



**RAINBOW MUNICIPAL
WATER DISTRICT
SEWER SYSTEM MANAGEMENT PLAN**

**REGION 9
SAN DIEGO COUNTY**

**Rainbow Municipal Water District
Fallbrook, California**

March 2021

TABLE OF CONTENTS

	<u>Page</u>
Table of Contents.....	i
List of Tables.....	ii
Update Schedule.....	iii
Acronyms	iv
Distribution List.....	v
Introduction	1
Section I - Goals.....	4
Section II - Organization.....	6
Section III – Legal Authority	12
Section IV – Operation and Maintenance Program	15
Section V – Design and Performance Provisions.....	49
Section VI – Overflow Emergency Response Plan	51
Section VII – FOG Control Program.....	66
Section VIII – System Evaluation and Capacity Assurance Plan	70
Section IX – Monitoring, Measurement and Program Modifications.....	72
Section X – SSMP Program Audits.....	76
Section XI – Communication Program	78

LIST OF FIGURES

Figure 1: Standard Sewer Lateral Drawing (DWG. NO. S-1).....	56
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LIST OF TABLES

Table 1: Legal Authority	14
Table 2: Wastewater Division Equipment	17
Table 3: Collection System Age	17
Table 4: Collection System Pipe Sizes	18
Table 5: Wastewater Standby Calls	18
Table 6: Characteristics of District Lift Stations	19
Table 7: Lift Station Maintenance	28
Table 8: Lift Station Cleaning Schedule	31
Table 9: High Frequency Areas	32
Table 10: Capital Projects Budget	38
Table 11: Critical Parts Inventory	42
Table 12: Regulatory Agency Notification Requirements	65

Update Schedule

Type	Deadline	Actual Date of Update	Sections Revised	Signature
Organization	December 31,2020	December 22,2020	Name and Titles Change	RGZ
Operations & Maintenance update, Overflow emergency plan revised	December 31,2020	August 13,2020	Reviewed High Frequencies cycle Root X treatment	RGZ, CH
Operations & Maintenance update, Overflow emergency plan revised	December 31,2020	November 13,2020	Updated Old River Road Lift Station	RGZ, RL
Operations & Maintenance	December 31,2020	November 13,2020	Updated Rancho Monserate	RGZ, RL
Operations & Maintenance	December 31,2020	November 13,2020	Update Horsecreek lift station	RGZ, RL
Operations & Maintenance	December 31,2020	August – December 2020	Pump stations, facilities	RGZ, RL, CH
Sewer System Plan	December 31,2020	August – December 2020	Review all sections	RGZ, RL
Operations & Maintenance	December 31,2020	August – December 2020	Revisions, data updates	RGZ, RL, CH
Audit Review	December 31,2020	2020	Review all sections	RGZ, RG
Audit Review	March 31,2021		5-year Audit – Need Board Action approval	Board

LIST OF FREQUENT ACRONYMS

Cal EMA	California Emergency Management Agency
CI	Cast Iron
CCW	Counterclockwise
CIP	Capital Improvement Project
CIWQS	California Integrated Water Quality System
CW	Clockwise
DEH	Department of Environmental Health
District	Rainbow Municipal Water District
EDU	Equivalent Dwelling Unit
FOG	Fat, Oils & Grease
GCDI	Grease Control Device Inspection
GPD	Gallons Per Day
HDPE	High-Density Polyethylene
HP	Horsepower
HZ	Hertz
I&I	Inflow and Infiltration
LRO	Legally Responsible Officer
MRP	Monitoring Reporting Plan
NPDES	National Pollutant Discharge Elimination System
O&M	Operations & Maintenance
PM	Preventive Maintenance
POTW	Publicly Owned Treatment Works
RCT	Regulatory Compliance Technician
SCADA	Supervisory Control & Data Acquisition
SDRWQCB	San Diego Regional Water Quality Control Board
SSMP	Sanitary Sewer Maintenance Plan
SWRCB	State Water Resources Control Board
TDH	Total Dynamic Head
WERP	Wastewater Emergency Response Plan

DISTRIBUTION LIST

NAME	TITLE
Board Members (5)	Board
Tom Kennedy	General Manager
Robert Gutierrez	Operations Manager
Chad Williams	Engineering and CIP Program Manager
Ramon Zuniga	Wastewater Superintendent
Wastewater (1)	Staff

INTRODUCTION

RAINBOW MUNICIPAL WATER DISTRICT

SEWER SYSTEM MANAGEMENT PLAN

Introduction

The Rainbow Municipal Water District (District) is a local governmental agency providing water and wastewater services to an unincorporated area of northern inland San Diego County in California. The District serves the unincorporated communities of Rainbow, Bonsall, and a portion of Fallbrook covering approximately 49,800 acres. The District straddles, in part, Interstate 15 and the San Luis Rey River. Much of the area remains in its natural state of chaparral, oak and coastal sage vegetation, characteristic of Mediterranean west coast climatic regions. Temperatures vary from a low mean daytime temperature of 69 degrees in the winter to a high mean daytime temperature of 86 degrees in the summer.

The District is a form of government in California known as a special district and is organized under Section 71000 of the California Water Code.

The District serves a relatively rural group of customers with approximately 8,200 water connections and 3,240 wastewater connections.

The terrain is rugged and mountainous, consisting of natural vegetation, developed groves, with some residential areas interspersed in the more accessible valleys. The District is largely agricultural; however, it is expected to see limited growth in its residential customer base in the future. The area has many agricultural uses, including citrus, avocados, tomatoes, commercial nurseries and livestock (primarily equestrian).

The District owns and operates a collection system of 87 miles of gravity sewer lines and 3 miles of force main along with 7 lift stations and 1 metering station. These facilities collect and convey sewage from the District's customers for final treatment and disposal at the San Luis Rey Treatment Plant operated by and located in the City of Oceanside. The District owns the capacity to convey and treat 1 ½ million gallons of sewage per day at the San Luis Rey plant.

State Water Resources Control Board Requirement

On May 2, 2006, the State Water Resources Control Board (SWRCB) enacted Order No. 2006-003 entitled, "Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (WDR). The WDR requires any public agency that owns or operates a sanitary sewer system more than one mile in length that conveys treated or partially treated wastewater to a Publicly Owned Treatment Works (POTW) in the State of California, to comply with the requirements of the WDR in order to reduce the number of Sewer System Overflows (SSOs).

The public agency must develop goals to properly manage, operate and maintain all parts of its wastewater collection system in order to reduce and prevent SSOs as well as to mitigate any SSOs that occur.

The District has already implemented measures to reduce SSOs, and utilizes the statewide electronic reporting system, “California Integrated Water Quality System” (CIWQS) for SSOs.

The District submitted a “Notice of Intent” for coverage under the WDR and has developed a Sewer System Management Plan (SSMP) per these requirements. The SSMP identifies how the District complies or implements the eleven mandatory elements in the WDR that will reduce SSOs. The required elements are as follows:

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

Details of each of these elements and how they apply to the specific requirements of the WDR are contained in the following sections.

SECTION I

GOALS

SECTION I – GOALS

Regulatory Requirement

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

Goals

The District is committed to reducing SSOs in order to decrease the risk to both human health and the environment. The number and size of SSOs generally can be reduced, if not prevented, through the application of sound and appropriate operation, maintenance and management principles.

In accordance with the WDR, the SSMP will include the applicable elements that provide proper and cost-effective management, along with operation and maintenance of the collections system, while taking into consideration risk management and cost benefit analysis.

Providing safe, responsive and reliable sewer service is a key component to fulfilling the District's mission statement: *"To provide our customers reliable high-quality water and water reclamation in a fiscally sustainable manner."*

In support of this mission, the District has developed the following goals for the operation and maintenance of its sewer system.

- Properly manage, operate and maintain all parts of the wastewater collection system to provide reliable and uninterrupted service at least 99% of the time.
- Maintain and complete on schedule the District's three (3) year sewer system cleaning plan. Establish a Close Circuit Television (CCTV) maintenance program by contracting field services.
- Reduce inflow and infiltration in the collection system.
- Provide adequate capacity to convey peak flows.
- Minimize the frequency of SSOs to zero. Mitigate the impact of SSOs utilizing safe, practical, proven and effective methods.
- Provide Operation and Maintenance (O&M) training for all staff and standby personnel who are involved in responding to system problems and SSOs.

SECTION II ORGANIZATION

SECTION II – ORGANIZATION

Regulatory Requirement

The name of the responsible or authorized representative having responsibility for the overall operation of the regulated facility.

Legally Responsible Official

Robert Gutierrez, Operations Manager is designated as the Legally Responsible Official (LRO).

Regulatory Requirement

The names and telephone numbers for management, administrative and maintenance positions responsible for implementing specific measures in the SSMP program. The SSMP must identify lines of authority through an organization chart with a narrative explanation.

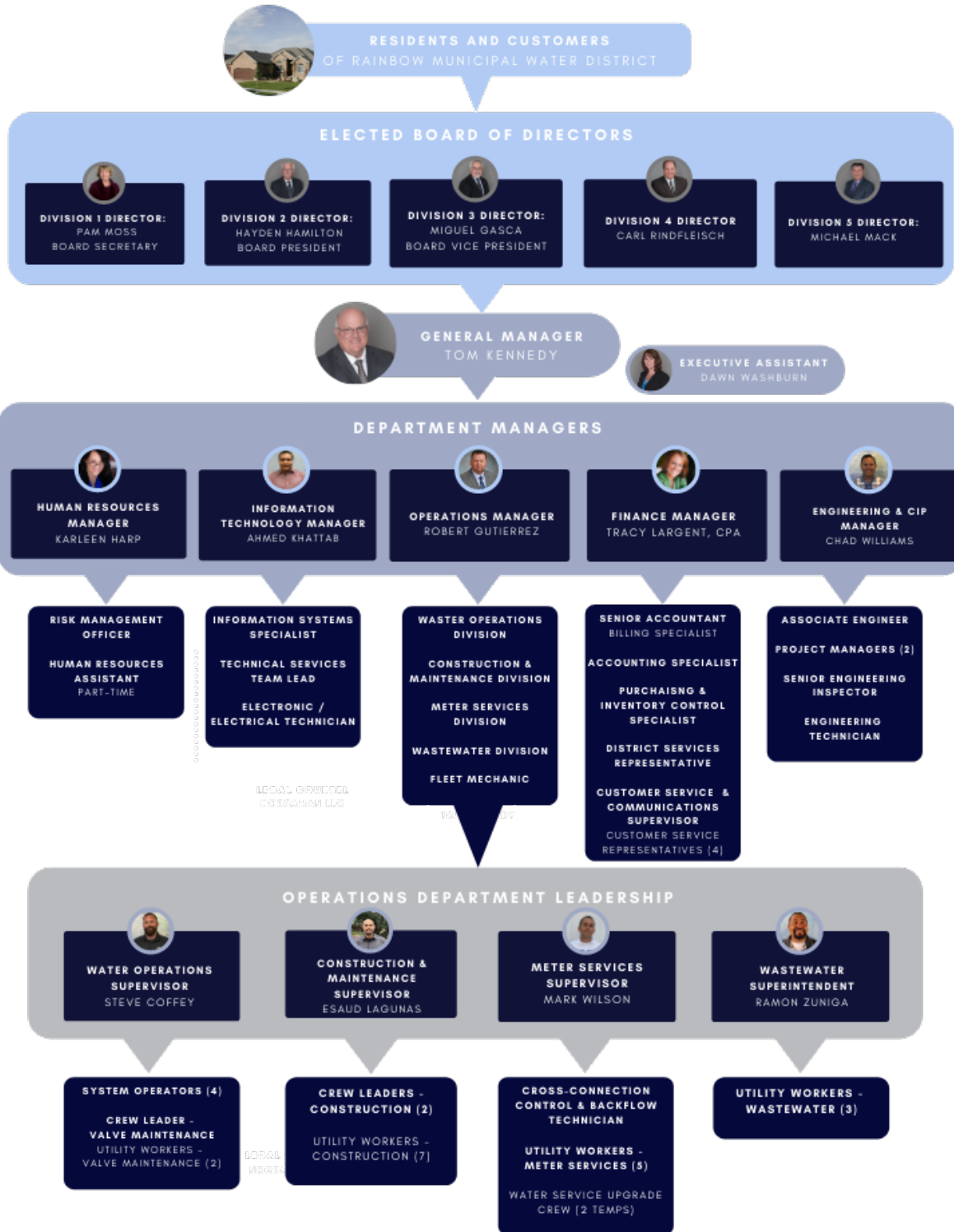
Responsible Positions

Wastewater Standby	(760) 525-6932
Wastewater Superintendent, Ramon Zuniga	(760) 525-6934
Operations Manager, Robert Gutierrez	(760) 468-0217
General Manager, Tom Kennedy	(760) 445-0000
Engineering and CIP Program Manager, Chad Williams	(760) 468-6757
Senior Engineering Inspector, Ryan Stockton	(760) 421-6064

An organization chart and narrative explanation of positions follows:



ORGANIZATIONAL CHART



Board of Directors

The District is a governmental agency, governed by a five (5) member Board of Directors. Each Director is elected by a vote of the people within one of the five Divisions of the District. Each of the elected Directors serves a four-year term. The Board of Directors set District policy.

Legal

The District's legal team advises the Board of Directors and staff on legal matters.

General Manager

The General Manager has overall responsibility for all functions of the District. The General Manager serves as Public Information Officer (PIO) and provides information and updates to the Board of Directors.

Operations Manager

The Operations Manager will establish procedures, allocate resources, delegate responsibility and authorize outside contractors to perform services. The Operations manager also coordinates development of the District's SSMP and is the (LRO) Legally Responsible Official.

Engineering and CIP Program Manager

The Engineering and CIP Program Manager will establish procedures, allocate resources, delegate responsibility and authorize outside contractors to perform services.

Associate Engineer

The Associate Engineer supports the functions of the Engineering Department.

Senior Engineering Inspector

The Senior Engineering Inspector ensures that new and rehabilitated assets meet District standards, works with field crews to handle emergencies when contractors are involved and provide verbal and written reports to the Engineering and CIP Program Manager.

Environmental Health and Safety Officer

The Environmental Health and Safety Officer, under the direction of the Human Resources Manager, has responsibility for the planning and administration of the District's programs and services related to safety, security, emergency preparedness and environmental compliance functions.

Wastewater Superintendent

The Wastewater Superintendent manages and oversees field operations and maintenance activities, provides relevant information to agency management, prepares and implements contingency plans, leads emergency response, investigates and reports SSOs and trains field crews. The Superintendent coordinates and manages the repair, maintenance and operation of the wastewater pumping and collection system and performs research & planning. The Wastewater superintendent also assists with the development and implementation of the SSMP.

Utility Workers – Wastewater

Utility Worker staff performs preventative maintenance activities, mobilizes and responds to notification of stoppages and SSOs, activates sewer cleaning equipment and CCTV, sets bypass pumping equipment and portable generators as well as other equipment such as traffic control.

Collection System Maintenance

- Lift Stations – Staff performs regular routine maintenance on the District's six (7) lift stations.
- Line Cleaning – Staff performs regular maintenance on the 87 miles of gravity sewer lines.
- CCTV – Staff oversees contract video recording of the gravity sewer system.

Fats, Oils and Grease (FOG) Program

Staff oversees FOG Program for source control/ Outsource when needed.

Electrician

The Electrician provides general electrical journey level experience in wastewater applications.

Vehicle Maintenance

The Mechanic maintains wastewater vehicles and equipment.

Chain of Communication for reporting Overflows:

In general, the District is notified of a sewer system overflow either by a call received at our office by Customer Service or via the Districts after hours answering service. In either event, a member of the collections department is notified immediately. If it is after hours,

our collections standby personnel are called out. The collections staff promptly mobilizes personnel and equipment to respond and remediate the spill. Once the spill has been controlled and remediated, staff drafts a report of the overflow incident, and if needed completes initial report notifications,

The Operations Manager is named as the Legal Responsible Official and is responsible for overseeing the reporting process and certifying all SSO's. The LRO has designated authorized data submitters to report overflows to all necessary agencies as well as the online data base.

Data submitters include the Collection System Utility worker I, II, III, Technical Services lead and Valve maintenance lead. Data submitters shall understand the necessity to review the written report for accuracy and then make the appropriate reporting notifications. The initial report notifications may be done in draft form, with a follow up finalized report submitted once all data is complete and verified (within guidance of the adopted state and local Board orders.

The District reports all spills regardless of size and whether the spill reaches waters of the state. The District has always believed in keeping the reporting agencies and the public fully informed.

Regulatory Requirement

The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable.

Reporting Plan

The reporting plan is detailed in the notification procedures in Section VI, the Overflow Emergency Response Plan.

SECTION III

LEGAL AUTHORITY

SECTION III – LEGAL AUTHORITY

Regulatory Requirement

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

- *Prevent illicit discharges into its sanitary sewer system*
- *Require that sewers and connections be properly designed and constructed*
- *Ensure access for maintenance, inspection or repairs for portions of the lateral owned or maintained by the Public Agency*
- *Limit the discharge of fats, oils and grease and other debris that may cause blockages*
- *Enforce any violation of its sewer ordinance*

Legal Authority

The District, Administrative Code Chapter 9.02 possesses the necessary legal authority to prevent, require, limit and enforce specific features and operations required by the Order. A summary of the relevant sections of Administrative Code is in Table 1 and the ordinance in its entirety is available upon request.

Summary of Legal Authority: - Updated 12-17-2020

TABLE 1

Legal Authority To:	Existing Authority (Excerpts from Ordinance 98-06)
Prevent Illicit discharges into the Sanitary sewer system	9.08.010 9.08.020 9.08.030
Require that sewers and connections be properly designed and constructed	9.04.010 9.04.020 9.04.030 9.04.040
Ensures access for maintenance, inspection or repairs for laterals	9.08.030
Limit the discharge of fats oils and grease and other debris that may cause blockages	9.12.010
Enforce any violation of the Rainbow Municipal Water District ordinances	9.14.010 9.15.010 9.16.010 9.16.020 9.16.030 9.16.040 9.16.050 9.16.060

SECTION IV

**OPERATION AND
MAINTENANCE PROGRAM**

SECTION IV – OPERATION AND MAINTENANCE PROGRAM

Regulatory Requirement

Maintain an up-to-date map of the sanitary sewer system showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves and applicable storm water pumping facilities.

District Map

The District has an up to date Geographic Information System (Geoviewer) of the wastewater collection system that is linked to an Enterprise Asset Management system (Infor EAM). The GIS is updated whenever new facilities, such as new developments are added or if any modifications are made to the system.

The Engineering Department is responsible for updating the GIS and EAM data. As discrepancies are found, Engineering is contacted by Wastewater staff for corrections.

Regulatory Requirement

Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventive Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders.

Operation and Maintenance Program

Listed in Section II, Organization, the Wastewater Division includes a Superintendent and 3 utility workers. All the Wastewater staff are certified and cross-trained to perform all work needed to operate and maintain the collection system.

Table 2 lists vehicles and equipment assigned to the Wastewater Division. This division also has access other Operations construction staff and a variety of construction equipment such as backhoes, dump trucks and concrete saws, etc. The District also maintains pre-negotiated contracts with third party contractors to provide additional services as needed.

Wastewater Division Equipment

Updated

TABLE 2

Unit No.	Equipment	Purpose
#3	½ Ton Pickup Truck	Service Truck
#60	½ Ton Pickup Truck	Service Truck
#61	F- 450 Super Duty 1 ½ Ton Utility Truck	Service Truck / Confined Space
#68	2500 HD ¾ Ton	Emergency Response Vehicle
#75	Combination Sewer Truck	Line Cleaning
#116	Emergency Response Trailer	Emergency Response / Confined Space Recue Operations
#141	Portable Emergency Generator	Backup Power for Lift Stations
#110	John Deer Trash Pump 6"	Bypass/Flow control
#109	1,300' Sewer bypass hose	Bypass hose and parts

Table 3 shows the age of the collection system. Most of the system is 20 to 30 years old and approximately 6% is older than 40 years.

Collection System Age:

Updated

TABLE 3

Construction Year	Age (Year)	Distribution (%)
1960-1969	>50	4.65%
1970-1979	>40	29.05%
1980-1989	>30	23.62%
1990-1999	>20	8.26%
2000-2009	<10	11.69%
2010-2019	<10	22.72%

The pipe sizes of the collection system are shown in Table 4. The majority of the system is 8" pipe.

Collection System Pipe Sizes: Engineering verified

TABLE 4

Diameter Size (Inches)	Length (Feet)	Length (Miles)	Distribution %
6	3,499'	0.66	0.92%
8	260,733'	49.38	68.64%
10	14,883'	2.82	3.92%
12	42,146'	7.98	11.09%
14	236'	0.04	0.00%
15	25,100'	4.75	6.61%
16	7,014	1.3	1.77%
18	11,524'	2.18	3.03%
21	3,242'	0.61	0.85%
24	10,339'	71.95	100%

The District responds to all customer calls 24/7 relating to wastewater issues. During the past four years, the District responded to 179 alarms including after-hour customer calls. Table 5 below signifies the breakdown per year.

Wastewater Standby Calls:

Year	Private Sewer Spills	RMWD Spills	Misc. Calls
2017	1	1	5
2018	4	0	98
2019	2	0	62
2020	0	4*	14

*Two of the spills were due to heavy rains in early 2020 that surcharged a section of line in North River Road. The other two were a result of bypass operations during CIPP rehabilitation work that was initiated due to impacts from the rains

Work is scheduled daily based on current needs. The District’s work week is Monday through Thursday 9 hours workdays & Friday an 8-hour workday. Unless there are emergencies, the lift stations are maintained every Monday.

Lift station maintenance and repair data is summarized on spreadsheets. Daily hours for each pump station are taken from Supervisory Control and Data Acquisition Systems (SCADA) and manually entered into logbooks showing the total hours pumped by each pump. All the pump stations use constant speed, centrifugal pumps.

Characteristics of District Lift Stations:

TABLE 6

Lift Station	Number of Pumps	Capacity of Each (gpm)	Inspection Frequency	SCADA	Backup Power	Flow Meter
Golf Club	3	500	Weekly	Yes	Yes	No
Old River Rd	3	1,600	Weekly	Yes	Yes	Yes
B Plant	2	320	Weekly	Yes	Yes	No
Rancho Monserate	2	320	Weekly	Yes	Yes	No
Rancho Veijo	2	805	Weekly	Yes	Yes	No
Fallbrook Oaks	2	250	Weekly	Yes	Yes	No
Horse Creek	3	1600	Weekly	Yes	Yes	Yes

The following sections describe the seven (7) sewage lift stations and the flow metering station. The maintenance plan for the stations follows (see Table 7).

*Updated

Golf Club

Address: 31250 Old River Road
Bonsall, California 92028

Placed in Service: 1974

Station: Smith & Loveless

Serial No.: N/A

Coordinates: 3316.9527 / -11713.1108

Pumps: Three (3) non clog centrifugal pumps, Model #6D, 500 GPM, 20' Total Dynamic Head (TDH), Impeller diameter 10 5/8"

Pump Rotations: Pump #1 – (CCW) / Pump #2 – CCW / Pump #3 – Clockwise (CW)

Motors: 5 HP, 900 RPM, 3 phase, 60 HZ, 230/460 volts

Standby Generator: Generac, Model #91A021775, Serial #996436, KVA 67.5,

Fuel Propane / 250 - gallon capacity

Duration of fuel: 3 days

Connections: 3,198 Equivalent Dwelling Units (EDUs)

Population Served: 6,414

Average Flow: 610,000 (GPD)

Area Served: Bonsall Elementary and Normal Sullivan Middle School, West Lilac, Las Casitas, San Luis Rey Downs, Villas Fore, Fairgreen Way, Ascot Park Estates, Malabar Ranch Estates, Sycamore Ranch Estates, Sweetgrass Lane, Live Oak Estates, Lake Tree Estates, River Village, Thoroughbred Lane, Lake Vista Estates, Golf Club Lane, and Lift Stations 3, 4, 5 and 6.

Force Main: 10" Cast Iron (CI)

OLD RIVER ROAD

Address: 30516 Old River Road
Bonsall, California 92028

Placed in Service: 2011

Station: Brand: Flygt Pump Station

Serial No.: Model # 3202

Coordinates: 3316.0415 / -11713.9902

Pumps: Motor type submersible, Model No. 3202, 90 Horsepower, cable length 50', RPM 1,750, explosion proof yes, leak sensor yes. (3) New impellers # 456 326 mm

Pump Rotations: Pump #1 – CCW / Pump #2 – CCW / Pump #3 - CCW

Motors: 70 HP, 1,750 RPM, 3phase, 60Hz, 460 volts and 615 amps, Service factor .88, mini cas Yes (3).

Standby Generator: Cummins 175 kW Standby Generator
Engine: 120/240 volts 1500 watts
Fuel System: 72-hour sub base tank

Direct injection: Number 2 diesel fuel, fuel filter, automatic electric fuel shutoff

Fuel Diesel 966 Gallon Capacity

Duration 3 Days

Connections: 3,587 EDUs

Population Served 7,174

Average Flow: 695,000 GPD

Area Served: Old River Road, Vista Valley Development, Little Gopher Canyon, Cal-a-Vie Spa, and Lift Stations 1, 3, 4, 5,6 and Horsecreek.

Force Main: 14" high-density polyethylene (HDPE)

B Plant

Address: 3707 Old Highway 395
Fallbrook, California 92028

Placed in Service: 1964

Station: Smith & Loveless

Serial No.: 66-2122

Coordinates: 33.19.5159 / -1179.7645

Pumps: Two (2) non clog centrifugal pumps, Model #4D215TTDR8381ANL 4B2A, 320 GPM, 29' TDH, Impeller diameter 8 1/8"

Pump Rotations: Pump #1 – CW / Pump #2 – CCW

Motors: 5 HP, 1170 RPM, 3 phase, 60 HZ, 460 volts

Standby Generator: Generac, Model # 92A022095, Serial # 2003351, KVA 37.5
Propane / 200-gallon capacity

Fuel Propane 500 Gallon Capacity

Duration 5 Days operational

Connections: 593 EDUs

Population Served 1,186

Average Flow: 22,000 GPD

Area Served: District Office, Pala Mesa Road, Las Ventana's.

Force Main: 6" PVC

RANCHO MONSERATE

Address: 211 ½ Manzano Street
Fallbrook California 92028

Placed in Service: 2011

Station: Brand: Flygt Pump Station

Serial No.: Model # 3127.090 1160153/1160154

Coordinates: 3319.1150 / -1179.7255

Pumps: Model # Flygt NP3127.090-488 Submersible, 320 GPM, 22' TDH, Impeller Diameter 8 1/8" / Non-Clog; (2) pumps at lift station

Pump Rotations: Pump #1 – CCW / Pump #2 – CCW

Motors: 10 HP, 1745 RPM, 3 phase, 60 HZ, 230/460 volts and 13.25 amps.

Standby Generator: Generac, Model #92A022075, Serial #2003349, KVA 75

Fuel: Natural gas

Duration Continuous

Connections: 187.4 EDUs

Population Served 1,186

Average Flow: 35,000 GPD

Area Served: Rancho Monserate Mobile Home Park

Force Main: 6" PVC

RANCHO VIEJO

Address: 4198 Lake Circle Drive
Fallbrook California 92028

Placed in Service: 1990

Station: Gorman Rupp

Serial No.: 89-2936

Coordinates: 3319.4243 / -1179.3694

Pumps: #1, Classic T series, 6" x 6" self-priming centrifugal pump, Model No. T6A3-B, 1,765 RPM, Semi-open, type two vane impeller diameter 12.38"
#2, Super T, 6" x 6" centrifugal self-priming pump, Model No. T6A3S-B, Serial No. 1436277, 1,765 RPM, Semi-open, type two vane impeller
2 air release valves connected to each pump

Pump Rotations: Pump No. 1 - CCW / Pump No. 2 - CCW

Electric Motors: #1, 40 HP GR-28225-251, 1750 rpm, 3 phase, 60 HZ, 460 volts
#2, 40 HP GR-28225-253, 1750 rpm, 3 phase, 60 HZ, 460 volts

Standby Generator: Generac, Model #3285B1263B, Serial #AD2051935PK; KVA – 164,

Fuel: Propane 500 / gallon capacity

Duration: 4 Days

Connections: 755 EDUs

Population Served 1,187

Average Flow: 178,500 GPD

Area Served: Serves the Rancho Viejo Development

Force Main: 10" PVC

FALLBROOK OAKS

Address: 3690 Sara Ann Drive
Fallbrook California 92028

Placed in Service: 1988

Station: Myers

Serial No.: 5025-029

Coordinates: 3319.4584 / -1171.15089

Pumps Two (2) submersible, Model #4R50M4-21 6VH FL112L3XX2728,
Serial # 741064-A-1

Pump Rotations: Pump No. 1 – CW / Pump No. 2 – CW

Motors: 5 HP, 1,750 RPM, 60 HZ, 230 volts and 60 amps

Standby Generator: Onan Model #GGDB-5692340, Serial #1040697462, KVA – 20,

Fuel: Natural Gas

Duration: Continuous

Connections: 39 EDUs

Population Served: 78

Average Flow: 6,500 GPD

Area Served: Fallbrook Oaks Homeowners Association

Force Main: 6" PVC

HORSE CREEK LIFT STATION

Address: 3900 Pankey Road
Fallbrook California 92028

Placed in Service: 2018

Station: Flygt

Serial No.: 3202.830,76005,0006,0007

Coordinates: 33.33436 117.151219

Pumps Three (3) submersible, Model #NP 3202 HT 9N3202.830)28, Serial # 741064-A-1

Pump Rotations: Pump No. 1 – CCW / Pump No. 2 – CCW / Pump No. 3 CCW

Motors: 54 HP, 1,785 RPM, 60 HZ, 460 volts and 61 amps

Standby Generator: Onan Model Q5B7-G5-NR3, KVA – 20,

Fuel: 380 Gallons Diesel

Duration: 3 Days

Connections: 851 EDUs

Population Served: 2,128

Average Flow: 175,000 GPD

Area Served: Valley Oaks Mobil home park, Pala Mesa Resort, Horse creek Community and Palomar College.

Force Main: 18” PVC

STALLION FLOW MONITORING STATION

Address: 5304 North River Road
Oceanside, CA 90254

Placed in Service: 2002

Specifications: The station monitors and calculates the District's collections system flow with a Flo Far brand meter using Doppler radar technology.

Serial No.: Flo Dar Serial #4640-0160-0902, Model #464

Coordinates: 3316.9527 / -11713.1108

Model: #464R - S232 with 4-20 mA output; Marsh-McBirney, Inc.

Operation: Flows are transmitted to SCADA. In the event the District loses a signal, Wastewater staff responds to the site immediately.

A sampling system collects periodic samples. The system is an Issco 3700 Sampler Refrigerator.

Maintenance: The meter is calibrated annually, using the Marsh-McBirney, Inc. Flo-Tote 2000 portable handheld electromagnetic flow meter. Depth measurements are taken using a standard metal ruler; actual field flow calculations are calculated using the "Insight Flow Simulator" which is compared to actual real time field readings of the Flo Dar Meter sensor firings.

TABLE 7

LIFT STATION MAINTENANCE

Schedule	Exterior	Wet Well	Dry Well	Electrical Cabinet	Stationary Standby Generator	Force Main
Thoroughbred Lift Station						
Mondays	Check fence, & life preserver, air blower	Clean interior / Check air compressors / Check floats & wet well levels	Confined space entry: check pumps, & seals, interior parts, valves / Clean all components	Review each pump's run hours	Inspect generator	N/A
Weekly	N/A	Clean debris / Check floats	N/A	N/A	N/A	N/A
Semi-Weekly	N/A	N/A	N/A	N/A	Power shutdown .15 min.	Inspect force main
Monthly	N/A	Drain bubbler line; check pressure switch settings / Perform float switch test	Exercise all valves / Flush out sump pump, activate alarm	Inspect wiring & connections / Inspect telemetry & control systems / Perform motors resistance tests	Shut down grid power & test generator startup / Transfer switch once per month 40 min. test	N/A
Semi-Annually	N/A	Vactor wet wells	Lubricate check valves, pump bearing and fittings / Perform vibration test	N/A	N/A	N/A
Annually	N/A	N/A	Disassemble & inspect pumps; check impellor, gaskets; lubricate pump bearings, fittings	Inspect electrical components / Clean & inspect motor controls	Perform load bank testing / Perform routine maintenance	N/A
Old River Road Lift Station						
Mondays	Check fence, bioxide tank & air blower	Clean interior / Check air compressors / Check floats & wet well levels	Confined space entry: check pumps, & seals, interior parts, valves / Clean all components	Review each pump's run hours	Inspect generator	N/A
Weekly	N/A	Clean debris / Check bubbler lines & floats	N/A	N/A	N/A	N/A
Semi-Weekly	N/A	N/A	N/A	N/A	Power shutdown .15 min.	Inspect force main
Monthly	N/A	Drain bubbler line; check pressure switch settings / air compressor switches / Perform float switch test	Exercise all valves / Flush out sump pump, activate alarm	Inspect wiring & connections / Inspect telemetry & control systems / Perform motors resistance tests	Shut down grid power & test generator startup / Transfer switch once per month 40 min. test	N/A
Semi-Annually	N/A	Vactor wet wells	Lubricate check valves, pump bearing and fittings / Perform vibration test	N/A	N/A	N/A
Annually	N/A	N/A	Disassemble & inspect pumps; check impellor, gaskets; lubricate pump bearings, fittings	Inspect electrical components / Clean & inspect motor controls	Perform load bank testing / Perform routine maintenance	N/A
LIFT STATION #3						
Mondays	Check fence, containers & life preservers	Clean interior / Check air compressors / Check floats & wet well levels	Confined space entry: check pumps, & seals, interior parts, valves / Clean all components	Review each pump's run hours	Inspect generator	N/A
Weekly	N/A	Clean debris / Check bubbler lines & floats	N/A	N/A	N/A	N/A
Semi-Weekly	N/A	N/A	N/A	N/A	Power shutdown .15 min.	Inspect force main
Monthly	N/A	Drain bubbler line; check pressure switch settings / air compressor switches / Perform float switch test	Exercise all valves / Flush out sump pump, activate alarm	Inspect wiring & connections / Inspect telemetry & control systems / Perform motors resistance tests	Shut down grid power & test generator startup / Transfer switch once per month 40 min. test	N/A
Semi-annually	N/A	Vactor wet wells	Lubricate check valves, pump bearing and fittings / Perform vibration test	N/A	N/A	N/A
Annually	N/A	N/A	Disassemble & inspect pumps; check impellor, gaskets; lubricate pump bearings, fittings	Inspect electrical components / Clean & inspect motor controls	Perform load bank testing / Perform routine maintenance	N/A
LIFT STATION #4						
Mondays	Check wood fence, structures	Clean interior / Check floats & wet well levels	Confined space entry: check pumps, & seals, interior parts, valves / Clean all components	Review each pump's run hours	Inspect generator	N/A
Weekly	N/A	Clean debris / Check bubbler lines & floats	N/A	N/A	N/A	N/A
Semi-Weekly	N/A	N/A	N/A	N/A	Power shutdown .15 min	Inspect force main
Monthly	N/A	Drain bubbler line; check pressure switch settings / air compressor switches / Perform float switch test	Exercise all valves / Flush out sump pump, activate alarm	Inspect wiring & connections / Inspect telemetry & control systems / Perform motors resistance tests	Shut down grid power & test generator startup / Transfer switch once per month 40 min. test	N/A
Semi-Annually	N/A	Vactor wet wells	Lubricate check valves, pump bearing and fittings / Perform vibration test	N/A	N/A	N/A
Annually	N/A	N/A	Disassemble & inspect pumps; check impellor, gaskets; lubricate pump bearings, fittings	Inspect electrical components / Clean & inspect motor controls	Perform load bank testing / Perform routine maintenance	N/A
LIFT STATION #5						
Mondays	Check perimeter & life preservers	Clean interior / Check floats & wet well levels	Confined space entry: check pumps, & seals, interior parts, valves / Clean all components	Review each pump's run hours	Inspect generator	N/A
Weekly	N/A	Clean debris / Check bubbler lines & floats	N/A	N/A	N/A	N/A
*Semi-Weekly	N/A	Vactor wet wells	N/A	N/A	Power shutdown .15 min	Inspect force main
Monthly	N/A	Drain bubbler line; check pressure switch settings / air compressor switches / Perform float switch test	Exercise all valves / Flush out sump pump, activate alarm	Inspect wiring & connections / Inspect telemetry & control systems / Perform motors resistance tests	Shut down grid power & test generator startup / Transfer switch once per month 40 min. test Service air valves	N/A
Annually	N/A	N/A	Disassemble & inspect pumps; check impellor, gaskets; lubricate pump bearings, fittings	Inspect electrical components / Clean & inspect motor controls	Perform load bank testing / Perform routine maintenance	N/A
LIFT STATION #6						
Mondays	Check perimeter	Clean interior / Check air compressors / Check floats & wet well levels	Confined space entry: check pumps, & seals, interior parts, valves / Clean all components	Review each pump's run hours	Inspect generator	
Weekly	N/A	Clean debris / Check bubbler lines & floats	N/A	N/A	N/A	
*Semi-Weekly	N/A	N/A	N/A	N/A	Power shutdown .15 min	Inspect force main
Monthly	N/A	Drain bubbler line; check pressure switch settings / air compressor switches / Perform float switch test	Exercise all valves / Flush out sump pump, activate alarm	Inspect wiring & connections / Inspect telemetry & control systems / Perform motors resistance tests	Shut down grid power & test generator startup / Transfer switch once per month 40 min. test Service air valves	N/A
Semi-Annually	N/A	Vactor wet wells	Lubricate check valves, pump bearing and fittings / Perform vibration test	N/A	N/A	N/A
Annually	N/A	N/A	Disassemble & inspect pumps; check impellor, gaskets; lubricate pump bearings, fittings	Inspect electrical components / Clean & inspect motor controls	Perform load bank testing / Perform routine maintenance	

TABLE 7, Continued
LIFT STATION MAINTENANCE

LIFT STATION MAINTENANCE						
Schedule	Exterior			Electrical Cabinet	Sampling	Outfall
STATION FLOW METERING STATION						
SCHEDULE						
Mondays	Check perimeter	N/A	N/A	Download flow data	N/A	Drive and inspect sewer line
Monthly	N/A	N/A	N/A	Inspect wiring & connections / Inspect telemetry & control systems	24-hour Allogat sample or quarterly	N/A
HORSE CREEKLIFT STATION						
Schedule	Exterior	Wet Well	Dry Well	Electrical Cabinet	Stationary Standby Generator	Force Main
Mondays	Check perimeter	Clean interior & wet well levels	NO DRY WELL AT THIS STATION SUBMERSIBLE	Review each pump's run hours	Inspect generator	
Weekly	N/A	Clean debris / Check floats		N/A	N/A	N/A
*Semi-Weekly	N/A	N/A		N/A	Power shutdown .15 min	Inspect force main
Monthly	N/A	Perform float switch test, Flush air valves		Inspect wiring & connections / Inspect telemetry & control systems / Perform motors resistance tests	Shut down grid power & test generator startup / Transfer switch once per month 40 min. test Service air valves	N/A
Semi-Annually	N/A	Vactor out wet wells		N/A	N/A	N/A
Annually	N/A	N/A		Inspect electrical components / Clean & inspect motor controls	Perform routine maintenance	

* Note: Semi Weekly Based on all six lift stations on 15 min. Power shutdowns.

Regulatory Requirement

Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and system for ranking the conditions of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short and long-term plans, plus a schedule for developing the funds needed for the capital improvement plan.

Rehabilitation and Replacement Plan

The District's collection system is cleaned every three (3) years (Table 8). The current cycle is from October 1, 2017 through September 30, 2021. Average monthly footage cleaned is 7,600 feet per _____. 20–25% of the cleaned system is inspected by CCTV each year. High frequency areas are inspected per the schedule (Table 9). All manholes are inspected during the three-year cleaning cycle. A root control program has been initiated and may become part of the routine PM after evaluating the effectiveness of the program. The annual operating budget provides funds for repair and maintenance of the system.

The District has a three (3) year Capital Improvement Program (CIP) based on system needs. Funds are budgeted from sewer rates. Current projects included in the District's CIP are listed in Table 10.

Wastewater Cleaning Schedule Oct. 1, 2017-September 30,2021

Duration – 3 years

Total footage – 316,800 ft. or 60 mi

Average monthly footage – 7,600 ft.

TABLE 8

Basin #1 Vista Valley to Lift Station #2	30,135 ft. 4 mo.	Oct. 1, 2017 – Jan. 31, 2018
Basin #11 W Lilac, Camino Del Cielo, San Luis Rey Track	26,477 ft. 3.5 mo.	Feb. 1, 2018 – May 15, 2018
Basin #4 Tecolote	15,997 ft. 2 mo.	May 16, 2018 – July 15, 2018
Basin #6 Pala Mesa	13,110 ft. 2 mo.	July 16, 2018 – Sept. 15, 2018
Basin #5 Horse ranch Creek	15,401 ft. 2 mo.	Sept. 16, 2018 – Nov. 15, 2018
Basin #7 Rancho Monserate, Lake Rancho Viejo	17,411 ft. 2.25 mo.	Nov. 16, 2018 – Jan. 23, 2019
Basin #2 Lake tree, Gird to Sycamore Ranch North	24,855 ft. 3.25 mo.	Jan. 24, 2019 – April 30, 2019
Basin #3 Sycamore Ranch – Gird to 76	13,640 ft. 2 mo.	May 1, 2019 – June 30, 2019
Basin #8 Sycamore Ranch – Phase II & III	11,046 ft. 1.5 mo.	July 1, 2019 – Aug. 15, 2019
Basin #9 Brook hills, Ramona, Sweetgrass, Thoroughbred	34,858 ft. 4.5 mo.	Aug. 15, 2019 – Dec. 31, 2019
Basin #10 Hwy 76 Trunk	30,871 ft. 4 mo.	Jan.1, 2021 – Apr. 30, 2021
Basin #12 Lake Vista Estates to Lift Station #2	23,988 ft. 3 mo.	May. 1, 2021 – July 31, 2021
Basin #13 Lift Station #2 to Stallion	16,002 ft. 2 mo.	Aug. 1, 2021 – Sept. 30, 2021
Basin # 14 Horse creek Ranch	34,591' 2 mo.	Sept. 31,2021 – Dec. 31,2021

TABLE 9

Updated - HIGH FREQUENCY AREAS									
Location	Map Page	Roots	Grease	Low Flows	Dead-end Lines	Footage	Undersized Pipe / Problem	Problem Resolution	Time Frame
Via Casitas	M-4 M/H 09 M-4 M/H 10 M-4 M/H 11 Removed	X	X			775'		Hydro flush	3-Month Cycle
Tecolote Road	G-6 M/H 14 G-6 M/H 15	X				378'		Hydro flush	3-Month Cycle
Tecolote Road Private	G - 6 M/H 44 G- 6 M/H 43 G-6 M/H 06	x				303'		Hydro flush	3-Month Cycle
Daisy Lane	I-6 M/H 04 I-6 M/H 03	X				149'		Hydro flush	3-Month Cycle

TABLE 9, Continued

Location	Map Page	Roots	Grease/sludge	Low Flows	Dead-end Lines	Footage	Undersized Pipe / Problem	Problem Resolution	Time Frame
Lake Vista Terrace	N-3 M/H 35 03 M/H 01	X				341'		Hydro flush	3-Month Cycle
Little Gopher Canyon	P-3 M/H 13 P-3 M/H 14	X				126'		Hydro flush	3-Month Cycle
Vista Valley	Q-4 M/H 30 Q-4 MH 31	X				211'		Hydro flush	3-Month Cycle
Lake Garden	I-5 M/H 56 I-5 M/H 55 I-5 M/H 54 I-5 M/H 53 I-5 M/H 52 I-5 M/H 51	X			X	2,722'		Hydro flush	3-Month Cycle
Circle View Drive & Golf Club Drive	N-3 M/H 43 N-3 M/H 42 N-3 M/H 41 N-3 M/H 79 N-3 M/H 88		X			2,451'		Hydro flush	3-Month Cycle

TABLE 9, Continued

Location	Map Page	Roots	Grease	Low Flows	Dead-end Lines	Footage	Undersized Pipe / Problem	Problem Resolution	Time Frame
San Luis Rey Track & Training - <i>sludge</i>	N-4 M/H 07 N-4 M/H 06 N-4 M/H 05 N-4 M/H 04 N-4 M/H 03 N-4 M/H 02 N-4 M/H 11 N-4 M/H 01		sludge			2092''		Hydro flush	6-Month Cycle
Del Cielo Oeste West	M-3 M/H 03 M-3 M/H 04 M-3 M/H 05 M-3 M/H 06		X			791'		Hydro flush	6-Month Cycle
Del Cielo Oeste East	M-4 M/H 02 M-4 M/H 03 M-4 M/H 01 M-3 M/H 55		X			734'			6-Month Cycle

TABLE 9, Continued

Location	Map Page	Roots	Grease	Low Flows	Dead-end Lines	Footage	Undersized Pipe / Problem	Problem Resolution	Time Frame
Vista Valle Camino	F-5 02 F-5 01	X			X	232'			12 Month Cycle
Little Gopher Canyon	P-3 M/H 33 P-3 M/H 34	X				253'			12 Month Cycle
Pankey Ranch / Orange Grove, South Side	J-6 M/H 51 J-6 M/H 50 J-6 M/H 49 J-6 M/H 48 J-6 M/H 47 J-6 M/H 46 J-6 M/H 45 J-6 M/H 44 J-6 M/H 43 J-6 M/H 42 J-6 M/H 41 J-6 M/H 40 J-6 M/H 39 J-6 M/H 38 J-6 M/H 37 J-6 M/H 35 J-6 M/H 34	X				3,365''			12 Month Cycle

TABLE 9, Continued

Location	Map Page	Roots	Grease	Low Flows	Dead-end Lines	Footage	Undersized Pipe / Problem	Problem Resolution	Time Frame
Horse Ranch Creek	I-6 M/H 58 I-6 M/H 50 I-6 M/H 51 I-6 M/H 52 I-6 M/H 53 I-6 M/H 58 I-6 M/H 59 I-6 M/H 60 I-6 M/H 61 I-6 M/H 62 I-6 M/H 63 I-6 M/H 64	X				4,387'		Hydroflush	12 Month Cycle

TABLE 9, Continued

Location	Map Page	Roots	Grease	Low Flows	Dead-end Lines	Footage	Undersized Pipe / Problem	Problem Resolution	Time Frame
Laketree	I-5 M/H 04 I-5 M/H 11 I-5 M/H 21 I-5 M/H 86 I-5 M/H 83	X				743'		Hydro flush	18-Month Cycle
Westmont Lane	I-5 M/H 85 I-4 M/H 02	X				223'		Hydro flush	18-Month Cycle
Old River Road Bonsall Center Drive - Median	N-3 M/H 05 N-3 M/H 81 N-3 M/H 84 N-3 M/H 80 N-3 M/H 85 N-3 M/H 01	X	X			1,839'		Hydro flush	18-Month Cycle
River Village	M-3 M/H 40 M-3 M/H 41 M-3 M/H 42 M-3 M/H 43 M-3 M/H 44 M-3 M/H 45 M-3 M/H 47 M-3 M/H 48 M-3 M/H 49		X	X		1,342'		Hydro flush / CCTV	18-Month Cycle
Thoroughbred Lane	M-3 M/H 27 M-3 M/H 28 M-3 M/H 29		X	X		583'		Hydro flush / CCTV	18-Month Cycle

RMWD Wastewater Capital Projects: FY 2019-2024

TABLE 10

FIVE-YEAR WASTEWATER CIP PLAN

Capital Project Budgets (Wastewater):		Proposed Budgets				
		Year 1 Budget FY 19/20	Year 2 Budget FY 20/21	Year 3 Budget FY 21/22	Year 4 Budget FY 22/23	Year 5 Budget FY 23/24
GL Project #	Project Description					
530001	School House Lift Station (#1) Replacement, San Luis Rey Interceptor from Mission to Thoroughbred LSEQ, and San Luis Rey Interceptor/Main From School House LS to Old River LS & Thoroughbred LS/EQ		\$3,000,000	\$6,000,000		
N/A	Department Level Capital Expenses	195,000	310,000			
530017	N River Road Land Outfall Rehabilitation (Operations Project)		2,500,000			
N/A	City of Oceanside WW Plant	200,000	200,000	200,000	200,000	200,000
530018	Fallbrook Oaks Forcemain and Manhole Replacement	25,000	300,000			
530019	CIPP 500' of line 8" VCP line near Pala Mesa/Palomar					
530006	Sewer System Rehabilitation Program	100,000	100,000	100,000	100,000	100,000
530020	Rancho Viejo LS Wet Well Expansion					150,000
530021	Almendra Court, I-15 Crossing Sewer Rehabilitation		40,000			
530022	Fallbrook Oaks LS Rehabilitation					400,000
530023	Replace Rancho Monserate LS Emergency Generator				125,000	
530015	Sewer System Condition Assessment Program	100,000	300,000			
530024	Old River Road LS Equalization Basin		1,000,000	2,500,000		
530025	Old River Road LS to Stallion Outfall Repair		500,000	500,000		
Total		\$620,000	\$8,250,000	\$9,300,000	\$425,000	\$850,000

Regulatory Requirement

Provide training on a regular basis for staff in sanitary sewer system operations and maintenance and require contractors to be appropriately trained utilizing the District's training program.

Training Program

The District provides the following training for all staff working in the Wastewater Division. All staff participate in weekly tailgate meetings.

Safety

- Confined Space Entry
- Confined Space Rescue
- Traffic Control
- Trenching & Shoring
- Bloodborne Pathogens
- Heat Stress
- Forklift
- First Aid/CPR Training

Collection System

- Lift Station O&M
- Main Line Cleaning / CCTV
- High PSI Equipment / Vac Con Combination Truck
- USA Locations
- Customer Service

Electrical:

- Arc Flash
- Electrical Maintenance
- SCADA

Regulatory

- SSOs / Emergency Response
- APCD – Air Pollution Control District San Diego
- (LPG) Pressure Vessels Unit – State of California
- NIMS / SEMS

Certification

- California Water Environment Association (CWEA)

Training records are kept by the District's Safety Section and Human Resources Department.

Regulatory Requirement

Provide equipment and replacement part inventories, including identification of critical replacement parts.

Contingency Equipment and Replacement Inventories

The District maintains a supply of equipment and replacement parts for the wastewater system. The equipment and spare parts are stored at the District's Wastewater Storage Yard and is secured by an alarm system. The inventory is listed in Table 11.

Through the use of spare parts, backup pumps and portable generators, the District can readily deal with equipment or part failures at any of the pump stations and could handle a localized power outage if any stationary generators failed. The District can readily repair most pipeline breaks that may occur up to 12" in diameter, which covers 95% of the sewer system. In addition to spare parts on hand, the District has agreements with local vendors where parts and materials can be obtained 24 hours per day, 7 days per week.

The District also has a working relationship with local water and wastewater agencies (including but not limited to the Fallbrook Public Utilities District, Valley Center Municipal Water District, Vista Irrigation District, and the City of Oceanside) where parts and equipment can be borrowed.

Parts are replaced as they are used, and the spare parts inventory is reviewed periodically by the Wastewater Superintendent.

Critical Parts Inventory:

TABLE 11

THOUROGHBRED LIFT STATION - Updated						
Date	Item	Description	Vendor	Part Number	On Hand	Required
2020	Water Gauges	(100 inch of water gauge)	McMasters	4026K1	2	2
2020	Filter	* Parker filter elements	Applied Tech	03531100B	6	0
2020	Park bowls	* Filter Bonnet bowls	Applied Tech	03530500B	2	2
2020	Filter bonnet o rings	* Bowl - o rings	Applied Tech	027097202B	0	4
2020	Hour meters	* Cramer	Grainger	6X137	1	1
2020	Pressure switches	*Allen Bradley	Smith Loveless	4L407B	4	4
2020	Floats	*Normal open/ Normal closed	Barrett Pump	1022454	3	2
2020	3/8" Tubing	*3/8" tubing for bubbler line	Ace Hardware	048643-025639	200'	100'
2020	Pump seal kit	Repair Kit	Chesterton	669337	0	2
2020	Volute	6"	Smith Loveless	60D35	0	0
2020	Motor	5 Hp	Smith Loveless	F12271XX2644	0	0
2020	Impeller	10 5/8"	Smith Loveless	60D34-105	1	1
2020	Sump Pump	* 2" effluent pump Dayton	Grainger	3BB92	0	2
2020	Transducer	4 to 20 MA	Esterline	J000013992	0	0
2020	Compressor	1/8" Air Compressor	Grainger	5Z348	3	4
2020	Check Valve	Complete Assembly	Smith Loveless	Out on field	1	1
2020	Check Valve	Repair parts	Smith Loveless	60H15	0	0
2020	Suction elbow	Pump stand	Smith Loveless	60D35	0	0

Definitions: * Can be used with other pump stations

TABLE 11, Continued
OLD RIVER ROAD LIFT STATION

Date	Description	Description	Vendor	Part Number	On-Hand	Required
2020	Hour meters	* Cramer	Grainger	6X137	1	1
2020	Floats	*Normal open/ Normal closed	Barrett Pump	1022454	1	1
2020	3/8" Tubing	* 3/8" tubing for bubblier line	Ace Hardware	048643-025639	200'	100'
2020	Anti seize lubricant	Lubricant Chesterton 785 250-gram brush	Chesterton	82016	4	1
2020	Sump Pump	* 2" effluent pump Dayton	Grainger	3BB92	1	1
2020	Seal kit / pumps	Flygt pump seal kit per cavity tray	Flygt	829698	1 pack	1 pack
2020	Seal kit / pumps	Flygt pump seal kit per cavity tray	Flygt		1 pack	1 pack
2020	Grease tubes	High temp grease	Chevron	5214-pl	4	1

Definitions: * Can be used with other pump stations

TABLE 11, Continued

LIFT STATION #3

Date	Item	Description	Vendor	Part Number	On Hand	Required
2020	Water Gauges	*(100 inch of water gauge)	McMasters	4026K1	4	6
2020	Filter	* Parker filter elements	Applied Tech	03531100B	2	4
2020	Park bowls	* Filter Bonnet bowls	Applied Tech	03530500B	1	1
2020	Filter bonnet o rings	* Bowl - o rings	Applied Tech	027097202B	0	4
2020	Pressure switches	*Allen Bradley	Smith Loveless	4L407B	4	4
2020	Floats	*Normal open/ Normal closed	Barrett Pump	1022454	2	5
2020	3/8" Tubing	*3/8" vinyl tubing for bubbler line	Ace Hardware	048643-025639	200'	100'
2020	Pump seal kit	Repair Kit	Chesterton	669337	1	1
2020	Volute	6"	Smith Loveless	60D35	0	0
2020	Motor	5 Hp 4b2A	Smith Loveless	4D215TTDR8381ANL	0	0
2020	Impeller	8" 1/8	Smith Loveless	60D34-105	1	1
2020	Motor starter	Cutler Hammer	Walters	size 1	1	1
2020	Sump Pump	* 2" EFFLUENT PUMP	Grainger	3BB92	1	1
2020	Transducer	* 4 to 20 MA	Esterline	J000013992	1	1
2020	Compressor	*1/8" Air Compressor	Grainger	5Z348	2	2
2020	Check Valve	Complete Assembly	Smith Loveless	200W0G	0	0
2020	Check Valve	Repair parts	Smith Loveless	60H15	1	1
2020	Suction elbow	6" adapter to pump frame	Smith Loveless	60D35	0	0
2020	6" knife valve	Suction or discharge	Western water works	87791	1	1
2020	6" plug valve	Suction or discharge	Western water works	0518SX	1	1

Definitions: * Can be used with other pump stations

TABLE 11, Continued

LIFT STATION #4

Date	Item	Description	Vendor	Part Number	On Hand	Required
2020	Floats	*Normal open/ Normal closed	Barrett Pump	1022454	1	1
2020	Seal kit	Seal kit for pump cavity	Flygt	803222	1	1
2020	Grease tubes	High temp grease	Chevron	5214-PL	4	1

TABLE 11, Continued

LIFT STATION #5						
Date	Item	Description	Vendor	Part Number	On Hand	Required
2020	Suction ck valve	Ck valve rubber to hold prime	Calif. Environ. Controls	46411-064	1	1
2020	Fill cover	Secure latch to pump water fill	California Environ Controls	42111-344	1	3
2020	Set gauges	Field gauge kit 0"- 35"	Calif. Environ. Controls	GR-418213-090	1	1
2020	Floats	*Normal open/ Normal closed	Barrett Pump	1022454	3	1
2020	wear plate	24150 material code	Calif. Environ. Controls	46451-723	1	1
2020	Sensor	Flow line sensor	Calif. Environ. Controls	Model Lu20	2	1
2020	Air Valve	Suction Priming valve	Calif. Environ. Controls	GR GRP33-07B	1	1
2020	Impeller	12 3/8" diameter 11 010	Calif. Environ. Controls	10958	0	0
2020	Pump	6" Pump model T6A3B rotating unit	Calif. Environ. Controls	GR - 10956F	0	0
2020	Electric Motor	40 HP Gorman Rupp	Calif. Environ. Controls	28225-251/28225-253	0	0
2020	ck valve	Right hand side	Calif. Environ. Controls	GR-26642-068	0	0
2020	ck valve	Left hand side	Calif. Environ. Controls	GR-26642-088	0	0
2020	Spool piece	6" spool C.I.	Calif. Environ. Controls	GR-46354-556	1	1
2020	Sump Pump	* 2" effluent pump	Grainger	3BB92	1	1
2020	Transducer	4 to 20 MA	Esterline	J0000139965	1	1

Definitions: * Can be used with other pump stations

TABLE 11, Continued

LIFT STATION #6						
Date	Item	Description	Vendor	Part Number	On Hand	Required
2020	Water Gauges	(100 inch of water gauge)	McMasters	4026K1	4	6
2020	Hour meters	* Cramer	Grainger	6X137	1	1
2020	Run relay caps	Motor control set	Walters wholesale	12141A006	2	1
2020	Capacitors	Start and run caps	Grainger	ZGU15	2	1
2020	Pressure switches	*Allen Bradley	Smith Loveless	4L407B	4	2
2020	Floats	*Normal open/ Normal closed	Barrett Pump	1022454	3	1
2020	3/8" Tubing	*3/8" tubing for bubbler line	Ace Hardware	048643-025639	100'	100'
2020	Motor	5 Hp submersible	Peninsula Pumps	FL112L3XX2728	1	1
2020	Motor starter	Cutler Hammer	Walters wholesale	SIZE 1	1	1
2020	Transducer	4 to 20 MA	Esterline	J000013992	1	1
2020	Compressor	1/8" Air Compressor	Grainger	5Z348	1	2
2020	2" air valve Apco	Apco sewage air release valve	HD Waterworks	Series -400	1	1
2020	6" Check Valve	Complete Assembly	HD Waterworks	6 x214k	1	1

Definitions: * Can be used with other pump stations

TABLE 11, Continued

Stallion Flow Meter						
Date	Item	Description	Vendor	Part Number	On Hand	Required
2020	Sample bottles	Alloquat sampling & monitoring	Issco	1 litter	24	24
2020	3/8" vinyl hose	Calibration	Issco	686700047	30'	10'
2020	flow meter	flow metering unit Flodar	Hach.marshmbirney	4640-0160-0902	1	1

Definitions: * Can be used with other pump stations

TABLE 11, Continued
HORSECREEK LIFT STATION

Date	Item	Description	Vendor	Part Number	On Hand	Required
2020	Seal	Flygt seal	Flygt	631-37-30	3	1
2020	Wear plate	Wear plate	Flygt	704-27-003	3	1
2020	Oil ring	Pump oil ring	Flygt	82-96-98	1	1
2020	Surge tank	1,000Gallon bladder	Flygt	50599-2	1	1
2020	Impeller	Impeller	Flygt	762-69-43	1	1
2020						
2020						
2020						

SECTION V
DESIGN AND
PERFORMANCE PROVISIONS

SECTION V – DESIGN AND PERFORMANCE PROVISIONS

Regulatory Requirement

Design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems.

Design Standards

The District's "Domestic Water and Sanitary Sewer Construction Manual", August 2006 (Standards Manual). The Standards Manual is not included in this document but is readily available at the District offices. Section 1 of the Standards Manual contains general conditions for all projects and Section 1, Part 1.23 and Section 2, Part 2.03 contain requirements for sanitary sewers.

Regulatory Requirement

Procedures and standards for inspecting and testing the installation of new sewers, pumps and other appurtenances, and for rehabilitation and repair projects.

Inspecting and Testing

The Engineering and Capital Improvement Program Manager or designee will inspect all new construction activity. When a developer or contractor indicates that the construction is complete, an air test, a leakage test and an infiltration test where applicable, is performed with the Engineering and Capital Improvement Program Manager or designee onsite during the tests to observe the results. Upon completion of construction, the developer or contractor shall hire a video company approved by the District to videotape the sewer mains and then submit the video to the District for review for potential construction defects. Prior to acceptance of any sewer line, all lines shall be flushed clear using a Wayne Ball and mandrel tested.

SECTION VI

OVERFLOW EMERGENCY RESPONSE PLAN

SECTION VI – OVERFLOW EMERGENCY RESPONSE PLAN

Regulatory Requirement

Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner.

Notification Procedures

Notification of any potential SSO is received by the District Customer Service staff during regular business hours (8:00 AM – 5:00 PM) Monday – Friday. The Wastewater Superintendent is notified and responds. After regular business hours, the District's contracted answering service receives calls through the District business phone number. The Wastewater Standby person responds. Wastewater staff can also be notified by SCADA alarms and through electronic level sensors or SmartCovers.

SmartCover is an in-manhole system that monitors sewer flow data and levels, performs analytics and delivers timely notifications to stop sewer spills.

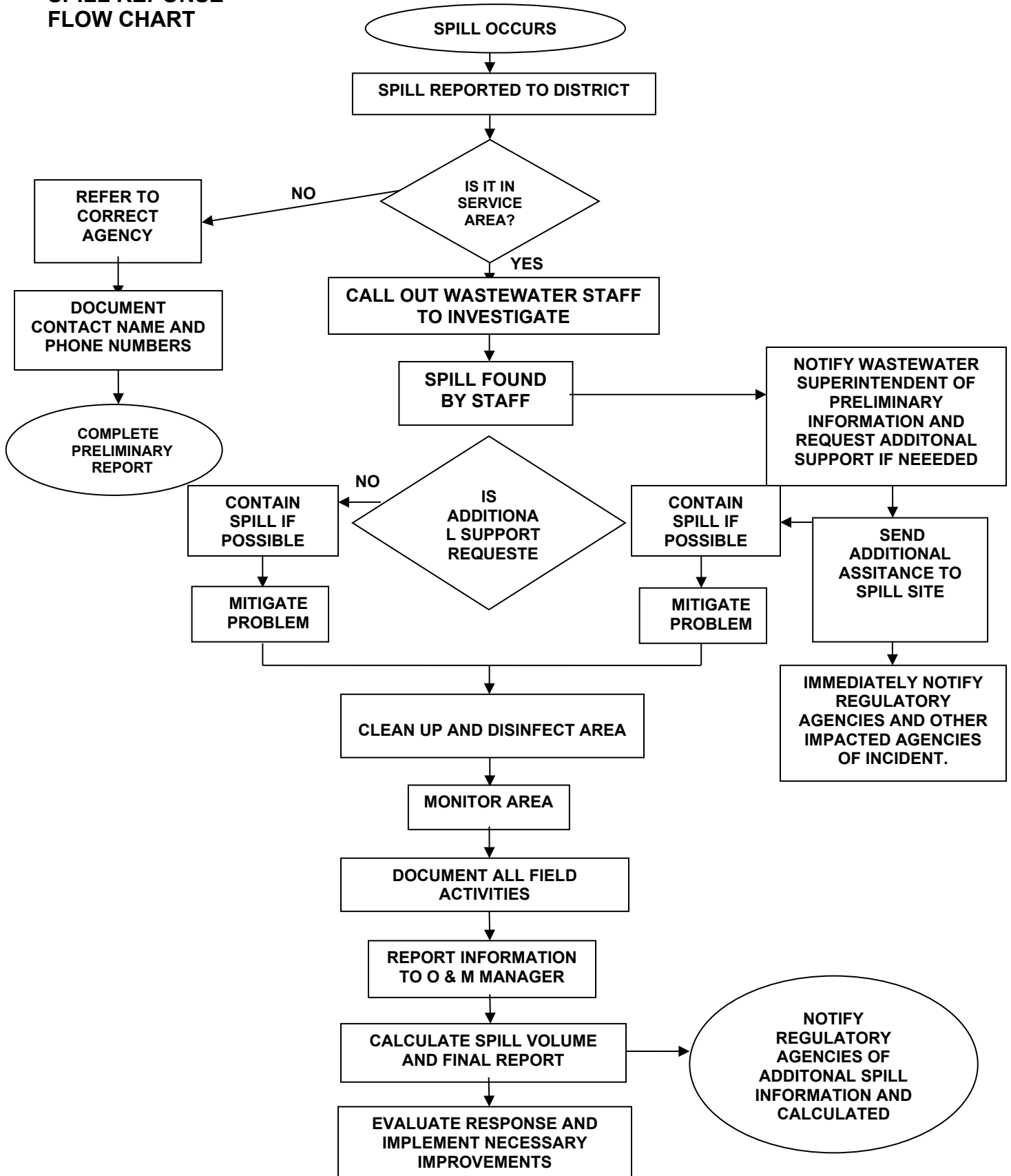
The District on call staff is equipped with a cell phone that receive text messages or emails from Smartcover alerting operator of an advisory alarm or real time alerts requiring immediate attention. The District currently owns 28 Smartcover devices at critical locations in the service area. These SmartCovers devices can be relocated as needed. Service locations where these units are installed are at sewer line interceptors, gravity sewer lines and emergency overflow storage tanks. These units are very effective in alerting District staff to surcharging sewer lines and manhole intrusion .

The Wastewater Superintendent is responsible for notifying the required regulatory agencies, State Water Resources Control Board (SWRWB), San Diego Regional Water Quality Control Board (SDRWQCB), California Emergency Management Agency (Cal EMA) and County of San Diego Department of Environmental Health (DEH). The Wastewater Superintendent will also contact the Operations Manager, who in turn contacts the General Manager. The General Manager is responsible for notifying the Board of Directors.

The Operations Manager is the LRO, who certifies SSO reports that have been submitted to the CIWQS database.

A typical District spill response is described in the flow chart on the next page.

**SPILL REPOSE
FLOW CHART**



Regulatory Requirement

A program to ensure an appropriate response to all overflows.

Response Procedures

All crews are trained for appropriate response to any potential SSO. They are trained in assessing and documenting as well as estimating the volume of an overflow. The District's Combination truck is on standby 24/7.

An important determination that must be made in the initial stages of a sewage spill is to estimate the spill volume. The volume of sewage spilled is estimated by using known methods such as the San Diego Manhole Flow Rate Chart and documenting the flow of the sewage with photographs.

Regulatory agencies must be notified as soon as reasonably possible. DEH shall be notified of a sewage spill of any size. SDRWQCB shall be notified as soon as possible, but no later than 24 hours after a spill occurs. Additionally, for spills greater than 1,000 gallons or entering a storm drain, Cal EMA must be notified within 2 hours.

Lift Stations

The District's lift stations employ a SCADA system, which notifies District personnel in the event of a loss of power, pump fail and high or low wet well conditions. The alarms are monitored 24 hours per day by Wastewater staff. If an alarm is received, staff visits the lift station site, assesses the problem and takes whatever action is necessary to correct the situation. At lift stations Thoroughbred, Old River Road, #3, #, 4, #5, 6 and Horse creek there is an emergency plan mounted in a capsule with an estimate number & forms through rain for Rent Xylem pump rentals to bypass the sewer system and keep sewage flowing. Response time to an after-hours emergency call-out is generally one (1) hour.

Stallion Flow Meter

If a loss of flow occurs at Stallion flow meter, Lift Station #2 is checked by timing pumps to indicate a possible pump failure. If pumps are working, this would indicate a failure of the force main which would require investigation to determine the area of the break. Staff will check flow by lifting manhole at North River Road & Holly Lane and check flow.

Force Mains

In the event of a force main failure, the District will implement the following emergency response procedures:

- Build temporary earthwork berms or containment areas where necessary to temporarily retain any overflow that may occur so that it can be recovered and pumped back into the collection system.
- Immediately install and/or activate emergency bypass pumping/pipeline systems in order to halt sewage flow through the force main and enable repairs to be performed if necessary.
- In the event that an emergency bypass system/pipeline is not available, contact other public agencies or contract vacuum trucks or tanks to transport sewage to the nearest manhole until repairs are completed.

Line Break

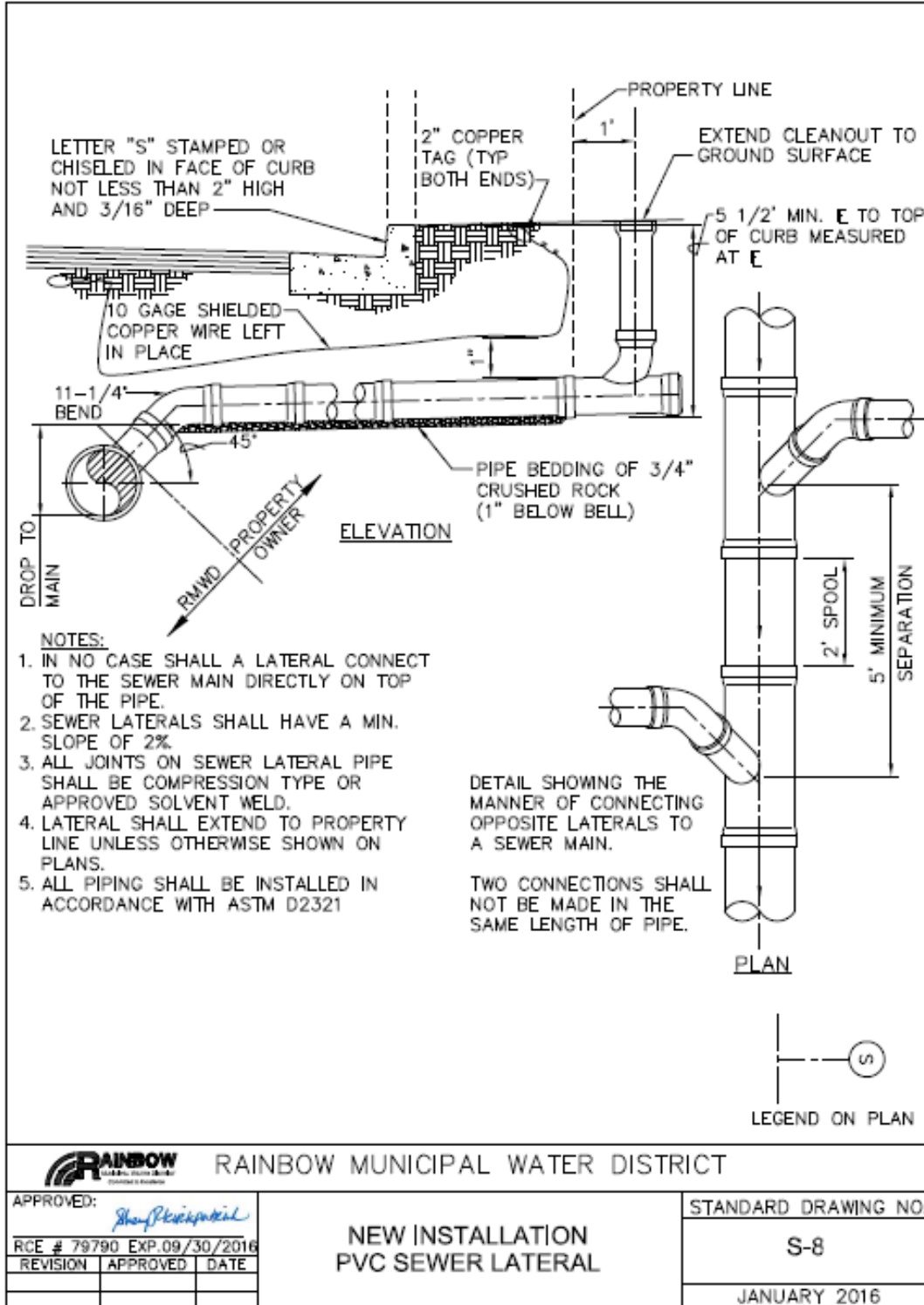
In the event of a sewer line break, Wastewater staff will meet at the site in order to assess the damage and take whatever precautions are necessary to contain the spill. If outside resources are required, the District maintains an on-call contractor list. Containing the spill and repairing the breakage may involve the installation of portable pumps and/or highlines or may result in having to truck the sewage to a disposal site at the City of Oceanside's treatment plant. If a spill occurred, the District will submit the required reports to the proper agencies.

Private Sewer Back-Up

The District is not responsible for private sewer laterals; however, the District has made a commitment to assist homeowners with containing private spills to protect health and environment. Figure 2 details owner or customer responsibility for maintenance of the sewer lateral. Reference the wastewater contractor after Hours Emergency Contact phone list in assisting homeowners in deciding on who they want to employ for emergency repairs.

FIGURE 1

RESPONSIBILITY FOR MAINTENANCE - PRIVATE SEWER LATERAL



Inspection

Inspection of the collection system is performed to monitor conditions, detect or correct problems which may cause sanitary hazards, identify damage to or deterioration of facilities or equipment and detect encroachment of other utilities. Most types of inspections are routine (such as checking for vandalism), while others are performed under special circumstances or on a scheduled basis.

All staff is trained to be alert to potential or actual problems while traveling throughout the District. Any activity that may threaten or endanger a District facility (above or below ground) will be brought to the attention of the Wastewater Superintendent immediately. Easements are checked for signs of erosion above and around sewer lines. Access to sewer manholes is maintained at all times and excessive odors that could indicate sewage problems are investigated. Vandalism such as forced entry, property damage, graffiti or dumping of trash, will be reported immediately.

Regulatory Requirement –Monitoring Reporting Plan

Procedures are in place to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, Regional Water Boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach waters of the State in accordance with the Monitoring Reporting Plan (MRP). Please see Table 12. All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDR's or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification.

Notification of Appropriate Regulatory Agency

The first responder will determine the magnitude of the spill and take further action if necessary. The Wastewater Superintendent will be responsible for initiating the proper cleanup procedures and filing of the necessary reports with the SDRWQCB.

In compliance with California Health and Safety Code Section 5411.5, immediately reportable spills pertain to all spills to waters of the state (ocean, bay, river, dry or flowing creek or stream, etc.) and “unmitigated spills to areas with potential public contact (near homes, schools, parks, etc.)”. These spills must be immediately reported to DEH, 24/7, via electronic report and a faxed copy of the SSO report.

Notify the SDRWQCB and Cal EMA as soon as possible within 2 hours from the time of knowledge of discharge. For after-hours, weekends and holidays, the following information must be left on the answering machine:

- Name and telephone number of persons reporting incident
- Responsible Sanitary Sewer System Agency
- Estimated total of sewer overflow volume
- Location
- Potential receiving waters
- Whether or not sewer overflow is still occurring at time of report
- Confirmation that DEH was or will be notified

Summary of MRP Order # 2013-0058 Requirements:

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

- Reach surface water and/or reach a drainage channel tributary to a surface water; or
- Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or ground water infiltration basin (e.g., infiltration percolation pond).

“Category 2” spills Discharges of untreated or partially treated wastewater of **1,000 gallons or greater** resulting from an enrollee’s sanitary sewer system failure or flow condition that do not reach surface water, a drainage channel, or MS4 unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.

“Category 3” spills all other discharges of untreated or partially treated wastewater resulting from an enrollee’s sanitary sewer system failure or flow condition.

Private Lateral Sewage Discharge (PLSD) Discharges of untreated or partially treated wastewater resulting from blockages or other problems **within a privately-owned sewer lateral connected to the enrollee’s sanitary sewer system or from other private sewer assets.** PLSD that the enrollee becomes aware of may be voluntarily reported to the California Integrated Water Quality System (CIWQS) Online SSO Database.

Element	Requirement	Method
Notification – See section B of MRP	Within 2 hours of becoming aware of any category 1 SSO greater than or equal to 1,000 gallons discharged to surface water or spilled in allocation where it probably will be discharged to surface water, notify the California Office of Emergency Services (CAL OES) and obtain a notification control number.	Call Cal OES AT: 1-800-852-7550

Regulatory Requirement

Procedures to ensure that appropriate staff and contract personnel are aware of and follow the Emergency Response Plan and are appropriately trained.

Staff and Contractor Training

District crews complete SSO response training periodically, including components and goals of the Wastewater Emergency Response Plan (WERP). Properly trained personnel are more capable of responding safely and effectively when an SSO occurs. The Wastewater Superintendent is responsible for testing the plan, SOPs, equipment and facilities, etc., by scheduling regular exercises to promote preparedness. Staff, other public agencies and standby contractors are trained. Contractors are required to train their employees on the District’s wastewater collection system policies and procedures prior to performing work on the wastewater system. The training is recorded and filed.

The purpose of SSO training is for participants to become familiar with the conditions of an emergency, to visualize and practice response roles and to address procedural conflicts or difficulties. Benefits of training include:

- Reveals planning weaknesses
- Identifies source gaps
- Clarifies real roles and capabilities

- Improves coordination, performance and confidence; and
- Builds teamwork

Ways to test the plan will include these three (3) simulations/techniques:

- **Orientation Exercise:** A briefing through lecture and visuals. This is an introductory session to instruct employees on the plan and required documentation.
- **Tabletop Exercise:** A sewage spill event is simulated without the use of equipment or deployment of resources. The facilitator verbally explains the steps taken. Exercise effectiveness is determined by the feedback from participants and impact on revisions to plans, procedures and systems.
- **Functional Full-Scale Exercise:** A sewage spill event is simulated with the use of equipment or deployment of resources. Controllers monitor and record actions. This type of exercise not only allows for the re-evaluation of plan objectives, but also tests equipment, responses time, training, resources and staff capabilities.

All exercises include follow up meetings to critique strengths and weaknesses and to recommend improvements.

Regulatory Requirement

Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities.

Response Activities

The primary objective of the responders to a sewage spill is to protect public health. Therefore, the initial actions in any sewage spill response effort are to isolate the public from coming in contact with the sewage; this includes vehicular traffic, as well as pedestrians. The crew must establish perimeters and control zones with cones, barricades, vehicles or terrain. The District maintains appropriate traffic control devices, including barricades, lighting, sign boards and flagging. This equipment is readily available for SSO emergencies. In addition, the District has full authority and will take responsibility for implementing necessary traffic control in the event of an SSO.

Regulatory Requirement

A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters of the United States and to minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

Spill Mitigation and Containment Procedure

The following actions are taken to respond to a spill originating within the District's service area. All spills require notification of the appropriate manager and superintendent. The guidelines and procedures are provided to direct actions of staff to ensure the health and safety of personnel, the public and the environment. Key response responsibilities include the following:

- Identify and assess the area and the extent of the spill.
- Quantify available resources.
- Determine the optimal use of resources.
- Initiate immediate spill containment, control and cleanup measures.

Recommend immediate and long-term abatement activities:

- Maintain liaison with responding agencies.
- Document remedial actions.
- Authorize and oversee contractor activities.

Establish Response Priorities**Containment**

After the public has been isolated from the sewage spill, the crew must then proceed with containment of the spill. The crew must contain the discharged sewage to the maximum extent possible and every effort must be made to prevent the discharge of sewage into surface waters. The following procedures shall be implemented to contain the overflow:

- Sandbag or block off access to storm drains with spill containment mats.
- Divert the spill by building a small berm to change direction of flow of sewage back to the sanitary sewer and/or use combination trucks to pick up the spill.

- Divert the spill by pumping around overflow and return to the sewer.
- Retain the spill by letting it collect in a natural low area and recover the sewage with combination trucks as soon as possible.
- Dike or dam the spill by building a dirt berm to contain and collect the spill.

Control

Once the spill is contained, the responding crew can focus their attention on controlling the spill. Controlling the spill includes relieving the source of blockage in the line, repairing the broken pipe or eliminating whatever the source of the spill may be. Procedures that can be used to remedy the cause of the sewage spill include:

- Relieving the spill by mechanically or hydraulically cleaning the sewer.
- Diverting flow to another pipe using bypass transfer pumps, hoses, and combination and tanker trucks.
- Stop pumping at the lift station if the spill is in a force main.
- Startup backup/standby generator in case of a power failure.

A District crew should be able to contain most spills before proceeding with control activities. If two crews respond to the sewage spill, then efforts to contain the spill can be conducted concurrently with efforts to control the spill. However, if the spill is too large to contain given the available resources, efforts should first be focused on controlling the spill.

Cleanup

Crews shall make full effort to collect/recover as much sewage as possible and return collected sewage to the sewer system. The sewage should be directed back into the sewer manhole by gravity flow or pressurized water. When this is not possible, the combination trucks can be used to return contained sewage to the sanitary sewer.

Any sewage that is not recovered and returned to the sewer (i.e., soaks into ground), must be disinfected when required, in order to protect human health and minimize impact on the environment. DEH should be contacted to assist in coordinating the cleanup effort.

If sewage from an SSO flows into a storm drain, it is of the utmost importance to contain and recover as much as possible to prevent the sewage from entering receiving waters. When practical, sewage that enters a storm drain shall be diked and recovered at the initial entry point. If this is not practical, sewage shall be diked, contained and recovered by vacuum and/or pumps and hoses as necessary. After a sewage spill, pavement and

hardscapes shall be flushed with water. Flush water should be contained, vacuumed and returned to the sewer whenever possible. Do not remove barricades until the entire cleanup operation is complete.

Spill Monitoring – Water Quality

For a sewage spill that reaches surface water and/or closes the beaches, DEH and/or the District will provide sampling and testing for bacteriological and/or chemical analysis. Testing and sampling will continue until results for two consecutive days indicate that the waters are safe for human contact.

SEWAGE SPILL SAMPLE COLLECTION GUIDELINES

Use the following method if a sewage spill is discharging into any body of water, including seasonal storm drainages. A diagram of typical sample location is provided below.

1. Collect one sample in a plastic liter container upstream from the spill mixing zone, which is the point where the spill and body of water combine. Label the sample with the following information:
 - Name: #1 UPSTREAM
 - Name of stream, lake or drainage
 - Location and Approximate Distance from mixing zone
 - Date and time
 - Sample Collectors name

Make sure this sample is taken far enough upstream that the spill does not impact the sample. In addition, collect one more sample in a sterilized container.

2. Collect one sample in a plastic liter container from the mixing zone. Label the sample with the following information:
 - Name: #2 MIXING ZONE
 - Name of stream, lake or drainage
 - Location
 - Date and time
 - Sample Collectors name

This should be collected at the exact spot or location where the spill connects with the stream, lake or drainage. In addition, collect one more sample in a sterilized container.

3. Collect one sample in a plastic liter container downstream from the mixing zone, between 1/8 and a mile if possible. Label the sample with the following information:
 - Name: #3 DOWNSTREAM
 - Name of stream, lake or drainage
 - Location and Approximate Distance from mixing zone
 - Date and time
 - Sample Collectors name

In addition, collect one more sample in a sterilized container.

During business hours these samples should be immediately delivered or arranged through Edward S. Babcock labs in Riverside California. If samples are collected after hours pack the samples in ice for the next delivery to the lab. The following tests are required for these samples: Ph, ammonia, chlorine residual and fecal coliform. Note: A chain of custody form is mandatory for all outgoing samples.

Posting Plan

Whenever there is a risk of contamination from a sewage spill to surface waters or an area of public contact, the District will initiate posting of the contaminated area with signs warning of the contamination. DEH will be contacted in order to determine the duration of the posting and whether or not any closure or sampling of the area will be necessary. Upon notification by DEH that the threat of contamination is over, the District will remove any posted signs.

Immediate and Long-Term Abatement Activities

Abatement activities are any steps taken to prevent the recurrence of the sewage spill. The nature of the spill determines what immediate and long-term abatement activities will occur. Short-term steps may be as simple as jetting the line to clean out grease build-up, remove grit or eliminate roots, or re-routing the flow of sewage over the course of a few days in order to repair a line.

Long-term abatement activities imply some type of preventive or corrective maintenance on the line. Preventive maintenance includes routine cleaning of grease build-up from the lines or utilizing a root cutter to routinely clear out tree roots, as well as inspection of lines with a video sewer camera. The District conducts an ongoing maintenance program involving the cleaning and inspection of the collection system and more frequent maintenance high frequency areas.

Regulatory Agency Notification Requirements:

*Updated

TABLE 12

Spill Type	Spill Details	Initial Notification	External Notification	Required Agency Notifications
ALL	Sewage spills of any size within the District	<p>Initial Notification: Wastewater Superintendent, Ramon Zuniga (Office) 760-728-1178, ext. 151; (Cell) 760-525-6934</p> <p>The above personnel will contact the following: Operations Manager Robert Gutierrez (Office) 760 728-1178, ext. 160 (Cell) 760-468-0217</p>	Call person or agency responsible for area affected by sewage spill	<p>District staff or Designee, will notify the following agencies:</p> <p>Cal EMA - Obtain control number, complete field spill report: 800-852-7550 / Fax 916- 845-8910</p> <p><u>SWRCB Executive Order requires report of discharge within 2 hours</u></p> <p>On September 9, 2013, Order # (2006-003 DWQ was amended) The new <i>MRP Order # 2013-0058</i> that became effective September 09, 2013 supersedes Order # 2006-003. The Statewide General Waste Discharge Requirements for Sanitary Sewer Systems that was signed and immediately put into effect by the State Water Resources Control Board. The order requires that: "For any discharges of sewage that results in a discharge into a drainage channel or a surface water, the Discharger shall, as soon as possible, but not later than two (2) hours after becoming aware of the discharge, notify the California Emergency Management Agency (Cal EMA), the local health officer or directors of environmental health with jurisdiction over affected water bodies, and the appropriate Regional Water Quality Control Board."</p> <p>It also requires that: "As soon as possible, but no later than twenty-four (2) hours after becoming aware of a discharge to a drainage channel or surface water, the Discharger shall submit to the appropriate Regional Water Quality Board a certification that the California Emergency Management Agency and the local health officer or director of environmental health with jurisdiction over the affected water bodies have been notified of the discharge."</p>
> 1,000 Gallons	Sewage spills > 1,000 gallons within the District	"	"	<p>In addition to the ALL Sewage Spill notifications, also notify the following: (CAL OES)</p> <p>Cal OES - Obtain control number, complete field spill report: 800-852-7550 / Fax 916- 845-8910 for sewer spills greater than 1,000 gallons</p>
Impacts State Waters	Sewage spills that impacts or threatens to impact state waters	"	"	<p>In addition to the ALL sewage spill notification, also notify the following: San Diego Branch</p> <p>California Department of Fish & Game: 858-467-4215 / 916-445-9338</p>
Impacts Storm Drain System	Sewage spill that impacts the storms drain system	"	"	<p>In addition to the ALL Sewage Spill notifications, also notify the following:</p> <p>San Diego County Watershed Protection Program: 858-495-5318</p>
Impacts Drinking Water Supply	Sewage spill impacts or threatens to impact the drinking water supply	"	"	<p>Notification of District / City Agencies / local Health Department, San Marcos Branch: 760-471-0730</p>

SECTION VII

FOG CONTROL PROGRAM

SECTION VII – FATS, OILS & GREASE PROGRAM

Legal Requirement

Implementation of a plan and schedule for a public education outreach program that promotes proper disposal of FOG.

Public Outreach

The District has identified all food preparation and service locations within its service area. Facilities will be provided with a FOG binder consisting of an educational video link, posters and other materials educating them on proper FOG disposal. These customers must undergo an annual Grease Best Management Practices (GBMP) inspection where the following are evaluated: exhaust hoods, seating capacity, menus and review of the Best Management Practices (BMP's) in the food preparation area. A Grease Control Device Inspection (GCDI) is also performed annually to ensure that interceptors are routinely serviced to minimize FOG discharges to the sewer system. Food preparation and service locations must keep annual records of interceptor maintenance. Customers with a history of contributing FOG to the sewer system are sent a letter of correction. The District maintains an active listing of all food preparation and service locations and permits are not required at this time.

Legal Requirement

A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area and a list of acceptable disposal facilities.

FOG Disposal

The District contracts for and stores fog/grit bin at the Districts headquarters for proper storage and removal. The disposal contractor disposes of the waste at an authorized site.

Legal Requirement

Legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG.

Authority

The District possesses the legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG through District Ordinance No. 98-06, 9110: Quality of Sewage.

Legal Requirement

Requirements to install grease removal devices, design standards for the removal devices, maintenance requirement, BMP requirements, record keeping and reporting requirements.

Grease Removal Devices

Ordinance 9.12.010: Grease, Oil and Sand Interceptors, details installation, design, maintenance, record keeping and reporting requirements.

Legal Requirement

Authority to inspect grease- producing facilities, enforcement authorities, and sufficient staff to inspect and enforce the FOG ordinance.

Inspection

The District has the authority to inspect grease- producing facilities throughout its service area per Ordinance No. 9.11.010: Entry upon Private Property to Enforce Provisions. All interceptors and other grease control devices are inspected annually with more frequent inspections of those facilities experiencing inconsistent maintenance practices. The District maintains standard drawings for grease interceptors and there are several independent vendors which will collect and dispose of accumulated FOG. The District works in conjunction with contract staff to provide inspections of each grease removal device in the service area a minimum of one time per year.

Legal Requirement

Identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section.

High Frequency Areas

The District has identified high frequency areas of the sewer system subject to higher levels of FOG and has developed a cleaning program for those areas. As sewer lines are cleaned, the severity of the FOG accumulation is documented in the District database system and the program is updated based on the most recent data collected by field staff.

Legal Requirement

Development and implementation of source control measures for all sources of FOG discharged to the sanitary system for each section identified.

Source Control

The District has developed and implemented source control measures for potential FOG discharged to the sewer system by implementing annual GBMP inspections.

SECTION VIII

**SYSTEM EVALUATION AND
CAPACITY ASSURANCE PLAN**

SECTION VIII – SYSTEM EVALUTATION AND CAPACITY ASSURANCE PLAN***Regulatory Requirement***

Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events.

Where design criteria do not exist or are deficient, undertake the evaluation identified above to establish appropriate design criteria.

The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.

The Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a)-(c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D.14, Monitoring, Measurement, and Program Modifications of SWRCB Order No. 2006-0003.

Compliance Summary

The District's 2016 Master Plan addresses the following:

- System Description
- System Flows
- System Evaluation
- Ultimate system Flow Projections and Analysis
- Capital Improvement Programs

The plan is under separate cover.

SECTION IX

MONITORING, MEASUREMENT AND PROGRAM MODIFICATIONS

SECTION: IX - MONITORING, MEASUREMENT & PLAN MODIFICATIONS***Regulatory Requirement***

Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities.

Historical and Baseline Performance

The District maintains information relevant to the performance of the collection system in its database. The District has been reporting SSOs using the CIWQS since 2007. CIWQS data will be used as the District's historical performance data. Trend analysis will be conducted in future years as additional data becomes available.

Regulatory Requirement

Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP.

Performance Measures

- SSO Rate (SSOs/50 miles/year)
- Number of SSOs for each cause (roots, grease, debris, pipe failure, capacity, lift station failures, etc.)
- Average SSO volume (gallons)
- Percentage of SSOs greater than 100 gallons
- Percentage of SSOs reported as Category 1
- Percentage of sewage contained compared to total volume spilled
- Percentage of total spilled sewage discharged to surface waters

Regulatory Requirement

Assess the success of the preventative maintenance program.

Performance Monitoring and Program Changes

The District will evaluate the performance of its wastewater collection system annually using the performance measures identified above. The District will update the data and analysis in this section at the time of the evaluation. The District may use other performance measures in its evaluation. The District will prioritize its actions and initiate changes to this SSMP, and the related programs based on the results of the evaluation.

Regulatory Requirement

Update program elements, as appropriate, based on monitoring and assessments.

Program Update

Staff will review the SSMP annually and update program elements as necessary.

Regulatory Requirement

Identify and illustrate SSO trends, including frequency, location and volume.

Compliance Summary

The District tracks the location and cause of all SSOs, blockages and gravity main high enhanced locations. The District maintains a log of all cleaning activity within each of its cleaning zones. Each of these basins/zones represents a separate drainage basin for the District. The District maintains records of the staff that cleaned the line, the equipment used, the size and length of the pipe, the amount of debris gathered, the manhole condition assessments on the line, and any relevant remarks observed during the cleaning. The District uses work orders to document preventative maintenance activity.

Additionally, District staff observes all gravity and force mains during routine cleaning and conducts contracted video inspections when their observations in the field warrant further investigation. The District maintains a log of the video inspections.

Condition Assessment

The District will implement the following condition assessment parameters. Utilizing the District CMMS system, Geoviewer via the manhole inspection template. District staff inspects the following items: Manhole infiltration, manhole cover, manhole ring and frame, manhole size, manhole cover, manhole cone, manhole channel, manhole shelf, manhole inflow indication, manhole surcharge indications and manhole vermin. Gravity mains are inspected as part of Preventative maintenance to include a thorough cleaning of each reach. The District hires contractors to perform CCTV inspections on conditions of pipelines that will allow the District to identify gravity mains that are at risk of failure or prone to more frequent blockages due to pipe defects. The District will track several performance indicators, including reactionary efforts.

- Location of all overflows.
- Amount of overflow recaptured and/or released to the environment.
- Cause of the overflows as revealed through CCTV investigation/ Per contractor assistance.
- Average response time of staff to arrive at an overflow location.
- Volume of sewage spills per mile of sewer mains.
- Station Facility Maintenance: Percentage of planned work activities completed during the fiscal year based on standards established in the Maintenance Assessment Program.
- Sewer Main Cleaning: Percentage of planned work activities completed during the fiscal year based on standards established in the Maintenance Assessment Program.
- Record and track total mileage of gravity sewer system cleaned annually.
- Evaluation of the “high frequency areas” to evaluate whether to add or delete sections of the system from the accelerated cleaning schedule.
- Percentage of total gravity sewer system cleaned annually.
- Number of manholes inspected annually.
- Number of Interceptors inspected and/or cleaned annually.
- Percentage of wet wells cleaned annually.

It is anticipated that performance measures will be compared over time and an effort will be made towards lowering or eliminating SSOs.

SECTION X

SSMP PROGRAM AUDITS

SECTION X: PROGRAM AUDITS

Regulatory Requirement

Conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. The audit shall focus on evaluating the effectiveness of the SSMP and compliance with the SSMP requirements identified in this subsection (D.13), including identification of any deficiencies in the SSMP and steps to correct them.”

Compliance Summary

The District will conduct an internal audit of the SSMP every two years, focusing on the effectiveness of the SSMP and the District's compliance with the SSMP requirements. The audit will include, but may not be limited to the following:

- State Water Resources Control Board Order No. 2006-0003 & MRP Order 2013 -0058 Statewide General WDR for Wastewater Collection Agencies.
- Any significant changes to components of the SSMP, including but not limited to, Legal Authority, FOG Control Program, Emergency Response Plan, Overflow Emergency Response Plan, and System Evaluation & Capacity Assurance Plan.
- Any significant changes to the referenced compliance documents.
- SSMP implementation efforts over the past two years.
- A description of additions and improvements made to the sanitary sewer collections system during the past two years.
- A description of the additions and improvements planned for the upcoming two years, with an estimated schedule for implementation.
- Strategies to correct deficiencies, if identified, will be developed by the responsible RMWD division.

The Wastewater Superintendent will document audit findings and recommend changes to the SSMP in a written report to the Operations Manager. These audit reports will be kept on file and made available to the public upon request. Minor changes to the SSMP, such as changes to the operation and maintenance element, will be made at the staff level. Significant changes, such as changes to legal authority, must be reviewed and approved by the Board of Directors. The latest updated/version of the SSMP will be available on the District's website: www.rainbowmwd.com.

SECTION XI

COMMUNICATIONS PROGRAM

SECTION XI: COMMUNICATIONS PROGRAM

Regulatory Requirement

Communicate on a regular basis with the public the development, implementation and performance of the SSMP. The communication system shall provide the public the opportunity to provide input as the program is developed and implemented. The Enrollee shall also create a plan of communication with systems that are tributary and/or satellite to the Enrollee's sanitary sewer system.

Compliance Summary

The SSMP will be posted on the District's website, www.rainbowmwd.com with instructions to the public on how to provide input on the SSMP. As input is received, staff will consider changes to the SSMP. The District is tributary to the City of Oceanside, which treats all sewage. The District has a written agreement with the City of Oceanside for wastewater flow and quality. The District regularly communicates with City of Oceanside utilities staff.

Other means of communication include the District's Communications Committee and monthly newsletter.