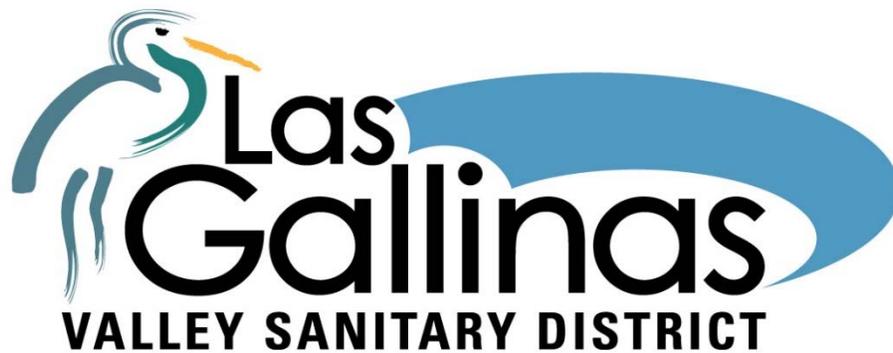




# Sewer System Management Plan

May 2020 Update

Prepared by  
EOA, Inc.  
and  
District Staff



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2. Example Emergency Response Plan for Pump Stations (Duckett PS) - See Appendix A-2

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## **C. SSMP Development Documents (Regional Water Board documents only)**

1. RWB Resolution R2-2003-0095. *In Support of Collaboration between the Regional Board and Bay Area Clean Water Agencies to Report and Manage Sanitary Sewer Overflows*
2. RWB letter: *New Requirements for Preparing Sanitary Sewer Management Plans*, July 7, 2005
3. *SSMP Development Guide*, RWB and BACWA, June 2005
4. RWB letter: *Discontinuation of Requirements for Annual Reports of Sanitary Sewer Overflows (SSOs), and Annual Sewer System Management Plan (SSMP) Audits* (October 3, 2012)

## **D. Documents Related to Statewide General Order 2006-003-DWQ**

1. SWRCB Order 2006-003-DWQ, *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems*, May 2, 2006, with amended Monitoring and Reporting Program, Order WQ-2013-0058, July 30, 2013
2. CIWQS Enrollee’s Guide to the SSO Database, SWRCB, August 2013 (cover + link)
3. LGVSD Resolution No. 2009-1881 approving the final SSMP and its implementation.
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## ***Introduction***

This Sewer System Management Plan (SSMP) has been prepared pursuant to the requirements of the San Francisco Bay Regional Water Quality Control (RWB), as described in a letter to collection system operators dated July 7, 2005, and the SSMP requirements of State Water Resources Control Board (SWRCB) Order No. 2006-003-DWQ, *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems*. The Monitoring and Reporting Program (MRP) associated with the Statewide Order were amended in July 2013 (SWRCB Order WQ-2013-0058-EXEC). The content of this SSMP was informed by the *SSMP Development Guide*, developed jointly by the RWB and the Bay Area Clean Water Agencies (BACWA), as well as the specific requirements of Order No. 2006-003-DWQ. Section numbering and headings in this SSMP follow those of Order No. 2006-003-DWQ.

## **LGVSD Service Area**

The Las Gallinas Valley Sanitary District (District) serves a population of approximately 32,000 persons in the northern portion of the City of San Rafael and neighboring unincorporated areas of Marin County. The service area covers approximately 20 square miles. The District's collection system consists of about 105 miles of gravity sanitary sewers, 6.7 miles of pressure sewers, and 28 pump stations. The District also operates the wastewater treatment plant. Figure 1 shows the service area and the location of key District facilities. The District's wastewater collection and treatment operations are closely integrated and utilize common administrative facilities and engineering and administrative staff.

## **CIWQS Identification**

The following designations are used in the California Integrated Water Quality System (CIWQS) to identify the District:

Agency: Las Gallinas Valley Sanitary District  
WDID: 2 SSO10147  
Collection System: Las Gallinas CS

## **Definitions and Abbreviations**

The following are acronyms and abbreviations used in this SSMP and associated documents

### ***Bay Area Clean Water Agencies (BAWCA)***

### ***Backwater Prevention Device***

A type of valve installed on a sewer lateral to prevent flows caused by blockages in sewer mains from backflowing into buildings. Also referred to as an overflow protection Device (OPD) or "Contra Costa Valve".

### ***Best Management Practices (BMP)***

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

***California Integrated Water Quality System (CIWQS)***

Refers to the State Water Resources Control Board online electronic reporting system that is used to report SSOs, certify completion of the SSMP, and provide information on the sanitary sewer system.

***California Office of Emergency Services (CAL-OES)***

***Capital Improvement Plan (CIP)***

Refers to the document that identifies future capital improvements to the District's sanitary sewer system.

***Capacity, Management, Operations, and Maintenance (CMOM)***

Refers to the federal (USEPA) program for regulating operation of sewer collection systems. CMOM requirements were incorporated into draft regulations that were subsequently withdrawn. The SSMP and its requirements closely resemble the CMOM program.

***Central Marin Sanitation Agency (CMSA)***

LGVSD contracts with CMSA for services related to the District's FOG and Pollution Prevention Programs.

***Clean Out or Property Line Clean Out***

Refers to the clean out that is typically located on the building lateral near the sidewalk or at the edge of the District's right-of-way. The property line clean out is used to provide access to maintain the lower lateral. A two-way or "Tee" cleanout will provide access to both the upper and lower laterals.

***Category 1, 2, 3 SSOs*** – see Table 3-1 for definitions

***Closed Circuit Television (CCTV)***

Refers to the process and equipment that is used to internally inspect the condition of gravity sewers. CCTV video is typically recorded on tape, DVD, or hard drive.

***Computerized Maintenance Management System (CMMS)***

Refers to a database application used to manage and document maintenance activities of a collection system.

***Data Submitter (DS)***

Refers to the individual(s) designated by the District to submit SSO reports on the CIWQS system. The DS must be formally designated and registered with the SWRCB, with an assigned user name and password. A DS cannot certify SSO reports. (See also LRO)

***Drainage Channel***

Generally taken to mean an unlined channel that is tributary to surface water (waters of the United States). The Statewide Order implicitly assumes that discharges to drainage channels cannot be recovered, and will therefore impact surface water. In contrast, a discharge to a municipal storm sewer system (MS4) can potentially be isolated and recovered.

***Fats, Oils, and Grease (FOG)***

Refers to fats, oils, and grease typically associated with food preparation and cooking activities that can cause blockages in the sanitary sewer system.

***Fiscal Year (FY)***

***Food Service Establishment (FSE)***

Refers to commercial or industrial facilities where food is handled/prepared/served that discharge to the sanitary sewer system.

***Geographical Information System (GIS)***

Refers to the system that it uses to capture, store, analyze, and manage geospatial data associated with the District's sanitary sewer system assets.

***Global Positioning System (GPS) Device***

Refers to the handheld unit that can be used to determine the longitude and latitude of sanitary sewer overflows for use in meeting CIWQS reporting requirements. Can also be used to geolocate assets for the GIS.

***Grease Removal Devices (GRDs)***

***Infiltration/Inflow (I/I)***

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

***Lateral***

Refers to the piping that conveys sewage from a building to the District's sewer main. The distinction is sometimes made between the upper lateral (from building to property line) and the lower lateral (from property line to the sewer main).

***Legally Responsible Official (LRO)***

Refers to the individual(s) designated by the District to certify SSO reports on the CIWQS system. The LRO must be formally designated and registered with the SWRCB, with an assigned user name and password. Both data submitters or LROs can submit reports in CIWQS, but only LROs can certify reports.

***Manhole (M/H)***

***Million Gallons per Day (MGD)***

***Monitoring and Reporting Program (MRP)***

Refers to the Monitoring and Reporting Program section of the Statewide Order. The MRP has been amended twice since first being adopted in 2006.

***Operations and Maintenance (O&M)***

***Private Lateral Sewage Discharge (PLSD)*** – See Table 3-1.

***Preventative Maintenance (PM)***

Refers to maintenance activities intended to prevent failures of the sanitary sewer system facilities (e.g. cleaning, CCTV, repair).

***Regional Water Quality Control Board (RWQCB or Regional Water Board)***

Refers to the San Francisco Bay Regional Water Quality Control Board, a part of the State Water Resources Control Board.

***Sanitary Sewer Overflow (SSO) [Definition from Order 2006-003-DWQ]***

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

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

***Sanitary Sewer System***

Refers to the portion of the sanitary sewer facilities that are owned and operated by the District.

***Sewer System Management Plan (SSMP)***

***SSO Report***

Refers to sanitary sewer overflow report submitted through CIWQS

***State Water Resources Control Board (SWRCB)***

Refers to the California Environmental Protection Agency (EPA) State Water Resources Control Board. The SWRCB is the parent agency of the Regional Water Board.

***Statewide Order***

Refers to SWRCB Order No. 2006-003-DWQ, *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems*, and its Monitoring and Reporting Program (MRP) as amended by Order WQ-2013-0058-EXEC.

***Supervisory Control and Data Acquisition (SCADA)***

Refers to the system that is employed by the District to monitor the performance of its pump stations and to notify the operating staff when there is a condition that requires attention

***Surface Water***

In the context of SSOs, refers to streams and creeks, the Bay and its sloughs, wetlands, ocean, lakes, and other water bodies. SSOs that flow into drainage channels that are tributary to surface water are considered equivalent to having reached surface water for purposes of defining a Category 1 spill. However, SSOs that enter municipal storm

sewer systems (MS4) and which are fully contained and recovered are not considered as having reached surface water.

***Water of the State [Definition from California Water Code]***

Water of the State means any water, surface or underground, including saline waters, within the boundaries of California.

***Waste Discharge Requirements (WDR)***

Refers to an order regulating the discharge of wastes issued under the authority of the California Water Code. WDRs are issued by both the SWRCB and Regional Water Boards, and may apply to individual dischargers or groups of dischargers (the latter are typically referred to as General or Statewide Orders). SWRCB Order No. 2006-003-DWQ is a WDR.

**Figure 1. LGVSD Service Area**

(replace this page with Fig 1 from 2008 Nute Engr. Capacity Assessment Report or other “key” map. Above title is for Table of Contents only)

## **1.0 Goals (D.13.i)**

The District's goals in developing this SSMP are as follows:

- To properly manage, operate, and maintain all parts of the wastewater collection system, so as to preserve and protect the public's investment in that system
- To provide a safe working environment for District employees
- To provide adequate capacity to convey peak flows to the treatment plant
- To minimize the frequency and duration of SSOs
- To mitigate the impact of SSOs that do occur on public health and the environment
- To respond quickly and respectfully to public notifications of SSOs or other collection system problems
- To collect complete and accurate information regarding SSOs for reporting to the appropriate regulatory agencies
- To provide District employees with the tools and training needed to perform their work effectively and achieve the District's goals
- To document system O&M activities using tools that support efficient utilization of staff and resources, and which provide a means for long-term assessment of trends and effectiveness.

## **2.0 Organization (D.13.ii)**

The District's organization chart is presented in Figure 2. Roles and responsibilities of key personnel relative to the wastewater collection system are as follows:

Ratepayers: Elect members of the District Board of Directors. Ratepayers are the primary source of funding for District capital and operating budgets.

District Board of Directors: Sets overall direction for the District through mission statement, and establishment of goals and objectives. Adopts policies, procedures and ordinances consistent with this direction. Enters into contracts and agreements, hires employees and agents. Provides oversight of District operations, including review and approval of capital and operating budgets, acquisition and disposal of property and equipment, payment of bills, setting of connection fees, and establishment of user rates. Represent the District on other boards, committees and associations. The Board of Directors is assisted by District counsel.

General Manager: Develops alternatives and recommendations for District policies, budgets, Capital Improvement Program and strategies for consideration by the Board of Directors. Coordinates Board meetings and agenda, serves as staff liaison with Board, and as District liaison with other agencies, utility users, and the general public. Has overall responsibility for District operations and implementation of Capital Improvements Program. Oversight responsibility for development, implementation, and updating of SSMP

Collection System & Safety Manager (hereafter referred to as “Collections Manager”): Responsible for day-to-day implementation of SSMP. Manages collection system field operations and maintenance activities. Coordinates District response to emergencies, line blockages, and SSOs. Coordinates and documents investigations and follow-up. Serves as legally responsible official (LRO) for reporting SSOs to local and State agencies. Maintains collection system data management systems, contingency plans, and provides summary reports to General Manager and District Board.

Collections Field Crew: Conducts collection system corrective and preventive maintenance activities, including emergency response for blockages and SSOs. When directed, coordinates with vendors and outside contractors for equipment and services. Routine O&M of smaller collection system pump stations.

Treatment Plant Manager and Plant Operations Staff: Responsible for operation of the treatment plant and larger collection system pump stations. Available as needed to respond to collection system emergencies and SSOs.

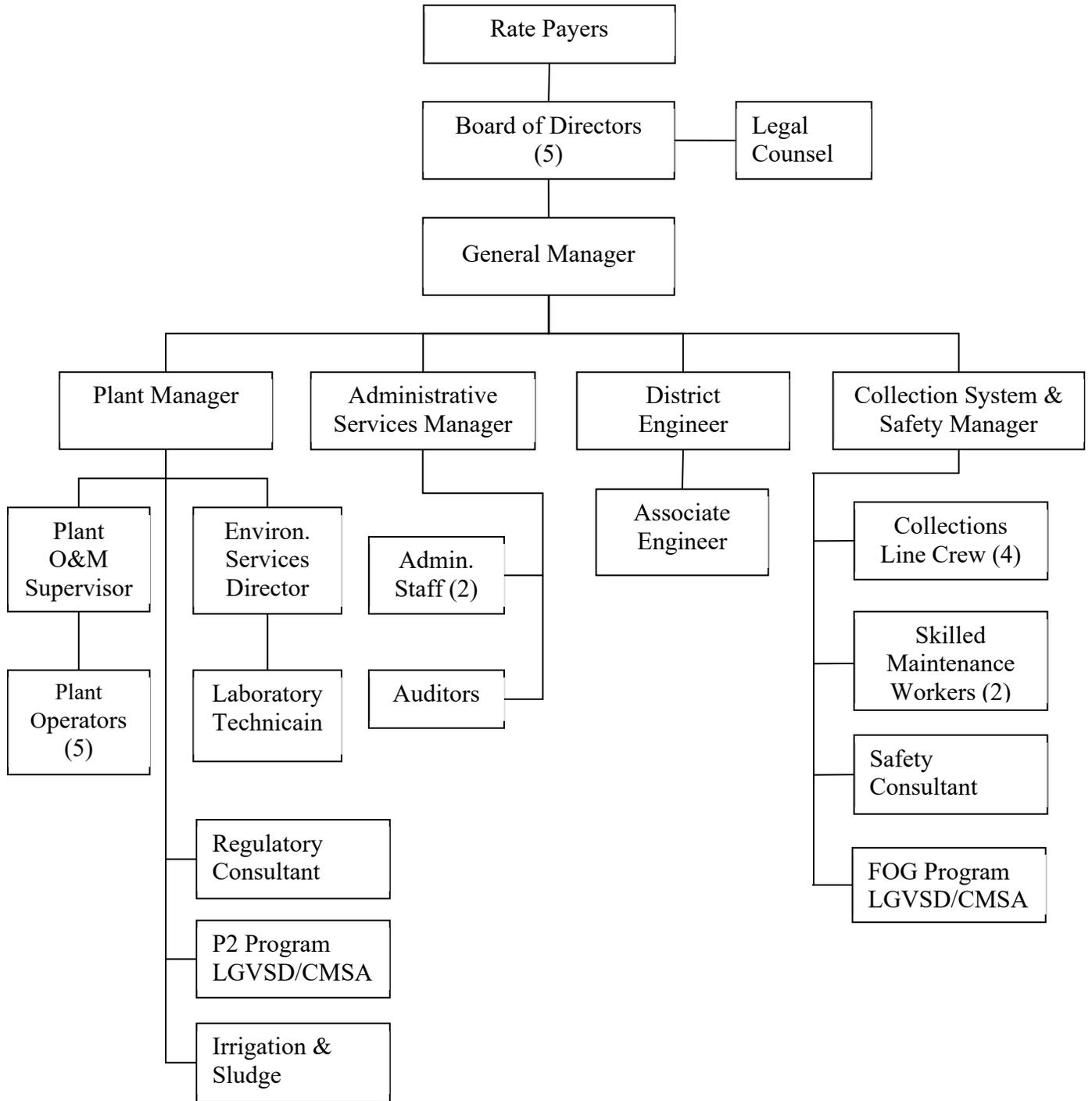
Environmental Services Staff: Operates District laboratory and (with CMSA) FOG and Pollution Prevention Programs. When required and if available, conducts sampling for SSOs. The Environmental Services Director reports to the Treatment Plant Manager.

FOG and Pollution Prevention (P2) Programs Contractor: The District contracts with Central Marin Sanitation Agency (CMSA) to provide support to LGVSD staff for the FOG and Pollution Prevention Program.

District Engineer: With assistance from the Associate Engineer and outside engineering consultant(s), conducts collection system capacity analysis, and develops recommendations and budgets for Capital Improvements Program. Develops or manages others in the development of engineering designs for new or rehabilitated facilities, coordinates bidding process, oversees construction and inspection. Responsible for review and updating of District’s standard specifications for sewer construction, and for maintaining sewer system maps.

Regulatory Consultant: Provides technical support for permitting, monitoring, reporting, compliance, SSMP updating and internal audits, collection system status reports, and data management.

**Figure 2. LGVSD Organization Chart**



### **3.0 Legal Authority (D.13.iii)**

#### **3.1 Requirements**

Requirements related to legal authority in the SWRCB's Statewide General Order 2006-003-DWQ are as follows:

Each Enrollee must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:

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

The RWB's Development Guide describes the requirement for Legal Authority as follows:

Requirement: Each wastewater collection system agency shall, at a minimum, describe its legal authority, through sewer use ordinances, services agreements, or other legally binding procedures to:

- Control infiltration/inflow (I/I) from satellite wastewater collection systems and laterals
- Require proper design and construction of new and rehabilitated sewers and connections
- Require proper installation, testing, and inspection of new and rehabilitated sewers

Additional details are provided in the RWB's Development Guide "points to remember". (See Appendix C)

#### **3.2 District Ordinances Relevant to the SSMP**

The District's primary legal authority is provided through Ordinances adopted by the District's elected Board of Directors. Additional authority is provided by service agreements with several private collection systems that discharge to the District's system. Over its history, the Board has adopted over 150 Ordinances. These are organized sequentially by date of adoption, and in 2010 were codified into an Ordinance Code (see below). A majority of the Ordinances relate to adjustments to service rates and connection fees, and as such, supersede previous Ordinances. Ordinances relevant to this SSMP include:

Ord 9: Regulates use of sewers, establishes construction standards (by reference to District's *Specifications for Sewer Construction*). Largely superseded by subsequent ordinances.

- Ord 10: Prohibits use of impact and vibratory machines, heavy equipment, etc during construction.
- Ord 40: Requirements for installation of backwater prevention devices
- Ord 56: Requirements for construction of sewers underlain by Bay mud
- Ord 63: Regulations regarding discharge of Industrial Wastes and regulating use of public sewers (Note: Listed for historic purposes only. Superseded by Ord 112)
- Ord 64: Various additional definitions; amended “Sewer Required” provision of Ord 9; added a “Use of Public Sewers” provision to Industrial Waste Ordinance (at that time Ord 63).
- Ord 66: Use of sewers. *Note: Portions of this may be superseded by Ord 112. Portions supersede previous ordinances.*
- Ord 92: Amends Ord 63 (industrial waste) to refer to Ord 66
- Ord 112: Primary sewer use ordinance (a.k.a. Industrial Waste Ordinance). General discharge prohibitions, industrial pretreatment requirements, local limits, enforcement authority. Does not address construction standards. Repeals Ord 63 and other ordinances “inconsistent herewith”.
- Ord 113: Includes requirements for backflow prevention and backwater prevention devices
- Ord 135: FOG Ordinance
- Ord 136: Food Grinder Ordinance
- Ord. 121, 124, 130, 131, 133: Ordinances related to current sewer service rates and fees.
- Ord 146: Regulates dental amalgam to minimize discharge of mercury to the sanitary sewer.
- Ord 153 Lateral Rehabilitation Assistance Program
- Ord 180 Sewer Lateral Ordinance. Sets requirements for lateral inspections, disconnection of illegal connections associated with inflow, and pool overflow piping.

In addition to the legal authority based on Ordinance, the District has service agreements with Contempo Marin, Sade Apartment Development, and Marin Valley, Inc.

In 2010, the District completed the compilation and consolidation of its ordinances into a new Ordinance Code. The Ordinance Code is more accessible, and its organization by titles and chapters greatly facilitates the search for legal authority on a given topic. The Ordinance Code is available on the District’s web site.

### **3.3 Documentation of Legal Authority**

Table 5-1 correlates the LGVSD Ordinance sections with the Order 2006-003-DWQ SSMP requirements listed above (supplemented by the “points to remember” from the RWB Development Guide). Columns 2 and 3 provide references to the original ordinance sections and to those in the new Ordinance Code, respectively. The fourth column in Table 5-1 provides additional notes and comments.

**Table 3-1. Documentation of Legal Authority**

Requirement / Measures	Ordinance Reference	Ordinance Code Reference	Notes & Comments
<b>I. Order 2006-003-DWQ Requirements:</b>			
<i>a) Prevent illicit discharges into its sanitary sewer system (examples may include I/I, stormwater, chemical dumping, unauthorized debris and cut roots, etc.)</i>			
Illicit discharges prohibited	Ord 112, Section 3	Title 2, Chapter 2, Art. IV	
Stormwater run-off prohibited	Ord 112, Section 3B	Title 2, Chapter 2, Art.IV, §402	Prohibits discharge of “any storm water, surface water, groundwater, roof runoff or subsurface drainage, except in cases of discharge of contaminated groundwater in accordance with Article IX.”
Discharge from swimming pools	Ord 9, Section 711 Ord 180, Section 2	Title 2, Chapter 9, Art.X, §1005	Allows discharges up to 100 gpm (existing) <sup>1</sup> Prohibits overflow piping from connecting to sewer (new).
Maintenance of laterals	Ord 9, Section 510 Ord. 180, Section 2	Title 2, Chapter 1, Art.IV, §510 Title 2, Chapter 9, Art.VI, §603	“Side sewers shall be maintained by the owner of the property served thereby.” Adds specific requirements for maintenance of laterals
General Prohibition on causing pass-through or interference	Ord 112, Section 3A	Title 2, Chapter 2, Art.IV, §401	Although intended to prohibit the discharge of toxics, may apply to excessive I/I (alone or in conjunction with discharges from other sources) could contribute to “pass through” of pollutants resulting in a violation of NPDES permit limits.

Requirement / Measures	Ordinance Reference	Ordinance Code Reference	Notes & Comments
Specific prohibition on discharge of stormwater, subsurface drainage, groundwater	Ord 112, Section 3B8 Ord 180, Section 2	Title 2, Chapter 2, Art.IV, §402 Title 2, Chapter 9, Art.X, §1002	Could be applied to I/I into laterals. Specifically addresses inflow into laterals
<i>b) Require that sewers and connections be properly designed and constructed</i>			
Building sewers laterals and connections – permits and construction requirements	Ord 9, Section 501-508	Title 2, Chapter 1, Art. V (all)	Construction shall be in accordance with County and District’s requirements
Building sewers laterals – Testing required	Ord 9, Section 511 Ord 180, Section 2	Title 2, Chapter 1, Art. V, §511 Title 2, Chapter 9, Art.X, §1002	Establishes triggers for inspections, testing, and repairs.
Public Sewer Construction – Permits and designs required	Ord 9, Section 601-602	Title 2, Chapter 1, Art. VI (all)	
Public Sewer Construction - Design and construction standards	Ord 9, Section 609	Title 2, Chapter 1, Art. VI (all)	Refers to District’s <i>Specifications for Sewer Construction (a.k.a. Standard Specifications and Drawings)</i>
Inspections required for sewer construction, building sewers, plumbing and drainage systems	Ord 9, Section 811, Plumbing and Building Codes	Title 2, Chapter 1, Art. VI (all)	
Prohibition on use of heavy equipment	Ord 66	Title 2, Chapter 1, Art. VI §619	
Special requirements for construction on Bay mud	Ord 56	Title 2, Chapter 3, (all)	
Interceptor required	Ord 135, Section 5 Ord 9, Section 704	Title 2, Chapter 4, Art. V	
Maintenance of interceptor required	Ord 135, Section 7	Title 2, Chapter 4,	

Requirement / Measures	Ordinance Reference	Ordinance Code Reference	Notes & Comments
	Ord 9, Section 705	Art. VII	
<i>c) Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency</i>	Ord 9, Section 506, 609, 1002 Ord 112, Section 4	Title 2, Chapter 1, Art. V (cleanout on lateral required in new construction or alteration)	Section 506 requires a cleanout. Section 609 references District Standards, which show a clean-out is required on user's property (for access to lower lateral). Ord 112, Section 4.A.2.g, provide for access for inspection, sampling, etc, but do not explicitly mention repairs.
<i>d) Limit discharge of fats, oils and grease and other debris that may cause blockages</i>	Ord 135, Section 5, 7 Ord 112, Section 3.B1 Ord 180, Section 2	Title 2, Chapter 4 (all); Title 2, Chapter 2, Art.IV Title 2, Chapter 9, Art.VI, §603	FOG is very well covered. Add'l language related to roots and other debris added by Ord. 180
<i>e) Enforce any violation of its sewer ordinances</i>	Ord 112, Section 10 Ord 180, Section 2	Title 1, Chapter 1, Art III Title 2, Chapter 2, Art.XI Title 2, Chapter 9, Art. XII, Art XIII	These are the primary enforcement sections. There are additional enforcement provisions that accompany other sections.
<b>II. Items from RWB Development Guide "Points to Remember":</b>			
<i>Ordinance, permits, agreements should have authority to require compliance with District Standards</i>	Ord 9, Section 609 Ord 112, Section 5C4	Title 2, Chapter 1, Art V	
<i>Agency should have ability to ultimately disconnect a user that fails to comply</i>	Ord 9, Section 903 Ord 112 Section 4A2c	Title 2, Chapter 2, Art. XI, §1101 Title 2, Chapter 1, Art IX, §903	Authority to disconnect applies to all users.
<i>Illegal Discharges should be subject to corrective action regardless of user class (domestic, commercial, industrial)</i>	Ord 112, Section 3	Title 2, Chapter 2, Art. IV	The general and specific prohibitions in Ordinance 112 apply to all users, (see Section 1B and definition of "person").

<b>Requirement / Measures</b>	<b>Ordinance Reference</b>	<b>Ordinance Code Reference</b>	<b>Notes &amp; Comments</b>
<i>Prohibition of downspout, roof drain, and area drain connections to sanitary sewer</i>	Ord 112, Section 3B	Title 2, Chapter 2, Art. IV, §402	See comment for stormwater runoff.
<i>Legal Authority for proper construction of privately owned lines is normally provided by Building codes</i>		Title 2, Chapter 1, Art V	Building Code requirements are supplemented by District-specific requirements in Ordinance 180.
<i>Some agencies have lateral inspection/repair program applicable when property is sold</i>	Ord 180	Title 2, Chapter 9, Art VII-X	District requires mandatory inspection of new and rehabilitated sewer laterals. Ordinance 180 establishes triggers for inspections, testing, and repairs, based on health & safety criteria, major remodel, or property sale. Repair requirements are aimed primarily at inflow reduction. Repairs other than those associated with inflow are generally not mandatory, but can be mandatory under certain conditions.

1. This provision of Ordinance 9 does not appear in the Ordinance Code and may therefore not be applicable.

## **4.0 Operations and Maintenance Program (D.13.iv)**

*Note: This section was formerly referred to as “Measures and Activities”*

### **4.1 Collection System Maps**

Detailed collection system maps are maintained in digital electronic form in the District’s GIS System (ARC-ESRI). Development of this system was completed in 2012, and required conversion of mapping data from the previous system based on AutoCad. The GIS system is linked to the District’s new and more powerful Cityworks Asset Management System (AMS), a GIS-centric system that incorporates traditional computerized maintenance management system (CMMS) functions and other features

Hard copy maps are printed from the GIS system onto tear and water resistant paper. Map books are available at District offices, and a set is carried in each collection system vehicle. The map books contain a key sheet plus 69 individual map sheets printed at 1”=200’ scale. Each map covers an area of approximately 2000’ x 2900’ (0.38 mi x 0.55 mi). The maps show the location and size of all sewer lines and force mains (color coded), manholes (with ID #), pump stations, street names and boundaries, parcel addresses and boundaries, and ground surface elevation contours. The map key and an example map sheet are included in Appendix E. Also included is the pump station network map (block diagram) that shows the relationship among pump stations and force mains. In addition to the sewer system maps, each collection system vehicle carries a City of San Rafael map book showing storm drain locations and a County map of storm drains in the Santa Venetia area.

As part of the GIS system development process, the District completed a systematic review and update of each map sheet. Nevertheless, the process for updating and correcting map errors is an ongoing one. During video inspections, any errors or omissions are recorded by the collection system camera crew. The information is passed on to the Collections Manager, who revises the map and (if changes are significant) prints new copies.

For the design of capital improvement projects, shapefiles can be exported from the GIS system into CAD programs for use in development of construction plan sheets.

### **4.2 Preventative Operations and Maintenance**

The District operates a prioritized preventative maintenance (PM) program designed to maintain the integrity of the system, reduce the frequency of SSOs, and reduce I/I. Cityworks is now the primary O&M data management/visualization tool, in conjunction with the GIS application and other tools. Inspection documentation is transitioning from use of hard copy inspection forms to electronic data entry in the field using tablet computers. The information is then transferred electronically into Cityworks. PM activities are prioritized based on results from historic PM and corrective maintenance (CM) activities. Prioritization is an ongoing process, with PM schedules continually being updated based on recommendations contained in the inspection or maintenance reports.

Collection system O&M activities are summarized in a map-based form generated from Cityworks.. The Collection System & Safety Manager also summarizes collection system activities in semi-annual reports to the District Board. Appendix E includes example of these reporting tools.

### **Gravity Sewer System**

PM activities for the gravity sewer system include the following:

<b>Activity</b>	<b>Performed by</b>
ITV - inspection by TV	Camera crew
CJET – Flushing with camera truck	Camera crew
CLEAN - Flushing with flusher truck	Maintenance crew
ROOTCT - Rodding	Maintenance crew
CVAC – Vactor Truck	Maintenance crew
IRO – TVing with push camera	Maintenance crew
SMOKE – smoke testing	Camera or Maintenance crew

PM work orders are generated from Cityworks and are available to maintenance crews in the field using tablet computers. The location of the PM is specified in terms of structure ID or sewer line segment identified by upstream and downstream manholes. An example work order is included in Appendix E. The crew documents the PM activity by completing the work order and by adding comments (e.g., condition, special circumstances) as needed. Upon returning to the office, the tablets are re-synced to the server. Any comments become part of the historic record for that structure or line segment. A PM history for any structure/segment can be generated from Cityworks, as illustrated by the example in Appendix E.

All sewer main lines segments are on a cleaning schedule. For Camera Crew inspections, the default return frequencies are four years for segments with no identified problems, or three years if cleaning was needed. For Maintenance Crew inspections/activities, the return frequencies vary widely depending upon the inspection findings.

Historically, the District has conducted CCTV operations on an ongoing basis. Through this process, it has identified the “Areas of Concern” and FOG “Hot Spots”, as described elsewhere in this SSMP. Because the amount of new information generated from CCTV operations was declining, starting in mid-2018, the District shifted the focus of the Camera Crew to cleaning operations, so that the entire system could be cleaned within a one year period. This also allowed the Cityworks AMS to be fully populated with sewer line cleaning data.<sup>1</sup> The District resumed routine CCTV inspections in the fall of 2019, and will continue running one cleaning crew and on camera crew for the foreseeable future.

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<sup>1</sup> The PM history from the previous CMMS (OASIS) was not carried into Cityworks because of structural difference between the two applications. However, the OASIS history is available in archive form.

## ***Pump Stations and Force Mains***

Maintenance of the larger collection system pump stations is performed by treatment plant operators working under the supervision of the Plant Manager. The five largest pump stations are inspected by operators three times per week; mid-size stations are inspected twice each week. The 15 smallest pump stations (9 at Marin Lagoon and 6 at Captain's Cove) are inspected weekly by Collection System line crew. Inspections include a visual check of equipment, logging of run-time hours, and washdown of the wet well if needed. Alarms are tested and emergency backup generators are run monthly. The District utilizes a separate CMMS (Antero) for the pump stations. Antero is also used for the treatment plant.

Collections staff visually inspect the force mains alignments by walking all mains twice per year. The primary O&M activity for force mains is maintenance of the system's air release valves (ARVs). In 2016, the District purchased a hot water pressure washer to aid with routine cleaning of the ARVs. In 2019, the District cleaned and repaired 15 ARVs (out of a total of 29), including a number of previously undocumented units. The 2020 Sewer Improvement Project will focus on the Force Main System, with rehab/replacement of ARVs a key element of the project.

## ***USA Calls***

District staff respond to USA (Underground Service Alert) calls to locate and mark its utilities in the public right-of-way. USA marking can be considered a type of preventative maintenance in that its purpose is to prevent damage to District infrastructure (and possibly prevent SSOs) resulting from excavations within the right-of-way. USA marking involves a significant commitment of staff resources, as single marking typically requires about 45 minutes. Currently, the District received approximately 1500 USA calls annually.

## **4.3 Rehabilitation and Replacement Plan**

The District's Rehabilitation and Replacement Plan relies on a system of inspections and condition assessment that is closely integrated into the preventative maintenance program described in the previous section. The system is designed to proactively identify problem areas and structural deficiencies, and to take appropriate actions before these problems result in blockages, SSOs, or structural failures. Problem areas are identified using a variety of tools, including visual inspection (primarily for manholes), video inspections, smoke testing, and, in some cases flow monitoring. Referring to the inspection forms in Appendix E, inspection results are characterized in both qualitative terms (recommendations, observations and notes) and in qualitative scores that include an overall structural rating and ratings for specific categories (debris, grease, roots, I&I, etc).

As described in Section 4.2, preventative activities by line crew include flushing, rodding, and video inspections at frequencies designed to prevent or minimize blockages and/or SSOs. Other preventative activities performed by the District include implementation of the FOG program (Section 4.), outreach to plumbing contractors (Section 6.7), and implementation of design and construction standards (Section 7.0)

Finally, the correction of structural deficiencies (e.g., line segments with excessive I&I, offsets or sags, or excessive root intrusion) is also an essential preventative activity. Information regarding structural problems identified during inspections can be entered as comments into Cityworks along with other information that was formerly maintained in the “Areas of Concern” spreadsheet.<sup>2</sup> The information can be viewed on the Cityworks “Collection System Problem Spot Map”, an example of which is included in Appendix E, or printed out in a report. The District also uses IT Pipes software, which utilizes the Pipeline Assessment Certification Program (PACP) rating format, to document condition information. IT Pipes communicates with Cityworks. Condition information is used to inform the planning and budgeting capital projects.

Planning for corrective actions, particularly long-term actions and larger projects, will typically require engineering analysis, such as the Capacity Management and CIP element of this SSMP, and preparation of construction contract documents (plans and specifications). In prioritizing the correction of structural deficiencies, a number of factors in addition to the specific structural condition must also be considered, including:

- Budgeting and timing considerations vis-à-vis other District projects
- Grouping of corrective actions into coherent projects that are large enough to attract highly qualified contractors and maximize the benefit attained for the funds expended.
- Ability to maintain service during construction, including consideration of reasonable “worst-case” flow scenarios. (This may limit construction to dry season).
- Environmental and customer impact issues.
- Coordination with projects by other agencies
- Conditions imposed by other agencies

Information on the District’s Capital Improvement Plan and financing of rehabilitation and repair work is provided in Section 4.6 “Resources and Budget” and in Section 8 “Capacity Management”.

## **4.4 Training**

The District’s training activities fall into two categories, safety and job skills. The two are closely related insofar as safety is of prime consideration in performance of any job activity. Annual safety training is conducted by District staff or outside consultants in the areas listed below. One or more topics are covered during monthly training sessions.

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<sup>2</sup> The District is still transitioning from using the “Areas of Concern” spreadsheet to using Cityworks for condition assessment documentation.

- Chemical Hygiene
- CPR / First Aid
- Driver Training
- Electrical lockout/tagout
- Emergency Response
- Fire Prevention/Fire Extinguishers
- Hearing Protection
- Forklift
- Hazard Communication
- Heat Stress
- Respiratory Protection
- Wastewater Pathogens
- Confined Space

Job skills training include in-plant and external components. The Collections Manager conducts in-plant training for Sewer Overflow Response at least annually. In addition to SSO response, the training includes methods to collect the information required for notification and reporting of SSOs under Order 2006-003-DWQ, and sampling of SSOs. Informal training is achieved through mentoring of new operators by experienced operators. External training opportunities include participation in the CWEA Technical Certification Program and CWEA conferences, and in some cases, specialized off-site training for specific job skills, such as the National Association of Sewer Service Companies (NASCO) Pipeline Assessment Certification Program (PACP) training. Each employee has a file which documents training received. Currently (August 2018), the collections crew includes one Grade IV certified collection system maintenance person, three Grade III-, and one Grade I. Three of the line crew are also certified as Grade I plant maintenance technologists. All of the line crew members and the Collections Manager are PACP trained.

#### **4.5 Equipment and Replacement Part Inventories**

The District uses the Contingency Plan, prepared in accordance with the District’s NPDES permit and RWB Order 74-10 to document the contingency equipment used to respond to emergencies and spare/replacement parts intended to minimize equipment/facility downtime. The Contingency Plan is reviewed and updated annually. The most recent update occurred in July 2018.

Emergency equipment includes a variety of trailer mounted portable generators (up to 400 kw), portable pumps (up to 12 inch), spare electric submersible pumps that are direct replacements for the pumps used in many of the District’s smaller collection system pump stations, piping and hoses, samplers, warning signs, and other equipment. The emergency response trailer is equipped with most of the small items normally needed in an emergency response situation (see Section 6.3).

For the collection system, repair parts consist primarily of repair clamps in those sizes needed to match District lines. These are listed in the above-referenced Contingency Plan.

#### **4.6 Resources and Budget**

##### ***Funding Sources***

District revenues are derived primarily from sewer rates paid by users of the collection system and treatment plant, plus a property tax assessment. In 2004, the District Board raised sewer rates (from \$146/yr to \$303/yr over a 4-year period) to finance increased costs for operations,

maintenance, capital improvements and to maintain the District's reserve fund. The property taxes component provides an additional \$35/yr per dwelling unit. Additional sources of revenue include annex and connection fees, interest on capital reserves, and other sources. In 2009, the District completed a Proposition 218-compliant process to increase sewer rates from the 2008/09 level of \$303/yr to \$608/yr in 2013/14 in order to finance treatment plant improvements, collection system rehabilitation projects, pump station and force main improvements, and other programs. The Proposition 218-compliant process was repeated in 2015. In March 2015, a new rate structure was adopted, setting the maximum rates for FY 2015/16 (\$748/yr) through FY 2019/20 (\$927/yr).

Information on the District's sewer service rates is available on the District web site at <http://www.lgvsd.org/doing-business/rate-info/>.

### ***Formal Operating Budget and Funding Plan***

The District operates under a formal operating budget prepared by District management and approved by the District Board. Operating expenses for the treatment plant and collection system are broken down into 79 primary categories and 24 sub-categories. In general, the operating budget does not provide separate accounting for the collection system and treatment plant, although in some cases (e.g., operating supplies, equipment maintenance) the distinction is made. The District's capital and operating budgets are posted on the District web site.

Collection system staffing consists of four full-time line crew workers in the field, two skilled maintenance workers (shared with plant operations), a full time Collections Manager, plus additional support from the General Manager, Engineering Department, administrative and laboratory staff, and outside consultants. Treatment Plant Operations staff have primary responsibility for O&M of the six largest pump stations. Over the past several years, the District has made significant additions and upgrades to collection system equipment including additional new flusher and rodder trucks, video cameras, and portable flowmeters. The District has also implemented maintenance management and GIS software for inventory, inspection, work orders, scheduling, reporting, and mapping. Additional information regarding resources allocated to the collection system are described in the *Wastewater Facilities Status Report*, submitted annually to the RWB in February in accordance with the District's NPDES permit.

### ***Capital Improvement Plan***

Capital projects are budgeted separately from operating expenses. Approximately \$1 million is budgeted each year to fund a main rehabilitation project. The main replacement budgets from several years may be combined to create larger projects that take advantage of economies of scale for engineering and construction. Approximately \$0.5 million/yr is allocated for replacement/rehabilitation projects for the collection system/pump station and force mains.<sup>3</sup> Starting in FY2011/12, additional funding (~\$1.8 million/year) was allocated for capacity-related projects, based on the analysis described in Section 8 of this SSMP. The District's

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<sup>3</sup> Over the past ten years, variable speed drives have been installed and electrical/SCADA systems have been upgraded at all of the major collection pump stations. The pump station SCADA systems are tied into the treatment plant's SCADA system.

lateral assistance program is considered part of the CIP program, and is currently funded at \$132,000/yr.

Additional information on the District's capital projects is available on the District web site.

#### **4.7 Performance Goals**

The District's performance goals for inspections and maintenance activities are as follows:

- Inspection: by video (ITV and IRO) or visual – entire system every four years
- Smoke testing: entire system every five years
- Line cleaning: at minimum, entire system every three years (many segments are cleaned more frequently).

Progress toward meeting those goals is documented in semi-annual collection system O&M summary reports prepared by the Collections Manager. The reports are provided to the District Board and included in the Board agenda packages that posted on the District web site. Example copies of the O&M reports are also included in Attachment E of this SSMP

Performance metrics regarding the type, frequency, volume, and cause of SSOs are tracked in Table 1 “Annual SSO Statistics” of the bi-annual SSMP audit, included in Attachment F.

#### **4.8 Outreach to Plumbers and Building Contractors**

The District's public outreach efforts include both educational and regulatory elements.

Because the actions of plumbers and sewer contractors working on private systems can result in SSOs from either the private or public systems, it is essential that those contractors be aware of management practices to prevent such occurrences. To that end, the District annually communicates with all plumbing contractors in its service area advising them of proper procedures when cleaning laterals, to contact the District if their actions push debris into a District line, and also of their responsibility to obtain a permit when connecting to a District line or performing work on a private lateral. Contractors are instructed to notify the District of any SSOs that occur on District lines or as a result of conditions in those lines and provided a copy of a form that can be faxed or emailed to the District. (This outreach to plumbing contractors was originally done by letter but is now done by email.) An outreach brochure was also developed by the District, a copy of which is included in Appendix E. Copies of the brochure are carried in District trucks for distribution to contractors and the public. The list of plumbers/sewer contractors in the District's service area is updated yearly.

The District requires contractors that work on District mainlines or private laterals (construction, repair or replacement) to obtain a no-cost Permit and have work inspected by District staff. A copy of the one-page permit application is included in Appendix E. In conjunction with the Permit, the District provides a “short-form” version of the District's standard plans and specifications that cover technical requirements for construction of laterals, backwater prevention devices, and residential sewage pumping systems. The specifications include allowable materials, methods of construction, and testing requirements.

The District also conducts outreach and education directed toward residential customers and the general public. Efforts include door hangers and letters informing residents when work or smoke testing is to be performed on the sewer line, door hangers and other “giveaways” with messages regarding proper disposal of FOG and other products, participation at public events (County fair, etc.) and a grammar school education program. These efforts are described in greater detail in the District’s Annual Pollution Prevention Report, submitted to the RWB each February.

## **5.0 Design and Performance Standards (D.13.v)**

### **5.1 Installation, Rehabilitation and Repair**

The District’s standards for the design and construction for the installation of sewer system components and for rehabilitation and repair of existing are specified in the District’s *Standard Specifications and Drawings*, adopted by the District Board in 2000. The District recently teamed with the City of San Rafael to update the standards for sewer laterals. The resulting *Uniform LGVSD-SRSD Standard Specifications for Lateral Sewers* was adopted by the district Board on August 1, 2019. An abbreviated version of the *Standard Specifications and Drawings* document is available to contractors working on lateral lines, as part of the permit issuance process (see Section 6.7).

The District Engineer oversees the design process for capital projects and is responsible for ensuring that District standards are implemented on all District projects. Legal authority for the design and construction standards is provided by District Ordinance Code. See, Table 3-1 for code citations.

### **5.2. Inspection and Testing**

District standards require inspection and testing of new sewers, pump stations, and other appurtenances, and for repair and rehabilitation of these facilities. For small projects, inspections are provided by District staff. For larger projects, inspection services may be provided by the District’s engineering consultant, a construction management (CM) firm, or by other persons(s) appointed by the District. Testing is normally conducted by the contractor, with the inspector observing to verify that all requirements are met.

Legal authority for inspections, testing standards, and for requirements related to maintenance of side sewers and interceptors is provided by the District Ordinance Code. See Section 3, Table 1 for Code citations.

## **6.0 Emergency Response Plan (D.13.vi)**

The District’s Emergency Response Plan is comprised of a series of documents and forms that are included as Appendix A of this Plan. The key elements of the Plan are the *LGVSD Incident Report*, the *SSO Spill Containment and Cleanup Procedures* checklist, and the District’s *Sewer Overflow Response Manual*. The *LGVSD Incident Report* is a two-sided form used to track and document all reported problems in the collection system. It provides much of the

information needed for SSO documentation and reporting. The checklist is a one-page form that provides a concise summary of key response actions and SSO-specific documentation to supplement the *Incident Report*. The *Sewer Overflow Response Manual* provides more detailed guidance to line crew for responding to, evaluating, and documenting overflows. A laminated copy of the *Sewer Overflow Response Manual* is kept in every District vehicle for quick reference.

The *Sewer Overflow Response Manual* is directed primarily at SSOs that occur in the gravity flow system. In 2014, individualized Emergency Response Plans were prepared by DKF Solutions Group for 26 of the District's pump stations. These plans include both general and site-specific information for spill response, containment, emergency power, station bypass, electrical safety, emergency contacts, and relevant system map pages. An example Plan (for Duckett PS) is included in Appendix A.

The following describes key elements of the District's emergency response procedures:

## **6.1 District Notification of SSOs**

Incidents may be reported by telephone to the District's main number (415-472-1734), in person at District offices, to the police department/sheriff department (see below) or by cellular phone (e.g., by LGVSD field crew). The telephone notification number is listed in the Marin County phone book, on utility bills sent to customers, in newsletters and educational materials distributed by the District, and on the District's web site ([www.LGVSD.org](http://www.LGVSD.org)). The web site's Emergency/Sewer Spills page also provides the mobile phone and pager numbers for collections system staff. For backups, spills and related collection system emergencies, callers are encouraged to continue calling the numbers provided until a person is reached.

During District business hours (6:30 am – 3:00 pm) calls are routed directly to the Collections Manager, who then contacts field crew by cellular phone. During non-business hours, calls to District offices are automatically routed to an answering service. The answering service takes essential information and then notifies District staff using the Call List (see Appendix A), starting with the on-call line crew worker. If there is no answer to the call or page, calls are made in sequence to the listed District staff via mobile or home numbers until contact is made. The on-call staff person makes a decision regarding the resources needed (including the possible need for an outside contractor), coordinates the response, and calls the Collections Manager. If an emergency notification is made to the Police Department or other agency, that agency will forward information to the District (business hours), or initiate the Call List sequence described above (non-business hours). If it is determined that the SSO has occurred in another jurisdiction, the responding party notifies the appropriate agency.

The *LGVSD Incident Report* is used to document the contact and response for each incident that occurs. For notifications that occur during business hours, information on the top half of the form is entered immediately by the Collections Manager (or other call responder). Line crew staff fill in the remainder of the form upon completion of the response

## 6.2 Response

District collection system line crew are the first responders during both business and non-business hours. The crew responds to the incident in accordance with the procedures outlined in the *Sewer Overflow Response Manual*. (For pump stations, crews should also refer to the Emergency Response Plan for that Station). In addition to the normal response activities (i.e. clearing blockages and clean-up) the crew video the affected sections of sewer line. The *Manual's* procedures include instructions for overflows occurring on private property. In cases where the outside emergency contractor is the first responder (e.g., if contacted directly by a homeowner), the contractor will contact the District if the problem is on a District line.

Should an overflow occur inside a home or on private property, District staff contact TMB, LLC (800-413-2999), or Restoration Management (707-760-6326). These firms provide environmental project management for coordinating the clean-up.

## 6.3 Impact Mitigation and Monitoring

### ***Impact Mitigation (Clean-up)***

Following the initial response outlined in Section 3-1 of the *Sewer Overflow Response Manual*, the responding crew initiates cleanup and assessment, as outlined in Sections 3-2 and 3-3. The District has a variety of equipment available for clearing blockages and impact mitigation/clean-up activities, including:

- Vacuum/Flusher truck
- Hybrid Line Camera/Flusher truck
- Small Flusher Truck for easement work
- Rodder Truck
- Two push cameras and portable rodders
- Emergency Response Trailer - contains Shop Vac, absorbent materials and containment berms, cones/signage, lighted barricades, generator, flashlights, fire extinguishers, air blower, disinfectant (for use on spills to soil or porous material, not surface waters)

Signs, cones, or other means should be used if necessary to prevent public contact with the spill. The cleanup procedure is to contain and remove all spilled material (plus any washdown water). Current District policy is to mobilize most of the above emergency equipment in response to a reported spill. In addition to collection system line crew, treatment plant operators are available to assist in the spill response if needed.

### ***SSO Volume Estimation***

Procedures for estimating the volume of SSOs are described in Sections 3-4 through 3-6 of the *Sewer Overflow Response Manual*. The specific method(s) used to estimate the SSO volume and all supporting calculations must be thoroughly documented in the SSO spill report and retained in files. If complex volumetric formulas are used, calculations should be checked by the District engineering staff. Regulatory agencies will scrutinize spill volume estimates closely as part of inspections or enforcement actions.

## **Water Quality Impact Monitoring**

Visual observations and water quality monitoring of surface water that may be impacted by an SSO are mentioned briefly in the *Manual*, and thus will be described in greater detail here. Visual monitoring is part of the initial response to determine what immediate actions should be taken, as described in Section 3-1. After the initial response and documentation of spill volume, an assessment of possible impacts on surface water should be conducted as part of the spill evaluation process. The City/County storm drain maps can aid in determining if surface water has been impacted. For assistance in shutting down stormwater pump stations District staff should call City of San Rafael (485-3375) or Marin County (499-6528). Where it is safe and practical, surface water in the vicinity of the SSO should be inspected visually, with observations recorded on the *LGVSD Incident Report*. Signs of receiving water impacts include tell-tell signs of sewage (solids, grease, paper), abnormal color, fish kills, etc. Photographs should be taken for documentation using the collection crew's digital camera. Each vehicle also has a disposal camera for backup.

For those SSOs that may imminently and substantially endanger human health and SSOs that cause fish kills, and if feasible and safe, water quality monitoring of surface waters should be conducted. For less serious circumstances, monitoring can be conducted if doing so is likely to provide useful information and does not impede clean-up activities. (Note: Monitoring is required for large SSOs as described below). Ideally, samples should be collected at the point of discharge and at upstream and downstream locations. Samples should be analyzed for ammonia and a bacterial indicator. (The LGVSD lab is set up to perform enterococcus analysis during the discharge season, and total coliform during the reclamation season. The enterococcus analysis is preferred to characterize SSO impacts, as it is a more reliable indicator of the presence of sewage. The Marin County Environmental Health Department may require monitoring of additional bacterial indicators). If tidal conditions are such that it is unclear as to what is "upstream" and "downstream" from the discharge location, analysis for electrical conductivity (a measure of salinity) may be useful.

In cases where monitoring is optional, the field crew should exercise their best judgment in deciding whether to conduct monitoring, and consult with the Collections Manager, Plant Manager, or General Manager if uncertain. Water quality monitoring should not be given precedence over stopping the SSO or protection of public health. However, if sufficient personnel are available, monitoring can be conducted in parallel with these activities or with the clean-up effort. Any monitoring should be conducted in accordance with the *SSO Monitoring Plan* included in Appendix A.

The 2013 revisions to the Monitoring and Reporting Program for Order No. 2006-003-DWQ require water quality monitoring (sampling) within 48 hours after initial SSO notification for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface water. Any sampling conducted under this requirement shall be in accordance with the above-referenced *SSO Monitoring Plan*. Results shall be reported in CIWQS and in the Technical Report that must be submitted for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.

## 6.4 SSO Regulatory Notification, Reporting and Record Keeping

### **Staff Responsibility**

The Collections Manager is responsible for reporting SSOs to the SWQCB via the CIWQS SSO electronic reporting database. Reporting requirements are summarized below and in Sections 4-1 through 4-3 of the *Sewer Overflow Response Manual*, with greater detail provided in the *CIWQS Enrollee's Guide to the SSO Database*, referenced in Appendix D, and in the District's "SOP - Reporting of SSO's to State" included in Appendix A.

### **Spill Categories**

Table 3-1 summarizes the categories of spills as defined in the Statewide Order. Correct identification of the spill category is important because reporting requirements vary depending on the spill category. The most critical is a Category 1 spill, for which a 2-hr notification requirement applies.

### **Notification, Reporting, and Certification**

Table 3-2 (from the 2013 MRP update to Order 2006-003-DWQ) summarizes notification, reporting, monitoring and record keeping requirements. More detailed information is provided in the text of the MRP, which is included in Appendix D (follows Order 2006-003-DWQ). The *Enrollee's Guide to the SSO Database* provides guidance in use of the online reporting system (CIWQS). The District's "SOP - Reporting of SSO's to State", included in Appendix A, also serves as an aid to managers in meeting the 2-hr notification requirements. It contains the same basic information requirements listed in the MRP, plus some additional District-specific procedures.

The 2-hr notification requirement applies to any Category 1 SSO greater than or equal to 1,000 gallons discharged to surface water or spilled in a location where it probably will be discharged to surface water. The 2-hr period starts upon the District "becoming aware" of such a spill. In some cases, such awareness will require field verification.

For both Category 1 and Category 2 SSOs, a draft report must be submitted through CIWQS within three business days of becoming aware of the SSO. (This is in addition to the 2-hr notification for Category 1 spills of greater than 1000 gallons).<sup>4</sup> The draft report must be certified in CIWQS within 15 calendar days of the SSO end date. In the event CIWQS is unavailable, fax a hard copy report (using a blank CIWQS report printout as a template) to the Regional Water Board at (510) 622-2460. Submit the electronic report through CIWQS when available.

For Category 3 SSOs, no draft report is required. Instead, a single (certified) report must be submitted within 30 calendar days of the end of the month in which the SSO has occurred.

The 2-hr notification and draft reports can be submitted online by either a designated "Data Submitter" or "Legally Responsible Official (LRO)". However, only a LRO can certify

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<sup>4</sup> The CIWQS system allows a user to save a "work in progress" version of the SSO report online. Saving a "work-in-progress" version does not meet the requirement for submitting a draft report.

reports. Currently, the Collections Manager is the designated LRO. Normal practice at LGVSD is for the Collections Manager to conduct all on-line reporting. However, circumstances may require other staff to file the 2-hr notification or draft reports.

### ***Amending and Recertifying SSO Reports***

A certified SSO report can be amended (or additional information attached) for up to 120 calendar days after the SSO end date. After 120 days, special approval is required to amend a report. See Section C.4.b.iv of the MRP.

### ***Private Lateral Sewer Discharge***

CIWQS provides the option for reporting private lateral sewer discharges (PLSD), which are not consider the responsibility of the reporting agency. In CIWQS, records of PLSDs are maintained separately from records of SSOs from the agency's own facilities. The District typically does not report PLSDs.

### ***No spill Certification***

For months during which there are no SSOs, a “no spill certification” must be submitted in CIWQS by an LRO within 30 days after the end of the month. [Note: The 2013 MRP amendment allows no spill certifications to be filed quarterly; however, it is the District's intent to continue filing these reports monthly].

### ***Annual Questionnaire***

The District must annually update and certify certain information regarding the collection system. The questionnaire must be certified in CIWQS by an LRO. The update/recertification is typically done in October or November.

### ***Spills Exceeding 50,000 Gallons that Reach Surface Waters***

The MRP requires that water quality sampling be conducted for spills of 50,000 gallons or greater that reach surface waters, and that the SSO be documented in an SSO Technical Report. Requirements for the report are described in Section C.5 (p. 5-6) of the MRP.

### ***Record Keeping***

The MRP requires that records be maintained for a minimum of five years for all SSOs, including complaints received by the District that do not result in an SSO. See MRP Section E for specific requirements. The LGVSD Incidence Report was developed to assist staff in creating detailed and complete documentation of SSO. A copy is included in Appendix A. In documenting SSOs, particular attention should be given to the method(s) by which spill volumes are estimated.

Records documenting changes to the SSMP since the last certification must be maintained and attached to the SSMP. See MRP Section C.E.3. The Collections Manager has responsibility for maintaining the SSMP Update Log, a copy of which is included in Appendix G.

## **Table 6-1. Spill Categories and Definitions**

CATEGORIES	DEFINITIONS [see Section A on page 5 of Order 2006-0003-DWQ, for Sanitary Sewer Overflow (SSO) definition]
<b>CATEGORY 1</b>	<p>Discharges of untreated or partially treated wastewater of <b>any volume</b> resulting from an enrollee’s sanitary sewer system failure or flow condition that:</p> <ul style="list-style-type: none"> <li>• Reach surface water and/or reach a drainage channel tributary to a surface water; or</li> <li>• Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).</li> </ul>
<b>CATEGORY 2</b>	<p>Discharges of untreated or partially treated wastewater of <b>1,000 gallons or greater</b> resulting from an enrollee’s sanitary sewer system failure or flow condition that <b>do not</b> reach surface water, a drainage channel, or a MS4 unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.</p>
<b>CATEGORY 3</b>	<p>All other discharges of untreated or partially treated wastewater resulting from an enrollee’s sanitary sewer system failure or flow condition.</p>
<b>PRIVATE LATERAL SEWAGE DISCHARGE (PLSD)</b>	<p>Discharges of untreated or partially treated wastewater resulting from blockages or other problems <b>within a privately owned sewer lateral</b> connected to the enrollee’s sanitary sewer system or from other private sewer assets. PLSDs that the enrollee becomes aware of may be <u>voluntarily</u> reported to the California Integrated Water Quality System (CIWQS) Online SSO Database.</p>

**Table 6-2. Notification, Reporting, Monitoring, and Record Keeping Requirements**

ELEMENT	REQUIREMENT	METHOD
<p><b>NOTIFICATION</b> (see section B of MRP)</p>	<ul style="list-style-type: none"> <li>• Within two hours of becoming aware of any Category 1 SSO <b><u>greater than or equal to 1,000 gallons discharged to surface water or spilled in a location where it probably will be discharged to surface water</u></b>, notify the California Office of Emergency Services (Cal OES) and obtain a notification control number.</li> </ul>	<p>Call Cal OES at: <b>(800) 852-7550</b></p>
<p><b>REPORTING</b> (see section C of MRP)</p>	<ul style="list-style-type: none"> <li>• Category 1 SSO: Submit draft report within three business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date.</li> <li>• Category 2 SSO: Submit draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of the SSO end date.</li> <li>• Category 3 SSO: Submit certified report within 30 calendar days of the end of month in which SSO the occurred.</li> <li>• SSO Technical Report: Submit within 45 calendar days after the end date of any Category 1 SSO in which 50,000 gallons or greater are spilled to surface waters.</li> <li>• “No Spill” Certification: Certify that no SSOs occurred within 30 calendar days of the end of the month or, if reporting quarterly, the quarter in which no SSOs occurred.</li> <li>• Collection System Questionnaire: Update and certify every 12 months.</li> </ul>	<p>Enter data into the CIWQS Online SSO Database (<a href="http://ciwqs.waterboards.ca.gov/">http://ciwqs.waterboards.ca.gov/</a>), certified by enrollee’s Legally Responsible Official(s).</p> <p>In the event CIWQS is unavailable, fax a hard copy report (using a blank CIWQS report printout as a template) to the Regional Water Board at (510) 622-2460. Submit the electronic report through CIWQS when available.</p>
<p><b>WATER QUALITY MONITORING</b> (see section D of MRP)</p>	<ul style="list-style-type: none"> <li>• Conduct water quality sampling <b><u>within 48 hours</u></b> after initial SSO notification for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.</li> </ul>	<p>Water quality results are required to be uploaded into CIWQS for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.</p>
<p><b>RECORD KEEPING</b> (see section E of MRP)</p>	<ul style="list-style-type: none"> <li>• SSO event records.</li> <li>• Records documenting Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to the SSMP.</li> <li>• Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters.</li> <li>• Collection system telemetry records if relied upon to document and/or estimate SSO volume</li> </ul>	<p>Self-maintained records shall be available during inspections or upon request.</p>

## **7.0 FOG Program (D.13.vii)**

The District's FOG Program was developed in collaboration with the Central Marin Sanitation Agency (CMSA), which provides support to the District for pollution prevention-related activities on a contract basis. CMSA staff conduct inspections and provide other services related to the FOG Program, and reports monthly to the District on these activities.

Legal authority for the FOG Program is provided by the District's FOG Ordinance No.135, and the related Ordinance 136 that prohibits food grinders in commercial food service establishments, both of which were adopted by the District's Board on August 17, 2006. The FOG Ordinance cites general authority provided by Ordinance No. 112, adopted in 1995. Complete copies of Ordinances 135 and 136, and of the relevant section of Ordinance 112 are included in Appendix B.<sup>5</sup>

The FOG Ordinance calls for installation of grease removal devices (GSDs) in all new construction and for major remodels. Requirements for existing food service establishments (FSEs) vary depending on the location of the FSEs relative to identified FOG "hot spots". This targeted approach to regulating FOG sources is consistent with both State and RWB guidance. In addition to the GSD requirements, the FOG Ordinance provides a detailed framework for permitting, inspections, enforcement, and Program funding. Approximately 70 inspections of FSEs were conducted when the program was initiated in 2007. Waivers were granted for certain FSEs as provided for in the Ordinance. The remaining FSEs were issued permits and are subject to ongoing inspections. Results of inspections and records of interceptor pumping submitted by FSEs are tracked in a FOG database maintained by CMSA.<sup>6</sup> Example reports from the FOG database are included in Attachment B.

Implementation of the FOG Ordinance required that the District identify hot spots within the collection system. The list of District hot spots is included in Appendix B. The list is maintained and updated annually by the Collections Manager based on information from District line crew, and from analysis of maintenance records and incidence reports. A schedule and maintenance history for routine preventative maintenance of each hot spot has been developed, and is tracked in the CMMS.

In 2008, the District completed the first cycle of CCTVing the entire collection system, a process that takes approximately four years, and which is an ongoing element of the District's maintenance program. ("PMs" for CCTVing and cleaning are generated automatically by the AMS). The CCTV process includes an assessment of each line segment, with results recorded in the AMS, which provides standardized codes to indicate condition of the line segment (e.g. grease, roots, debris, excessive I&I, deterioration, etc). Results from other preventative and corrective maintenance activities are also tracked in the AMS.

The FOG Program includes additional non-regulatory elements, which may be expanded over time. The District's quarterly newsletter periodically features information regarding proper

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<sup>5</sup> The documents in Appendix B are from the District's Ordinance Code. See Table 3.1 of this SSMP for a cross-reference between Ordinance and Ordinance Code numbering.

<sup>6</sup> The District's goal to eventually incorporate tracking of FOG inspection in Cityworks AMS.

grease disposal practices for homeowners, and such FOG-related messages are integrated into the District's Public Outreach / Pollution Prevention Program. Letters are sent to homeowners along main lines that show an excess amount of grease accumulation. The District also participates in the Bay Area Pollution Prevention Group (BAPPG) which incorporates FOG control in its outreach materials and periodically conducts FOG-related projects.

## **8.0 System Evaluation and Capacity Assurance Plan** **(D.13.viii)**

An engineering consultant (Nute Engineering) was tasked with assessing collection system capacity issues and developing a capital improvements plan to ensure hydraulic capacity of key sewer system elements under peak flow conditions.

### **8.1 Capacity Assessment**

The District's sewer system hydraulic capacity assessment is documented in the *Las Gallinas Valley Sanitary District Sewer System Management Plan Capacity Assessment*, Nute Engineering, September 2008. The assessment focused on the District's three key trunk sewer lines that serve the treatment plant. The decision to limit the detailed capacity assessment to those lines was based on the consultant's knowledge of the system (having designed most of the system over the past 50 years), the absence of capacity-related SSOs, and the fact that the service area is largely "built-out".<sup>7</sup>

Dry weather flows in the trunk sewers were projected on the basis of present and future equivalent dwelling units (EDUs) and an average flow of 200 gallons per day per EDU. A peaking factor was applied to the average flow to calculate a peak dry weather flow. I/I contributions within each of the service areas were estimated by multiplying the area of development by an I/I rate in terms of gallons per acre per day. The I/I rates were estimated on the basis of the age of the sewers and assumptions of per acre I/I contributions. The resulting wet weather flow estimates were not used directly in the capacity analysis, but rather to apportion the design storm flows at downstream pump stations to the line segment under study.

Using the Regional Water Board's Basin Plan Table 4-6 for guidance, a 20-yr "Level A" event (highest level of protection) selected for the capacity analysis.<sup>8</sup> 20-yr flows at three major

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<sup>7</sup> Additional sewage flows that may be generated from areas that are not currently built-out (or from redevelopment) will be assessed as part of the planning and approval process for those projects. At present (April 2020), there are no near-term projects in the District's service area that would have a significant impact on the current analysis. Future large-scale projects that could impact the analysis include development of the St. Vincent's or Silveira properties, which would impact the lower portions of the Marinwood line. Projects MW-1 and MW-2 in that area include upsizing of the lines to eliminate bottlenecks and provide in-line storage, and would likely accommodate additional flows associated with such development. Alternately, since this area is close to the treatment plant, a parallel line would also be feasible.

<sup>8</sup> The capacity analysis report cautions that there is not a direct relationship between storm intensity and levels of rainfall induced inflow & infiltration (I/I). A very large storm may have only a moderate impact on I/I rates if preceded by a dry period. Conversely, a moderate storm preceded by a prolonged period of wet weather may generate high levels of I/I. Thus there are inherent limitations to the design storm approach.

pump stations and the plant influent were estimated to be 90% of the actual flows measured at those locations during the December 30-31, 2005 storm (estimated to have a 35-year return frequency based on DWR records for Marin County Civic Center, located in the District's Service Area).<sup>9</sup> The resulting pump station flows were apportioned to the trunk sewers feeding those stations based on the relative contribution of the line segment to that station's flow. For example, the Terra Linda trunk sewer was assigned 79% of the peak weather flow estimated for the 20-yr storm event at the Duckett Pump Station.

The analysis revealed potential hydraulic restrictions in twelve line segments within the three trunk sewers. These findings do not necessarily indicate that SSOs will occur at those segments under the designated flow condition, particularly in cases where the lines are deep and surcharging results in increased flow rates and/or upstream storage. The capacity analysis included the following recommendations:

- Install surcharge monitors in manholes along the sewers which have been identified with capacity restrictions.
- Include in the District's CIP projects to increase the size of those sewers identified with capacity restrictions
- Target I/I corrections and sewer rehabilitation projects to sewers tributary to those sewer with identified capacity restrictions.

## **8.2 Capacity Assurance Plan**

Based on the results of the capacity assessment, a strategy for sewer system upgrades that reflecting the following guidance was recommended:

- Target I/I corrections to those sewer systems tributary to sewers found to have potential wet weather capacity restrictions.
- Undertake projects that will maximize system storage so as not to overload the treatment plant and cause blending.
- Make sure the pump station at the downstream end of each major trunk sewer has a high degree of reliability and does not present a restriction to the system.
- In projects designed to eliminate capacity restrictions, consider installing larger diameter sewers which can also provide storage of peak flows.

The strategy recognizes that in some cases (i.e. where no SSOs are likely to occur), it is preferable to utilize hydraulic bottlenecks to provide upstream storage, and thus reduce peak flows to the treatment plant. Thus, although certain projects might not be required pending the outcome of monitoring and/or more detailed analysis engineering analysis, the Capacity Assurance Plan identified twelve capital projects to address the potential capacity limitations. Included in the project descriptions are preliminary estimates of costs and a priority ranking.

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<sup>9</sup> The report indicates that the December 2005 event flows may overestimate future sewer flows because of several corrective actions that have been taken since that time.

Table 8.1 summarizes the 2008 report’s proposed projects and phasing. Projects deemed to have lower priority are scheduled furthest into the future.

Implementation costs for the projects listed in Table 8-1 exceeded the available allocations for collection system capital projects. To some extent, collection system capital projects compete for funding with treatment plant capital projects that are needed to replace equipment nearing the end of their useful economic life, plant modernization, and the need for NPDES Permit-mandated process upgrades and improvements to reduce the frequency of “blending”. To help address the projected shortfall and provide continued funding for both collection system and treatment plant CIP needs, the District Board adopted Proposition 218-compliant sewer rate increases in 2009 and again in 2015. The increases have allocated over \$12 million for sewer main capacity improvement projects for FY2011/12 through FY2019/20. Some re-engineering of projects and realignment of priorities has occurred since the original analysis was conducted.<sup>10</sup> Projects involving major emergency repairs will take precedence over the scheduled improvement projects. Table 8-2 summarizes the current implementation status capacity-related projects.

In 2019, the District embarked upon a three-year Integrated Wastewater Master Plan (IWMP), which will create a road map for a new multi-year CIP Program. As part of that process, the remaining projects identified in the 2008 analysis may be re-evaluated and modified based on new information or new approaches.

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<sup>10</sup> For example, the John Duckett Pump Station & Terra Linda Trunk Sewer Improvements project combines projects TL-1 through TL-3, but goes beyond those projects in that the Duckett PS wet well would be lowered by ~6 feet to improve upstream system hydraulics and capacity and meet Caltrans current requirements for highway undercrossings. As part of the pre-design process, the District conducted flow monitoring to provide additional information for design. The project is still being evaluated as part of the IWMP.

**Table 8-1. Summary of Capacity-Related Capital Improvement Projects as Proposed in Hydraulic Analysis**

Project ID	Project Location	Est. Cost in 2008 dollars	Priority	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Trunk Sewer Upgrade Projects													
MW-1	Silveira Field - NWPRR to Treatment	\$800,000	Low									\$50,000	\$1,189,000
MW-2	St. Vincent's Sewer	\$1,710,000	High	\$709,000	\$1,051,000								
MW-3	Highway 101 segment	\$980,000	Medium			\$100,000	\$1,029,000						
MW-4	Las Gallinas Ave	\$680,000	Medium		\$276,000	\$460,000							
MW-5	Quietwood Dr	\$1,260,000	Medium							\$100,000	\$1,024,000	\$676,000	
MW-6	Appleberry Dr	\$710,000	Low								\$50,000	\$450,000	\$574,000
MW-7	Lucas Valley Rd @ Juvenile Hall	\$820,000	Low								\$50,000	\$833,000	\$346,000
TL-1	Near Duckett Pump Station	\$420,000	High	\$420,000									
TL-2	Terra Linda Trunk Sewer	\$2,000,000	Medium		\$100,000	\$938,000	\$444,000	\$815,000					
TL-3	Nova Albion - Elena Circle	\$90,000	High	\$90,000									
SV-1	Replace engine generator	\$140,000	High	\$140,000									
SV-2	Mulligan Trunk Sewer	\$3,980,000	Medium				\$100,000	\$837,000	\$1,735,000	\$1,722,000	\$789,000		
	<b>SUBTOTAL</b>	\$13,590,000		\$1,359,000	\$1,427,000	\$1,498,000	\$1,573,000	\$1,652,000	\$1,735,000	\$1,822,000	\$1,913,000	\$2,009,000	\$2,109,000

**Table 8-2. Summary of Capacity-Related Capital Improvement Projects Status as Currently Implemented (May 2020)**

Original Project ID	Project Location/Description	Priority	Status	Comment
MW-1	Silveira Field - NWPRR to Treatment Plant	Low	In design	Now referred to as Lower Marinwood Truck Sewer Improvements Project. To be designed simultaneously with the Terra Linda/Duckett/Mulligan/Smith Ranch Force Main Rehabilitation project
MW-2	St. Vincent's Sewer	High	Completed	Was included in 2013 Sewer Main Rehabilitation Project.
MW-3	Highway 101 Segment	Medium	Completed	Eastern portion of project (not section under US101) included in the 2013 Sewer Main Rehabilitation Project. Rehab of section under US101 was included in the Marinwood Trunk Sewer Undercrossing project completed in 2019.
MW-4	Las Gallinas Avenue	Medium	Future	
MW-5	Quietwood Drive	Medium	Future	
MW-6	Appleberry Dr.	Low	Future	
MW-7	Lucas Valley Rd @ Juvenile Hall	Low	Future	
TL-1	Near Duckett Pump Station	High	In pre-design	Segment to be replaced by new alignment *(John Duckett Pump Station & Terra Linda Trunk Sewer Improvement Project)
TL-2	Terra Linda Trunk Sewer	Medium	In pre-design	Segment to be replaced by new alignment (T.L.Service Zone Trunk Sewer Improvement. Project)
TL-3	Nova Albion - Elena Circle	High	In pre-design	Segment to be replaced by new alignment (T.L.Service Zone Trunk Sewer Improvement. Project)
SV-1	Replace engine-generator (Mulligan Pump Station)	High	Completed	Completed in 2011. Backup generators also replaced at Duckett and Civic Center Pump Stations (2012).
SV-2	Mulligan Truck Sewer	Medium	Future	

\* Significant pre-design work has gone into this complex project. The project, along with possible alternatives, is being further explored as part of Integrated Wastewater Master Plan effort currently in progress.

## 9.0 Monitoring, Measurement, and Program Modifications (D.13.ix)

This section describes the methods by which the District will monitor the effectiveness of the SSMP elements, and provide for their ongoing modification and updating to keep them current, accurate, and available for audit.

### 9.1 Performance Indicators

A number of performance indicators are tracked by the District for purposes of evaluating the long-term effectiveness of the SSMP elements described in this Plan. Some of these indicators could be expected to relate directly to specific elements or O&M activities, whereas others relate to multiple activities or program effectiveness as a whole. For example, it may be possible to correlate the number of blockages attributed to roots with the total annual footage (or multi-year cumulative footage) of sewer lines subject to rodding as part of the District's preventative maintenance program (see Section .4). In contrast, the volume of SSOs reaching surface waters would more likely reflect multiple maintenance activities, emergency response times, the FOG program and even uncontrollable factors.

Table 9-1 lists the quantitative indicators that are currently tracked by the District. The data for these indicators appear in Table 1 of the bi-annual SSMP Audit, included in Appendix F. Selected SSO indicators are also trended in charts accompanying the audit report. Performance measures related to maintenance activities are tabulated and charted in the Collections System Reports prepared semi-annually by the Collections Manager for the District Board. An example copy of the report is included in Appendix E.

**Table 9-1. SSMP Performance Indicators**

<b>Indicator</b>
Number of SSOs (total)
Wet season SSOs*
Dry season SSOs*
Number of SSOs (by volume range)
< 10 gal
10 – 99 gal
100 – 999 gal
1000 – 9999 gal
≥10,000 gal
Volume reaching waters of the State
Volume not contained but not reaching waters of the State
Volume recovered
Net volume (total minus recovered)
Number of SSOs per 100 mile of sewer per year
Volume of SSOs per 100 mile of sewer per year
Total Volume conveyed to the plant (million gal)
Total volume SSO / Total volume conveyed, gallons / million gallons

**Table 9-1. SSMP Performance Indicators, continued**

Number of SSO (by cause)
Blockages:
Roots
Grease
Debris
Debris from Laterals
Animal Carcass
Construction Debris
Multiple causes
Infrastructure failure,
Inflow & Infiltration
Electrical Power Failure
Flow Capacity Deficiency
Natural Disaster
Bypass
Cause Unknown
Number of locations with multiple SSOs
Average Emergency Response Times, minutes
Business Hours
Notification to arrival on site
Notification to complete clearance
Non-business hours
Notification to arrival on site
Notification to complete clearance
Number of locations with multiple SSOs
Maintenance activities (lineal ft/yr)
ITV (Camera truck)
CJET (Flushing with camera truck)
CJET2 (Flushing with flusher truck)
ROOTCT (Rodding)
IRO (TVing with push camera)
SMOKE (Smoke testing)

In evaluating performance indicators for which there are a very low number of events (e.g. the number of annual wet weather SSOs), it is important to recognize that the process may yield meaningful results only over the long term, and may show significant variability on a year-to-year basis.

## **9.2 SSMP Updates and Modifications**

It is the District’s intention that the SSMP remain a living document, and that it be regularly updated to reflect program or organizational changes, new regulatory requirements, and other changing conditions. Methods to ensure this objective is met include:

- The Collections Manager is tasked with overall responsibility for maintaining and updating the SSMP.
- The regulatory consultant's annual contract includes a task for providing ongoing technical support for collection system activities, including SSMP maintenance. The consultant coordinates with the Collections Manager for any changes in the SSMP.
- A number of the activities described in the SSMP reflect ongoing District programs for which the review and update process is well established. Examples include preventative maintenance (PM) measures, staff training, outreach, inspection and testing. The District is accustomed to requirements that require annual review and updating of key documents (e.g. NPDES permit requirements for annual review/update of the treatment plant O&M Manual and Contingency Plan).
- Order 2006-003 DWQ requires that the District conduct an internal audit of the SSMP as described in Section 10.0 below.
- In addition to periodic audits, Order 2006-003-DWQ requires that the SSMP be updated every five years. The October 2013 update was deemed to be significant enough to required approval by the District Board, which occurred in January 2014 (see Appendix D). Minor revisions and updates are typically made on an ongoing (e.g. bi-annual) basis with approval of the Collections Manager. A log of all SSMP changes is maintained in Appendix G.

### **10.0 SSMP Audits (D.13.x)**

Order 2006-003 DWQ requires that the District conduct an internal audit of the SSMP at a minimum of every two years, and to keep the audit report on file. The audit shall focus on evaluating the effectiveness of the SSMP and compliance with SSMP requirements, including identification of any deficiencies and the steps to correct them.

The District's audit format was adapted from a document developed by the BACWA Collection System subcommittee. In addition to identifying and correcting deficiencies (or specifying the schedule for such correction), the audit tracks the effectiveness of implementing the SSMP elements using the performance measures listed in Table 9-1. The audit also includes a qualitative evaluation of the overall effectiveness of implementing SSMP elements. Finally, the audit describes improvements to the collection system completed since the last audit, and those proposed for the upcoming years.

In accordance with the Regional Water Board's October 3, 2012 letter (see Appendix C), audits must be completed by May 2 of even years. A copy of the several most recent SSMP audit is included in Appendix F.

### **11.0 Communication Program (D.13.xi)**

Order 2006-003-DWQ requires that the District communicate on a regular basis with the public on the development, implementation, and performance of the SSMP.

The District's SSMP Communication Program includes the following components and activities:

- **Board Meetings:** District staff and consultant periodically update the District Board on issues related to SSMP implementation. These updates are included in the agenda packages that are publicly posted on the District's web site. Semi-annual collection system reports are prepared by the Collections Manager and presented during Board meetings, which are open to the public, and posted on the District's web site.
- **Newsletter:** The District's Quarterly Newsletter (The Heron) to customers contains articles and public education messages on topics related to the SSMP. The District's performance in controlling SSOs is highlighted in newsletter reports.
- **WEB Site:** The entire SSMP has been posted on the District's web site at <http://www.lgvsd.org/document-library/sanitary-sewer-management-plan-ssmp/> with a provision for public feedback (by phone or email) to District staff. The District uses the web site as one method to communicate timely information on District activities. Emergency information can be posted to the site in near real-time.
- **FOG Program:** The District operates a FOG Program that regulates the discharge of FOG from commercial food service establishments by requiring the installation and maintenance of grease removal devices (see Section 7). Control of FOG from residential sources is achieved primarily through education and outreach efforts that communicate a consistent and ongoing message regarding the impacts of FOG on the collections system, and provide information for proper disposal. The District distributes FOG scrapers and conducts outreach activities at the County Fair, Farmers Market, etc. The Quarterly Newsletter regularly contains messages regarding proper FOG disposal. Where excessive amounts of FOG are observed in the sewer lines by District staff, the District distributes door hangers and sends letters to homeowners in the area advising on proper disposal methods.
- **Plumbers & Contractor Outreach:** The District tracks plumbers operating in the service area, and issues annual letters (by email), advising plumbers of the District's permitting & inspection requirements. Annual emails include outreach materials developed by the District.
- **Outreach via Regional Organizations:** As a member of BACWA, the District supports outreach efforts conducted by the Bay Area Pollution Prevention Group (a BACWA committee). Efforts by that group have included FOG inspector training, a Mercury Training and Outreach Program at dental hygienist and dental assistance schools, and placement of ads in the South Bay and East Bay EcoMetro Guides.
- **Sewer Line Construction:** Door hangers and letters are distributed to local residences and businesses in areas that will be impacted by the District's construction projects. Homeowners are normally provided with the opportunity to coordinate replacement of their private service lateral when the District is replacing the corresponding public section of the lateral.

- **Lateral Rehabilitation Assistance Program:** Ordinance 153, adopted by the District in March 2012, provides funding for private lateral repair/replacement, with reimbursement to the District collected through the local county tax rolls, spread over a 10-year period. The rate of public participation in program has been high.
- **Sewer Line Maintenance:** The District's new logo makes District vehicles more noticeable. Collections staff frequently respond to the public questions their O&M activities. Door hangers are distributed in advance of smoke testing.
- **Emergency Response to SSOs, Backups, etc:** The Collections Manager personally takes all calls regarding SSOs or collection system issues, directs the District's response effort, conducts follow-up, etc. District staff are the SSO first responders during both business and non-business hours.
- **SSO Reporting:** The Collections Manager is responsible for reporting SSOs to State and Local agencies (California Office of Emergency Services, State Water Board, Marin Co. Health Department). Information on individual SSOs is available to the general public through a GIS-based application on the State Board's web site [http://www.waterboards.ca.gov/water\\_issues/programs/sso/sso\\_map/sso\\_pub.shtml](http://www.waterboards.ca.gov/water_issues/programs/sso/sso_map/sso_pub.shtml).
- **Communication with Private System Owners:** Several small private collection systems discharge to the District's collection system. The District communicates with private system operators through the Quarterly Newsletter, and where necessary, through direct correspondence.

## ***12.0 SSMP Approval and Certification (D.14)***

SSMP elements were completed and certified according to the schedule included in the Order 2006-003-DWQ. As required, the District certified completion of the entire SSMP via the SWRCB's online SSO database (CIWQS) prior to the August 2, 2009 deadline. A resolution approving the SSMP was adopted by the District Board at its June 25, 2009 meeting. A copy of the resolution, and of the subsequent resolution approving the October 2013 update are included in Appendix D. The SSMP updates made in 2016 and 2018 were deemed to be of a minor nature such that recertification was not required. However, the District plans to recertify the current (May 2020) update by the end of 2020.