS will provide summary reports of all DHHS FOG inspections to LBWD monthly. Information may be organized in a format of DHHS' choosing, as long as the following elements are included:
   - Inspection Date
   - Date of Previous Inspection
   - Name of Food Service Establishment
   - Address
   - Business Phone Number
   - Owner of Record

- Primary Contact Person
- Primary Contact Phone Number (if different than Business Phone Number)
- Compliance Status (Y or N)
- Comments – these should pertain specifically to Compliance Status (e.g., instances of non-compliance). Multiple violations should be visited individually.
- Next action
- Date Due
- Name of Inspector

4. DHHS will make available to LBWD any backup documentation related to FOG inspections, or used in the compilation of monthly Summary Reports, on an as-needed basis.
5. DHHS will send notification letters to food facilities found to be in violation of Chapter 8.46 with a digital copy provided to LBWD.
6. DHHS will initiate enforcement actions as appropriate to address documented violations, in accordance with sections 8.46.060 and 8.46.070 of the FOG Ordinance.
7. LBWD and DHHS will collaborate on a continual basis to build a more complete and accurate GRD list. DHHS database of Food Service Establishments will be used as the foundation of the GRP list, with LBWD continually adding, modifying, and verifying the list with its latest development data (**Recommendation 5.1**, SSO Prevention Performance Audit).
8. DHHS inspectors will screen all permitted food service establishments not currently on the GRD list for inclusion in the FOG Program.
9. DHHS will utilize the Grease Recovery Device (GRD) List provided by LBWD and compare to FOG Program records in Envision Connect database to identify FOG-prone food facilities and prioritize which food facilities will require annual FOG inspections. Additional food facilities not on the list will receive FOG educational materials to ensure operators are pro-active in preventing FOG sewer outflows (**Recommendation 5.2 & 8.2**, SSO Prevention Performance Audit).
10. DHHS will create procedures to limit user access in Envision Connect database (**Recommendation 8.1**, SSO Prevention Performance Audit).
11. DHHS will create additional functions in Envision Connect database to identify FOG-prone food facilities that have not received annual inspections and reasons for not conducting FOG inspection at a food facility (**Recommendation 8.3 & 8.4**, SSO Prevention Performance Audit).
12. LBWD and DHHS will review the current checklist and benchmarked agencies' checklist to create a checklist with specific requirements for inspectors (**Recommendation 8.5**, SSO Prevention Performance Audit).
13. DHHS Program Supervisor will review the FOG paperwork and all FOG inspections to ensure that FOG-prone food facilities are receiving annual inspections (**Recommendation 5.3**, SSO Prevention Performance Audit).
14. DHHS Program Supervisor will ensure that all Health Inspectors complete introductory refresher trainings for FOG to ensure that FOG inspections are performed uniformly and comprehensively (**Recommendation 5.3**, SSO Prevention Performance Audit).
15. DHHS and LBWD will work on the training curriculum and develop materials reinforcing the FOG BMPs and other materials to assist Health Inspectors during FOG inspections (**Recommendation 5.3**, SSO Prevention Performance Audit).
16. LBWD and DHHS will review BMPs of benchmarked agencies, LBMC 8.46 and LBWD's Rules and Regulations. Educational materials designed for Health Inspectors and food facility employers will focus on BMPs that align with Long Beach municipal code and LBWD's Rules and Regulations (**Recommendation 6.1**, SSO Prevention Performance Audit).

17. LBWD and DHHS will create documents/training materials designed for Long Beach food facilities that align with FOG Ordinance and Inspection Checklist. The materials will be given out during FOG inspections to ensure that local food facilities understand the local requirements and regulatory compliance (**Recommendation 6.2**, SSO Prevention Performance Audit).
18. DHHS will provide ongoing education and outreach to food facility staff regarding the proper disposal and control of FOG. This may include informational brochures, posters, and or fact sheets to be distributed during inspection visits.
19. LBWD is responsible for the education and outreach to residential customers. DHHS can assist in the distribution of FOG educational materials to Long Beach residents. Health Inspectors and Health Educators can educate the public and increase awareness of FOG during DHHS health fairs and community events (**Recommendation 7.1**, SSO Prevention Performance Audit).
20. DHHS can assist in promoting and educating residents on the proper disposal of FOG on DHHS social media platforms (**Recommendation 7.2**, SSO Prevention Performance Audit).
21. DHHS and LBWD will participate in Quarterly Meetings to review the effectiveness of implementation and enforcement practices. DHHS and LBWD will work together on the development, implementation, and evaluation of annual and refresher training. Training materials will be pilot tested and will be an integral component of the training designed for new and existing Health Inspectors (**Recommendation 9.1**, SSO Prevention Performance Audit).
22. DHHS and LBWD will update the MOU annually or as needed during the quarterly meetings. Specific deliverables and objectives will be clearly be stated in the MOU (**Recommendation 10.1 & 10.2**, SSO Prevention Performance Audit).
23. DHHS will review the FOG program costs associated with the MOU quarterly and/or annually (**Recommendation 10.3**, SSO Prevention Performance Audit).
24. DHHS will provide 24-hour emergency response services for FOG-related emergencies
25. DHHS will coordinate activities with other City Departments as appropriate (e.g., Public Works, Code Enforcement, City Attorney, etc.)
26. DHHS and LBWD will coordinate website improvements to include introduction of FOG education targeting residential producers of FOG.
27. DHHS will pursue the introduction of a web-based software allowing FOG Program operators to submit maintenance records and enabling DHHS to manage enforcement and to target non-compliant maintenance in facilities.

IV. NEGOTIATED SERVICE AGREEMENT

See attached FY 21 Budget Worksheet for estimated costs for the implementation and enforcement of the FOG Ordinance.

Description of Costs

a. Personnel Cost
   - The fully-loaded position cost includes all salary, fringe benefit, and indirect costs associated with the positions listed on the budget.
   - In response to the 2019 FOG Audit Report, Health will increase staffing resources dedicated to FOG compliance, inspections, reporting, and oversight in accordance with the recommendations in the Report.
     - Two (2.0 FTE total) dedicated Registered Environmental Health Specialist II positions will ensure that approximately 950 FOG FSEs receive an annual routine inspections, education, and emergency response. (DHHS

recommends a FOG facility-to-inspector ratio of no more than 500:1 based on similar FOG programs throughout CA).

- Ten (0.10 FTE total) Environmental Health Specialist I-II (District Health Inspector) positions will provide in-kind (non-reimbursed) screening and referral functions for determining FOG Program inclusion during routine food establishment inspections at approximately 2,200 facilities citywide.
- One Environmental Health Specialist IV (0.05 FTE) and one Environmental Health Specialist III (0.25 FTE) will provide program coordination, reporting, oversight, and supervision to the EHS I-II positions noted above.
- One Environmental Health Operations Officer (0.05 FTE), one Administrative Analyst III (0.05 FTE), and one Clerk Typist III (0.25 FTE) will provide administrative support, review, approval, and clerical functions for the FOG Program.

b. Non-Personnel Cost

- Services include a contracted technical support consultant for the inspection data management system and software maintenance and licensing costs.
- Implementation of a new FOG management software system, known as SwiftComply, to better coordinate FOG inspections with operators and manage reports in a centrally-managed system specifically tailored to FOG management.
- Supplies include various printing and office supplies expenses necessary to operate the program.
- Inter-departmental charges include Technology & Innovation MOU charges for technology support, reprographics charges, and postage charges.

V. BILLING SUBMITTALS

- Payment requests will be processed quarterly and will include charges for staff time, equipment and materials.
- DHHS will initiate journal entries to transfer quarterly expenses to LBWD to reimburse the Health Department for services.
- LBWD will reimburse DHHS for actual costs of all work performed within 30 days after receiving the journal entry.
- Costs may be adjusted according to the current Employee MOU and current Fee Schedule.

VI. TERMS OF AGREEMENT

This agreement defines duties and responsibilities of the Department of Health and Human Services (DHHS) and the Long Beach Water Department (LBWD). This agreement shall become effective October 1, 2020 and shall remain in full force and effect until amended or terminated. The agreement may be amended or terminated by either party at any time, upon sixty (60) notice to the other party.

Approvals:

Kelly Colopy — Date

Director, Long Beach Department of Health & Human Services

Chris Garner — 10/29/20 — Date

General Manager, Long Beach Water Department

FY21 FOG - MOU Between LBWD and DHHS

OCTOBER 1, 2020 - SEPTEMBER 30, 2021

Personnel Services

TITLE	FTE	FULLY LOADED COST	Cost for FOG Program	SERVICE
Environmental Health Specialist II	2.00	$154,778	$309,555	FOG Inspections, Education, Reports, Emergency Response, Education, BMPs, Website, Outreach
Environmental Health Specialist I-II	1.00	$154,778	In-Kind ($0)	0.1 FTE X 10 EHS for: Screening and referral of facilities for FOG Program inclusion
Environmental Health Specialist III	0.25	$164,497	$41,124	Program Coordination, Reports
Clerk Typist III	0.25	$108,054	$27,014	Mailings, Summary Reports, Billing, Permitting, Phone calls
Environmental Health Specialist IV	0.05	$176,070	$8,803	Oversight and Supervision, Reporting to Management
Administrative Analyst III	0.05	$185,766	$9,288	Billing, Data Evaluation, MOU Updates, Procurement, Budgeting
Environmental Health Operations Officer	0.05	$212,259	$10,613	Review and Approval
Total FTE's	**3.65**	**Personnel Total**	**$406,398**	

Non-Personnel Services

	SERVICE	Cost for FOG Program	DESCRIPTION
	Contractual Services	$10,000	Envision Connect (EH Database) technical support and training
	Software	$39,000	Software Maintenance for EnvisionConnect database; SwiftComply web-based service
	Printing	$500	Printing for program documents, educational materials
	Office Supplies	$1,000	Office Supplies
	Technology MOU Costs	$25,550	Information Services (hardware, software, support)
	Reprographics Charges	$2,000	Outreach materials
	Postage	$500	Postage
	Non-Personnel Total	**$78,550**	
	TOTAL FOG SERVICES	**$484,948**	
	Quarterly Billing	**$121,237**	

Attachment H1.
Sewer System Master Plan Update 2023
Executive Summary

Executive Summary

The primary objective of the 2023 Sewer Master Plan Update (SMPU) is to evaluate Long Beach Utilities Department's (LBUD's) sewer system to identify potential deficiencies under existing, near-term, and future conditions based on upcoming Planned Development Districts (PDDs). Furthermore, this SMPU provides a summarized assessment on select lift stations and identifies key elements for improvements. This SMPU presents LBUD a capital improvement program (CIP) and planning level cost estimates for each of the recommended improvements.

Key Findings of the 2023 Sewer Master Plan Update

Key findings of the SMPU are summarized in the following sections:

Hydraulic Model Validation and Recalibration

The SMPU model was based on the City-wide hydraulic sewer model from the 2013 Sewer Master Plan Update and was developed with InfoSWMM software by Innovyze. The 2013 Update model included nearly all the sewer mains greater than 10-inches in diameter. This current update expanded the model to include pipe diameters 10-inches and less along with their associated manholes for the Planned Development Districts (PDDs). This allowed a more thorough investigation into the sewer flow characteristics within these areas by delineating those areas into smaller modelling basins for analysis. The PDDs are discussed in Section 2.4.1.

The model incorporates future loadings based on flow factors adopted from the City of Los Angeles Bureau of Engineering Sewer Design Manual and flow monitoring data. Flow monitoring conducted by ADS Environmental Services was performed at sixty (60) locations throughout the study area from August 28, 2021 to September 10, 2021. Data from the flow monitoring was used to determine the base wastewater flows and groundwater infiltration. Diurnal patterns were also utilized as different users / land uses experience different sewage flows throughout the day.

Further information on the model update and calibration can be found in Section 2.4 and in detail in **Appendix A**.

Collection System Evaluation

The sewer system evaluation was based on LBUD's Design Criteria for Sanitary Sewer Facilities (Design Guidelines), outlining minimal design standards for sewer facilities, particularly sewer mains and their appurtenances, which are primarily for new development. These guidelines were used as "triggers", identifying deficient pipe segments. The analysis was broken down into three sewer load scenarios: existing development condition, near-term development condition, and future development condition.

Results indicate that 76 individual pipe segments triggered a deficiency status of diameter to depth ratio (d/D) of greater than 0.9 in the existing conditions scenario, with 9 occurring due to capacity, and 67 from backwater conditions. For the near-term development scenario, there were 85 pipe segments triggering a deficiency status, with 11 due to capacity and 74 due to backwater. For the future development scenario, there were 187 triggering a deficiency, with 54 due to capacity and 133 due to backwater. **Table ES.1.1** summarizes the head class conditions across the three scenarios.

Table ES.1.1 Head Class Conditions Across Scenarios

	Surcharged (d/D >= 0.9)			d/D >= 0.75 and < 0.9
Development Trigger	**Exceeds Capacity**	**Backwater**	**Total**	
Existing	9	67	76	56
Near-Term	11	74	85	58
Future	54	133	187	94

Lift Station Assessment

A condition assessment was performed at twenty (20) lift stations during October 2021 and two (2) lift stations in May 2023. The assessment identified lift station deficiencies and areas needing improvement. Needed improvements from the lift stations varies and ranges from site, structural, mechanical, electrical, and HVAC improvements. The findings of the assessment and recommended improvements were compiled into the Lift Station Assessment Technical Memorandum found in **Appendix C** and summarized in Section 4.

Capital Improvement Program

The gravity main improvement project costs were based on averaged raw unit prices from various past projects and adjusted to reflect the October 2024 ENR Cost Index for the Los Angeles area (15432.4). All costs were presented in 2024 dollars and include a 30 percent allowance for contingencies for unknown conditions and a 25 percent allowance for engineering, administration, and legal costs. The costs were conceptual level estimates, considered to have an estimated accuracy range of -30 to +50 percent, suitable for use for budget forecasting, capital improvement program development, and project evaluations, with the understanding that refinements to the project details and costs would be necessary as projects proceed to design and construction.

The sewer main deficiencies were compiled into projects and prioritized based on the flow scenario in which deficiency criteria were exceeded. **Table ES.1.2** presents the recommended capacity improvement projects triggered from only existing development, including brief project descriptions, and estimated probable capital costs. The total length of sewer upgrade improvements projects triggered from capacity constraints under existing development conditions triggered projects totalling 10,500 ft with an estimated total cost of approximately $12.99 million. **Table ES.3** presents the recommended capacity improvement projects triggered from only future development, including brief project descriptions and estimated probable capital costs. The total length of future development triggered projects is 20,800 ft with an estimated total cost of approximately $28.35 million. **Appendix D** presents individual project sheets that give a more detailed breakdown of each project's costs as well as a graphic plan view map showing extent and location.

The estimated total probable cost for all lift station improvements is over $24.35 million. Lift station improvements are prioritized based on the amount and severity of deficiencies noted during the assessment. The priorities also consider improving the lift stations for areas expected to have above average sewage flows during the 2028 Los Angeles Olympics. No lift stations experienced Dry Weather Flow (DWF) pumping capacity limitations, other than Lift Station S-4 – Los Altos, which was rectified through a set point adjustment recommendation. The improvements ranged from site, building / structural, mechanical, electrical, and HVAC. The priority ranking and estimated cost is summarized on **Table ES.1.4**. Lift station improvements are ranked based on severity and quantity of defects. Cost breakdown can be found in Section 5.3.2 and in detail in **Appendix E**.

Table ES.1.2 Existing Capital Improvement Program Capacity Improvement Projects

Prj ID	Project Name	Description	Condition of Project Pipe (Any STR >=4)	% of Tributary Area in Poor Condition (Many STR >=4)	Reported Wet Weather Overflows on Project Pipes, or Upstream or Downstream of Project	Max d/D	Least Freeboard (ft)	Max q/Q	Max Flow (MGD)	New Project or From Previous Master Plans	Additional Total Load @ Future Development Horizon (MG)	Specific Development Triggers	Total Length (ft)	Estimated Capital Cost	Total Priority Score	Priority Rank	Comments
3	E Wardlow Road Sewer Improvement	Upsize 110 ft of 10-in sewer to 12-in, 3,673 ft of 12-in to 15-in, and 1,624 ft of 18-in to 21-in along E Wardlow Rd and Cherry Ave	Yes	High > 50	High	> 1	4.9	2.07	2.00	New	0.292	2401 East Wardlow Road 3450 Long Beach Boulevard 4056 Orange Avenue 530 East 33rd Street	5,311	$7,406,000	14	1	
1	Linden Ave Sewer Improvement	Upsize 917 ft of 10-in sewer to 12-in sewer between Ellis St and E Plymouth St. Re-construct and upsize approximately 170 ft of 8-in single-barrel siphon to 10-in double-barrel siphon underneath E Market St.	No	Medium	Medium	> 1	5.1	37.73	0.63	Overlaps 2013 watch list #1	0.140	5801 Atlantic Avenue 6151-6191 Atlantic Avenue	1,087	$1,380,000	25	2	Project scope may change depending on confirmation of siphon double barrel configuration. A one size larger double barrel may eliminate the need for the 610-ft of upsized gravity portion of the project upstream of siphon.
6	Juniper Ave Alley Sewer Improvement	Upsize 328 ft of 8-in to 12-in (Open Cut) along E 10th St and 624 ft of 10-in to 12-in (Pipe Burst through alley) in alley north of E 10th St to to E 11th St, between Stanley Ave and Junipero Ave	No	High > 50	High	> 1	4.9	1.33	0.81	Overlaps 2013 watch list #4	0.001		962	$898,000	25	3	
4	Cherry Ave Sewer Improvement	Upsize 1,028 ft of 8-in sewer to 10-in along Cherry Ave to just below E 10th St. 1,132 ft of 8-in to 12-in along Cherry Ave. 314 ft of 10-in to 12-in Along Cherry Ave to E Anaheim St, and 338 of 15-in to 18-in sewer along E Anaheim St to Gardenia Ave.	No	Medium	High	> 1	8.9	1.26	0.50	Overlaps 2013 watch list #4	0.000		2,812	$2,984,000	30	4	
5	Gardenia Ave Sewer Improvement	Upsize 300 ft of 10-in sewer to 12-in sewer north along Gardenia Ave to E Anaheim St.	Yes	High > 50	High	> 1	9.6	0.97	0.53	New	0.000		289	$325,000	33	5	
Total											.433		10,461	$12,993,000			

Table ES.1.3 Future Capital Improvement Program Capacity Improvement Projects

Prj ID	Project Name	Description	Condition of Project Pipe (Any STR >=4)	% of Tributary Area in Poor Condition (Many STR >=4)	Reported Wet Weather Overflows on Project Pipes, or Upstream or Downstream of Project	Max d/D	Least Freeboard (ft)	Max q/Q	Max Flow (MGD)	New Project or From Previous Master Plans	Additional Total Load @ Future Development Horizon (MG)	Specific Development Triggers	Total Length (ft)	Estimated Capital Cost	Total Priority Score	Priority Rank	Comments
15	Walnut Ave Sewer Improvement	Upsize 2,893 ft of 12-in sewer to 15-in sewer along Orange Ave starting at intersection with E Harding St and ending along E Hungerford St up to intersection with Walnut Ave. 326 ft of 15-in to 18-in sewer along Walnut Ave until intersection with 58th St, and 2,752 ft of 21-in to 24-in sewer along Walnut Ave to E Market St.	Yes	High > 50	Medium	> 1	6.5	1.18	0.95	New	0.29	1600 East Artesia Boulevard	6,061	$9,606,000	17	1	
12	E Conant Street Sewer Improvement	Upsize 1,359 ft of 8-in to 12-in sewer, Along Alley/Bayer Ave between McGowen St and Cover St. 1,460 ft of 12-in to 15-in sewer along Bayer Ave to Conant St, and 2,671 ft of 15-in to 18-in sewer from Conant St to Clark Ave.	No	None	None	> 1	4.8	2.16	1.21	New	0.54		5,490	$7,365,000	20	2	Private sewers here need to get addressed since LBUD sewers are draining into them and without up-sizing, would not properly relieve the increase in flow to them.
16	Poppy St Sewer Improvement	Upsize 496 ft of 10-in sewer to 12-in sewer along E 63rd St to Paramount Blvd, and 1,353 ft of 12-in sewer to 15-in sewer along N Paramount Blvd to alley at BRAGG companies, at 6251 Paramount Blvd	No	Medium	Medium	> 1	12.1	2.04	0.86	New	0.142		1,849	$2,431,000	20	3	
8	Chestnut Ave Alley Sewer Improvement	Upsize 1,000 ft of 12-in sewer to 15-in sewer along alley, between Chestnut Ave and Cedar Ave, starting from Pacific Coast Highway and ending north of W 15th St.	No	High > 50	High	> 1	22.7	1.31	1.27	New	0.173	1814 Pine Avenue 1836-1852 Locust Avenue 245 West Pacific Coast Highway	999	$1,502,000	21	4	The local/new 8-inch doesn't alleviate the need for a project since the majority of the flows in the existing 12-inch are from upstream of where this local 8-inch line might intercept local contributions. These upstream flows are much higher than what's generated locally and received by the 8-inch sewer. The project should commence unless LBUD determines that the 8-inch line acts in full redundancy for the existing parallel 12-inch sewer.
7	Bixby Village Sewer Improvement	Upsize 272 ft of 8-in sewer to 10-in sewer, and 1,783 ft of 10-in to 12-in sewer both passing through the Bixby Village Golf Course, starting from Daroca Ave to E Pacific Coast Highway.	Yes	Low	None	0.97	10.9	1.99	0.59	New	0.019		2,055	$2,357,000	21	5	Variation in potential future development upstream may trigger a CIP upsize when tributary loads are greater than .3 MGD. Latest SEADIP information maxes contributing load to .244 MGD, which does not trigger a project.
2	E 35th Street Sewer Improvement	Upsize 942 ft of 10-in sewer to 12-in sewer along E 35th St between Lime Ave and California Ave.	No	High > 50	Medium	> 1	11.9	1.10	0.73	New	0.068	3450 Long Beach Boulevard 530 East 33rd Street	942	$1,086,000	24	6	
9	E 25th Street Sewer Improvement	Upsize 867 ft of 8-in sewer to 10-in sewer along E 25th St, from Long Beach Blvd to alley between Earl Ave and Pine Ave.	No	High > 50	Low	> 1	14.1	1.11	0.41	New	0.212	540-558 East Willow Street	867	$810,000	26	7	.
17	Olive Ave Sewer Improvement	Upsize 110 ft of 8-in single-barrel siphon to 12-in double barrel siphon sewer from Olive Ave to E Market St	No	Medium	Low	> 1	5.3	26.96	0.62	New			110	$462,000	26	8	The upsize to a 10-inch siphon reduces the HGL sufficiently.
13	61st Street Sewer Improvement	Upsize 1,183 ft of 8-in sewer to 10-in sewer along N Elm Ave and E 61st St, ending at Linden Ave.	No	Low < 20	Low	> 1	3.0	1.05	0.32	New	0.081		1,183	$1,029,000	27	9	
10	Linden Ave Alley Sewer Improvement	Upsize 491 ft of 8-in to 10-in sewer starting from E Burnett St through alley between Linden Ave and Atlantic Ave, ending at Atlantic Ave.	No	High > 50	Low	> 1	19.2	1.25	0.47	New	0.1	2400 Long Beach Boulevard 2515-2545 Atlantic Avenue	491	$523,000	27	10	
14	Cedar Ave Sewer Improvement	Upsize 262 ft of 8-in single-barrel siphon to 10-in double barrel siphon sewer through the intersection of Cedar Ave and E Market St.	No	High > 50	Low	> 1	9.1	1.74	0.42	New	0.046		262	$686,000	28	11	The upsize to the 10-inch siphon solves the issue/reduces the HGL enough to eliminate the non-siphon part of the project.
11	E 35th Street Sewer Improvement	Upsize 522 ft of 8-in to 10-in sewer along E 35th St, through to alley parallel to Interstate 405.	No	Low < 20	None	> 1	13.9	1.85	0.23	New	0.066	3435-3459 Long Beach Boulevard 3464 Locust Avenue	522	$501,000	31	12	
Total											1.737		20,831	$28,358,000			

Table ES.1.4 Sewer Lift Station Improvements Project List

Priority	Lift Station No.	Notable Issues	Estimated Total Costs
1	S-10 Naples	Multiple structural defects / broken hatchway / need eye wash station / piping needs reconfiguration for access	$1,743,000
2	S-11 Alamitos Bay	Multiple structural defects / old PLC / exhaust fan needs relocating	$1,434,000
3	S-28 Marine Stadium	Deteriorated wet well / corroded discharge pipeline / no proper MCC	$1,500,000
4	S-6 Ultimo	Cracks within CMU walls / corroded pumps / corroded suction piping / hydraulic jump on force main at manhole	$1,543,000
5	S-29 Catalina	Repair boards and door hinges, repair slab adjacent to the wet well.	$777,000
6	S-16 Cherry	Multiple structural defects / moderate corrosion on force main / outdated PLC / wet well deteriorated. Cost includes force main replacement.	$1,378,000
7	S-2 North Airport	Cracks within dry well walls / pump coatings failing and moderately corroded / suction pipes internally corroded / electrical issues	$1,838,000
8	S-26 Santa Fe	Severely corroded pumps / corroded suction piping / old on-site diesel generator / old PLC / Pump Operations Adjustment	$2,313,000
9	S-22 Shoreline #3	Pumps errors / corroded inlet pipe. Cost includes force main replacement.	$615,000
10	S-20 Shoreline #1	Corroded inlet pipe. Cost includes force main replacement.	$1,702,000
11	S-21 Shoreline #2	Corroded inlet pipe. Cost includes force main replacement.	$165,000
12	S-23 Shoreline #4	Corroded inlet pipe. Cost includes force main replacement.	$164,000
13	S-9 Marina 1	Corroded inlet piping / multiple structural defects / loose wiring	$885,000
14	S-27 Airport Admin	Wet well walls heavily corroded / Discharge pipe has severe internal corrosion / No means of communication / May need to be relocated as existing location is within airport basement	$665,000*
15	S-3 South Airport	Holes within walls / Leaking pumps and corroded base / SCE electrical issues with station / Exhaust fans not working	$2,653,000
16	S-19 Harbor Scenic	Flooded pipe vault / failed pipe coating / old PLC	$924,000
17	S-4 Los Altos	Multiple structural defects / corroded sump pump / improper hoist installed / Pump Operations Adjustment	$932,000
18	S-15 Molino	Multiple structural defects / old PLC / corroded electrical wiring conduit. Cost includes force main replacement.	$1,823,000
19	S-5 Westminster	Multiple structural defects / broken switch lock	$387,000
20	S-14 Coronado	Corroded wet well crossbeam / corroded electrical wiring conduit. Cost includes force main replacement.	$577,000
21	S-17 8th Place	Corroded wet well crossbeam / corroded electrical wiring conduit. Cost includes force main replacement. Cost includes force main replacement.	$339,000
		Total	**$24,357,000**

* Cost does not consider relocating the S-27 lift station.

Conclusions

LBUD should begin implementation of the Capital Improvement Program recommended in this Master Plan, starting with the highest priority projects. The following items should be considered in project scheduling and design, and in future updates of the master plan.

- The alignments and sizes of all recommended projects should be verified with detailed predesign analyses, including topographic surveys, geotechnical investigations, utility research, and constructability reviews.
- The estimated costs for gravity main projects assumed open cut construction, but alternative methods such as trenchless construction (for this project, pipe-bursting) or construction of parallel relief pipes (for sewers larger than 15-inches) could be considered during design. The decision to parallel or replace existing sewers should consider the physical condition and remaining useful life of the existing pipelines; the availability of pipeline corridors for new sewer construction; and operation and maintenance concerns.
- Though rainfall induced inflow and infiltration (RDI&I) is not the main driver in capacity analyses and master planning in Southern California and on this project, the LBUD may conduct additional flow monitoring at key locations in the sewer system, particularly in any areas that have experienced high wet-weather peak flows, or where significant poor physical condition is known, as these areas are likely the highest contributors to I&I.
- A wet-weather study and model may provide insight into where RDI&I problems persist. This should be done within the next 10 years (before the Future triggered projects are implemented). Flow levels during large storm events should be compared to the peak flows simulated by the hydraulic model to verify the modelling predictions for the appropriate design storm and confirm the need for and sizing of CIP projects, particularly those triggered by buildout future conditions.
- LBUD may benefit from a more in-depth study on lift station operation and capacity, especially during wet-weather. Model calibration indicated discrepancies with the pump station peak flows, which may be a result of out-of-date set-points and pumps no longer operating as efficiently or as originally specified.
- Though only one lift station had backwater or capacity issues (S-4), lift stations S-4, S-7, S-8, S-12 showed modeled peak flows that exceeded velocity and headloss criteria along their force mains. These lift stations and their force mains may benefit from a more detailed pump station capacity evaluation, which would involve field pump draw down tests, and force main headloss tests to determine proper and up-to-date pumping operations, head-discharge curves, and set-points. These tests would provide more accurate data to re-calibrate the model at these stations to validate headlosses on force mains and pumping operations.
- The hydraulic model has been developed to assist the LBUD in performing capacity analyses and updating the Master Plan in the future. Model training for LBUD staff should show how the CIP projects were developed (before/after improvement), how total system flows are determined, and how to determine if improvements are needed. The model should be kept up-to-date with any changes to existing sewer connections, development plans, and sewer system facilities.

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Attachment H2.
2020-2030 Sewer CIP

CIP Sewer Projects from 2020 to 2030

FY20 - FY30

Program	Project No	Project Name	Project Status			Budget		Notes
			Current	FY Completed	FY Scheduled	Completed	Scheduled	
Sewer Improvement	SC-0360	47 TH Street Sewer Improvement Project		2020		$ 728,000.00		Construction of new 1250 LF 8-inch VCP sewer line and 5 manholes. Four sewer lines crossing Union Pacific RR were abandoned and flow diverted to the new sewer
SSRRP	SC-0365	Sanitary Sewer Rehabilitation and Replacement Program Project 5		2021		$ 895,000.00	-	
SSRRP	SC-0366	Sanitary Sewer Rehabilitation and Replacement Program Project 6		2021		$ 508,000.00	-	
SSRRP	SC-0375	Sanitary Sewer Rehabilitation and Replacement Program Project 7		2022		$ 739,000.00	-	
SSRRP	SC-0402	Sanitary Sewer Rehabilitation and Replacement Program Project 8		2023		$ 813,000.00	-	
SSRRP	SC-0427	Sanitary Sewer Rehabilitation and Replacement Program Project 9		2023		$ 975,000.00	-	
SSRRP	SC-0424	Sanitary Sewer Rehabilitation and Replacement Program Project 10		2024		$ 860,000.00	-	
Sewer Improvement	SC-0513	Broadway Ct Sewer Lateral Repair Project			2025		$ 102,000.00	Sewer operations request for repair of sewer laterals at five locations. The main line was built in 1916.
SSRRP	SC-0453	Sanitary Sewer Rehabilitation and Replacement Program Project 11	60% Design		2026		$ 1,800,000.00	
SSRRP	SC-0503	Sanitary Sewer Rehabilitation and Replacement Program Project 12	60% Design		2027		$ 1,897,000.00	
Sewer Improvement	SC-0512	Cherry Ave Sewer Improvement	Planning		2027		$ 2,700,000.00	Upsize sewer as per identified sewer deficiensy in Sewer Master Plan
Sewer Improvement	SC-0373	Arbor Street and Locust Avenue Sewer Improvement Project	Design		2028		$ 2,177,000.00	Upsize existing 8-inch and 10-inch sewer lines built between 1935 and 1979 due to sewer deficiensy.
SSRRP	SC-0504	Sanitary Sewer Rehabilitation and Replacement Program Project 13	60% Design		2028		$ 1,916,000.00	
SSRRP	SC-XXXX	Sanitary Sewer Rehabilitation and Replacement Program Project 14			2029		Not budgeted	
SSRRP	SC-XXXX	Sanitary Sewer Rehabilitation and Replacement Program Project 15			2030		Not budgeted	

Attachment I.
Reserved for Monitoring, Measurement, and Program Modifications Attachments

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Attachment J.
SSMP Internal Audit Report 2024

Sewer System Management Plan (SSMP)

2022-2024 Internal Audit

Introduction

The Long Beach Utilities (LBU) Sewer System is subject to permitting requirements under the Statewide General Waste Discharge Requirement for Sanitary Sewer Systems (WDR SSS). The State Water Resources Control Board (SWRCB) issued a revised Order No. WQ 2022-0103-DWQ to mitigate the potential impact of sanitary sewer spills on public health and the environment. The WRD SSS applies to all public collection system agencies in California that own and operate sewer collection systems. Under the provisions of the WRD SSS, LBU is required to prepare a Sewer System Management Plan (SSMP) and any subsequent updates every six (6) years. Its principal elements include how the municipality operates and maintains the collection system, and procedures for reporting all sanitary sewer spills to the California Integrated Water Quality System (CIWQS) online database, with the ultimate goal of minimizing spills.

Background

The LBU sanitary sewer system is comprised of 705 miles of gravity sewer mains and 7.9 miles of force mains raging in size from 2 to 48 inches in diameter, 29 pump stations, 90,108 lateral connections, and 16,031 sewer manholes. The table below summarizes LBU's collection system.

Collections System Overview	
Gravity Sewer Mains	705 miles
Force Mains	7.9 miles
Sewer Lateral Connections	90,108
Sewer Pump Lift Stations	29

SSMP Internal Audit Overview

Due to the transitional period between Order No. WQ 2013-0058-EXEC and revised Order WQ 2022-0103-DWQ, this audit was conducted using the most relevant data available to assess compliance with both orders in a balanced manner, given the recent regulatory updates.

Section 5.4 of the WRD SSS requires enrollees to conduct internal audits every three (3) years. The internal audit shall be appropriately scaled to the size of the system(s) and the number of spills. In order to be compliant, enrollees must actively participate in the audit process. The audit should: a.) Assess the implementation and efficacy of the SSMP in averting spills; b.) evaluate the Enrollee's adherence to the General Order; c.) identify shortcomings in the SSMP that may contribute to ongoing spills and discharges into state waters; and d.) determine necessary adjustments to the SSMP to rectify identified deficiencies.

It is also important to note that the current version of the SSMP is nearing the end of its 5-year life span. In 2025, a new 6-year SSMP will be completed for 2025 -2031. Therefore, some of the discussions may provide recommendations on how the new SSMP could be improved to reflect different aspects of LBU's program.

The 2022-2024 internal audit addresses the compliance status, effectiveness, and deficiencies and recommendations for the following sections of the current SSMP:

Audit of Section I. Goals

LBU has defined the following five goals in the SSMP:

1. *To properly manage, operate and maintain all portions of the LBU wastewater collection system.*
2. *To provide adequate capacity to convey peak flows.*
3. *To minimize the frequency of Spills.*
4. *To mitigate the impact of Spills.*
5. *To meet all applicable regulatory notification and reporting requirements.*

Compliance Status

LBU is compliant with this element of the SSMP.

Effectiveness

The stated goals are meant to concentrate efforts on minimizing occurrences of spill events, as well as mitigating their impact on public health and the environment.

Deficiencies and Recommendations

No deficiencies have been identified with this element of the SSMP.

Audit of Section II. Organization

This section describes the governance and organizational structure of LBU. It also designates who is responsible for reporting spills. Organizational charts are provided for Executive Management, as well as for Sewer Operations, Water Treatment, and Engineering.

Compliance Status

LBU is compliant with this element of the SSMP.

Effectiveness

The organizational structure clearly identifies lines of authority as well as the key positions responsible for implementing specific measures in the SSMP. The chain of communication for reporting spills is also provided.

LBU has gone through a significant structural reorganization, in addition to the normal turnover of personnel that would be expected during a 5-year period. The Long Beach Utilities Department was formerly known as the Long Beach Water Department. Long Beach Utilities is now comprised of three utilities: Water, Gas and Sewer. Thus, the current organization is quite different from what it was when the 2019-2024 SSMP was written. The last audit recommended that a procedure be put in place to easily update any organizational changes that may occur during the SSMP's 5-year life cycle. LBU'S organizational charts are frequently revised. These updates have been incorporated into an online database, Air Table, which is

available for interdepartmental use. Updates to the organization chart are live and available for staff to view.

Deficiencies and Recommendations
It is recommended that a digital file be created to regularly update organizational records in the SSMP. This digital record should be appended to the current SSMP, titled "Section II - Organizational Updates."

Audit of Section III. Legal Authority

This section requires LBU to demonstrate that it has the legal authority to: a) Prevent illicit discharges b) Require proper design and construction of sewers and connections c) Ensure access for maintenance, inspection, and repair of lateral sections owned by the Public Agency d) Limit discharge of fats, oils, and grease, and e) Take enforcement action on any ordinance violations.

Compliance Status
LBU is compliant with the requirements of this section.

Effectiveness
LBU's legal authority is derived through multiple channels, including the Board of Utilities Commissioners and the Long Beach City Council. The rules and regulations that govern the Sewer Collections System can be found within several documents, depending on what aspect of the system is being evaluated. These include the Long Beach Municipal Code, LBU's "Rules, Regulations and Charges Governing Potable Water, Reclaimed Water, Sewer Service, and the Water Conservation and Water Supply Shortage Plan", and the Standard Specifications for Public Works Construction ("Green Book").

Deficiencies and Recommendations
This section of the SSMP has no significant deficiencies and is generally satisfactory. There is a FOG ordinance in the Long Beach Municipal Code (Chapter 8.46), but LBU had limited enforcement authority. In 2016, LBU entered into a Memorandum of Understanding (MOU) with the Long Beach Department of Health and Human Services to address enforcement of the FOG ordinance. The MOU mandated that the Environmental Services Bureau assign staff to perform FOG inspections in City of Long Beach food service establishments. Given Health Inspectors' established authority to enforce public health ordinances, FOG enforcement was immediately strengthened. The FOG program is discussed in more depth in section VII. of this report. Development Services Plan Checkers and Plumbing Inspectors continue to play an integral role in the FOG program. LBU also has a team of Construction Inspectors which has greatly improved compliance on sewer construction projects for both outside contractors and in-house crews.

Audit of Section IV. Operation and Maintenance

This section of the SSMP specifies 5 elements that must be addressed in order to meet the compliance requirements under Operations and Maintenance (O&M). The same audit questions asked throughout this report (i.e., compliance, effectiveness, deficiencies and recommendations) will be answered for each of these 5 elements.

1. Maintain an up-to-date map of the sanitary sewer system with applicable attributes.

Compliance Status

LBU is compliant with this element of the O&M section.

Effectiveness

LBU uses a Geographic Information System (GIS) to manage its database of extensive information about the sanitary sewer network. This includes attribute data for mains, laterals, manholes, and pump stations. Maps of non-sanitary sewer elements include water, storm drain, street, county trunk sewer, and other underground utility data. Maps are routinely updated with new information. LBU has implemented the use of InfraMap software as an online database to store data regarding services rendered which links to GIS. The data from InfraMap is available in real-time to field staff, via department-issued mobile devices. The use of ArcGIS Explorer also provides field staff with accurate, real-time GIS data of city-wide infrastructure.

Deficiencies and Recommendations

In response to the issues brought up in the previous internal audit, a protocol has been implemented to minimize discrepancies between the information contained in GIS and field observations. Whenever field personnel observe inaccuracies on the InfraMap map versus actual sewer infrastructure, they are expected to make a notation on the digital map, using a “red line” tool. They also include a written explanation for the addition. They then give this to the section’s Water Utility Supervisor I (WUS I), who will review and submit the revision to the appropriate GIS technician. If construction activity alters the position or nature of a sewer structure, a new “as-built” drawing is submitted, and maps are revised accordingly.

2. Describe routine preventative maintenance activities, including how to address known problem areas. The system used to document and track these activities should also be included.

Compliance Status
LBU is compliant with this element of the O&M section.

Effectiveness
Key performance measures include miles of sewer pipe cleaned, miles inspected, number of repairs, stoppages cleared, and number of spills. Metrics are currently being tracked by using a work order system and Excel spreadsheets. Areas prone to blockages are placed on repeat cleaning schedules. Additional preventative maintenance measures include the strategic application of approved chemicals to address specific problems – i.e., root intrusion, grease buildup, and odor issues. In conjunction with routine maintenance activities, Smart Covers® are installed at key locations to provide advance warning of potential spills. A Smart Cover® is a monitoring system installed at the manhole cover to remotely communicate when the manhole reaches a preset alarm point.

To minimize disruptions to public infrastructure and residents, LBU has implemented a new, less invasive method for lateral repairs that eliminates the need for extensive excavation. This trenchless repair technique involves applying specialized patch material to the damaged area without extensive excavation. This method, known as "Pipe-Patch," is efficient, cost-effective, and minimizes disruption to surrounding areas.

After a sewer spill, an investigation takes place using Closed Circuit Television (CCTV) equipment. The findings from the investigation provide LBU with details on how to resolve future similar issues. During routine cleaning, staff utilizes a "proofer" to ensure that the sewer pipe is open to its full diameter. If the "proofer" is unable to get through, a CCTV investigation will take place.

LBU began to meet Cleaning and CCTV mileage goals in the year 2017 and continued to reach goal during most of the following years. The data below demonstrates the % of Goal that was met during the most recent audit period:

	Cleaning*			CCTV		
	2022	2023	2024	2022	2023	2024
Goal (miles)	327.99	342.37	342.37	142.4	142.4	142.4
Actual (miles)	342.67	295.39	346.82	142.84	120.95	145.35
% of Goal	104.5%	86.28%	101.3%	100.3%	84.94%	102.07%

*Does not include miles from repeat cleaning

Deficiencies and Recommendations

LBU faces challenges in coordinating easement cleaning appointments and transitioning away from outdated MS Access databases. Implementation of a Computerized Maintenance Management System (CMMS) would streamline work order management, improve data tracking, and facilitate better resident coordination.

Additionally, a CMMS would support targeted cleaning efforts for trouble areas and optimize cleaning frequencies. The current CCTV inspection database, Pipelogix, lacks comprehensive asset and work order management features. It is recommended that LBU explore a more robust software solution to address these limitations.

To address infiltration and inflow (I&I), Sewer Operations is planning to contract smoke testing services. Additionally, composite manhole lids will be installed to prevent inflow from stormwater in flood-prone areas. In 2024, some installation has already begun.

3. Rehabilitation and replacement plan to identify and prioritize system deficiencies.

Compliance Status

LBU is compliant with this element of the O&M section.

Effectiveness

The Sewer Capital Improvement Plan (CIP) targets segments of sewer system infrastructure that are at the highest risk of failure. CCTV data is routinely used to assess and rank pipeline conditions.

Deficiencies and Recommendations

In 2021, LBU Engineering assessed twenty lift stations, followed by an additional two in 2023. Ongoing repairs are addressing identified issues.

A key concern raised in a previous internal audit was the lack of a comprehensive maintenance and rehabilitation plan for force mains. LBU's extensive sewer system, including over seven miles of force mains, poses a significant risk due to potential failures. Force main breaks can release substantially larger volumes of sewage than gravity line failures.

To address these challenges, we recommend a thorough inspection of discharge lines to assess their condition and identify potential issues. It is recommended that a detailed inspection plan, including specific methods and frequency, be developed. LBU’s Engineering bureau is actively inspecting these systems and developing CIP plans to prevent future spills and mitigate environmental risks.

4. Regular training for all operations and maintenance staff and contractors.

Compliance Status
LBU is compliant with this element of the O&M section.

Effectiveness
LBU prioritizes employee safety and professional development. Our comprehensive training program includes safety courses (confined space, trenching, hydrogen sulfide, PPE, CPR/First Aid), pipeline assessment certification (NASSCO), and professional certifications (CWEA, SWRCB).

A dedicated Training Supervisor oversees field training, ensuring consistent practices and methods within Sewer Operations. To comply with the revised General Order for Water Utility Mechanics and Supervisors, we've implemented specialized training sessions.

Weekly safety "tailgate" meetings reinforce safety protocols. The Safety Division schedules and delivers additional required training programs. To enhance emergency response, the Sewer Division has implemented training on the new Spill Emergency Response Form.

By partnering with external providers, we offer specialized training, such as CWEA certification courses, to further elevate our employees' skills and knowledge.

Deficiencies and Recommendations
While these improvements represent a positive step forward, the division is committed to ongoing evaluation and optimization of its training programs. Future efforts will focus on identifying and addressing any inefficiencies or gaps in current practices to further enhance operational efficiency and employee safety. It is recommended that the 2025-2031 SSMP reflect these ongoing improvements and future initiatives.

5. Maintains an inventory of critical equipment and replacement parts.

Compliance Status
LBU is compliant with this element of the O&M section.

Effectiveness
Each WUS I is responsible for monitoring, ordering, and replenishing items needed for their specific sections, such as Construction, CCTV, and Cleaning. Supervisors, with Manager approval, can make necessary purchases in a timely manner.

To optimize operations and minimize downtime, the division leverages ongoing contracts for tools, equipment, and maintenance services. A current heavy equipment rental contract

ensures timely access to necessary equipment. Additionally, a well-stocked warehouse inventory provides immediate access to essential materials for Sewer Operations. To further enhance preparedness, LBU has proactively ordered additional units of less common components to reduce response times and improve operational efficiency.

Deficiencies and Recommendations

A current deficiency in this area pertains to delays that are sometimes experienced when sending vehicles and equipment out for repairs. LBU is currently testing a repair tracking system within MS Teams to monitor the status and location of vehicles/equipment undergoing repairs. Sewer Operations also plans to work with the Support Services division to address repair delays.

Audit of Section V. Design and Performance Provisions

This section of the SSMP must demonstrate that LBU has the following in place: a) Design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems; and b) Procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

Compliance Status

LBU is compliant with both a) and b) requirements of this section.

Effectiveness

a) Construction and design requirements are fully covered in both the plans and specifications for each CIP project. LBU has design guidelines for sanitary sewer posted on its website. Primary references are the Standard Specifications for Public Works Construction (Green Book) and LBU Standard Drawings and Specifications. For standards that are not fully covered with these 2 references, the following may be used: Los Angeles County Sanitation Districts Standard Drawings of Construction, City of Los Angeles Department of Public Works Bureau of Engineering Part F-Sewer Design, and Los Angeles County Department of Public Works Private Contract Sanitary Sewer Procedural Manual.
b) All design and construction work are subject to inspection and LBU has its own team of in-house inspectors. The City's Public Works Department issues permits for new Sewer connections and repairs. Sewer CIP projects are also inspected using CCTV equipment operated by LBU employees from the Sewer Operations division. CCTV inspections are conducted before and after project completion.

Deficiencies and Recommendations

a) No deficiencies were noted for this portion of the SSMP requirement. LBU's Standard Drawings and Specifications have been updated. This project was completed by LBU's

Engineering Bureau with the collaboration of the Operations Bureau.

b) The previous audit recommended more rigorous inspection and testing of in-house spot repairs. Protocols have been implemented to achieve this. For example, LBU has expanded its team of inspectors such that an inspector is present at each in-house construction job. Additionally, each in-house main repair is inspected via CCTV post construction. Another tool to track the progress of construction work being used regularly is LBU's construction application for mobile devices. It allows LBU personnel to track a project's progress from start to finish for all internal construction work.
c) To streamline CIP work, the LBU Sewer division is coordinating with Development Services. This collaboration will ensure both divisions are aligned in project planning and execution.

Audit of Section VI. Overflow (Spill) Emergency Response Plan

LBU is required to implement a spill emergency response plan that includes a) timely notification of spills to primary responders, b) appropriate response measures for all spills, c) procedures for notifying appropriate regulatory agencies and other affected parties, d) staff training on all elements of the spill emergency response plan, e) procedures to address other response activities such as traffic and crowd control, and f) reasonable steps to contain and prevent the discharge of untreated wastewater to bodies of water and to minimize any adverse impact on the environment.

Compliance Status

LBU is compliant with this section of the SSMP.

Effectiveness

The 2019-2024 SSMP contains a thorough step-by-step outline of the actions that should be taken when responding to any spill. It addresses each subsection as required by the SWRCB. However, some adjustments have been implemented since 2019. The Spill Emergency Response Plan was last updated in 2024 and is included as an attachment.

Each subsection is addressed below:

a) LBU has a 24-hour dispatch line to receive calls regarding any Water, Gas, or Sewer emergencies. The dispatcher notifies appropriate personnel to respond to the emergency. Any report of a possible sewer spill is considered an emergency, and the on-call sewer lead is notified immediately. After business hours, there is a sewer lead, sewer mechanic, sewer supervisor, and sewer manager on call. The sewer lead and mechanic are the first responders to a spill and are required to be physically at the location within half an hour of receiving the dispatch call.
b) The steps taken when arriving at the scene of a spill are detailed in Sewer Operations' standard operating procedures for spills. These include setting up a barrier to prevent spreading of the spill, protecting storm drains and catch basins, locating the blockage, and

clearing the blockage.

c) After the blockage causing the spill has been relieved, the responding crew lead will then notify the appropriate regulatory agencies. The Spill Response Form is carried on all cleaning trucks and is used at the scene of every spill. It guides the responder to complete all pertinent information needed for reporting purposes. It also has contact phone numbers for the regulatory agencies that need to be notified. The sewer supervisor is responsible for executing the internal notification protocol. This protocol consists of a preliminary notification that is sent upon first learning of a potential spill, and a second (final) notification sent with more detailed information regarding the spill. The notification list consists of various stakeholders from different City Departments (e.g., Health, Public Works, etc.) This list is updated on an ongoing and as-needed basis. The Sewer Operations Manager, or the Sewer Supervisor II, is responsible for ensuring that each spill is reported to the state database (CIWQS) within the mandated time frame.
d) Staff training on spills is offered through multiple means, including the weekly tailgate meetings, instruction from the Training Supervisor, and individual coaching from leads and supervisors.
e) All Sewer field personnel are required to complete an initial safety course on traffic control before working in the public right of way. Annual refresher courses are also required. Field personnel are always expected to follow proper safety procedures and traffic control methods.
f) In addition to the standard operating procedures already described to mitigate the consequences of a spill event, LBU has also taken proactive measures to prevent their frequency. Since 2008, LBU has selectively installed Smart Cover® technology to provide advanced warning of rising manhole levels. This technology uses a sensor to detect when the water in a manhole rises above a certain set point. An alarm notice is then sent via text and email to Sewer personnel who can immediately dispatch a crew to the alarm location. The crew can then clear the blockage before it becomes a spill.

The online database for reporting spills, CIWQS, also provides useful tools for measuring how a collection system compares with others in the same region and throughout the State. The Spill Rate Index is the number of Spills per 100 miles of Sewer per year. The following tables show Spill Rate Indices for the 3 Spill Categories. Data is shown below for LBU, the Los Angeles Region, and the state of California for the past three fiscal years. Category 4 spills are not included in the data below, as the audit period spans two General Orders, one of which does not mandate the reporting of Category 4 spills:

2021-2024*	Spill Rate Index (spills/100mi/yr)		
	Category 1 Spill	Category 2 Spill	Category 3 Spill
Long Beach Utilities Dept.	0.09	0.28	2.38
State Municipal (Public) Average	1.97	1.46	2.85
Region Municipal Average	1.11	0.48	1.19

*** May 2, 2021 – May 2, 2024 (Category 4 Spills not included due to date range)**

Deficiencies and Recommendations

Minor deficiencies in staff training that were noted in the previous SSMP audit have been corrected with the implementation of several training initiatives. As described in this report's audit of section IV., part 4, the addition of a Training Supervisor, and more thorough, targeted training in weekly tailgate meetings, have all contributed to better learning outcomes for Sewer personnel. As recommended, regular and frequent training of field personnel incorporates spill-related topics such as how to estimate spill volume, proper notification procedures, and how to correctly complete the Spill Response Form.

With the implementation of a more robust spill training program, no new deficiencies in this area have been noted. It is recommended that the 2025-2031 SSMP include any revisions made to the SERP (Spill Emergency Response Plan, formerly known as Overflow Emergency Response Plan).

Audit of Section VII. Fats, Oils and Grease (FOG) Control Program

The FOG control program should address the following elements, as appropriate: a) Public outreach to promote the proper disposal of FOG. b) A plan for the disposal of FOG generated within the sanitary sewer service area. c) The legal authority to prohibit discharges to the system and prevent blockages and spills. d) Requirements and standards pertaining to grease removal devices. This may include installation, design, maintenance, best management practices, record keeping, and reporting requirements. e) Authority to inspect and enforce FOG ordinances. f) Identification of areas in the sanitary sewer system subject to FOG blockages and a maintenance cleaning schedule. g) Source control measures for areas identified as subject to FOG blockages.

Compliance Status

LBU is compliant with requirements a) through g) of this section of the SSMP. The next SSMP audit will reflect the new General Order's renaming of this section as "Sewer Pipe Blockage Control Program." This current audit retains the previous name due to its coverage of two

different General Orders.

Effectiveness

a) LBU is still responsible for executing a public outreach strategy for residential customers. LBU has launched its "Healthy Sewers" campaign to educate the public on what not to flush or pour down the drain. Outreach methods include social media, LBU's website, bill inserts, and other marketing platforms. The 2019-2024 SSMP includes a sample letter that could be sent to residential customers in the immediate vicinity of a FOG-related spill.

b) A listing of local grease collection companies, or grease "haulers," is available in the information packets distributed to restaurants by inspectors. Also included is a listing of local grease interceptor suppliers. No recommendation is made about which company to use, as selection is entirely the decision of the food service establishment, as long as the chosen equipment meets all applicable requirements set by LBU, including those for size, capacity, and proper installation.

c) The City of Long Beach Municipal Code, Chapter 15.01, asserts that LBU's General Manager is authorized by the Board of Water Commissioners to administer the rules, regulations, and charges governing water and sewer service. Furthermore, in 2005, the Long Beach City Council amended the City's Municipal Code by adding Chapter 8.46 on the disposal of FOG (ordinance no. ORD-05-0003.)

d) Chapter 8.46, the City's ordinance on the disposal of FOG details the requirements for grease removal devices, including grease traps and grease interceptors.

e) Since implementation of the 2016 FOG MOU between the City's Health Department and LBU, inspection activities have been done by the City's Health inspectors. Enforcement of the FOG ordinance falls jointly on the City Health Officer, or designee, and the General Manager of the LBU, or designee (Chapter 8.46.060.)

f) Records of sewer blockages and spills are kept as these events occur. The data recorded includes the location, date, time, cause, volume spilled, and corrective action(s) taken. Additional information includes ambient temperature, date last cleaned, and GPS coordinates. A GIS mapping of these events is routinely done to identify areas of concern. A spill "heat" map has been developed for the analysis of areas in the system that are impacted by FOG, which will help target and prioritize the affected areas for focused intervention and proactive measures.

g) Source control measures for areas of concern include increased cleaning frequency, installation of Smart Cover® warning devices in manholes, and administration of chemical degreasers. This is in addition to the FOG control activities already noted above.

Deficiencies and Recommendations

a) A deficiency noted in the previous audit was the minimal amount of public outreach done to target residential customers. This has begun to be addressed with the launch of LBU's "Healthy Sewers" campaign. As a part of this campaign, two mascots have been created for LBU: Rodder the Otter and Maintenance Maya. These mascots are helping to promote the "Healthy Sewers" campaign. Since this program is relatively new, it is recommended that evaluation of this and other public outreach efforts be regularly conducted to

measure their impact and effectiveness.

b) Since FOG outreach for food service establishments is no longer handled by in-house staff at LBU, it is important to work closely with Health Department staff to ensure their field inspectors always have an adequate supply of literature and outreach materials on hand.
c) No deficiencies have been identified with this element of the FOG control program.
d) No deficiencies have been identified with this element of the FOG control program.
e) The recommendations in the previous audit suggested further discussions on FOG inspection activities being handled by the City's Health Department. The results of these discussions were described earlier in this report. It is important that the details of the MOU are included in the upcoming 2025-2031 SSMP. It is also recommended that LBU schedule regular, quarterly, meetings with the Health Department to review program status.
f) No deficiencies have been identified with this element of the FOG control program.
g) No deficiencies have been identified with this element of the FOG control program.

The next SSMP audit (2025-2028) will reflect the 2025-2031 SSMP, and its new subheadings.

Audit of Section VIII. System Evaluation & Capacity Analysis Plan (SECAP)

LBU must prepare and implement a CIP plan that will provide hydraulic capacity data on key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design for storm or wet weather events. At minimum, the plan must include a) Evaluation, b) Design Criteria, c) Capacity Enhancement Measures, and d) Schedule.

Compliance Status

LBU is compliant with this section of the SSMP.

Effectiveness

LBU's Sewer Master Plan evaluates the sewer service area and sewer system facilities to determine current deficiencies, as well as potential deficiencies during future growth. It provides details of the proposed CIP for the sewer system, including prioritization of projects. LBU's Sewer Master Plan was last updated in 2023. In 2023, Engineering updated their hydraulic modeling to include 10" pipe and below. The initial hydraulic model only included sewer mains greater than 10" in diameter. This allowed for a more thorough investigation into sewer flow characteristics.

A Sewer Focus Study began in 2018 to address increased development activity and population growth in the City's downtown area. This study has been completed as of 2019. The Downtown Area Sewer Focus study includes flow monitoring, updating LBU's existing sewer model for the downtown area, and identifying potential capacity deficient areas.

Deficiencies and Recommendations

Based on the 2023 Sewer Master Plan Update and 2019-2024 SSMP, LBU has identified some potential capacity issues under existing conditions, using an updated hydraulic model. These deficiencies will be confirmed via flow monitoring to be scheduled as part of CIP. Since 2014, LBU's CIP have been focused on addressing structural deficiencies of existing sewer mains based on a pipe's physical condition rating through CCTV surveys.

Audit of Section IX. Monitoring, Measurement, and Program Modifications

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

Compliance Status

LBU is compliant with subsections a) through e) of this SSMP element.

Effectiveness

LBU utilizes various metrics to assess the effectiveness of its SSMP components. For instance, cleaning and CCTV activities are measured against footage/mileage goals. Data is collected daily and analyzed at different time intervals to evaluate individual and crew performance. Spill data is used to inform resource allocation decisions, such as the strategic placement of Smart Cover® manhole lids in high-risk areas. Additionally, data analysis helps in recalibrating cleaning frequencies for problem areas. LBU regularly reviews its sewer system management practices to identify areas for improvement. Protocols are updated as needed to optimize performance and achieve better outcomes.

Deficiencies and Recommendations

The previous SSMP audit identified a deficiency in the 2019-2024 SSMP, which has been addressed in both the previous and current audits. While these audits summarize current practices, better tools are needed to monitor, measure, and modify program elements.
A customized CMMS is recommended to automate data collection and analysis. LBU is currently using InfraMap software to analyze monitoring and measurement data. The implementation of InfraMap software aims to address deficiencies and transition away from outdated processes.

Audit of Section X. SSMP Program Audits

LBU should be conducting periodic internal audits to evaluate the effectiveness of the SSMP and compliance with the SSMP requirements. Identification of any deficiencies and steps to correct them should be included. At a minimum, these audits should occur every two years and a report should be kept on file.

Compliance Status

LBU is compliant with the requirements set forth in this section.

Effectiveness

The current internal audit report will fulfill the new General Order's 3-year frequency requirement. Previous 2-year internal audit reports are kept on file and available for review if requested by the SWRCB.

Deficiencies and Recommendations

The recommendations set forth in previous audits have been addressed. It was determined that the 2025-2031 SSMP will be completed with the assistance of a professional consultant with expertise in this area. Future SSMP audits, however, will be completed by internal LBU personnel. The current report satisfies the new audit requirement. It is recommended that future audits keep the interval of 36 months to ensure consistency and timeliness of reports.

Audit of Section XI. Communication Program

This section requires LBU to communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The public should have the opportunity to provide input as the program is being developed and implemented. There should also be a plan of communication with tributary and/or satellite systems.

Compliance Status

LBU is compliant with this section of the SSMP.

Effectiveness

The 2019-2024 SSMP is available on LBU's public website. It was presented to the Board of Utilities Commissioners in 2019, with the opportunity for public comment.

Sewer Operations is committed to community outreach and education. LBU is partnering with local schools to inspire future generations of utility workers and to promote sewer safety. LBU also has a department-wide Community Engagement Team (CET). During CET events, LBU staff

engage with the public, providing information on Sewer, Water, and Gas safety. They also offer tips on maintaining clean sewer systems, emphasizing the importance of proper waste disposal and avoiding flushing of non-flushable items.

Deficiencies and Recommendations

LBU is committed to continuing to deliver targeted public outreach messages to promote "healthy sewers." By regularly assessing the effectiveness of its multiple communications strategies, department leadership may allocate resources to achieve improved results.

Proposed Schedule

LBU proposes implementing a comprehensive corrective action plan to address all deficiencies discussed in the current audit and meet all recommendations by the end of the next audit period, covering 2025 through 2028.

Certification of Self-Audit

I certify that the information contained in this self-audit report is correct to the best of my knowledge, and that the input of sewer system operators and supervisors on the audit findings has been considered:

Michael Herrbach, Manager of Sewer Operations — Date: 10·31·24

Jennifer Rojas, Senior Director of Customer Service — Date: 10-31-2024

Attachment K.
Reserved for Communication Plan Attachments

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