7/16/2020

Sanitary Sewer Management Plan

Victor Valley Wastewater Reclamation Authority

Contents

List of Acronyms

APWA	American Public Works Association
ASCE	American Society of Civil Engineers
BACWA	Bay Area Clean Water Agencies
BMP	Best Management Practice
CASA	California Association of Sanitation Agencies
CCTV	Closed-Circuit Television
CIP	Capital Improvement Program
CIWQS	California Integrated Water Quality System
CMMS	Computerized Maintenance Management System
CMOM	Capacity, Management, Operations, and Maintenance
CPC	California Plumbing Code
CSUS	California State University Sacramento
CWEA	California Water Environment Association
EMA	Enhanced Maintenance Area
FOG	Fats, Oils, and Grease
FSE	Food Service Establishments
GRE	Grease Removal Device
I/I	Infiltration and Inflow
LRO	Legally Responsible Official
MOP	Manual of Practice
MRP	Monitoring and Reporting Program effective 9/9/13
MS4	Municipal Separate Storm Sewer System
NACWA	National Association of Clean Water Agencies
NASSCO	National Association of Sewer Service Companies
NOI	Notice of Intent
NOV	Notice of Violation
O&M	Operations & Maintenance
OERP	Overflow Emergency Response Plan
OES	Office of Emergency Services, State of California
PACP	Pipeline Assessment & Certification Program
PLSD	Private Sewer Lateral Discharge
PM	Preventive Maintenance
POTW	Publicly Owned Treatment Works
QA/QC	Quality Assurance/Quality Control
R/R	Rehabilitation or Repair/Replacement
RWQCB	Regional Water Quality Control Board
SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow
SSS WDR	Statewide General WDR for Sanitary Sewer Systems
SWRCB	State Water Resources Control Board
UPC	Uniform Plumbing Code
USEPA	The United States Environmental Protection Agency
WDR	Waste Discharge Requirements
WWTP	Wastewater Treatment Plant

Glossary of Terms

Collection System	A generic term for any system of pipes or sewer lines used to convey wastewater to a treatment facility.
Enrollee	A public entity that owns or operates a sanitary sewer system and has submitted a complete and approved application for coverage under the SSS WDR.
Lateral (also called Service Lateral)	A segment of pipe that connects a home or building to a sewer main, which may be located beneath a street or easement. The responsibility for maintaining a lateral can be solely that of the Enrollee or the private property owner, or it can be shared between the two or more parties. Local communities dictate lateral responsibility and the basis for a shared arrangement if it applies. See Lower Lateral and Upper Lateral definitions.
Lower Lateral	That portion of a lateral usually from the property line or easement line to the sewer main. Enrollees may or may not be responsible for the maintenance of this portion of the lateral. If not, the lower lateral is owned and maintained by the property it serves.
Miles of Gravity Sewer	Amount of gravity sewer lines/pipes in an Enrollee's sanitary sewer system expressed in miles.
Miles of Publicly Owned Laterals	The number of laterals in an Enrollee's sanitary sewer system that the Enrollee is responsible for maintaining expressed in miles.
Miles of Pressure Sewer (Miles of Force Main)	Amount of pressurized sewer lines/pipes in an Enrollee's sanitary sewer system expressed in miles or portions thereof.
Miles of Private Laterals	Amount of private laterals tributary to an Enrollee's sanitary sewer system that private property owners are responsible for maintaining, expressed in miles or portions thereof.
NGO	Non-governmental organization.
Percent Reached Surface Water	The volume of sewage discharged from a sanitary sewer system or private lateral or collection system estimated to have reached surface water divided by the total volume of sewage discharged.
Percent Recovered	The volume of sewage discharged that was disposed of properly, divided by the total volume of sewage discharged.
Private Lateral	Privately owned sewer service lateral.
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. PLSDs that the enrollee becomes aware of maybe voluntarily reported to the SSO Database.
Sanitary Sewer Overflow (SSO)	Any overflow, spill, release, discharge, or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs include: 1. Overflows or releases of untreated or partially treated wastewater that reach waters of the United States.

	2. Overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and 3. Wastewater backups into buildings and on private property caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system.
Sanitary Sewer System	Any system of pipes, pump stations, sewer lines, or other conveyances, upstream of a WWTP headworks and which is comprised of more than one mile of pipes and sewer lines, used to collect and convey wastewater to a publicly owned treatment facility.
Service Lateral	See Lateral.
SSO Category 1	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 surface water; or • Reach a municipal separate storm sewer system 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 municipal separate storm sewer system 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 pit, percolation pond).
SSO Category 2	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 a municipal separate storm sewer system unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.
SSO Category 3	All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.
SSO Database	An online reporting system developed, hosted, and maintained by the SWRCB for compliance with the Monitoring and Reporting Program contained in SSS WDR.
Storm Drain	To comply with the SSS WDR, any pipe that is part of a Municipal Separate Storm Sewer System (MS4) used for collecting or conveying stormwater.
Total # of SSOs per 100 miles of Sewer per Year	A broad metric used to compare the relative performance of Enrollees and their sanitary sewer systems. This metric expresses the number of SSOs for which the reporting Enrollee is responsible for every 100 miles of pipe or sewer lines in an Enrollee's sanitary sewer system. Due to the significant variation in facility-specific characteristics, this metric should only be viewed as a rough comparison of the operation and maintenance performance of Enrollees and their sanitary sewer systems. For systems smaller than 100 miles, this metric tends to skew

	the result as the miles of pipe gets smaller. This metric is calculated as described below: Total # of SSOs per year = (Total # of SSOs x 100) ((Years) x (Miles of Pressure Sewer + Miles of Gravity Sewer + Miles of Public Laterals))
Total Volume of SSOs Reached Surface Water per 100 miles of Sewer	A broad metric used to compare the relative performance of Enrollees and their sanitary sewer systems. This metric expresses the volume of SSOs, for which the reporting Enrollee is responsible, that reached surface water for every 100 miles of pipe or sewer lines in an Enrollee's sanitary sewer system. Because sewage discharges that reach surface water pose a greater threat to public health and the environment, this metric reflects some accounting of the threat posed by SSOs. Due to the large variation in facility-specific characteristics, this metric should only be viewed as a rough comparison of the operation and maintenance performance of Enrollees and their sanitary sewer systems. For systems smaller than 100 miles, this metric tends to skew the result as the miles of pipe gets smaller. This metric is calculated as described below: Total Annual Volume of SSOs Reaching Surface Waters = (Total volume of SSOs reaching Surface Waters x 100) ((Years) x (Miles of Pressure Sewer + Miles of Gravity Sewer + Miles of Public Laterals))
Total Volume Reached Surface Water	Amount of sewage discharged from a sanitary sewer system, private lateral, or collection system estimated to have reached surface water.
Total Volume Recovered	Amount of sewage discharged that was captured and disposed of properly.
Upper Lateral	The portion of a lateral usually from the building foundation to the property line or easement line where it connects to the Lower Lateral. Enrollees may not own and maintain this portion of a Lateral since responsibility usually lies with the owner of the property that the lateral serves.
WDID	Waste Discharge Identification number assigned as a unique identifier by the SWRCB to each Enrollee for regulatory recordkeeping and data management purposes.

Introduction

Purpose and Background

The California State Water Resources Control Board ("SWRCB") promulgated a waste discharge requirement ("WDR") permit on May 2, 2006, to regulate sanitary sewer systems. This permit is known as SWRCB Order No. 2006-0003, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. On July 30, 2013, Attachment A to the Order was promulgated and became effective on September 9, 2013, and is known as Attachment A, SWRCB Order No. WQO 2013-0058-EXEC, amending the Monitoring and Reporting Program for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (together, these documents constitute the "SSS WDR").
This permit, among other things, requires local public sewer collection system agencies, referred to as "Enrollees," to develop a Sewer System Management Plan ("SSMP"). SSMPs must be self-audited at least every two (2) years and updated every five (5) years from the original adoption date by the Enrollee's governing board. The original SSMP must be approved by the governing board of the Enrollee at a public meeting and adopted. The five-year SSMP update must also be approved and certified as do all significant updates to the SSMP. Paragraph D.14 of WDR states that:
"... The SSMP must be updated every five (5) years and must include any significant program changes. Re-certification by the governing board of the Enrollee is required in accordance with D.14 when significant updates to the SSMP are made. ..."

Since 2010 VVWRA's sanitary sewer collection system has undergone the following substantial changes:

1. Construction of the Hesperia Santa Fe interceptor
2. Construction of the Upper Narrows emergency interceptor
3. Construction of two (2) Subregional water reclamation plants (WRP) along with two (2) new waste activated sludge (WAS) pipelines in both Hesperia and Apple Valley
4. Construction of the new Hesperia lift station and its force main to the Hesperia WRP
5. The transfer of ownership of the Town of Apple Valley's Otoe Pump Station and its sewer force main to VVWRA
6. The construction of the Nanticoke Gravity sewer interceptor and the abandonment of the Nanticoke Pump Station and a portion of its force main.

Pursuant to WDR Paragraph D.13, The Victor Valley Wastewater Reclamation Authority (VVWRA) prepared the SSMP for its Sanitary Sewer System, which was approved by the VVWRA Board of commissioners (Board) in November 2008. The Board then adopted a five-year update of the SSMP in April 2012, and therefore, the next five-year update which this document is prepared for was due in April 2017.

The SSMP along with all references in the document, self-audits, and the adoption documents approved by the Board are kept on file at the Regional Plant, VVWRA'S website and an entry is made in the California Integrated Water Quality System (CIWQS) database that the audit is complete.

This revision of the VVWRA SSMP for 2020 was prepared by VVWRA in accordance with the requirements of Paragraph D.13 (x) of the California State General Waste Discharge Requirements (WDR). This document was designed to meet the requirements of the State Water Resources Control Board Order No. 2006-0003-DWQ as revised by Order No. WQ 2013-0058-EXEC.

Elements of an SSMP

Section D.13 of the SSS WDR, requires all Enrollees to develop an SSMP and make it available to the public and the SWRCB and RWQCB. The SSS WDR further specifies eleven (11) mandatory Elements that must be addressed in the SSMP. The SSS WDR also requires that the SSMP be audited at least every two (2) years from the original governing board approval date and updated or revised and re-certified by the governing board at least every five (5) years from adoption or whenever and must include any significant changes to the SSMP, as specified in Section D.14 of the SSS WDR.

The eleven (11) required SSMP Elements that must be included in an SSMP are as follows:

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

Element 1: Goals

Requirements:

D.13.(i) Goals: 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 Discussion:

Providing safe, environmentally beneficial, and reliable sewer service are key components to fulfilling Victor Valley Wastewater Reclamation Authority's primary goals. In support of obtaining these goals, VVWRA has developed the following goals for the operation and maintenance of its sewer system. This document outlines responsibilities, allocates staff hours to collection work elements, and provides procedures and guidelines for the cleaning and inspection and maintenance activities.

1. Minimize sanitary sewer overflows.
2. Prevent public health hazards.
3. Minimize inconveniences by responsibly handling interruptions in service.
4. Protect the significant investment in collection systems by maintaining adequate capacities and extending useful life.
5. Prevent unnecessary damage to public and private property.
6. Use funds available for sewer operations in the most efficient manner.
7. Convey wastewater to treatment facilities with a minimum of infiltration, inflow, and exfiltration.

8. Provide adequate capacity to convey peak flows.
9. Perform all operations in a safe manner to avoid personal injury and property damage.

This SSMP supplements and supports the Victor Valley Wastewater Reclamation Authority's existing Operation and Maintenance Program by providing high-level, consolidated guidelines and procedures for all aspects of the agency's sanitary sewer collection system management. The SSMP contributes to the proper management of the collection system and assists the agency in minimizing the frequency and impacts of SSOs by providing guidance for appropriate maintenance, capacity management, and emergency response.

Element 2: Organization

Requirements:

D.13.(ii) Organization: The SSMP must identify:

(a.) The name of the responsible or authorized representative as described in Section J of this Order (SSS WDR).

(b.) 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 or similar document with a narrative explanation; and

(c.) **The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable (such as County Health Officer, County Environmental Health Agency, Regional Water Board, and/or State Office of Emergency Services (Cal OES)).**

Authorized Representatives

The Business Applications Manager is VVWRA's Legally Responsible Officials (LRO) in all wastewater collection system matters and is responsible for the execution of the compliance actions required under the Waste Discharge Requirements (WDRs). This includes, but is not limited to, the signing and certification of all reports and correspondence as required under this order.

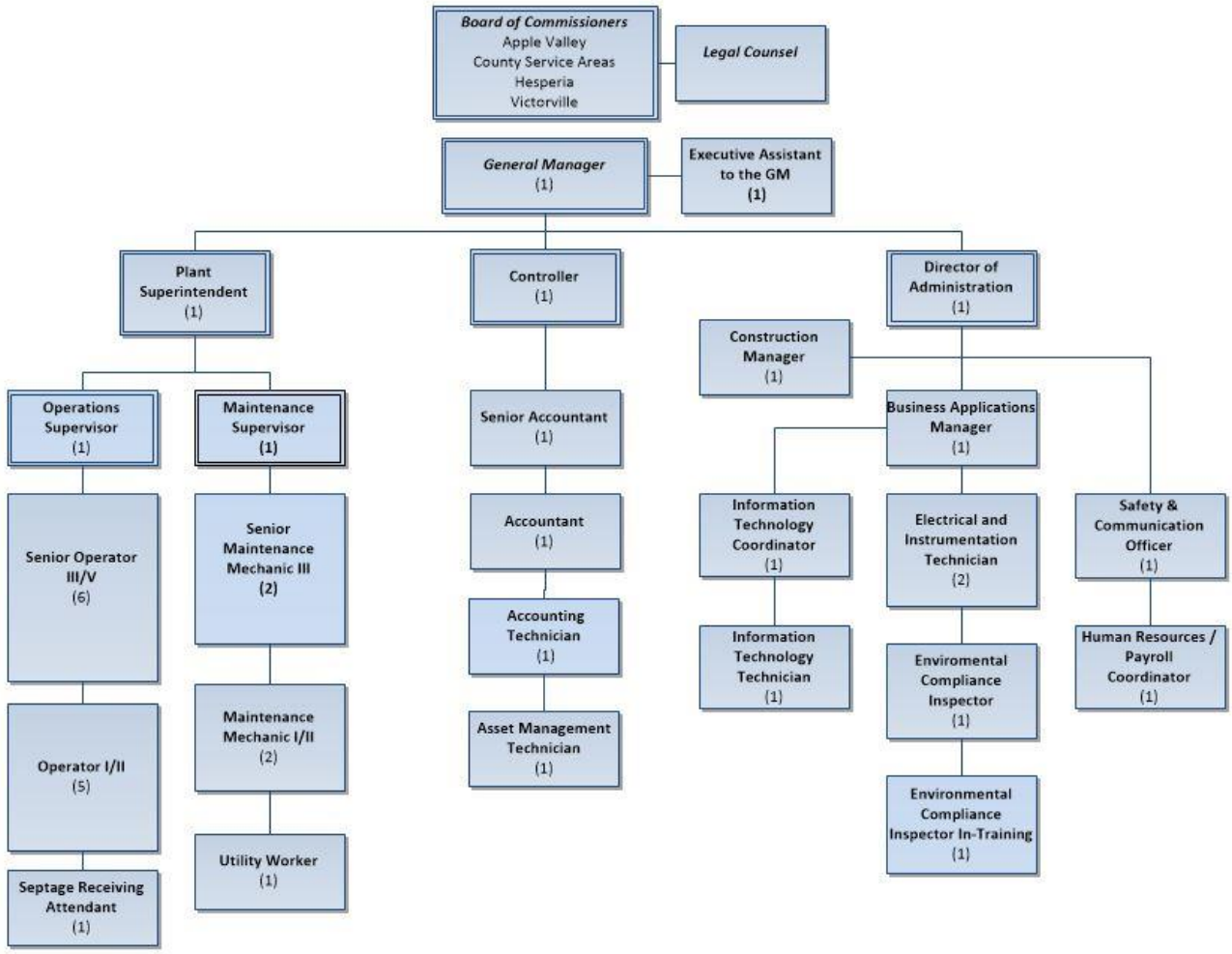
Organization Chart and Responsibilities

This section discusses the organization and roles of sewer staff, the authorized representatives to the SWRCB, and key personnel responsible for implementing and maintaining the SSMP.

Department Organization

The organization chart for the operation, maintenance, and management of the VVWRA's sewer collection system is shown on Figure 2-1

Figure 2- 1



Description of General Responsibilities

1. General Manager

Under policy direction, serves as agent of the Board of Commissioners in planning, directing, managing, and overseeing the services, activities, and operations of the Agency including Communications, Administrative Services, Engineering, Finance, Information Technology, Human Resources, Operations and Maintenance, and Technical Services; serves as chief executive officer of the Agency ensuring that services and operations are delivered in an efficient and effective manner; implements policy decisions made by the Board of Commissioners; facilitates the development and implementation of Agency goals and objectives, and provides highly complex administrative support to the Board of Commissioners. Position reports to the Board of Commissioners.

2. Plant Superintendent

Supervise and direct the operation and maintenance of wastewater treatment and conveyance facilities to ensure proper operation as well as compliance with discharge requirements for the Victor Valley Wastewater Reclamation Authority (VVWRA). Position reports to the General Manager.

3. Business Applications Manager

The position provides supervision and management of the environmental compliance inspector in training, the environmental compliance inspector(s) and collections system inspector(s); pretreatment program administration; regulatory compliance program administration, including the preparation of permit applications and materials; collections system maintenance program development and administration; and related day-to-day labor issues for the Victor Valley Wastewater Reclamation Authority (VVWRA). The position reports to the Director of Administrative Services.

4. Environmental Compliance Inspector

Provides pretreatment program administration; regulatory compliance program administration, including the preparation of permit applications and materials; collections system maintenance program development and administration; and related day-to-day labor issues for the Victor Valley Wastewater Reclamation Authority (VVWRA). Reports to the Business Applications Manager.

5. Environmental Compliance Inspector in Training

Assists in the development, maintenance, and implementation of the Industrial Pretreatment Program and manages the onsite regional plant laboratory for the Victor Valley Wastewater Reclamation Authority (VVWRA). Reports to the Business Applications Manager.

6. Maintenance Supervisor

Provide supervision and direction to maintenance personnel in the installation, maintenance, and repair of machinery, equipment, and infrastructure in wastewater treatment facilities to ensure proper operation and compliance with discharge requirements, for the Victor Valley Wastewater Reclamation Authority (VVWRA). The position reports to Plant Superintendent.

7. Plant Maintenance – grade I

Position performs basic to routine diagnosis and mechanical repair of parts, equipment, and systems to maintain equipment, return existing treatment units to service, and to assist in the replacement treatment units, support systems, and ancillary equipment for the Victor Valley Wastewater Reclamation Authority (VVWRA). The position will assist in the development of creative solutions to complex maintenance problems and operating requirements. Position reports to Maintenance Supervisor.

8. Plant Maintenance/Mechanical Technologist – Grades II to III

Performs semi-skilled (and some skilled) diagnosis and mechanical repair of parts, equipment, and systems to maintain equipment, return existing treatment units to service, and to replace treatment units, support systems, and ancillary equipment for the Victor Valley Wastewater Reclamation Authority (VVWRA). The position will participate in the development of creative solutions to complex maintenance problems and operating requirements. Position reports to Maintenance Supervisor.

9. Plant Maintenance – Grade IV

Performs skilled diagnosis and mechanical repair of parts, equipment, and systems to maintain equipment, return existing treatment units to service, and to replace complex treatment units, support

systems, and ancillary equipment for the Victor Valley Wastewater Reclamation Authority (VVWRA). Designs and/or develops creative solutions to complex maintenance problems and operating requirements. Position reports to Maintenance Supervisor.

10. Plant Maintenance Mechanic in Training (MIT)

Assist in the maintenance of wastewater treatment facilities to ensure proper maintenance as well as compliance with discharge requirements. This is an entry-level position that provides training and development before obtaining a Grade I Plant Maintenance position. Position reports to Maintenance Supervisor.

11. Operations Supervisor

Provide supervision and direction to Treatment Plant Operators, Laboratory Technicians, and Maintenance and Equipment Worker(s) in the operation of wastewater facilities to ensure proper operation and compliance with discharge requirements, including reports, for the Victor Valley Wastewater Reclamation Authority (VVWRA). The position reports to the Plant Superintendent

12. Operator Grade I-V

Operates various treatment units, observes and reports process control information, recommends process control adjustments based on training and experience, and assists in the maintenance of wastewater treatment facilities, pump stations, and the collection system for the Victor Valley Wastewater Reclamation Authority (VVWRA). Position reports to the Operation Supervisor.

Authorized Representative

The Victor Valley Wastewater Reclamation Authority's authorized representative in all wastewater collection system matters is the Plant Superintendent, Business Applications Manager, and the General Manager. They all are authorized to certify electronic spill reports submitted to the SWRCB.

Responsibility for SSMP Implementation

The Business Applications Manager is responsible for implementing and maintaining all elements of this SSMP.

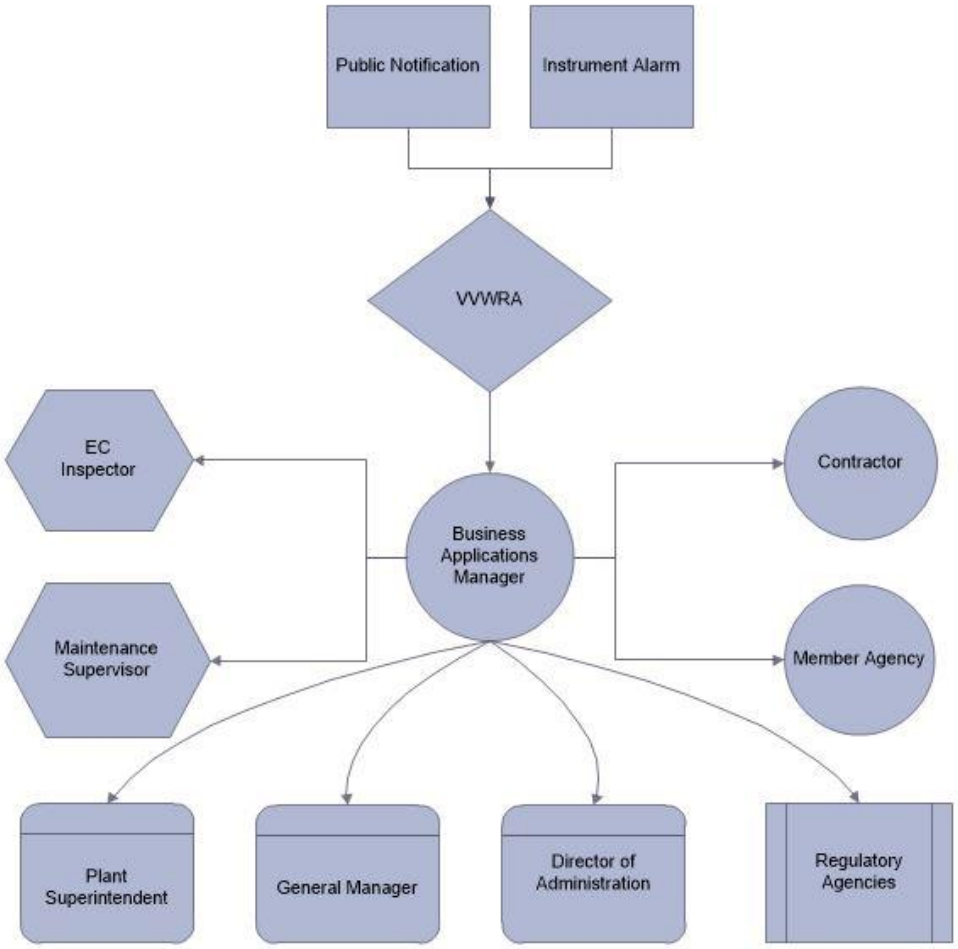
SSO Reporting Chain of Communication

Figure 2-2 contains a flowchart depicting the chain of communication for responding to and reporting SSOs, from observation of an SSO to reporting the SSO to the appropriate regulatory agencies. The table below lists contact phone numbers for the parties included in the chain of communication. The SSO reporting process is described in more detail in Element 3: Overflow Emergency Response Plan.

Contact	Telephone Number
VVWRA Plant	(760) 246-8638
Business Applications Manager	(760) 954-5083
Operations Supervisor	(760) 954-5006
Ops of the Day	(760) 954-1270
Plant Superintendent	(760) 553-0357
Maintenance Supervisor	(760) 954-5439
Environmental Compliance Inspector	(760) 954-3984

Stand-By Operator	(760) 954-0402

Figure 2- 2



Element 3: Legal Authority

Requirements:

D.13.(iii) Legal Authority: Each Enrollee must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:

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

VVWRA Response:

The Services Agreement, Joint Powers Agreement, and subsequent Sewer Use Ordinance 001 provide the legal authority needed to operate the sewer collection system. The collection system consists of the interceptor lines and appurtenant pumping and metering stations, which are owned and operated by VVWRA within the Victor Valley Wastewater Reclamation Authority Sphere of Influence. The member agencies contained in the Joint Powers Authority (JPA) and subject to these agreements and ordinances are the Town of Apple Valley, the City of Hesperia, County Service Area—Spring Valley Lake (CSA-64), County Service Area—Oro Grande (CSA 42) and the City of Victorville.

The collection system collects wastewater from member agency jurisdictions. The collection interceptors flow to Victor Valley Wastewater Reclamation Authority wastewater treatment plant located at 20111 Shay Road, Victorville, CA. The facility has the following permit numbers: NPDES No. CA0102822, Order No. R6V-2020-0028; and Waste Discharge ID No. 6B360109001.

Victor Valley Wastewater Reclamation Authority Sewer Use Ordinance 001, JPA, and NPDES Permit documentation can be found in a green notebook labeled “Legal Authority Documentation” located in the Control Room at the treatment facility in Victorville. Current versions of legal authority documents are also available online; the online records are updated regularly.

Section 4: Operation and Maintenance Program

Requirement (a):

D.13.(iv) Operation and Maintenance Program. The SSMP must include those elements listed below that are appropriate and applicable to the Enrollee's system:

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 stormwater conveyance facilities.

VVWRA Response:

Victor Valley Wastewater Reclamation Authority (VVWRA) maintains a Geographic information system (GIS) database system to catalog the sanitary sewer collection network. GIS is accessible from any device with internet access to all employees. Maps are also available upon request by contacting a supervisor, a manager, or through the Lab/Environmental Compliance department (EC).

In conjunction with and support of the mapping system, VVWRA maintains a database system to ensure that collection network information is accurately cataloged and stored. The EC department has organizational responsibility for the collection network database. Anyone with questions concerning database requirements should direct their inquiry to the EC supervisor. Presently, in compliance with Statewide General WDR Order No. 2006-003, VVWRA maintains specific database elements for the purpose of identifying collection network line segments and related details, manhole details, and other relevant facility details. The mapping - database specifics are as follows:

- Interceptor line segments are identified by "Pipe #" and are defined by diameter, manhole beginning, manhole end, length, and status of the segment, reach, area of service, whether the segment is blind to inspection and SSO ranking (Sanitary Sewer Overflow). Additional system details are identified and cataloged, such as pumping stations, pressure lines, valves, and meter stations.
- Manholes are identified by "Manhole #" and are defined by name, location, type, elevation, and any other special requirements (i.e., bolted, restricted/limited access, etc.…).

Requirement (b)

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

VVWRA Response:

VVWRA maintains a scheduled preventative maintenance, repair, and cleaning database system. The purpose of this system is to facilitate as-required repairs and cleaning for the sanitary sewer collection network. In compliance with Statewide General WDR Order No. 2006-003, VVWRA maintains specific database elements for scheduled preventive maintenance, repair, and cleaning of the collection network. Scheduled preventive maintenance, repair, and cleaning - database specifics are as follows:

- Scheduled preventive maintenance, repair, and cleaning needs are prioritized based on the age of line segment, criticality to the proper functioning of the collection network, known line requirements, and "at-risk" issues.
- The VVWRA scheduled preventative maintenance, repair, and cleaning database system captures the following details: last inspection date (visual and/or video), next projected inspection date based on a 5-year cycle, inspection comments, previous maintenance date and next projected maintenance date based on a 5-year cycle, last cleaning date and next projected cleaning date based on a 5-year cycle, detail of repair(s) and date performed, condition of the pipe, the severity of the damage, and mineral deposits/build-up.
- VVWRA utilizes the service of contractors for cleaning and inspection of its sanitary sewer collections network. The cleaning cycles are carried out on an established schedule, dictated by the VVWRA EC department.

Requirement (C)

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

VVWRA Response

VVWRA employs a proactive approach to rehabilitation and replacement of its sanitary sewer collection network. In support of this, rehabilitation and replacement needs are captured via the preventative maintenance, repair, and cleaning database system. In compliance with Statewide General WDR Order No. 2006-003, VVWRA maintains specific database elements for the purpose of identifying and prioritizing rehabilitation and replacement needs with-in the collection system. Rehabilitation and replacement - database specifics are as follows:

- VVWRA utilizes the service of contractors, as well as its staff, to perform visual inspections of its sanitary sewer collections network. VVWRA requires that its visual inspection contractors provide detailed reports of their observations. When these "hard-copy" reports are received, they are maintained by the VVWRA EC department. In the case of VVWRA personnel, they are required to perform scheduled visual inspections on manhole/line junctions. Visual inspection data is used to aid VVWRA in identifying and prioritizing network deficiencies and "at-risk" issues. VVWRA supervisors, managers, and administrators can order that visual inspections be performed on an "At-will" or an "As-needed" basis.

- VVWRA utilizes the service of contractors to perform closed-circuit video inspections of its sanitary sewer collections network. VVWRA requires that its video inspection vendors provide detailed reports of their observations. When these reports are received, they are maintained by the VVWRA EC department. Video inspection data is used to aid VVWRA in identifying and prioritizing network

deficiencies and “at-risk” issues. VVWRA supervisors, managers, and administrators can order that closed-circuit video inspections be performed on an “At-will” or an “As-needed” basis.

- Annually, based on several factors, primarily; organizational and facility objectives, known sanitary sewer collection system conditions (such as component age vs. lifecycle expectancy, etc.) and budget allocation VVWRA will draft a plan for short-term and long-term rehabilitation and replacement of the sanitary sewer collection network.

Requirement (d)

Provide training on a regular basis for staff in sanitary sewer system operations, maintenance, and require contractors to be appropriately trained; and

VVWRA Response

Refer to the “VVWRA Overflow Emergency Response Plan” for training information

Requirement (e)

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

VVWRA Response

Refer to the “VVWRA Overflow Emergency Response Plan” for equipment lists and parts

Section 5: Design and Performance provisions

Requirement:

The SSMP must identify design and construction standards and specifications as well as inspection procedures and standards for the installation of new sanitary sewer systems, pump stations and other appurtenances, and for the rehabilitation and repair of existing sanitary sewer systems.

VVWRA Response

Victor Valley Wastewater Reclamation Authority (VVWRA), has developed design and construction standards, including specifications for the installation of new sanitary sewer systems, pump stations, and other appurtenances. The design and construction standards also include directions for the rehabilitation and repair of existing sanitary sew systems. A copy of the “Standard Specifications for Public Works Construction,” with extension and revisions, is on file at the VVWRA office (per Ordinance 001, section 06-01). The Standards are also available on the VVWRA website at www.vvwra.com

Section 6: Overflow Emergency Response Plan

Requirement:

(vi) Develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

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

(b.) A program to ensure an appropriate response to all overflows.

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

(d.) Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained.

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

(f.) A program to ensure that all reasonable steps are taken to contain 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.

VVWRA Response:

Overflow Emergency Response Plan

1. Introduction

This Sewer System Management Plan (SSMP) element identifies the contingency plan and procedures for responding to an overflow event occurring on the Victor Valley Wastewater Reclamation Authority's interceptor collection system

2. Overflow detection

Detection of a sanitary sewer overflow (SSO) may occur in numerous ways:

a. If an outside party calls in to report an SSO, the VVWRA telephone operator immediately informs the Business Applications Manager and the Plant Superintendent.
b. If the collection's department personnel discover an SSO while conducting field observation rounds, then the collection department personnel immediately calls the Business Applications Manager and the Plant Superintendent to relay the necessary information regarding the nature of the event.
c. If the Wastewater Treatment Plant operations staff determines the flows are severely abnormal, high, or low, then the Business Applications Manager and the Plant Superintendent are to be

notified immediately. After notification, they will begin an investigation as to the integrity of the collection system.

3. Initial response

a. If the SSO is identified to include a plugged line involving a single manhole or less than 1000' of interceptor pipeline (less than four (4) manholes):
    1. The member agency where the SSO is occurring will be contacted for assistance. Member agencies emergency contact information is as follow:

County Service Areas 42 & 64 Special Districts	(760) 955-9885
Town of Apple Valley	(760) 240-7000 Ext 7500
City of Victorville	(760) 241-6365
City of Hesperia	(760) 947-1400

    2. Eliminating the SSO is the first priority.
    3. The containment of the sewage outside of the interceptor is imperative and is to be a high priority.
    4. Notification of regulatory agencies is to be conducted on time, per requirements in the SSS WDR MRP.

b. If the SSO involves damage to an interceptor pipeline and a by-pass is necessary:
    1. By-pass action is to be administered, as soon as conditions safely allow, using VVWRA's personnel and the member agency where the damaged pipeline occurs.
    2. Place appropriate pumps and hoses to keep sewage in the interceptor. If additional pumps and piping or hoses are required to conduct a by-pass, a list of equipment rental companies and contractors to contact information is as follow:

Equipment Rental	Rain for rent	(800) 742.7246
Equipment Rental	Xylem Dewatering Solutions Mira Loma	(951) 681-3636
Equipment Rental	Apex Rentals Hesperia	(760) 244-9349
Equipment Rental	Quinn Company - Rental Victorville	(760) 947-0967
Contractor	Apple Valley Construction Company	(760) 247-4810
Contractor	Christensen Brothers General Engineering	(760) 240-5236
Contractor	Lee Graham Equipment	(760) 245-7695

    3. Perform repairs to the damaged interceptor as soon as conditions safely allow and as resources are available.
    4. If engineering consultation is necessary, a list of engineering firms is as follow:

Carollo Engineers-Riverside	(951) 776-3955
Dudek -Encinitas	(760) 942-5147
Michael Baker International-Ontario	(909) 974-4900

4. Recovery and clean-up (mitigation)

a. If the SSO occurs during dry weather conditions:
    1. First, secure the SSO site by eliminating the overflow.
    2. Contain sewage on the ground using a manmade berm if applicable.
    3. Vactor the sewage and pump back into the sewer.
    4. Collect a wastewater sample if available.
    5. Spread dry HTH to cover the overflow area.

b. If the SSO occurs during wet weather conditions:
    1. First, secure the SSO site by eliminating the overflow.

2. Contain sewage on the ground using a manmade berm if applicable.
3. Vactor the sewage and pump back into the sewer.
4. Collect a wastewater sample if possible.
5. Spread dry HTH to cover the overflow area.

5. Public access and warning

a. Place notification placards at the site for the public to stay out of the area.
b. Mark affected area with caution tape, traffic cones, or other applicable means.
c. Limit public access to affected areas.

6. Water quality sampling and analysis

The Water Quality Monitoring Plan will be implemented immediately upon discovery of any Category 1 SSO of 50,000 gallons or more to assess potential impacts to surface waters.

Sample Collection Timing

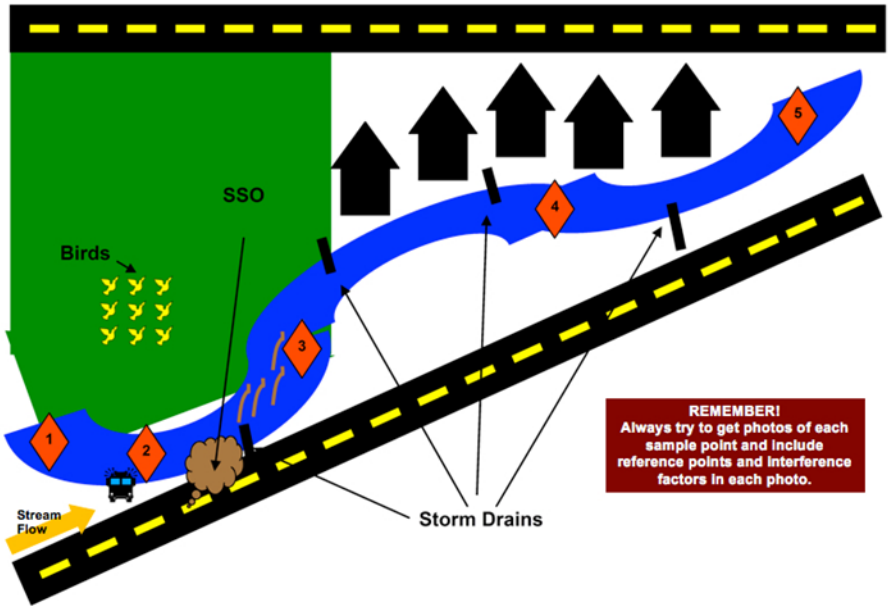
The Plant Superintendent or their designee will determine when the field crew will be mobilized to sample the receiving water. Sampling must be conducted within 48 hours after initial Category 1 SSO and spill volume notification. The monitoring coordinator will target daylight sampling within the first 24 hours of the SSO notification, but sample timing may be shifted due to safety and logistical issues.

Sampling will not be conducted if there are any concerns regarding field crew safety. These concerns may include heavy rain events, which compromise access points through flooding and swift currents. Thunderstorms will also be avoided when lightning is occurring. Sampling will only be conducted if there are at least two members of the field crew team available.

Repeat sampling daily from the time the spill is known until the results of two consecutive sets of samples indicate the return to the normal level or cessation of monitoring is authorized by the County Environmental Health Department.

Sampling Locations

The Plant Superintendent or their designee is responsible for determining the sampling locations. Ideally, the 5 locations in the figure below will be sampled. This example is provided for illustrative purposes only. Each sampling event is based on the geography, drainage, and interference factors (i.e., birds, animals, runoff, etc.) of the area impacted.



1 Sample Location 1: Baseline Sample, *no* observable interference from birds, animals, runoff, etc

2 Sample Location 2: Baseline Sample, *observable* interference from birds, animals, runoff, etc
NOTE: Only collect this sample if you observe any possible interfering factors upstream from the spill location

3 Sample Location 3: Immediately downstream of SSO entry point

4 Sample Location 4: Further downstream of SSO entry point – note any possible interfering factors

5 Sample Location 5: Further downstream of SSO entry point – note any possible interfering factors

At a minimum, sampling will occur where

a) The SSO enters the surface water body,
b) 50 feet upstream of the entry point, and
c) 10 feet downstream of the entry point.

Upon arrival at the monitoring sites, the field crew will determine the best locations to sample by assessing the hydrology of the receiving water and any safety precautions. The field crew should look for locations where the receiving water can easily be entered or sampled mid-channel by a grab pole. The downstream location(s) will be determined from visual monitoring and estimated spill travel time.

Equipment Preparation

The field crew maintains a sampling kit with the necessary supplies to conduct a monitoring event. Below is a list of the equipment and supplies that are included in the sampling kit.

- Cooler w/ice pack
- Latex gloves
- Safety glasses
- 2 ammonia-nitrogen sample bottles (1pt bottle w/H2SO4)
- 20 Sample bottle labels

- Waterproof Pen (i.e. Sharpie®)
- 10 Enterococcus sample bottles (100ml sterilized bottle)
- Combination temperature/pH meter
- Extra batteries for temperature/pH meter
- Chain of Custody form

Sampling Containers

The Field Crew will be provided with a supply of sampling bottles for at least three events. Additional bottles can be provided by the Regional Plant laboratory as needed. Bottles need to be replaced if they are unused for six months. The table below notes the required bottle types, sample volumes, and preservatives for the required ammonia and enterococcus samples.

Constituents to be Analyzed, Sample Volume Required, and Sample Type

Constituent	Optimum Vol.	Min. Vol.	Collection Method	Bottle Type	Preservation
Ammonia (NH_3)	500 mL	200 mL	Direct Fill	500 mL Plastic	H_2SO_4, <6° C
Fecal Coliform	100 mL	100 mL	Direct Fill	100 mL Sterile Plastic	$Na_2S_2O_3$, <10°C
Total Coliform	100 mL	100 mL	Direct Fill	100 mL Sterile Plastic	$Na_2S_2O_3$, <10°C

Field Meter Calibration

All field meters will be appropriately calibrated and maintained by the Field Crew. Calibrations will be performed according to the methods and frequency recommended by the equipment manufacturer. When calibrating the instruments, the Field Crew will document all pertinent information in a Calibration Log included in the Field Sampling Kit and keep it with the rest of the project documentation.

Sewer Overflow Volume Estimation

VVWRA uses the SMART Sewer Overflow Volume Estimation Workbook and the Volume Estimation Calculators for Smart SOP by https://www.dkfsolutions.com/ to estimate all Sanitary sewer overflows.

Sample Collection Methods

Sample collection methods will vary depending on the surface water and the safety of the Field Crew. The following instructions should be taken into consideration by Field Crew:

- Collect all samples against the direction of the water flow (face upstream)
- Collect upstream sample first
- Collect samples well away from the bank (preferably where water is visibly flowing) and 6" below the surface
- Avoid sampling debris or scum layer from the surface
- Avoid disturbing sediment from the streambed, and do not include it in the sample bottle
- Photograph evidence of water quality impacts (debris, dead fish, etc.)
- Remove the sample bottle cap immediately before collecting each sample
- Do not allow inside of the sample bottle cap to touch anything
- Clean, powder-free, nitrile gloves will be worn for all bottle handling

- Samples should be placed on ice immediately after the sample is collected

The direct fill sample collection method is the preferred sampling method since it does not use an intermediate container. In cases where the direct fill method cannot be used due to accessibility or safety, an intermediate bottle and a grab pole can be used.

Direct Fill Sample Collection

The direct fill sample collection method will be used in cases where the surface water can be entered safely by the Field Crew. Field Crew will wear waders and ensure that the water level and velocity of the surface water are low enough to provide a safe entry and sampling environment.

Sample bottles will be filled by direct submersion to approximately mid-depth as follows.

a) Wade to approximately the area of the water body with the highest flow rate and face upstream. This will most likely be midstream but can be in a different portion of the stream, depending on the hydrology.
b) Submerge the sample bottle with its cap on to approximately mid-depth at a location of significant flow (avoid stagnant water). Hold the bottle upright under the surface while it is still capped.
c) Open the lid carefully just a little to let the water run in. Fill the bottle and screw the cap tightly while the bottle is still underneath the surface.
d) Remove the bottle from the stream and place it on ice.

Intermediate Container Sample Collection

If the flow, water level and/or access point are deemed unsafe, then an intermediate bottle attached to a grab pole will be used for sample collection. A clean, new intermediate bottle will be used for each sampling event and sampling site.

Ammonia and bacteriological sample bottles will be filled by intermediate container sample collection as follows:

a) Attach the intermediate bottle to an expandable pole using tape or cable ties and remove the lid.
b) Submerge the intermediate bottle, attached to an expandable pole, to approximately mid-depth at a location of significant flow (avoid stagnant water).
c) Remove bottle from water and empty contents downstream. Repeat this twice more, for a total of three rinses.
d) Once the intermediate bottle is properly rinsed, return it to approximately mid-depth at a location of significant flow (avoid stagnant water).
e) Using the intermediate bottle, fill the bacteriological sample container and then the ammonia bottle. Ensure that the bottle does not overflow and that the preservative stays in the sample container.
f) After the bottle is filled, replace the bottle lid, and place it on ice.

Sample Handling and Custody

The Field Crew will ensure that all samples are collected and submitted to the Regional Plant Laboratory as soon as possible, but no later than the maximum hold times listed below. If timing or logistics prevent a hold time being met, the Field Crew will contact the Plant Superintendent or their designee.

Constituent Hold Times and Analytical Methods

Constituent	Analytical Method[1]	Maximum Hold Times
Ammonia (NH_3)	SM 4500-NH3-G	28 days
Fecal Coliform	SM 9222D	8 hours
Total Coliform	EPA 1604 or Enterolert	8 hours

Sample Bottle Labels

The Field Crew will label all sample bottles with a waterproof label, which will contain the sample collection date and time, analyte, analysis method, station number and name, and Field Crew names. The station identification protocols are below.

Site Names for Sample Handling

Station Number	Station Name
US-001	Surface Water Upstream
ENTRY	Surface Water Point of Entry
DS-001	Surface Water Downstream
DS-XXX[1]	Surface Water Downstream XXX[1]

Additional downstream monitoring sites will be labeled in sequential order starting from the SSO surface water point of entry.

Example Sample Bottle Label

VVWRA

Station Number - ____

Station Name - ____

Analyte – Analysis Method _____

Date & Time:_____ Collected by:_____

Transport

All samples will be kept on ice from the time of collection to the time of receipt by laboratory personnel. All samples must be analyzed within maximum holding times.

Chain of Custody Form

Chain-of-Custody Record Form (COC) forms will be filled out by the Field Crew for all samples submitted to the laboratories. COCs will contain the following information:

- Sampler name
- Address (where the results will be sent)
- To whom the laboratory results are being sent
- Sample collection date and time

- Sample location
- Analysis method requested
- Sample container type
- Comments/special instructions
- Samples relinquished by (signature, print name, date)
- Samples received by (signature, print name, date)

7. Investigation and document

a. Determine the cause of SSO
b. Investigate to determine the cause of SSO.
c. Document findings of the investigation on the SSO Incident Report Form.
d. Determine what, if any, necessary repairs are needed.
e. Budget and schedule repairs, if required.

8. Regulatory notification and reporting

In accordance with the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (SSS WDRs), VVWRA maintains records for each sanitary sewer overflow. Records include:

- Documentation of response steps and/or remedial actions
- Photographic evidence to document the extent of the SSO, field crew response operations, and site conditions after field crew SSO response operations have been completed. The date, time, location, and direction of photographs taken will be documented.
- Documentation of how any estimations of the volume of discharged and/or recovered overflow were calculated

Notification and Reporting Requirements

ELEMENT	REQUIREMENT	METHOD
NOTIFICATION	Within 2 hours of becoming aware of any Category 1 SSO greater than or equal to 1,000 gallons, notify the California Office of Emergency Services (Cal OES) and obtain a notification control number.	Call Cal OES at: **(800) 852-7550**
REPORTING	• **Category 1** SSO: Submit draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date. • **Category 2** SSO: Submit draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of the SSO end date. • **Category 3** SSO: Submit a certified report within 30	Enter data into the CIWQS Online SSO Database[1] (http://ciwqs.waterboards.ca.gov/), certified by the Legally Responsible Official(s)[2].

[1] In the event that the CIWQS database is not available, VVWRA will notify SWRCB by phone and will fax or e-mail all required information to the RWQCB office in accordance with the time schedules identified above. In such an event, VVWRA will submit the appropriate reports using the CIWQS database when it becomes available. A copy of all documents shall be retained in the SSO file.

[2] VVWRA always has at least one LRO. Any change in the LRO(s) including deactivation or a change to contact information, will be submitted to the SWRCB within 30 days of the change by calling (866) 792-4977 or emailing help@ciwqs.waterboards.ca.gov

	calendar days of the end of month in which SSO the occurred. • **"No Spill" Certification**: Certify that no SSOs occurred within 30 calendar days of the end of the month or, if reporting quarterly, the quarter in which no SSOs occurred. • **Collection System Questionnaire**: Update and certify every 12 months	
WATER QUALITY MONITORING	VVWRA will conduct water quality sampling within 48 hours after initial SSO notification for Category 1 SSOs in which **50,000 gallons or greater** are spilled to surface waters.	Water quality results will be uploaded into CIWQS.
RECORD KEEPING	• SSO event records. • Records documenting SSMP implementation and changes/updates to the SSMP. • Documentation of Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters. • Collection system telemetry records if relied upon to document and/or estimate SSO Volume.	Self-maintained records shall be available during inspections or upon request.

Equipment

a. Magnum trailer mount generator: Capacity 100KW - 3 ph.
b. 8" CD200M Dri-prime Godwin trailer mount pump: Capacity 165 TDH – 1800 gpm.
c. 2@ 6" PT6 Wacker trailer mount pump: Capacity 100TDH – 1300 gpm.
d. 3@ 10"X8" HL8BS Godwin trailer mount pump: Capacity 325 TDH – 4000 gpm.
e. Hose reel trailer: Capacity 10 Hoses @ 300ft long.
f. 3" portable PT3 Wacker pump: Capacity 96 TDH – 400 gpm.
g. Ford F-800/Asher boom truck: 11.25 ton lifting capacity with a 60ft radius.
h. 185 Ingersoll-Rand air compressor: Capacity 185 cfm and 125 psi.
i. 2@ Genie TML – 4000N trailer mount light towers.
j. Traffic Control Trailer
k. Confined Space Entry Trailer

Training

Training is conducted through the Victor Valley Wastewater Reclamation Authority's Environmental Health and Safety Department (EH&S). The Safety Procedure is identified as SP-000.3 and is labeled as the Annual Safety Program. It can be found in a large three (3) ring binder and located in the EH&S office at the WWTP located at 20111 Shay Road, Victorville, CA. The safety program consists of SP-101 Injury, Illness, & Prevention Plan (IIPP) Title 8 California Code of Regulations Section 3203, Title 22 California Code of Regulations Division 4.5, and 49 Code of Federal Regulations.

Section 7: Fats, Oils, and Grease (FOG) Control Program

Requirement:

(vii) Evaluate the service area to determine whether a FOG control program is needed. If a FOG program is not needed, provide justification for why it is not needed. If FOG is found to be a problem, prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. This plan shall include the following:

(a.) An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG.
(b.) A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area.
(c.) The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG.
(d.) Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements.
(e.) Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance.
(f.) An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section; and
(g.) Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (f) above.

VVWRA Response:

Victor Valley Wastewater Reclamation Authority's (VVWRA) sewer interceptor collection system comprises of approximately forty (45) miles of pipeline. The diameters of the pipelines range from 12 to 42 inches. Historically, there have been zero sanitary sewer overflows (SSOs) that have been attributed to fats, oils and/or grease.

VVWRA is a joint powers authority and is comprised of the town of Apple Valley, the City of Hesperia, the City of Victorville and two County Service Areas (CSA) 64 Spring Valley Lake and CSA 42 Oro Grande. Each member agency is responsible for their separate collection systems and Sewer System Management Plan (SSMP) as required by the State of California.

Victor Valley Wastewater Reclamation Authority assessed the collection system to determine the necessity of implementing a FOG program and determined that, at this time, it would be unnecessary based upon the following self-assessment guidelines:

- VVWRA has not experienced any SSOs that were attributed to FOG
- VVWRA has very few direct connections to commercial, food service, institutional and industrial establishments—these facilities typically connect to VVWRA's member entity collection systems
- VVWRA's sewer use ordinance (SUO) 001 contains FOG prohibitions. Also, it requires that Member Agencies prevent the discharge of excessive quantities of grease and oil into their

tributary sewerage systems by requiring all restaurants to properly install and maintain appropriately designed and effective grease traps.

- Although VVWRA does not implement a full FOG Control Program, Class III (Non-Significant Industrial User) permits are being issued to restaurants and other food processing facilities.
- VVWRA accepts restaurants' grease interceptor pumped waste at its main WWTP. This service reduces the amount of grease disposed of in the collection system.
- VVWRA does have a Public Outreach Program through its website, treatment plant tours, and publicized Board of Commissioner's meetings held each month

Based on these findings, the Victor Valley Wastewater Reclamation Authority does not require a separate FOG Control Program. An annual evaluation of the need to initiate a FOG Control Plan is conducted each year.

Section 8: System Evaluation and Capacity Assurance Plan

Requirement:

(viii) System Evaluation and Capacity Assurance Plan. The Enrollee shall prepare and implement a capital improvement plan that will provide hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event. At a minimum, the plan must include:

11 Evaluation: Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs that escape 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 the overflow events.

In 2019, the VVWRA completed an Interceptor Capacity Study. The study was specifically developed to satisfy the System Evaluation, and Capacity Assurance Program (SECAP) requirements in the SSMP as well as provide data and assessments that supplement the Operation and Maintenance Plan and Monitoring, Measurement, and Modification Plan (Element 9 of the SSMP). The study included the following primary objectives:

1 Creation of a new interceptor system hydraulic model calibrated to the latest metered flow data.
2 Determine the flow in the Interceptor system, by reach, for average dry weather flow (ADWF), peak dry weather flow (PDWF), and peak wet weather flow (PWWF).
3 Determine allocations of flow, by member agency, under ADWF.
4 Update the model with past improvements and future projected improvements, as well as seek to identify opportunities to improve capacity and O&M efficiency.

The study estimated current and projected interceptor capacity and also provided recommended improvements to address future capacity needs and cost estimates along with construction schedules for these recommendations.

The following conclusions and recommendations were derived from this study:

- The sub-regional water reclamation plants (WRP) in the Town of Apple Valley and the City of Hesperia will significantly improve available capacity in the Interceptor System.
- With the sub-regional WRP's, the first-pass evaluation of recommended improvements included three projects replacing five interceptor pipeline segments (in parallel) with an estimated total project cost of $10.3M.
- Analysis of the hydraulic capacity of the system under a larger (10-year) storm event would be useful in better assessing system capacity deficiencies.
- The Oro Grande and Victorville pump stations are adequately sized to handle existing PWWFs.
- The Authority's O&M activities appear to be adequate in reducing and minimizing SSOs.

The 2019 capacity study report is available online at www.vvwra.com

Section 9: Monitoring, Measurements, and Program Modifications

Requirement:

(ix) Monitoring & Program Modification. The SSMP must include those elements listed below that are appropriate and applicable to the Enrollee's system:

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

VVWRA Response:

VVWRA maintains an Interceptor database system on physical characteristics such as diameter, material, age, etc. for each collection system element (sewer lines, manholes, pump stations, etc.). The database also tracks scheduled preventive maintenance, repairs, and cleaning activities. VVWRA uses this information to create reports and to prioritize SSMP activities.

Requirement:

(ix), (b); Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP.

VVWRA Response:

VVWRA measures the effectiveness of each element of the SSMP as needed and, at minimum, at 2-year intervals, at the time of the SSMP Internal Audit required by Element 10.

Requirement:

(ix), (c) Assess the success of the preventive maintenance program.

VVWRA Response:

VVWRA employs a proactive approach to rehabilitation and replacement of its sanitary sewer collection network. In support of this, rehabilitation and replacement needs are captured via the preventive maintenance, repair, and cleaning database system. In compliance with Statewide General WDR Order No. 2006-003, VVWRA maintains specific database elements to identify and prioritize rehabilitation and replacement needs within the collection system.

Database specifics are as follows: last inspection date and next projected inspection date based on a 5-year cycle, inspection comments, last maintenance date and next projected maintenance date based on a 5-year cycle, last cleaning date and next projected cleaning date based on a 5-year cycle, detail of repair(s) and date performed, condition of the pipe, the severity of the damage, and mineral deposits/build-up.

VWRA utilizes the service of contractors for cleaning and CCTV inspection of its sanitary sewer collections network. The cleaning cycles are carried out on an established schedule, dictated by the VVWRA Environmental Compliance department.

Scheduled preventative maintenance, repair, and cleaning needs are prioritized based on the age of line segment, criticality to the proper functioning of the collection network, known line requirements, and "at-risk" issues.

Requirement:

(ix), (d) Update program elements, as appropriate, based on monitoring or performance evaluations.

VVWRA Response:

VVWRA updates SSMP program elements as needed and, at minimum 2-year intervals, at the time of the SSMP Internal Audit required by Element 10.

Requirement:

(ix), (e) Identify and illustrate SSO trends, including frequency, location, and volume.

VVWRA Response:

VVWRA evaluates SSO trends at the time of the SSMP Internal Audit required by Element 10.

Section 10: SSMP Program Audits

Requirement:

(x) Program Audits. The SSMP must include those elements listed below that are appropriate and applicable to the Enrollee's system:

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

VVWRA Response:

VVWRA's Program Audit Plan occurs every two years, at a minimum. An audit report is prepared and kept on file. The audits focus on evaluating the effectiveness of the SSMP elements as required and identified in this subsection (D.13). Any deficiencies found during the audit are addressed and corrected.

Section 11:Communication Program (Outreach)

Requirement:

(xi) Communication. The SSMP must include those elements listed below that are appropriate and applicable to the Enrollee's system:

The Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented.

VVWRA Response:

Victor Valley Wastewater Reclamation Authority (VVWRA) interacts on a continuous cooperative basis with its member agencies whose local collection systems connect to the VVWRA interceptors. These member agencies comprise all the significant stakeholders who have an interest in the development of VVWRA's SSMP. Member agencies are listed as follows: The Town of Apple Valley, The City of Hesperia, The City of Victorville and San Bernardino County Service Areas #42 and #64

Connections between the member agency local systems and VVWRA interceptors are very limited in number, varying among the systems. The staff of each agency is familiar with the locations and characteristics of each connection. In the event of a situation that needs immediate attention, personnel has historically responded with an appropriate level of action regardless of which side of the connection the problem is on. If the problem involves another agency, they are notified, and both agencies will work cooperatively until the situation is stable.

SSMP Appendices

Requirement:

The September 9, 2013 MRP revisions require an Enrollee to provide a log of all changes made to the SSMP as stated below in Section 3.5.1.

VVWRA Response:

VVWRA's Sewer System Management Plan Change Log:

Date	SSMP Element/Section	Description of Change/Revision Made	Change Authorized By
