
Victor Valley Wastewater Reclamation Authority Sewer System Management Plan **2024 3-Year Program Audit**

JULY 2024

Prepared for:

VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY

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- A. 2024 Audit Checklist
- B. Example Training Records
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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
ADWF	Average dry weather flow
Board	VVWRA Board of Commissioners
CCTV	Closed-circuit television
CIP	Capital Improvement Program/Plan
CIWQS	California Integrated Water Quality System
CWEA	California Water Environment Association
EPA	United States Environmental Protection Agency
FOG	Fats, Oils, and Grease
GIS	Geographic Information System
Greenbook	Standard Publication for Public Works and Standard Plans for Public Works
I/I	Inflow and infiltration
LACP	Lateral Assessment Certification Program
LF	Linear feet
LRO	Legally Responsible Official
MACP	Manhole Assessment Certification Program
NASSCO	National Association of Sewer Service Companies
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
OERP	Overflow Emergency Response Plan
O&M	Operations and Maintenance
P3S	Pretreatment, Pollution Prevention, and Stormwater
PACP	Pipeline Assessment Certification Program
PDWF	Peak dry weather flow
PVC	Polyvinyl chloride
PWWF	Peak wet weather flow
RDII	Rainfall dependent inflow and infiltration
Regional Board	Lahontan Regional Water Quality Control Board
RWWRF	Regional Wastewater Reclamation Facility
SECAP	System Evaluation and Capacity Assurance Plan
SERP	Spill Emergency Response Plan
SSMP	Sewer System Management Plan
SSSWDR	Sanitary Sewer System WDR
State Board	California State Water Resources Control Board
VVWRA	Victor Valley Wastewater Reclamation Authority
WDR	Waste Discharge Requirements
WRP	Water reclamation plant

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1 Executive Summary

In December 2022, the State of California's Water Resources Control Board (SWRCB) adopted Order Number WQ 2022-0103-DWQ that updated General Waste Discharge Requirements (WDR) for sanitary sewer systems designed to convey sewage greater than one (1) mile in length. The order became effective on June 5, 2023. This order supersedes the previous Order Number 2006-0003-DWQ and all amendments thereafter (i.e., Order No. WQ 2013- 0058-EXEC). The WDR requires that all enrolled agencies develop a Sewer System Management Plan (SSMP) that describes the activities of the enrollee in managing, operating, and maintaining their sanitary sewer collection system. One of the requirements of the updated WDR is that an agency conduct an internal audit of its SSMP at least once every three (3) years. The audit evaluates how the enrollee has developed and implemented each of the eleven elements of the SSMP and how each element is functioning to assist in the prevention of sanitary sewer spills.

Victor Valley Wastewater Reclamation Authority (VWRA) owns and operates the regional sanitary sewer collection system within its VWRA service area. Their service area includes the service areas of its member agencies: Town of Apple Valley, City of Hesperia, County Service Area – Oro Grande (CSA-42), County Service Area – Spring Valley Lake (CSA-64), and City of Victorville. This VWRA system is comprised of 45 miles of gravity sewer line that collect and transmit wastewater generated within the VWRA service area to VWRA's Regional Wastewater Reclamation Facility (RWWRf) and the Apple Valley Water Reclamation Plant. There are three (3) lift stations owned by VWRWA within the system. All three (3) lift stations are operated and maintained by VWRA. A fourth lift station that discharges into the VWRA interceptor, the North Apple Valley Interceptor lift station, is owned and operated by the City of Victorville.

VWRA contractors perform general maintenance of the sanitary sewer collection system. Innerline Engineering, VWRA's current sewer interceptor inspection and cleaning contractor, has been working with VWRA for over a decade. Innerline Engineering's current VWRA contract ends in 2024. VWRA awards 3-year contracts with 2-year extension options to its inspection and cleaning contractors.

As an existing enrollee, and pursuant to the 2006 WDR, VWRA has updated its SSMP on multiple occasions, including in 2008 (certified), 2012 (certified), and most recently updated and recertified in 2020. The SSMP describes how VWRA manages, operates, and maintains its sanitary collection system.

The reissued 2022 WDR requires that the SSMP be updated and approved by the agency's elected governing body every six (6) years on a specific schedule. Agencies must update their SSMPs and include a summary of revisions based on Audit findings. The due dates for VWRA's SSMP and SSMP audits can be found here: https://www.waterboards.ca.gov/water_issues/programs/sso/lookup/ (use WDID 6SSO11169 for Victor Valley Wastewater Reclamation Authority). VWRA's next SSMP Update will be required in May 2025. VWRA's next SSMP audit will be due within six months of May 2027.

Overall, VWRA is doing an excellent job operating and maintaining its sewer system and reducing spills. In recent years, VWRA has spent considerable funds on sewer system capacity analyses and has a robust, well-documented preventative maintenance program.

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2 Audit Format

This SSMP Audit separately evaluates each SSMP Section using the following format:

- Accomplishments
- Changes Made During Audit Period
- Score
- Recommendations
- Recommendation for SSMP Update

The score criteria utilized in the Audit are provided in the table below:

Table 2.1: Audit Score Criteria

Score	Score Basis
Good	The requirements in the Element are met. Any recommendations or observations are not significant.
Adequate	The majority of the requirements in the Element are met. Recommendations are minor.
Area for Improvement	Minimum requirements in the Element are not met. Recommendations are significant.

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3 SSMP Audit Participants

This SSMP Audit assesses the effectiveness of VWRA's SSMP July 2020 Revision and compliance with the reissued WDR. This Audit aims to recognize accomplishments and changes made since the last SSMP Audit, identify deficiencies, recommend corrective actions, evaluate compliance with the reissued WDR, and provide recommendations for the next SSMP Update.

The Audit was conducted by the following Dudek Staff:

- Elizabeth Caliva, P.E., *Project Manager*
- Olivia Ready, EIT, *Project Engineer*

VWRA Staff participating in the SSMP Audit were:

- Latif Laari, *Environmental Compliance Manager*
- Darron Poulsen, *General Manager*
- Daniel Enriquez, *Environmental Compliance Inspector*

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4 VVWRA 2024 Audit Results Summary

The SSMP Audit resulted in finding that the VVWRA SSMP (2020 Revision) is in nearly full compliance with all subsections (elements) of the Reissued 2022 WDR, except Legal Authority; Overflow and Emergency Response Plan (now “Spill Emergency Response Plan”); Fats, Oils and Grease (FOG) Control Program (now “Sewer Pipe Blockage Control Program”); and System Evaluation and Capacity Assurance Plan. Minor updates are required in the remaining elements.

A summary of the results is presented in the table below:

Table 4.1: Audit Results Summary

SSWDR Section D.13	Effectiveness of the VVWRA’s SSMP and Compliance with WDR	Comments
1. Goals [SSSWDR D.13(i)]	Good	All goals were accomplished.
2. Organization [SSSWDR D.13(ii)]	Area for Improvement	Organizational chart in SSMP is outdated and lacks names, phone numbers, and emails of positions and contractors responsible for implementing specific measures in the SSMP program.
3. Legal Authority [SSSWDR D.13(iii)]	Area for Improvement	Update Ordinance to include coordination with and access to storm water facilities with Member Agencies.
4. Operation and Maintenance Program [SSSWDR D.13(iv)]	Adequate	Overall effective O&M occurring. Improve methods and metrics for determining where cleaning is needed. Ensure regular CCTV is performed.
5. Design and Performance Provisions [SSSWDR D.13(v)]	Adequate	Existing design and construction provisions are sufficient. Update manhole standards.
6. Overflow and Emergency Response Plan [SSSWDR D.13(vi)]	Area for Improvement	Overflow and emergency response are good, but must be updated to comply with Reissued WDR SERP requirements.
7. Fats, Oils and Grease (FOG) Control Program [SSSWDR D.13(vii)]	Good	Justification for not needing a Sewer Pipe Blockage (FOG) Control Program provided by VVWRA. Continue evaluations of the need, especially if spills occur due to FOG.
8. System Evaluation and Capacity Assurance Plan (SECAP) [SSSWDR D.13(viii)]	Good	Complete the 2021 I/I study that’s currently underway and develop an updated CIP to reduce I/I issues found.
9. Monitoring, Measurement, and Program Modifications [SSSWDR D.13(ix)]	Adequate	VVWRA is effectively tracking system maintenance, training, spills, etc. and modifying procedures accordingly. Improve tracking of all SSMP elements and implementation of audit recommendations.
10. SSMP Program Audits [SSSWDR D.13(x)]	Good	VVWRA is performing audits regularly. Minor recommendations.

SSWDR Section D.13	Effectiveness of the VVRA's SSMP and Compliance with WDR	Comments
11. Communication Program [SSSWDR D.13(xi)]	Adequate	Regular communication with satellite system entities (i.e. member agencies),but could be improved with the general public.
12. Funding [SSSWDR D.13(viii)(c)]	Good	VVRA has adequate funding to support its SSMP and compliance with the WDR. Minor recommendations.

The following sections describe these findings and recommendations in detail. The above list is a summary and is not intended to replace the detailed findings identified in the SSMP Audit Report. A full list of recommendations from this audit is included in the 2024 Audit Checklist, included in Appendix A.

5 Spill Performance and Spill Reporting

Spill History:

During the 18-year period extending from December 25, 2007, to December 31, 2023, the VWRA experienced 33 sanitary sewer spills from within its sanitary sewer collection system, with one (1) spill in 2022 and one (1) spill in 2023.

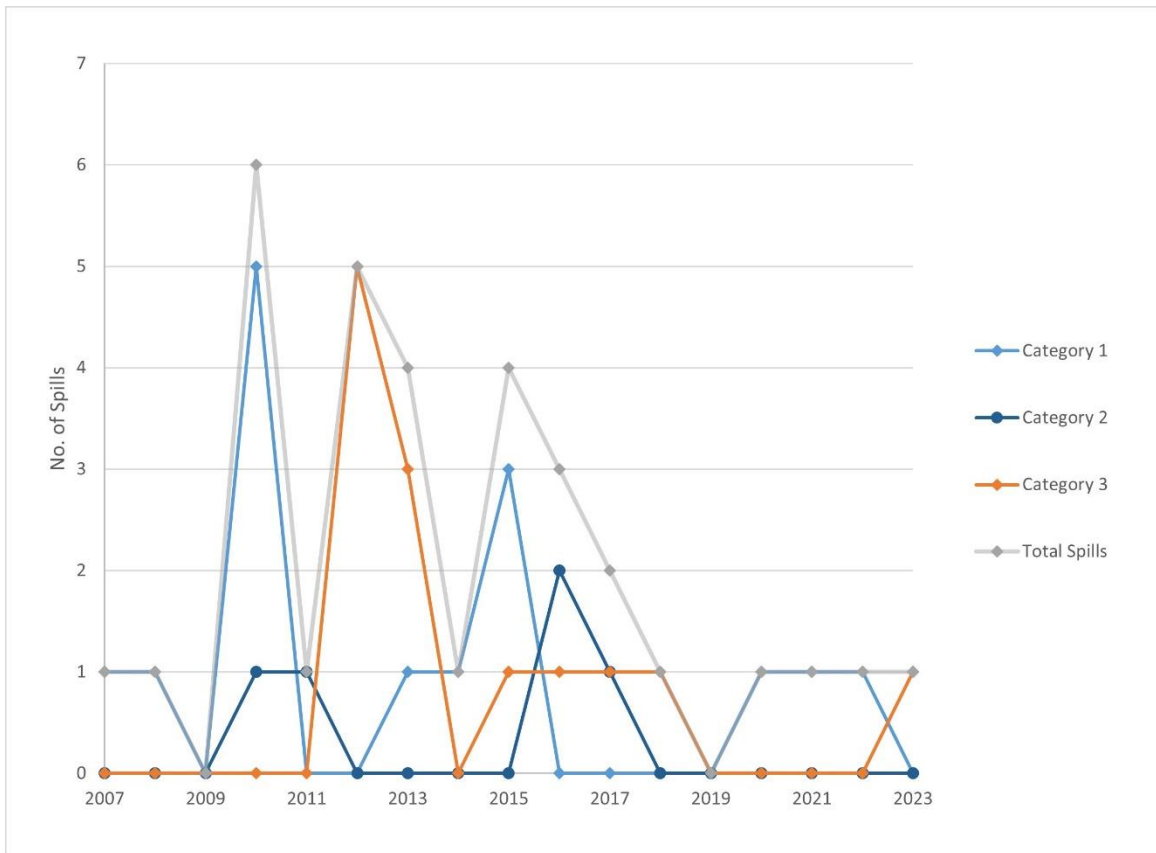
By practice, VWRA is responsible only for the main interceptors; the member agency connecting to VWRA is responsible for the point of connection to the main interceptors.

Below is a summary table and figure of the spills reported from 2007 to 2023 broken down by spill category.

Table 5.1: Spill Reports 2007 to 2023

Year	No. of Spills			Total Spills
	Category 1	Category 2	Category 3	
2007	1	0	0	1
2008	1	0	0	1
2009	0	0	0	0
2010	5	1	0	6
2011	0	1	0	1
2012	0	0	5	5
2013	1	0	3	4
2014	1	0	0	1
2015	3	0	1	4
2016	0	2	1	3
2017	0	1	1	2
2018	0	0	1	1
2019	0	0	0	0
2020	1	0	0	1
2021	1	0	0	1
2022 ¹	1	0	0	1
2023 ¹	0	0	1	1
Notes:				
¹ Current audit period.				

Figure 5.1: Spill History



System Performance:

The following information recaps how VVWRA’s sanitary sewer collection system performed during this audit period (2022-2023):

Size of collection system	45 miles (gravity)
Estimated (average) total sewage conveyed	12 MGD (in 2023)
Total Category 1 spills (public system)	1
Total Category 2 spills (public system)	0
Total Category 3 spills (public system)	1
Total spills (Categories 1 - 3 public system)	
Total est. spill volume (Categories 1-3)	254,519 gallons
Total est. spill volume recovered	0 gallons
Total est. spill volume lost	254,519 gallons
Percent of total spill lost	100%
Spills at Enhanced Maintenance Area (EMA)	N/A (VVWRA does not have EMAs)
Spills by cause (public system)	
Roots	0
Grease	0
Debris	0
Structural failure	0
Pump station failure	0
Capacity	1 [Rainfall Exceeded Design, I and I (Separate Collection System Only)]
Vandalism	1
Operator error	0
Other	0

Conclusion

VVWRA has seen a general downward trend in spills in the last eight (8) years, including the audit period. The overall decrease in spill events since the peak in 2010 indicates that the VVWRA's efforts are fulfilling their goal of reducing spills.

Recommendations:

- a. Continue existing efforts in spill prevention and performance.

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6 Goals

The Goals element of the SSMP is intended to establish specific, attainable, and measurable goals for the collection system management, operation, maintenance, and improvement. Goals are intended to be fluid and changed as they are achieved.

During the 2022-2023 audit period, the following goals were accomplished:

1. Minimize spills. In 2020, VWRA experienced one (1) spill, and in 2021, it experienced one (1) spill. This is consistent with the general downtrend of spills since the peak in 2010.
2. Prevent public health hazards.
3. Minimize inconveniences by responsibly handling interruptions in service.
4. Protect significant investment in collection systems by maintaining adequate capacities and extending useful life. In 2021, VWRA completed their “Interceptor Risk Analysis,” which included capacity and condition analyses and recommended improvements to the collection systems to accommodate projected 2030 flow conditions.
5. Prevent unnecessary damage to public and private property.
6. Use funds available for sewer operations most efficiently.
7. Convey wastewater to treatment facilities with minimal infiltration, inflow, and exfiltration. In 2021, VWRA began a 3-year regional inflow and infiltration (I/I) study to study where in its member agencies’ collection system, I/I is occurring. This study is still ongoing.
8. Provide adequate capacity to convey peak flows. In 2021, VWRA completed its “Interceptor Risk Analysis,” which included capacity and condition analyses and recommended improvements to the collection systems to accommodate projected 2030 flow conditions. Also, during the 2020 to 2021 audit period, the only capacity-related spill was caused by a 10-year storm on March 12, 2020.
9. Safely perform all operations to avoid personal injury and property damage.

Score: Good

Recommendations:

- a. Maintain training of VWRA staff and contractors on O&M, SERP and SSMP activities.
- b. Complete I/I study.
- c. Maintain annual communication with satellite sewer systems regarding O&M of these satellite systems.

Recommendation for SSMP Update:

- a. The Reissued WDR no longer requires an agency to provide a stated Goal; instead, the State Water Board establishes the goal, and it is up to the agency to comply by providing regulatory context, an SSMP Update schedule, and a sewer system asset overview.
- b. For the Goal and Introduction Section, ensure these items are included:
 - 1) Implementation of SSMP as a “living document”
 - 2) Enforcement of development, update, and implementation
 - 3) Narratives for regulatory context, assets, updated sewer map(s)

- c. This section should be periodically reviewed to ensure that the information included remains accurate and current. If inaccuracies are found, they should be corrected and noted as to when the corrections were made and by whom. Corrections can be tracked in a log or on an errata sheet placed in the SSMP.

7 Organization

The SSMP lists the titles, description of duties, and contact information in 2020 for both VWRA positions and the VWRA’s contractors involved with the implementation of the SSMP.

Under the FY 2023-24 Adopted Annual Budget, a new organizational chart was proposed and approved in July 2023. The new organization chart is shown in Figure 7.1. Several positions were created/ revised. The positions in this organizational chart associated with the SSMP are listed in Table 7.1.

Figure 7.1: New Organization Chart

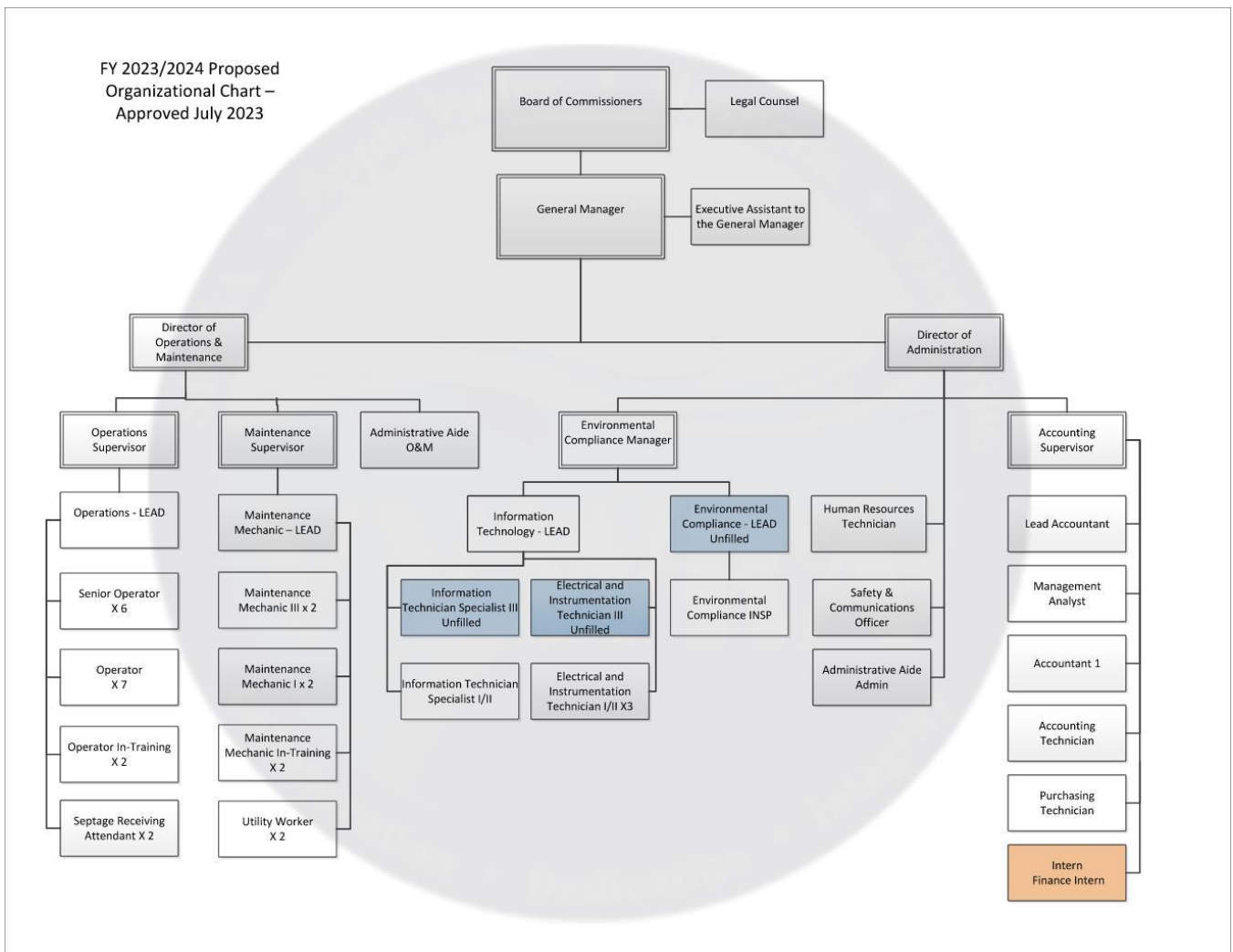


Table 7.1: Positions that Implement VVWRA SSMP

SSWDR Section D.13	Position(s)
Legally Responsible Official (LRO) or Duly Authorized Representative [SSSWDR J(ii)]	Environmental Compliance Manager
1. Goals [SSSWDR D.13(i)]	Board of Commissioners, General Manager, & Environmental Compliance Manager (i.e. LRO)
2. Organization [SSSWDR D.13(ii)]	Board of Commissioners, General Manager, & Environmental Compliance Manager
3. Legal Authority [SSSWDR D.13(iii)]	Board of Commissioners & General Manager
4. Operation and Maintenance Program [SSSWDR D.13(iv)]	Environmental Compliance Manager & Contractors (for sewer interceptors), and Director of Operations & Maintenance (for sewer interceptors and lift stations)
5. Design and Performance Provisions [SSSWDR D.13(v)]	Environmental Compliance Manager
6. Overflow and Emergency Response Plan [SSSWDR D.13(vi)]	Environmental Compliance Manager & Contractors
7. Fats, Oils and Grease (FOG) Control Program [SSSWDR D.13(vii)]	Board of Commissioners, General Manager, & Environmental Compliance Manager
8. System Evaluation and Capacity Assurance Plan (SECAP) [SSSWDR D.13(viii)]	Environmental Compliance Manager
9. Monitoring, Measurement, and Program Modifications [SSSWDR D.13(ix)]	Environmental Compliance Manager
10. SSMP Program Audits [SSSWDR D.13(x)]	Environmental Compliance Manager
11. Communication Program [SSSWDR D.13(xi)]	General Manager
12. Funding [SSSWDR D.13(viii)(c)]	Board of Commissioners & General Manager

Changes made during audit period: Under the FY 2023-24 Adopted Annual Budget, a new organizational chart was created.

Score: Area for Improvement

Recommendations:

- a. Periodically review and make any necessary changes to the organizational structure listed in the SSMP and document in SSMP change log.
- b. Periodically review and make necessary revisions to the roles and responsibilities of positions listed in the SSMP and document in SSMP change log.
- c. Periodically review and update the contact information for individuals involved with the SSMP and

document in SSMP change log.

- d. Periodically review and ensure that the proper legally responsible official (LRO) and data submitters are registered with the state.
- e. Periodically review and update the contact information for spill notification and document in SSMP change log.
- f. Consider adding additional LROs for backup in case of limited availability during emergencies.

Recommendation for SSMP Update:

- a. Include information that the LRO must have authority to ensure compliance, authority over management of the entire sewer system, and authorized to make managerial decisions governing operations, capital improvements, and ensuring long-term environmental compliance.
- b. Include information that the LRO must possess a recognized degree/certificate for O/O of sewer systems and/or professional training and experience demonstrated through extensive knowledge, training, and experience.
- c. Update the organizational chart in the SSMP Update to match what was found in the FY 2023-24 Adopted Annual Budget.
- d. Update the responsibilities for new roles in the organizational chart found in the FY 2023-24 Adopted Annual Budget.
- e. List the names, telephone numbers and email addresses for management, administrative, and maintenance position titles responsible for implementing the Sewer System Management Plan elements.
- f. Add the names and contact information for contractors who are involved in implementing the SSMP program in the SSMP Update.
- g. This section should be periodically reviewed to ensure that the information included remains accurate and up to date. If inaccuracies are found, they should be corrected and noted as to when the corrections were made and by whom. Corrections can be tracked in a log or on an errata sheet placed in the SSMP.

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8 Legal Authority

VVWRA’s legal authority to operate and maintain its sanitary sewer collection system is within 2021 VVWRA Ordinance No. 001.

The WDR requires that VVWRA have the legal authority in the following areas:

Table 8.1: WDR Requirements

Legal Authority Order Requirements	Applicable Sections of VVWRA Ordinance No. 001
a. Prevent illicit discharges into its sanitary sewer system from inflow and infiltration (I&I); unauthorized stormwater; chemical dumping; unauthorized debris; roots; fats, oils, and grease; and trash, including rags and other debris that may cause blockages	VVWRA Ordinance No 001: <ul style="list-style-type: none"> • Article 05-04 • Article 07-03 • Article 07-04 • Article 08-04.3 • Article 08-04.6 • Article 08-06.1 • Article 08-06.2
b. Collaborate with storm sewer agencies to coordinate emergency spill responses, ensure access to storm sewer systems during spill events, and prevent unintentional cross connections of sanitary sewer infrastructure to storm sewer infrastructure	Not available
c. Require that sewer system components and connections be properly designed and constructed	VVWRA Ordinance No 001: <ul style="list-style-type: none"> • Article 05-03 • Article 06
d. Ensure access for maintenance, inspection, and/or repairs for portions of the service lateral owned and/or operated by the Enrollee	VVWRA Ordinance No 001: <ul style="list-style-type: none"> • Article 07-01 • Article 09-02 (for Nondomestic and Industrial users)
e. Enforce any violation of its sewer ordinances, service agreements, or other legally binding procedures	VVWRA Ordinance No 001: <ul style="list-style-type: none"> • Article 13 • Article 09-01 • Article 11-01.3
f. Obtain easement accessibility agreements for locations requiring sewer system operations and maintenance, as applicable	VVWRA Ordinance No. 001: <ul style="list-style-type: none"> • Article 07-01

Changes made during audit period: None

Score: Area for Improvement

Recommendations:

- a. Consider updating Ordinance to specify roots that may cause blockages are not allowed.
- b. Update Ordinance to specify collaboration with storm sewer agencies to coordinate emergency spill

responses, ensure access to storm sewer systems during spill events, prevent unintentional cross-connections of sanitary sewer infrastructure to storm sewer infrastructure, and state that unauthorized stormwater inflow and infiltration is not allowed in the VVWRA sewer system.

- c. Update Ordinance to explicitly include information on access for repairs of VVWRA's own sewer system.
- d. Since inflow and infiltration (I/I) entering VVWRA's collection system from satellite systems has been of issue, establish agreements with satellite agencies to control I/I into the VVWRA's collection system.
- e. Establish agreements with satellite agencies to specify unauthorized debris; roots; and trash, including rags and other debris, that may cause blockages are not allowed into the VVWRA sewer collection system.
- f. Establish agreements with satellite agencies to ensure access to storm drain systems during spill events.

Recommendation for SSMP Update:

- a. Add Table 8.1 above to the SSMP Update.
- b. Include links to the 2021 VVWRA Ordinance No. 001, and any new ordinance revisions, from the VVWRA's website.
- c. Include any collaboration with storm drain agencies.
- d. Add section listing the agreements (title and date; e.g. 1998 Joint Exercise of Powers Agreement) between the VVWRA and any owners of satellite sewer systems to document these agreements explicitly.
- e. Additionally, this section should be periodically reviewed to ensure that the information included remains accurate and up to date. If inaccuracies are found, they should be corrected and noted as to when the corrections were made and by whom. Corrections can be tracked in a log or on an errata sheet placed in the SSMP.

9 Operations and Maintenance Program

9.1 Collection System Mapping:

VWRA has created and maintains a comprehensive, customized, electronic-based Geographic Information System (GIS) sewer collection system map, showing all pipeline segments and manholes within VWRA's jurisdictional boundary as surveyed in 2008 and supplemented with as-built information. VWRA's GIS also includes facilities from satellite systems (not owned by VWRA). VWRA has made it a priority to continually ensure that the GIS continues to stay up to date. VWRA updates its GIS if a new asset is added to the VWRA collection system, or an existing collection system asset is abandoned. GIS maps are updated as needed, or as corrections are provided.

At the current time, maps (both digital GIS maps and hardcopy atlas maps) are available indicating general pipeline, lift station, and manhole locations. The GIS database's Manhole and Sewer Interceptor IDs are used to store information in VWRA's scheduled preventive maintenance, repair, and cleaning database, such as work order history and structural information to an associated manhole or sewer interceptor.

VWRA does not maintain maps of the nearby storm water inlets and pipelines. During the 2020 to 2021 audit period, VWRA updated its existing GIS to include the reclaimed water pipeline.

The SSMP references up-to-date information about collection system mapping. VWRA maintains complete, up-to-date, and sufficiently detailed maps.

Changes made during audit period: None

Score: Good

Recommendation:

- a. Add applicable stormwater conveyance facility data to VWRA GIS map. Especially, stormwater facilities near VWRA collection system infrastructure.
- b. Continue to regularly review and update the GIS sanitary sewer collection system maps for accuracy.

Recommendation for SSMP Update:

- a. Add an up-to-date map of the sanitary sewer system, including stormwater facilities, and procedures for maintaining and providing State and Regional Water Board staff access to the map.

9.2 Preventative Maintenance Program:

The VWRA contractor, Innerline Engineering, manages the cleaning and inspection of its sanitary sewer collection system (except for lift stations, which are managed by VWRA). VWRA contractors clean and inspect a significant portion of its sanitary sewer collection system annually. The VWRA scheduled preventative maintenance, repair, and cleaning database system is used to schedule recurring maintenance and cleaning work orders, and CCTV inspections. The VWRA database also contains NASSCO's PACP and MACP condition assessment data for VWRA pipelines and manholes.

During calendar years 2022 and 2023, VWRA contractors (Innerline Engineering) cleaned 6.0 miles of VWRA's 45-mile collection system. VWRA performs jetting of all the lines on an as-needed basis based on performance measurements like sewage levels and odor complaints. VWRA manholes are visually inspected in conjunction with sewer line cleaning. CCTV inspection occurs after cleaning. For this audit period, CCTV inspection was not performed regularly after cleaning.

In addition to line-cleaning, VVWRA contractors (Innerline Engineering) CCTV inspected 0.7 miles of the sanitary sewer collection system in 2022 and 2023 combined. VVWRA also visually inspected the outside of approximately 12,000 manholes and the inside of approximately 107 manholes.

Lift station operations and maintenance are performed by VVWRA. Lift stations are inspected by VVWRA staff daily. Lift station wet wells are cleaned by VVWRA staff quarterly. All VVWRA lift stations contain on-site backup generators. VVWRA’s SSMP contains up-to-date information about preventative operations and maintenance activities. VVWRA’s preventative maintenance activities are sufficient and effective in reducing and preventing spills and blockages.

Accomplishments:

VVWRA has estimated the following maintenance activities were completed during this audit period.

Description of Work Event	Work Accomplished During Audit Period (Calendar Years 2022 - 2023)
Total length of gravity sewer lines cleaned	31,804
Percentage of gravity sewer lines cleaned	13.39%
Total number of manhole inspections	12,000 (outside of MH) 107 (inside of MH)
Total length of sewer lines inspected by televising	3,929
Percentage of sewer lines inspected by televising	1.65%

Changes made during audit period: None.

Score: Adequate

Recommendations:

- a. Add more sensors to assist in determining where performance-based cleaning is needed.
- b. Ensure documentation of lift station inspection is happening and records readily accessible.
- c. Consider listing specific performance metrics for triggering as-needed cleaning based on sewer level rise.
- d. Consider evaluating whether an enhanced cleaning or inspection cycle is needed at certain portions of the VVWRA collection system.
- e. Ensure VVWRA’s CCTV inspection contractor, Innerline Engineering, is on a regular schedule for CCTV inspection. This should be coordinated with the cleaning schedule to be performed after cleaning is performed.
- f. Continue existing efforts to document and monitor system deficiencies with recurrent issues based off complaints, field inspections, or CCTV inspection results.
- g. Continue existing efforts in documentation of cleaning and CCTV inspections.

Recommendation for SSMP Update:

- a. Remove the “5-year” cycle language from the SSMP since VWRA cleans based on performance.
- b. Describe lift station routine preventative operation and maintenance activities in the SSMP Update.
- c. Include statement that maps will be available digitally and will be provided to State/Regional Water Board upon request.

9.3 Rehabilitation and Replacement Plan:

VWRA’s contractors assessed the VWRA sewer pipelines and manholes during routine inspections using NASSCO’s PACP and MACP condition assessment rankings.

Engineering studies and assessments of VWRA’s sanitary sewer collection system performed between 2011 and 2021 provided results regarding the condition of the existing sanitary sewer collection system. Defects identified during these assessments were prioritized and incorporated into the 2021 “Interceptor Risk Analysis” report’s recommended system improvements list (i.e. current CIP). Some of these projects that came out of these studies and system recommendations have been incorporated into VWRA’s Capital Improvement Program (CIP). In 2023, VWRA updated its CIP list of projects for 2024 through 2033. Allocation of funds are prioritized by need. The CIP projects listed for collection system projects and treatment process projects are prioritized to be completed by 2029. The CIP includes a time schedule for improvements, identified funding sources, and a time schedule for developing funding sources. The remaining recommended projects from the 2021 “Interceptor Risk Analysis” report have not been scheduled for improvement as the Authority is investigating other options to reduce capacity limitations in the system, including the construction of a new scalping plant.

In 2021, VWRA began a 3-year regional inflow an infiltration (I/I) study to study where in its member agencies’ collection system I/I is occurring. This study is still ongoing. The intention of the study is to identify the areas of I/I and support the member agencies in correcting the defects to reduce peak flows in the satellite and VWRA Interceptor systems during wet weather events. Winter 2023/2024 is the third year of monitoring. It is anticipated the results of the study will be provided in late 2024.

VWRA performed pump replacement/repairs totaling \$79,500 and manhole frame/cover replacement totaling \$166,700.

Twenty (20) VWRA manhole lids were replaced with composite, lockable lids in the SSMP audit period of 2022 to 2023.

The SSMP contains up-to-date information about the rehabilitation and replacement program, as well as the CCTV inspection program. Scheduled inspections and the condition assessment program appear to be effective in identifying, prioritizing and addressing deficiencies, other than the manhole security issue identified in the Lahontan Regional Water Quality Control Board’s (Regional Board) September 8th, 2022, Notice of Violation (NOV). The CIP addresses prioritized projects for collection system assets. VWRA plans to adopt a new secure manhole standard that will be used for all future manholes frames and lids replacement (see Section 10 below).

The funds used for the Capital Improvement Program (CIP) are describe in Section 17 of this Audit.

Changes made during audit period:

- a. In 2023, VWRA updated its CIP list of projects for 2024 through 2033. The CIP includes a time schedule for improvements, identified funding sources, and a time schedule for developing funding sources.
- b. In 2021, VWRA began a 3-year regional inflow an infiltration (I/I) study to study where in its member agencies’ collection system I/I is occurring. This study is still ongoing.

- c. VVWRA performed pump replacement/repairs totaling \$79,500 and manhole frame/cover replacement totaling \$166,700.
- d. Twenty-four (24) VVWRA manhole lids were replaced with composite, lockable lids.

Score: Adequate

Recommendations:

- a. Continue to replace unsecure manholes with secure manholes per the new manhole standards mentioned in Section 10 below.
- b. Continue to determine sources of funding and track the time schedule for developing funding sources and use of funds as part of the CIP for 2024 through 2033.
- c. Identify a schedule for completion of the remaining recommended projects in the 2021 “Interceptor Risk Analysis” report or identify alternative solutions for capacity management.
- d. Once complete, implement short-term and long-term rehabilitation actions to address deficiencies identified in the inflow an infiltration (I/I) study.
- e. Continue to review and update the current CIP list. If dates are not realistic or have passed new dates should be reassigned. Projects that have been completed or are no longer necessary should be removed. Any new projects based upon the system evaluation or CCTV inspection should be added.
- f. Ensure VVWRA’s CCTV inspection contractor, Innerline Engineering, is on a regular schedule for CCTV inspection. Deficiencies identified in these inspections should be ranked and scheduled for rehabilitation.

Recommendation for SSMP Update:

- a. The Reissued WDR incorporates this section into the revised Section 8: System Evaluation, Capacity Assurance, and Capital Improvements. This rehabilitation and replacement plan should now be incorporated into this section for the SSMP Update. See section 8 for additional recommendations for rehabilitation and replacement.
- b. Per the 2018 SSMP Audit, add a list of CIP projects to the SSMP with schedules and funding sources.

9.4 Training Program:

VVWRA staff training is facilitated by both VVWRA staff and outside training workshops, such as CWEA and P3S. VVWRA staff also receive training on sewer monitoring from SmartCover and ADS, VVWRA staff receive annual Spill Emergency Response Plan, confined space and traffic control training. New VVWRA staff are trained are lift station operation and maintenance. All trainings are documented and the records readily accessible. Example training records are provided in Appendix B.

VVWRA’s 2021 contract with Innerline Engineering stipulates that Innerline Engineering’s “employees or subcontractors have all necessary licenses, permits, qualifications and approvals... to perform [Sewer CCTV and Cleaning Services] in the State of California.” The contract also stipulates that Innerline Engineering’s “employees or subcontractors will receive adequate training.”

VVWRA contractors are trained in:

- Confined space entry procedures
- OSHA Construction Safety and Health,
- American Traffic Safety Services Association (ATSSA) flagging, and
- NASSCO PACP, MACP, and LACP.

Changes made during audit period: Spills response training performed during audit period on 4/25/2022, 6/16/2022, and 5/10/2023. Training on the Reissued WDR was performed on 1/11/2023 and 5/3/2023. Training for the Innerline Engineering employees included for confined space entry training, OSHA 40-hour HAZWOPER training.

Score: Adequate

Recommendations:

- a. Implement a formal SSMP Training Program with a schedule.
- b. Continue to document training.
- c. Ensure VVWRA contractors are also providing documentation on SSMP training for VVWRA files.
- d. Train relevant VVWRA staff on California Integrated Water Quality System (CIWQS) to meet requirements in the Reissued WDR describe in Section 18 of this Audit.
- e. Modifications to the training should be implemented on an as-needed basis especially when new equipment is installed, or operating procedures have been changed.
- f. All new employees and contractors should be trained as soon as possible, and records of all training should be maintained.
- g. Regularly implement training with staff from sewer and storm to know their part in responding to spills and recognizing areas at risk, develop strategies in containing and preventing spills, and reduce risks of cross contamination.

Recommendation for SSMP Update:

- a. Include details on enhanced training on the WDR and drills/skilled volume estimations.
- b. Per 2018 SSMP Audit, if VVWRA contractors are to be certified/licensed, add this information to the SSMP Update.
- c. Add VVWRA and contractor training information (e.g. types and frequency of trainings) to the SSMP Update.
- d. Add that VVWRA contractors are to provide documentation on SSMP training.

9.5 Equipment and Replacement Parts Inventory

VWRA also owns and operates the following equipment that can be utilized in a spill emergency:

- Trailer mount generator
- Six (6) Trailer mount pumps
- Ten (10) 300-ft hoses
- Portable Wacker pump
- A boom truck
- An air compressor
- Two (2) trailer mount light towers
- A traffic control trailer
- A Confined Space Entry Trailer

VWRA is responsible for ensuring that VWRA equipment is kept in proper working condition and that backup supplies are available.

VWRA also stores spare pipe and pump replacement parts for quick use in emergency replacements.

VWRA maintains a list of contractors and equipment rental companies in case additional equipment and/or parts is needed for emergency repairs.

From 2022-2023, VWRA purchased a new vactor truck, twenty composite manhole covers, a rodding trailer, and a 12-ft dump trailer. Various other smaller equipment and replacement parts were purchased during the audit period to replace used items. Purchases are made on an as-needed basis to maintain inventory. The equipment and spare parts are checked monthly to make sure that they are in working order for use in emergencies.

Changes made during audit period: VWRA purchased a new vactor truck, twenty composite manhole covers, and a trailer. Replacement parts inventory stock maintained.

Score: Good

Recommendation for SSMP Update:

- a. Add new collection utilities truck and new vactor truck to equipment list in the SSMP Update.
- b. Create a database for spare parts and track the current inventory, ensuring that staff is updating this as repairs are made and parts are ordered. The equipment and spare parts should be checked regularly to make sure that they are in working order for use in emergencies. It is recommended the condition of the equipment be tracked in the database.
- c. Additionally, this section should be periodically reviewed to ensure that the information included remains accurate and up-to-date. If inaccuracies are found, they should be corrected and noted as to when the corrections were made and by whom. Corrections can be tracked in a log or on an errata sheet placed in the SSMP.

10 Design and Performance Provisions

VWRA utilizes the current edition of the Standard Publication for Public Works and Standard Plans for Public Works (Greenbook) to provide design and performance provisions. VWRA has developed standard details for Public Works improvements, available upon request from VWRA.

Although inspecting and tested specifications were not received in this audit, VWRA maintains that their sewer mains are installed, tested, and inspected according to industry standards.

VWRA may also contract with an engineering firm for design of construction and rehabilitation related projects. All projects are designed by a Professional Engineer registered in the State of California. All Contractors working on projects must be licensed and insured.

By end of 2024, VWRA plans to update its manhole standards to require that future manholes have composite manhole frames and lockable lids to create more secure manholes to prevent anyone from vandalizing VWRA's sewer system. This standard update shall be noted in the next SSMP update.

Score: Adequate

Recommendations:

- a. Update manhole standards to require that future manholes have composite manhole frames and lockable lids.

Recommendation for SSMP Update:

- a. By December 31st, 2024, include statement in a revised SSMP about the new manhole standard update to make future manholes more secure.
- b. Include that the VWRA procedures and standards for inspection and testing of newly constructed, newly installed, repaired, and rehabilitated system pipelines, pumps, and other equipment and appurtenances follow Greenbook and/or NASSCO.
- c. Consider either placing VWRA standards and specifications on VWRA website or updating the SSMP to state that the standards and specifications are not on the VWRA website, but available upon request.
- d. Consider evaluating whether the design criteria and construction standards contain any deficiencies in addressing hydraulic capacity, if applicable.
- e. Include information on scheduling system enhancements for problem/root-prone areas.
- f. This section should be periodically reviewed to ensure that the information included remains accurate and up to date. If inaccuracies are found, they should be corrected and noted as to when the corrections were made and by whom. Corrections can be tracked in a log or on an errata sheet placed in the SSMP.

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11 Overflow Emergency Response Plan

This section of the SSMP discusses the City's communications with the public.

VWRA's Overflow Emergency Response Plan (OERP) addresses spill response, detection, mitigation, clean up, investigation, documentation and reporting. It was last revised in 2020 to maintain compliance with the active WDR at the time (the WDR was since reissued in 2022 and effective in 2023). The OERP details the activities of VWRA's first responder to a spill event and contains contact information for the VWRA's mutual aid partners (VWRA member agencies, bypass equipment rental companies, bypass contractors, and engineering consultants) who may be involved with site response. It also contains information on spill estimation techniques and necessary spill notification and reporting procedures. VWRA staff are trained on the OERP. The OERP has yet to be updated to a Spill Emergency Response Plan (SERP) as required by the Reissued WDR.

VWRA's OERP contains a Water Quality Monitoring Plan for Category 1 spills of 50,000 gallons or more that are spilled to surface waters. VWRA staff sample the spill receiving water and fill out sample labels and chain-of-custody forms before transporting samples to either BSK or Babcock laboratories within the maximum sample hold times.

VWRA responds to all spills that occur on VWRA's interceptor collection system and some spills that occur in member agencies' collection systems. VWRA maintains responsibility only for the VWRA interceptors. Member agencies are responsible for their own sewer pipes including the point of connection to the VWRA's collection system. While VWRA does not perform O&M on their five (5) tributary satellite systems, if contacted, VWRA would provide emergency response to an uncontrolled spill if it were to occur with those systems and the entities (e.g. VWRA member agencies) required assistance. VWRA may seek financial reimbursement for these efforts.

During this two-year audit period, VWRA had two (2) public spills. Documented spill response times were an average of 11.5 minutes in 2022 and 2023.

The VWRA's SSMP contains a version of the OERP. The OERP has been effective in handling spills as evidenced by the handling and reduction of public sewer system spills since 2010.

Changes made during audit period:

- a. In January 2022, VWRA added a SmartCover in the manhole just upstream of the Oro Grande lift station to monitor abnormal sewage levels caused by lift station failures before they cause spills.
- b. Michael Baker has been replaced by John Robinson Consulting as one of VWRA engineering consultants. Their phone number is (626) 375-9389.

Score: Area for Improvement

Recommendations:

- a. Continue to document trainings.
- b. All new employees and contractors should be trained as soon as possible, and records of all training should be maintained.
- c. Regularly implement training with staff from sewer and storm to know their part in responding to spills and recognizing areas at risk, develop strategies in containing and preventing spills, and reduce risks of cross contamination.

Recommendation for SSMP Update:

- a. Update to comply with the Reissued WDR requirements for the SERP including new spill categories. Per
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the Authority, this will be in place by the next SSMP Update in May 2025.

- b. As stated in the 2018 SSMP Audit, per VVWRA current NPDES permit (Order No. R6V-2020-0028, NPDES No. CA0102822; Attachment D Section V.E.) spills are to be provided orally to the Regional Board within 24 hours from the time VVWRA is aware of the spill and a report shall be provided within five (5) days from the time VVWRA is aware of the spill, except for Category 1 and 2 spills which instead require a Draft Spill Report within three (3) business days of the Enrollee's knowledge of the spill per the Reissued WDR. Provide phone number for Regional Board.
- c. Update notification requirements to comply with the Reissued WDR, Section 1 of Attachment E1, including:
 - 1) information to provide to Cal OES, and
 - 2) spill report updates after Cal OES notification.
- d. Update monitoring requirements to comply with the Reissued WDR, Section 2 of Attachment E1, including:
 - 1) visually assessing the spill location(s) and spread,
 - 2) documentation of the critical spill locations,
 - 3) receiving water visual observations,
 - 4) Spill-Specific Requirements,
 - 5) water quality sampling within 18 hours of knowledge of potential discharge to surface water,
 - 6) sampling locations,
 - 7) samples for specific constituents,
 - 8) water quality analysis specifications, and
 - 9) safety and access exemptions.
- e. Update reporting requirements to comply with the Reissued WDR, Section 3 of Attachment E1, including:
 - 1) Draft Spill Report for Category 1 Spills
 - 2) Certified Spill Report for Category 1 Spills
 - 3) Spill Technical Report for Individual Category 1 Spill in which 50,000 Gallons or Greater Discharged into a Surface Water
 - 4) Amended Certified Spill Reports for Individual Category 1 Spills
 - 5) Draft Spill Report for Category 2 Spills
 - 6) Certified Spill Report for Category 2 Spills
 - 7) Amended Certified Spill Reports for Individual Category 2 Spills
 - 8) Monthly Certified Spill Reporting for Category 3 Spills
 - 9) Monthly Certified Spill Reporting for Category 4 Spills
 - 10) Amended Certified Spill Reports for Category 3 Spills
 - 11) Annual Certified Spill Reporting of Category 4 and/or Lateral Spills

- 12) Monthly Certification of “No-Spills” or “Category 4 Spills” and/or “Non-Category 1 Lateral Spills”
 - 13) Annual Report (Previously termed as Collection System Questionnaire in General Order 2006-0003-DWQ)
- f. Include recordkeeping requirements to comply with the Reissued WDR, Section 4 of Attachment E1, including:
- 1) Recordkeeping Time Period
 - 2) Availability of Documents
 - 3) Spill Reports
 - 4) Recordkeeping of Category 4 Spills and Non-Category 1 Lateral Spills
 - 5) Total Annual Spill Information
 - 6) Audit Records
 - 7) Work Orders
- g. Include requirement to annually review and assess the effectiveness of the Spill Emergency Response Plan.
- h. Ensure contact information listed in this section up-to-date, including the replacement of Michael Baker by John Robinson Consulting as one of VVWRA engineering consultants.
- i. Consider notification of other potentially affected entities of spills (for example, health agencies such as county health officer or county environmental health agency, water suppliers, etc.).
- j. Include notification for regulatory agencies, with contact information.
- k. Update Post Spill Assessment to meet all requirement of the Reissued WDR, Attachment E1.
- l. Include Annual Assessment to meet all requirement of the Reissued WDR, Attachment E1.
- m. Address emergency system operations, traffic control and other necessary response activities to meet the requirements of the Reissued WDR.
- n. Identify that if reasonable, the spill response crew should attempt to keep the spill in the street and out of the storm drain or other surface water bodies.
- o. Consider including these items in the Recovery and Clean-Up (Mitigation) section:
- 1) Isolate, contain, and/or divert sewage flow from any open channels and storm drain structures using manmade berms.
 - 2) Disinfection, removal, and disposal requirements for contaminated soil
 - 3) Disinfection requirements for contaminated structures such as streets, sidewalks, buildings, etc. Include removal, and disposal requirements for solutions/water used for disinfection.
 - 4) If drainage systems are contaminated, staff/contractor requirements for implementation and removing/cleaning sewage from drainage conveyance systems not impacting beneficial uses/receiving waters.

- 5) Documentation and recording of all pertinent information of the spill shall be completed prior to leaving the site.
- p. Include coordination/collaboration with storm drain agencies (prior, during, after) spills
 - q. Implement technologies, practices, equipment, and interagency coordination to expedite spill containment and recovery.
 - r. Similar to recommendations in the 2018 SSMP Audit, consider adding standard field report forms specific to spills and a procedure on how to fill out these forms in the SSMP.
 - s. Under the “Overflow Detection” section, add an item for the SmartCover sensors that were installed in January 2022 for detecting a spill.
 - t. Update the references to the “Regional Plant Laboratory” with “BSK or Babcock laboratories”.
 - u. Implement a formal training on the Spill Emergency Response Plan with a schedule. Add this information to the SSMP Update.
 - v. Ensure VVWRA contractors are also providing documentation on SERP training for VVWRA files. Add this requirement to the SSMP Update.
 - w. This section should be periodically reviewed to ensure that the information included remains accurate and up to date. If inaccuracies are found, they should be corrected and noted as to when the corrections were made and by whom. Corrections can be tracked in a log or on an errata sheet placed in the SSMP.

12 Fats, Oils and Grease Control Program

Prior to 2021, VWRA had its own the Sewer Pipe Blockage Control Programs/Fats, Oils and Grease (FOG) Control Program where it performed inspections and issued permits. In 2021, VWRA delegated its Sewer Pipe Blockage Control Program inspection and permit issuing work to its member agencies FOG Control Programs to avoid duplicating efforts.

VWRA assessed its collection system to determine the necessity of implementing a Sewer Pipe Blockage Control Program and determined that, at this time, it would be unnecessary due to the following points:

- VWRA has not experienced any spills that were attributed to fats, oils, grease, rags, and debris;
- VWRA has not identified that roots are a significant source of blockages;
- VWRA has not identified problem areas causing blockages within their system;
- VWRA has very few direct connections to commercial, food service, institutional and industrial establishments (these facilities typically connect directly to VWRA's member agencies' collection systems);
- VWRA member agencies have their own sewer pipe blockage (FOG) Control Programs that are reviewed by VWRA;
- VWRA Sewer Use Ordinance (SUO) 001 contains sewer pipe blockage (FOG) prohibitions;
- VWRA Sewer Use Ordinance (SUO) 001 requires Member Entities to prevent the discharge of excessive quantities of grease and oil to their tributary sewerage systems by requiring all restaurants to properly install and maintain appropriately designed and effective grease traps;
- VWRA Sewer Use Ordinance (SUO) 001 requires all food processing facilities, except restaurants, which discharge food processing wastes to the POTW, shall direct all wastewater through a two-compartment gravity separation interceptor;
- VWRA Sewer Use Ordinance (SUO) 001 provides the authority to inspect grease producing facilities including non-domestic users, industrial users, interceptor sewers, sewage treatment facilities, and disposal facilities in addition to the enforcement of violations of regulations;
- Class III (non-Significant Industrial User) permits are being issued to restaurants and other food processing facilities;
- VWRA accepts restaurants' grease interceptor pumped waste at its RWWRF (this service reduces the amount of grease disposed of in the collection system); and
- VWRA has a Public Outreach Program through its website, treatment plant tours, and publicized Board of Commissioner's meetings held each month.
- VWRA does not have sewer pipe blockage (FOG) information on its website as FOG/pipe blockage control programs were delegated to the member agencies. It was confirmed as part of this audit that the member agencies have this information on their websites.

VWRA now oversees the Sewer Pipe Blockage Control Programs of its member agencies. VWRA receives information from its member agencies on how many Sewer Pipe Blockage Control Program inspections happened and how many permits are currently issued and compiles that information in a quarterly report that is sent to the EPA.

Changes made during this audit period: None

Score: Good

Recommendation:

- a. Continue evaluations of the need for VWRA to implement a Sewer Pipe Blockage Control Program. Although VWRA has not currently experienced any spills that were attributed to fats, oils, grease, rags, and debris; if this changes in the future, this evaluation should be prioritized.
- b. Continue to review VWRA member agencies FOG/Sewer Pipe Blockage Control Programs.

Recommendation for SSMP Update:

- a. The Reissued WDR changed the FOG Control Program to the Sewer Pipe Blockage Control Program, to include rags and other debris. Update the FOG Control Program section to this new name. If it is determined that a Sewer Block Control Program is still not needed, note such in this section. Update to include VWRA’s oversight of its member agencies’ Sewer Pipe Blockage Control Programs, if applicable.
- b. Since the 2021 decision to delegate FOG Control Program work to the member agencies was determined, consider changing from VWRA’s SSMP the sentence “An annual evaluation of the need to initiate a FOG Control Plan is conducted each year.” to “Evaluations of the need to initiate a VWRA Sewer Pipe Blockage Control Program are done on an as-needed basis.”
- c. Describe the 2021 decision to delegate the FOG Control Program work to the member agencies, VWRA oversight of the member agencies FOG Control Programs, and the FOG public outreach that VWRA does in more detail in the SSMP Update.
- d. Briefly describe member agencies (e.g. City of Victorville and Town of Apple Valley) FOG Control Programs in the SSMP Update.
- e. Per 2018 SSMP Audit, consider adding number of permitted restaurants in the SSMP Update.
- f. Consider including frequency of inspections by member agencies.
- g. Update Ordinance to provide the authority to identify measures to prevent spills and blockages.
- h. Ensure all inspections and enforcement measures are being formally tracked.
- i. Consider creating a schedule for public education and outreach.
- j. Adjust the list of items in VWRA’s resources that should not be disposed down the drain to include wipes, rags, paper towels, and plastics.
- k. This section should be periodically reviewed to ensure that the information included remains accurate and up to date. If inaccuracies are found, they should be corrected and noted as to when the corrections were made and by whom. Corrections can be tracked in a log or on an errata sheet placed in the SSMP.

13 System Evaluation and Capacity Assurance Program

In 2019 and 2021, VVWRA completed their “Interceptor Capacity Study” and “Interceptor Risk Analysis” reports, respectively. The overall study, that these two reports covered, included:

1. Creation of a new interceptor system hydraulic model calibrated to the latest metered flow data.
2. A determination of 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. A determination of allocations of flow, by member agency, under ADWF.
4. A lift station capacity analysis under 2017 PWWF.
5. Estimated current and future projected interceptor capacity.
6. Interceptor capacity evaluation criteria.
7. Updates to the calibrated model with future projected improvements that sought to identify opportunities to improve capacity and O&M efficiency.
8. 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 the 2019 and 2021 studies:

- 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 VVWRA interceptor collection system. A regional approach to recycled water conveyance and storage would significantly improve monetization of treated wastewater supplies and supplement regional water supplies.
- Anticipated VVWRA service area growth necessitates capacity system improvements in three (3) main regions of the VVWRA interceptor system. Total planning level, project-based system improvements are estimated at approximately \$123M.
- Realignment of the Lower Narrows system out of the Mojave River is recommended to reduce the potential risk (and cost) due to a catastrophic pipeline failure in this environmentally sensitive area.
- The Oro Grande and Victorville pump stations are adequately sized to handle 2017 PWWFs.
- VVWRA’s O&M activities appear to be adequate in reducing and minimizing spills.
- The region currently exhibits high rainwater dependent inflow and infiltration (I/I). A regional approach to I/I reduction investigation and mitigation would likely reduce the consolidated wet weather flows within the VVWRA interceptor system and prolong the need for future capacity increases of the system.

Projects that came out of these studies are listed in VVWRA’s Capital Improvement Program (CIP). In 2023, VVWRA updated its CIP list of projects for 2024 through 2033; determining funding sources for these CIP projects. Funding sources identified for CIP projects include user charges, connection fees and grants. Allocation of funds are

prioritized by need. The CIP projects for collection system projects and treatment process projects are prioritized to be completed by 2029.

In 2021, VVWRA began a 3-year regional inflow an infiltration (I/I) study to study where in its member agencies' collection system I/I is occurring. This study is still ongoing. The intention of the study is to identify the areas of I/I and support the member agencies in correcting the defects to reduce peak flows in the satellite and VVWRA Interceptor systems during wet weather events. Winter 2023/2024 is the third year of monitoring. It is anticipated the results of the study will be provided in late 2024.

CCTV inspection occurs after cleaning. If a problem is identified in the CCTV inspection, this is tracked. VVWRA maintains specific database elements for the purpose of identifying and prioritizing rehabilitation and replacement needs with-in the collection system. Based on this prioritization, improvements are evaluated annually and repairs are scheduled as part of VVWRA's CIP. For this audit period, CCTV inspection was not performed regularly after cleaning.

Twenty (20) VVWRA manhole lids were replaced with composite, lockable lids in the SSMP audit period of 2022 to 2023.

Changes made during audit period:

- The “Interceptor Risk Analysis” report was complete in 2021.
- In 2021, VVWRA began a 3-year regional inflow an infiltration (I/I) study to study where in its member agencies' collection system I/I is occurring. This study is still ongoing.
- Twenty (20) VVWRA manhole lids were replaced with composite, lockable lids in the SSMP audit period of 2022 to 2023.

Score: Good

Recommendations:

- a. Complete the 2021 I/I study to gain a more current and comprehensive understanding of existing system capacity under rainfall dependent I/I.
- b. Develop an updated CIP to reduce I/I found in the I/I study and reevaluate collection system capacity with reduced I/I.
- c. Continue to determine schedule and sources of funding for updated CIP list started in 2022.
- d. Ensure VVWRA's CCTV inspection contractor, Innerline Engineering, is on a regular schedule for CCTV inspection. System deficiencies should continue to be tracked and translated to CIP projects/system improvements.
- e. In next master plan, make sure to include:
 - 1) Identify/justify and prioritize specific system areas (high env. consequences/areas, new surface waters, steep terrain, high groundwater, near surface waters), exfiltration, recordkeeping enhancements, assets vulnerable to climate impacts.
 - 2) More information for capacity assessments, inspections, audits
 - 3) Capacity of flood-prone systems subject to inflow/infiltration
 - 4) Increases in erosive forces, pumping redundancy, prioritization of corrective actions

Recommendation for SSMP Update:

- a. Describe 2021 Interceptor Risk Analysis and 2022 Regional Inflow and Infiltration studies in the SSMP Update.
- b. List sources of schedule and funding for updated CIP in SSMP Update.
- c. In future CIPs, prioritize projects into different categories based on their need for repair and replacement and create a schedule to complete these.
- d. Include implementation of capital improvements.
- e. Include enhanced coordination (operations/maintenance/engineering, other utilities).
- f. Identify and justify the amount (percentage) of the system for condition to be assessed each year.
- g. Evaluate and prioritize the condition assessment of system areas that:
 - 1) Hold a high level of environmental consequences if vulnerable to collapse, failure, blockage, capacity issues, or other system deficiencies;
 - 2) Are located in or within the vicinity of surface waters, steep terrain, high groundwater elevations, and environmentally sensitive areas;
 - 3) Are within the vicinity of a receiving water with a bacterial-related impairment on the most current Clean Water Act section 303(d) List.
- h. Maintain documents and recordkeeping of system evaluation and condition assessment inspections and activities.
- i. Identify system assets vulnerable to direct and indirect impacts of climate change, including but not limited to: sea level rise; flooding and/or erosion due to increased storm volumes, frequency, and/or intensity; wildfires; and increased power disruptions. Determine solutions to protect from these issues and consider adding this to upcoming CIPs based on need.
- j. Ensure capacity assessment evaluates requirements within Reissued WDR.
- k. In future CIPs, include joint coordination between operation and maintenance staff, and engineering staff/consultants during planning, design, and construction of capital improvement projects; and Interagency coordination with other impacted utility agencies.
- l. Include and implement system-specific procedures to proactively prioritize O/M, condition assessments, and repair/rehabilitation.
- m. This section should be periodically reviewed to ensure that the information included remains accurate and up to date. If inaccuracies are found, they should be corrected and noted as to when the corrections were made and by whom. Corrections can be tracked in a log or on an errata sheet placed in the SSMP.

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14 Monitoring, Measurement and Program Modifications

VWVRA maintains an Interceptor database system that tracks scheduled preventative maintenance, repairs, and cleaning activities. The database includes:

- Last inspection date,
- Next projected inspection date,
- Inspection comments,
- Last maintenance date,
- Next projected maintenance date,
- Last cleaning date,
- Next projected cleaning date,
- Detail of repair(s) and the date the repair(s) were performed,
- Condition of the pipe (NASSCO's PACP),
- The severity of the damage (NASSCO's PACP, LACP and MACP), and
- Flags mineral deposits/build-up.

Scheduled preventative maintenance, repair, and cleaning needs are prioritized based on the age of the line segment, criticality to the proper functioning of the VWVRA collection network, known line requirements, and "at-risk" issues. VWVRA uses this information to create reports, assess the success of the preventative maintenance program, and to prioritize SSMP activities.

VWVRA measures the effectiveness of each element of the SSMP and updates SSMP program elements as needed and, at a minimum, at 2-year intervals, at the time of the SSMP Audit (described in Section 15 below). VWVRA identifies and illustrates any spills trends, including spill frequency, locations and estimated volumes.

It does not appear that beyond the SSMP Audit, the effectiveness of each element of the SSMP is formally tracked and there is a regular schedule to evaluate whether SSMP elements are current. It is recommended VWVRA utilize a database, or similar tool, to maintain specific information related to the SSMP, as a central repository for changes to the SSMP and track the success of SSMP elements. Included could be a schedule to evaluate whether SSMP elements have changed so that changes can be documented in a Change Log to include the specific change, the date of the change and the name of the person making the change.

Accomplishments:

- Tracked all spills, VWVRA staff training and preventative maintenance.
- Review of performance parameters as a part of this SSMP audit to evaluate program effectiveness.

Changes made during audit period: None

Score: Adequate

Recommendations:

- a. Consider annual reviews of performance parameters if numbers of spills increase or Elements for adequately being addressed.
- b. Improve tracking of all SSMP elements. Recommend creating a database to maintain central repository for updated information in the SSMP.

- c. Continue to regularly track whether the SSMP elements are being performed and their effectiveness in regular audits.
- d. Track audit findings and ensure implementation of recommendations.
- e. Continue to track preventive operation and maintenance activities.
- f. Update procedures and activities based on the above tracking and assessment.
- g. Continue to identify and illustrate any spills trends, including spill frequency, locations and estimated volumes.

Recommendation for SSMP Update:

- a. Add spill trend charts and/or table to the SSMP.
- b. Determine a schedule for:
 - 1) evaluating whether SSMP elements have changed, so that it can remain accurate and up to date;
 - 2) tracking the success of SSMP elements; and
 - 3) assessing the preventive operation and maintenance activities.
- c. Include adaptive management/implementation effectiveness (Key Performance Indicators).
- d. Update plan procedures/activities based on monitoring/performance evaluations.
- e. This section should be periodically reviewed to ensure that the information included remains accurate and up to date. If inaccuracies are found, they should be corrected and noted as to when the corrections were made and by whom. Corrections can be tracked in a log or on an errata sheet placed in the SSMP.

15 SSMP Program Audits

As required by VWRA's current SSMP and the previous WDR, VWRA has conducted an SSMP audit every two years at minimum with a report prepared and kept on file. Corrective actions are to be taken whenever deficiencies are noted or SSMP improvements are needed. To accomplish the audit, VWRA contracted with a consulting firm who worked closely with the VWRA's staff to review the SSMP, its implementation, and the effectiveness of VWRA's efforts in reducing spills. VWRA completed its last audit in 2022 and the SSMP was last updated in 2020. VWRA has tracked recommendations from the 2022 audit and provided responses if these items were addressed. This completed checklist can be found in Appendix C as a reference.

The reissued State Water Resources Control Board's Order Number WQ 2022-0103-DWQ now requires that an agency conduct an internal audit of its SSMP at least once every three (3) years. The audit is to evaluate how the enrollee has developed and implemented each of the eleven elements of the SSMP and how each element is functioning to assist in the prevention of sanitary sewer spills. The audit report shall be kept on file at VWRA offices and uploaded to the online California Integrated Water Quality System (CIWQS) database within 6 months after the end of the 3-year audit period. Any deficiencies found during the audit are addressed and corrected.

VWRA's next SSMP audit is to be completed in 2027. During this next audit, VWRA should review the progress of SSMP elements and their success, areas of improvement in implementing the SSMP and preventing spills, evaluate whether they are tracking monitoring, measurement, and program modifications under Element 14, provide a description of system improvements from the previous year, and provide a description and schedule of system improvements for the upcoming year.

Score: Good

Recommendation:

- a. Conduct an audit of the SSMP every three years, per the current WDR, certify and upload the audit to CIWQS by the LRO, and maintain the audit report on file at VWRA offices.
- b. Use the checklist from audit findings (Appendix A) and incorporate findings to ensure recommendations are implemented.
- c. Submit this audit to CIWQS.

Recommendation for SSMP Update:

- a. Update audit to modify schedule for SSMP audits to comply with the Water Board's 3-year schedule and other modifications necessary to comply with the reissued WDR.
- b. Include information that Audits must:
 - 1) be sized/scaled to system,
 - 2) evaluate implementation and effectiveness of SSMP in preventing spills,
 - 3) identify necessary modifications to SSMP for correcting deficiencies, and
 - 4) include a proposed schedule for correcting deficiencies.
- c. Consider adding a log of audit recommendations to an appendix of the SSMP Update.
- d. This section should be periodically reviewed to ensure that the information included remains accurate and up to date. If inaccuracies are found, they should be corrected and noted as to when the corrections were made and by whom. Corrections can be tracked in a log or on an errata sheet placed in the SSMP.

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16 Communication Program

VWRA shall communicate with the public on the development, implementation and performance of the SSMP. VWRA's communication program shall allow the public the opportunity to provide input to VWRA on its program. VWRA's communication program uses public comment at Board meetings and online communications (e.g. www.vwra.com) as means to communicate with the public.

The recent version of the SSMP is available on VWRA's website (<https://www.vwraca.gov/departments/environmental-compliance/collection-system-maintenance>). VWRA allows public comment at its Board meetings.

Additionally, the VWRA and its member agencies meets on a monthly basis at Board meetings and Engineering Committee meetings to discuss sewer issues, including the SSMP. Public comment is allowed at these monthly Board meetings.

It does not appear that the current SSMP documents protocols for VWRA to communicate with the public regarding spills and discharges resulting in closures of public areas, or that enter a source of drinking water. VWRA has a Public Outreach Program through its website, treatment plant tours, and publicized Board of Commissioner's meetings held each month. VWRA dedicates a section of their website for what items not to flush down the toilet, including prescription drugs and wipes.

VWRA communicates with the four (4) satellite system entities (i.e. member agencies) that together have five (5) tributary satellite systems to the VWRA sewer collection system on a continuous cooperative basis and, at minimum, at monthly Board meetings. Communication with the Member Agencies has increased during the Regional I/I study, as the Authority and Member Agencies work closely to monitor I/I, track results and coordinate for the relocation of the SmartCovers utilized in the study in the Member Agencies' systems.

Score: Adequate

Recommendations:

- a. Continue to maintain regular communication with satellite systems.
- b. Include a space on VWRA's website for information on spills and discharges requiring closures of public areas or that enter a source of drinking water.
- c. Consider holding public awareness events and presentations.
- d. Adjust the list of items on VWRA's website that should not be disposed down the toilet/drain to include rags, paper towels, and plastics.
- e. Consider creating a schedule for public education and outreach.
- f. Consider additional outreach opportunities for the public such as in the local newspaper, utility bill inserts, a website section with updates, and social media.
- g. Create a procedure for communicating to the public regarding spills and discharges.
- h. Provide specific information on the Public Outreach Program on VWRA's website. Consider including information regarding preventing pipe blockages; proper disposal of pipe-blocking substances; information on what not to put down drains/toilets and storm drains; fog control; and information on reporting blockages, spills, or illegal discharge.
- i. Consider additional public education and outreach such as public awareness events, presentations, utility

bill inserts, social media, local newspaper ads, etc.

Recommendation for SSMP Update:

- a. Add information about VWRA's methods of communicating to the public about SSMP development, implementation, and updates in the SSMP Update.
- b. Add procedures for VWRA to communicate with the public regarding spills and discharges resulting in closures of public areas, or that enter a source of drinking water per Attachment D.11.
- c. Include enhanced communications procedures (public/owners/operators connected to sewers).
- d. Add information about monthly Board meetings in the SSMP update.
- e. This section should be periodically reviewed to ensure that the information included remains accurate and up to date. If inaccuracies are found, they should be corrected and noted as to when the corrections were made and by whom. Corrections can be tracked in a log or on an errata sheet placed in the SSMP.

17 Funding

The funding portion of the SSMP audit is intended to determine if the audited agency has met the requirements of the WDR for providing necessary financial support for its SSMP. The WDR requires that each enrollee have adequate resources (D9) and to identify sources of funding (D13 (viii) (c)) to support the agency’s management, operation and maintenance of its sanitary sewer collection system. This audit is not an in-depth audit of VVWRA’s financial structure but a brief overview of how VVWRA funds the activities of its SSMP in compliance with the WDR.

Over the past two fiscal years, VVWRA has allocated the following on capital improvement/rehabilitation and replacement projects as well as O&M:

FY22/23

- Sewerline Maintenance Fund and CIP projects: \$5,014,720
- Sewer Collection System Cleaning \$120,000
- Bioxide \$120,000
- Tools \$10,000
- Personal \$250,000

FY23/24

- Sewerline Maintenance Fund and CIP projects: \$9,302,540
- Sewer Collection System Cleaning \$120,000
- Bioxide \$120,000
- Tools \$12,000
- Personal \$250,000

In 2023, VVWRA updated its CIP list of projects for 2024 through 2033 and determined funding sources for these CIP projects. Funding sources identified for CIP projects include user charges, connection fees and grants. Allocation of funds are prioritized by need.

Figure 17.1 shows the projected funding revenue over the next 10-years broken up by source. Figure 17.2 shows the projected funding allocations for each type of projects.

Table 17.1 shows the upcoming collection system and treatment projects with their budget.

Figure 17.1: 10-Year Revenue by Funding Source

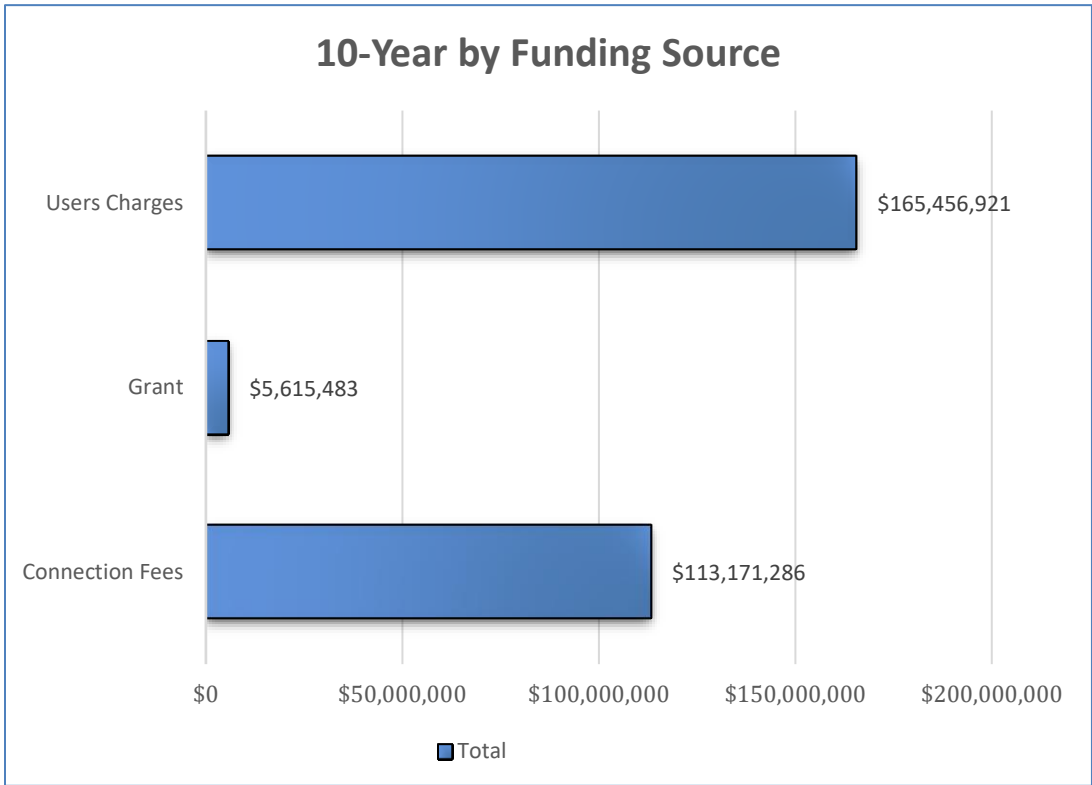


Figure 17.2: Funding Allocations by Project Category

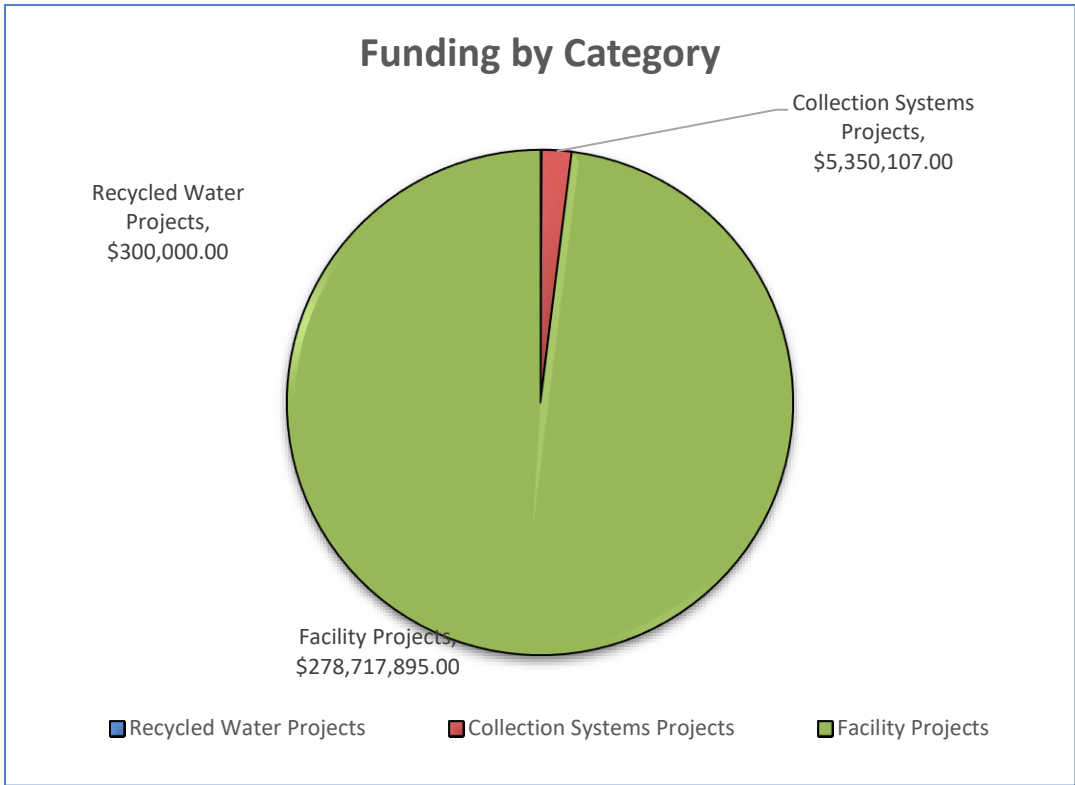


Table 17.1: Upcoming Projects and Budget

Category	Department	Prior	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Collection Systems Projects													
Oro Grande Pump Station Relocation Project	Engineering and Construction	\$ 99,612.00	\$ 117,161.00	\$ 2,566,667.00	\$ 2,566,667.00	\$ -	\$ -	\$ -	\$	\$	\$	\$	\$ 5,350,107.00
Ossum Wash	Engineering and Construction	\$ -	\$ -	\$ 125,000.00	\$ 1,060,000.00	\$ -	\$ -	\$ -	\$	\$	\$	\$	\$ 1,185,000.00
Regional Inflow and Infiltration Study	Environmental Compliance	\$ 55,000.00	\$ 155,224.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$	\$	\$	\$	\$ 210,224.00
Rehabilitation of South Apple Valley Manholes Hwy 18	Environmental Compliance	\$ -	\$ 242,000.00	\$ 452,000.00	\$ 452,000.00	\$ 452,000.00	\$ 452,000.00	\$ -	\$	\$	\$	\$	\$ 2,050,000.00
Collection Systems Projects Totals		\$ 154,612.00	\$ 514,385.00	\$ 3,143,667.00	\$ 4,078,667.00	\$ 452,000.00	\$ 452,000.00	\$ -	\$	\$	\$	\$	\$ 8,795,331.00
Treatment Process Projects													
Cal Recycle Grant Project ADM Improvements	Operations and Maintenance	\$ -	\$ 3,900,000.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$	\$	\$	\$	\$ 3,900,000.00
Primary Rehabilitation Phase 1	Operations and Maintenance	\$ -	\$ 9,269.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$	\$	\$	\$	\$ 9,269.00
Regional Filter Effluent Channel Pump Station	Operations and Maintenance	\$ -	\$ -	\$ 224,000.00	\$ -	\$ -	\$ -	\$ -	\$	\$	\$	\$	\$ 224,000.00
Regional Plant Coating Project Phase 1	Engineering and Construction	\$ -	\$ 284,600.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$	\$	\$	\$	\$ 284,600.00
Regional Plant Headworks Replacement	Engineering and Construction	\$ -	\$ -	\$ 1,076,000.00	\$ 1,076,000.00	\$ 8,137,250.00	\$ 8,137,250.00	\$ -	\$	\$	\$	\$	\$ 18,426,500.00
Regional Plant Side Stream Treatment	Operations and Maintenance	\$ -	\$ 1,900,000.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$	\$	\$	\$	\$ 1,900,000.00
Regional Plant UV Replacement Engineering Services	Engineering and Construction	\$ -	\$ 80,000.00	\$ -	\$ -	\$ -	\$ 4,800,000.00	\$ 4,000,000.00	\$	\$	\$	\$	\$ 8,880,000.00

Category	Department	Prior	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Septage Receiving Station Relocation	Engineering and Construction	\$ 100,000.00	\$ 375,000.00	\$ 600,000.00	\$ -	\$ -	\$ -	\$ -	\$	\$	\$	\$	\$ 1,075,000.00
Treatment Process Projects Total		\$ 100,000.00	\$ 6,548,869.00	\$ 1,900,000.00	\$ 1,076,000.00	\$ 8,137,250.00	\$ 12,937,250.00	\$ 4,000,000.00	\$	\$	\$	\$	\$ 34,699,369.00

18 Reissued SSMP WDR Changes

The Reissued WDR, adopted on December 6th, 2022 supersedes the previous State Water Resources Control Board Order 2006-003-DWQ and all amendments thereafter. This section highlights key items for VVWRA to consider given the reissued adopted Statewide General Order for Sanitary Sewer Systems.

18.1 Due Dates

The Reissued Order requires new items in overflow emergency response plans (now called “Spill Emergency Response Plans” or SERPs), Collection System Questionnaires (now called “Annual Reports”), and SSMP Updates. It also requires that SERPs, SSMP Audits, and SSMP Updates get updated and submitted on new schedules. It also requires that an electronic sanitary sewer service area boundary map be submitted to the CIWQS Sanitary Sewer System Database. **Table 18.1** lists the update and submittal dates of the next SERPs, SSMP Audits, and SSMP Update per the Reissued Order.

Table 18.1: Reissued Order Due Dates

Reissued Order Item	Reissued Order Relevant Section	Update Date	Submittal Due Date
Spill Emergency Response Plans (SERPs)	5.12 & Attachment D6	Within 6 months of the Effective Date (June 5, 2023) of the Reissued Order (December 5, 2023)	
System Performance Analysis Graphs	5.11 & Attachment E1 3.9	Submit two graphs in Annual Report (April 1, 2024)	
SSMP Audit	5.4 & Attachment E1 3.10	6 months after the end of the required 3-year audit period (May 2, 2024 so due by November 2, 2024)	
SSMP Update	Attachments D & E1 3.11	Within 6 years after the required due date of the last SSMP Update (May 2, 2025)	
Change Log	5.5	Continuously	When SSMP Update is due, submit as attachment to SSMP Update (May 2, 2025)
Electronic Sanitary Sewer System Service Area Boundary Map	5.14 & Attachment E1 3.8	Sometime between July 1, 2025 and December 31, 2025.	

18.2 New Items

The Reissued Order has four (4) significant new items:

- 1) Electronic Sanitary Sewer System Service Area Boundary Map (Boundary Map)
- 2) The addition of stormwater conveyance facilities in the Sanitary Sewer System Map
- 3) System Performance Analysis Graphs
- 4) Required Change Log

18.2.1 Boundary Map (Section 5.14)

As part of the Reissued Order, VWRA shall submit an up-to-date service area boundary map to the State Water Board. The map must include the location of wastewater treatment facilities that treat sewer system waste if in the same sewer service boundary.

18.2.2 Updated Map of Sanitary Sewer System (Att. D, Section 4.1)

As part of the Reissued Order, VWRA'S sanitary sewer system map must not only include all gravity line segments, manholes, pumping facilities, pressure pipes and valves, but also applicable stormwater conveyance facilities within the sewer system service area boundaries.

18.2.3 System Performance Analysis Graphs (Section 5.11)

As part of the Reissued Order, VWRA shall include a running 10-year system performance analysis in its Annual Report (formerly known as the "Collection System Questionnaire"). The analysis must include two (2) CIWQs-generated graphs presenting the following information:

- 1) Graph 1 – Total Spill Volume per Year

X axis: A 10-year period which includes the current calendar year and the nine previous calendar years

Y axis: The total spill volume, per Spill Category, for each calendar year (with Category 4 only showing in the post-2023 years)

- 2) Graph 2 – Total Number of Spills per Year

X axis: A 10-year period which includes the current calendar year and the nine previous calendar years

Y axis: The total number of spills, per Spill Category, for each calendar year (with Category 4 only showing in the post-2023 years)

18.2.4 Required Change Log (Section 5.5)

Per the Reissued Order, during the time period in between SSMP Updates, VWRA shall continuously document changes to its SSMP in a change log attached to the SSMP. This is an updated requirement from WQ 2013-0058-EXEC E.3. Section 5.5 of the Reissued Order states "During the time period in between Plan updates, the Enrollee shall continuously document changes to its Sewer System Management Plan in a change log attached to the Plan."

18.3 Public Accessibility (Section 6.3)

The Reissued Order also explicitly states that the SSMP must be maintained for public inspection at VWRA offices and facilities and must be available to the public through CIWQS and/or the VWRA website.

18.4 Changes to SECAP (Attachment D, Section 8)

The Reissued Order expands the requirements of what is needed in the SSMPs System Evaluation and Capacity Assurance Plan (SECAP). The Reissued Order SSMP's System Evaluation, Capacity Assurance and Capital Improvements section is required to cover procedures and activities for:

- A. Routine evaluation and assessment of system conditions (new requirements in Attachment D 8.1) including procedures to:
 1. Evaluate the sanitary sewer system assets utilizing the best practices and technologies available,
 2. Identify and justify the amount (percentage) of its system for its condition to be assessed each year,
 3. Prioritize the condition assessment of system areas that:
 - a) Hold a high level of environmental consequences if vulnerable to collapse, failure, blockage, capacity issues, or other system deficiencies,
 - b) Are located in or within the vicinity of surface waters, steep terrain, high groundwater elevations, and environmentally sensitive areas,
 - c) Are within the vicinity of a receiving water with a bacterial-related impairment on the most current Clean Water Act section 303(d) List,
 4. Assess the system conditions using visual observations, video surveillance and/or other comparable system inspection methods,
 5. Utilize observations/evidence of system conditions that may contribute to exiting of sewage from the system which can reasonably be expected to discharge into a water of the State,
 6. Maintain documents and recordkeeping of system evaluation and condition assessment inspections and activities, and
 7. Identify system assets vulnerable to direct and indirect impacts of climate change, including but not limited to: sea level rise; flooding and/or erosion due to increased storm volumes, frequency, and/or intensity; wildfires; and increased power disruptions;
- B. Capacity assessment and design criteria (similar to 2006-003-DWQ D.13.viii);
- C. Prioritization of corrective actions (similar to 2006-003-DWQ D.13.viii.c); and
- D. A capital improvement plan, including schedules and funding sources for each project (similar to 2006-003-DWQ D.13.viii.c&d).

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19 Supporting Documentation

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Appendix A

2024 Audit Checklist



2024 VWRA SSMP Audit Checklist

Section	Recommendations from Audit	Person Accountable	Due Date
Goals	Maintain training of VWRA staff and contractors on O&M, SERP and SSMP activities.		
	Complete I/I study.		
	Maintain annual communication with satellite sewer systems regarding O&M of these satellite systems.		
	The Reissued WDR no longer requires an agency to provide a stated Goal; instead, the State Water Board establishes the goal, and it is up to the agency to comply by providing regulatory context, an SSMP Update schedule, and a sewer system asset overview.		
	For the Goal and Introduction Section, ensure these items are included: <ul style="list-style-type: none"> a. Implementation of SSMP as “living document” b. Enforcement of development, update, and implementation c. Narratives for regulatory context, assets, updated sewer map(s) 		
Organization	Periodically review and make any necessary changes to the organizational structure listed in the SSMP and document in SSMP change log.		
	Periodically review and make necessary revisions to the roles and responsibilities of positions listed in the SSMP and document in SSMP change log.		
	Periodically review and update the contact information for individuals involved with the SSMP and document in SSMP change log.		
	Periodically review and ensure that the proper legally responsible official (LRO) and data submitters are registered with the state.		
	Periodically review and update the contact information for spill notification and document in SSMP change log.		
	Consider adding additional LROs for backup in case of limited availability during emergencies.		
	Include information that the LRO must have authority to ensure compliance, authority over management of the entire sewer system, and authorized to make managerial decisions governing operations, capital improvements, and ensuring long-term environmental compliance.		

Section	Recommendations from Audit	Person Accountable	Due Date
Organization (Cont.)	Include information that the LRO must possess recognized degree/certificate for O/O of sewer systems and/or professional training and experience demonstrated through extensive knowledge, training, and experience.		
	Update the organizational chart in the SSMP Update to match that found in the FY 2023-24 Adopted Annual Budget.		
	Update the responsibilities for new roles in the organizational chart found in the FY 2023-24 Adopted Annual Budget.		
	List the names, telephone numbers and email addresses for management, administrative, and maintenance position titles responsible for implementing the Sewer System Management Plan elements.		
	Add the names and contact information for contractors that are involved in implementing of the SSMP program in the SSMP Update.		
	This section should be periodically reviewed to ensure that the information included remains accurate and up to date. If inaccuracies are found, they should be corrected and noted as to when the corrections were made and by whom. Corrections can be tracked in a log or on an errata sheet placed in the SSMP.		
	Legal Authority	Consider updating Ordinance to specify roots that may cause blockages are not allowed.	
Update Ordinance to specify unauthorized stormwater inflow and infiltration as not allowed in sewer system.			
Update Ordinance to include information on access for repairs of VVWRA's own sewer system.			
Since inflow and infiltration (I/I) entering VVWRA's collection system from satellite systems has been of issue, establish agreements with satellite agencies to control I/I into the VVWRA's collection system.			
Establish agreements with satellite agencies to specify unauthorized debris; roots; and trash, including rags and other debris, that may cause blockages are not allowed into the sewer collection system.			
Establish agreements with satellite agencies to ensure access to storm drain systems during spill events.			
Add Table 8.1 above to the SSMP Update.			
Include links to the 2021 VVWRA Ordinance No. 001 from the VVWRA's website.			
Include any collaboration with storm drain agencies.			
Update Ordinance to include acquisition of easement accessibility agreements for locations requiring sewer system operations and maintenance, as applicable.			



Section	Recommendations from Audit	Person Accountable	Due Date
(Cont.)	Add section listing the agreements (title and date; e.g. 1998 Joint Exercise of Powers Agreement) between the VVWRA and any owners of satellite sewer systems to document these agreements explicitly.		
	Additionally, this section should be periodically reviewed to ensure that the information included remains accurate and up to date. If inaccuracies are found, they should be corrected and noted as to when the corrections were made and by whom. Corrections can be tracked in a log or on an errata sheet placed in the SSMP.		
O&M Program	Add applicable stormwater conveyance facility data to VVWRA GIS map. Especially, stormwater facilities near VVWRA collection system infrastructure.		
	Continue to regularly review and update the GIS sanitary sewer collection system maps for accuracy.		
	Add an up-to-date map of the sanitary sewer system, and procedures for maintaining and providing State and Regional Water Board staff access to the map.		
	Add more sensors to assist in determining where performance-based cleaning is needed.		
	Ensure documentation of lift station inspection is happening and records readily accessible.		
	Consider listing specific performance metrics for triggering as-needed cleaning based on sewer level rise.		
	Consider evaluating whether an enhanced cleaning or inspection cycle is needed at certain portion of the VVWRA collection system.		
	Ensure VVWRA's CCTV inspection contractor, Innerline Engineering, is on a regular schedule for CCTV inspection. This should be coordinated with the cleaning schedule to be performed after cleaning is performed.		
	Continue existing efforts to document and monitor system deficiencies with recurrent issues based off complaints, field inspections, or CCTV inspection results.		
	Continue existing efforts in documentation of cleaning and CCTV inspections.		
	O&M Program (Cont.)	Remove the "5-year" cycle language from the SSMP since VVWRA cleans based on performance.	
Describe lift station routine preventative operation and maintenance activities in the SSMP Update.			
Include statement that maps will be available digitally and will be provided to State/Regional Water Board upon request.			
	Continue to replace unsecure manholes with secure manholes per the new manhole standards mentioned in Section 10 below.		



Section	Recommendations from Audit	Person Accountable	Due Date
O&M Program (Cont.)	Continue to determine sources of funding and track the time schedule for developing funding sources and use of funds as part of the CIP for 2024 through 2033.		
	Identify a schedule for completion of the remaining recommended projects in the 2021 "Interceptor Risk Analysis" report.		
	Once complete, implement short-term and long-term rehabilitation actions to address deficiencies identified in the inflow an infiltration (I/I) study.		
	Continue to review and update the current CIP list. If dates are not realistic or have passed new dates should be reassigned. Projects that have been completed or are no longer necessary should be removed. Any new projects based upon the system evaluation or CCTV inspection should be added.		
	Ensure VVWRA's CCTV inspection contractor, Innerline Engineering, is on a regular schedule for CCTV inspection. Deficiencies identified in these inspections should be ranked and scheduled for rehabilitation.		
	The Reissued WDR incorporates this section into the revised Section 8: System Evaluation, Capacity Assurance, and Capital Improvements. This rehabilitation and replacement plan should now be incorporated into this section for the SSMP Update. See section 8 for additional recommendations for rehabilitation and replacement.		
	Per the 2018 SSMP Audit, add a list of CIP projects to the SSMP with schedules and funding sources.		
	Implement a formal SSMP Training Program with a schedule.		
	Continue to document trainings.		
	Ensure VVWRA contractors are also providing documentation on SSMP training for VVWRA files.		
	Train relevant VVWRA staff on California Integrated Water Quality System (CIWQS) to meet requirements in the Reissued WDR describe in Section 18 of this Audit.		
	Modifications to the training should be implemented on an as-needed basis especially when new equipment is installed, or operating procedures have been changed.		
	All new employees and contractors should be trained as soon as possible, and records of all training should be maintained.		
Regularly implement training with staff from sewer and storm to know their part in responding to spills and recognizing areas at risk, develop strategies in containing and preventing spills, and reduce risks of cross contamination.			



Section	Recommendations from Audit	Person Accountable	Due Date
	Include details on enhanced training on the WDR and drills/skilled volume estimations.		
	Per 2018 SSMP Audit, if VVWRA contractors are to be certified/licensed, add this information to the SSMP Update.		
	Add VVWRA and contractor training information (e.g. types and frequency of trainings) to the SSMP Update.		
	Add that VVWRA contractors are to provide documentation on SSMP training.		
	Add new collection utilities truck and new vacor truck to equipment list in the SSMP Update.		
	Create a database for spare parts and track the current inventory, ensuring that staff is updating this as repairs are made and parts are ordered. The equipment and spare parts should be checked regularly to make sure that they are in working order for use in emergencies. It is recommended the condition of the equipment be tracked in the database.		
	Additionally, this section should be periodically reviewed to ensure that the information included remains accurate and up-to-date. If inaccuracies are found, they should be corrected and noted as to when the corrections were made and by whom. Corrections can be tracked in a log or on an errata sheet placed in the SSMP.		
Design and Performance Provisions	Update manhole standards to require that future manholes have composite manhole frames and lockable lids.		
	By December 31st, 2024, include statement in a revised SSMP about the new manhole standard update to make future manholes more secure.		
	Include that the VVWRA procedures and standards for inspection and testing of newly constructed, newly installed, repaired, and rehabilitated system pipelines, pumps, and other equipment and appurtenances follow Greenbook and/or NASSCO.		
Design and Performance Provisions (Cont.)	Consider either placing VVWRA standards and specifications on VVWRA website or updating the SSMP to state that the standards and specifications are not on the VVWRA website, but available upon request.		
	Consider evaluating whether the design criteria and construction standards contain any deficiencies in addressing hydraulic capacity.		
	Include information on scheduling system enhancements for problem/root-prone areas.		



Section	Recommendations from Audit	Person Accountable	Due Date
	This section should be periodically reviewed to ensure that the information included remains accurate and up to date. If inaccuracies are found, they should be corrected and noted as to when the corrections were made and by whom. Corrections can be tracked in a log or on an errata sheet placed in the SSMP.		
Spill Emergency Response Plan	Continue to document trainings.		
	All new employees and contractors should be trained as soon as possible, and records of all training should be maintained.		
	Regularly implement training with staff from sewer and storm to know their part in responding to spills and recognizing areas at risk, develop strategies in containing and preventing spills, and reduce risks of cross contamination.		
	Update to comply with the Reissued WDR requirements for the Spill Emergency Response Plan (SERP) including new spill categories.		
	As stated in the 2018 SSMP Audit, per VVWRA current NPDES permit (Order No. R6V-2020-0028, NPDES No. CA0102822; Attachment D Section V.E.) spills are to be provided orally to the Regional Board within 24 hours from the time VVWRA is aware of the spill and a report shall be provided within five (5) days from the time VVWRA is aware of the spill, except for Category 1 and 2 spills which instead require a Draft Spill Report within three (3) business days of the Enrollee's knowledge of the spill per the Reissued WDR. Provide phone number for Regional Board.		
	Update notification requirements to comply with the Reissued WDR, Section 1 of Attachment E1, including: <ul style="list-style-type: none"> a. information to provide to Cal OES, and b. spill report updates after Cal OES notification. 		
Spill Emergency Response Plan (Cont.)	Update monitoring requirements to comply with the Reissued WDR, Section 2 of Attachment E1, including: <ul style="list-style-type: none"> a. visually assessing the spill location(s) and spread, b. documentation of the critical spill locations, c. receiving water visual observations, d. Spill-Specific Requirements, e. water quality sampling within 18 hours of knowledge of potential discharge to surface water, f. sampling locations, g. samples for specific constituents, h. water quality analysis specifications, and i. safety and access exemptions. 		



Section	Recommendations from Audit	Person Accountable	Due Date
Spill Emergency Response Plan (Cont.)	<p>Update reporting requirements to comply with the Reissued WDR, Section 3 of Attachment E1, including:</p> <ul style="list-style-type: none"> a. Draft Spill Report for Category 1 Spills b. Certified Spill Report for Category 1 Spills c. Spill Technical Report for Individual Category 1 Spill in which 50,000 Gallons or Greater Discharged into a Surface Water d. Amended Certified Spill Reports for Individual Category 1 Spills e. Draft Spill Report for Category 2 Spills f. Certified Spill Report for Category 2 Spills g. Amended Certified Spill Reports for Individual Category 2 Spills h. Monthly Certified Spill Reporting for Category 3 Spills i. Monthly Certified Spill Reporting for Category 4 Spills j. Amended Certified Spill Reports for Category 3 Spills k. Annual Certified Spill Reporting of Category 4 and/or Lateral Spills l. Monthly Certification of “No-Spills” or “Category 4 Spills” and/or “Non-Category 1 Lateral Spills” m. Annual Report (Previously termed as Collection System Questionnaire in General Order 2006-0003-DWQ) 		
	<p>Include recordkeeping requirements to comply with the Reissued WDR, Section 4 of Attachment E1, including:</p> <ul style="list-style-type: none"> a. Recordkeeping Time Period b. Availability of Documents c. Spill Reports d. Recordkeeping of Category 4 Spills and Non-Category 1 Lateral Spills e. Total Annual Spill Information f. Audit Records g. Work Orders 		
	<p>Include requirement to annually review and assess the effectiveness of the Spill Emergency Response Plan.</p>		
	<p>Ensure contact information listed in this section up-to-date, including the replacement of Michael Baker by John Robinson Consulting as one of VVWRA engineering consultants.</p>		
	<p>Consider notification of other potentially affected entities of spills (for example, health agencies such as county health officer or county environmental health agency, water suppliers, etc.).</p>		



Section	Recommendations from Audit	Person Accountable	Due Date
Spill Emergency Response Plan (Cont.)	Include notification for regulatory agencies, with contact information.		
	Update Post Spill Assessment to meet all requirement of the Reissued WDR, Attachment E1.		
	Include Annual Assessment to meet all requirement of the Reissued WDR, Attachment E1.		
	Address emergency system operations, traffic control and other necessary response activities to meet the requirements of the Reissued WDR.		
	Identify that if reasonable, the spill response crew should attempt to keep the spill in the street and out of the storm drain or other surface water bodies.		
	<p>Consider including these items in the Recovery and Clean-Up (Mitigation) section:</p> <ul style="list-style-type: none"> a. Isolate, contain, and/or divert sewage flow from any open channels and storm drain structures using manmade berms. b. Disinfection, removal, and disposal requirements for contaminated soil c. Disinfection requirements for contaminated structures such as streets, sidewalks, buildings, etc. Include removal, and disposal requirements for solutions/water used for disinfection. d. If drainage systems are contaminated, staff/contractor requirements for implementation and removing/cleaning sewage from drainage conveyance systems not impacting beneficial uses/receiving waters. e. Documentation and recording of all pertinent information of the spill shall be completed prior to leaving the site. 		
	Include coordination/collaboration with storm drain agencies (prior, during, after) spills		
	Implement technologies, practices, equipment, and interagency coordination to expedite spill containment and recovery.		
	Similar to recommendations in the 2018 SSMP Audit, consider adding standard field report forms specific to spills and a procedure on how to fill out these forms in the SSMP.		
	Under the "Overflow Detection" section, add an item for the SmartCover sensors that were installed in January 2022 for detecting a spill.		
Update the references to the "Regional Plant Laboratory" with "BSK or Babcock laboratories".			



Section	Recommendations from Audit	Person Accountable	Due Date
	Implement a formal training on the Spill Emergency Response Plan with a schedule. Add this information to the SSMP Update.		
	Ensure VVWRA contractors are also providing documentation on SERP training for VVWRA files. Add this requirement to the SSMP Update.		
	This section should be periodically reviewed to ensure that the information included remains accurate and up to date. If inaccuracies are found, they should be corrected and noted as to when the corrections were made and by whom. Corrections can be tracked in a log or on an errata sheet placed in the SSMP.		
Sewer Pipe Blockage Control Program	Continue evaluations of the need for VVWRA to implement a Sewer Pipe Blockage Control Program. Although VVWRA has not currently experienced any spills that were attributed to fats, oils, grease, rags, and debris; if this changes in the future, this evaluation should be prioritized.		
	Continue to review VVWRA member agencies FOG/Sewer Pipe Blockage Control Programs.		
	The Reissued WDR changed the FOG Control Program to the Sewer Pipe Blockage Control Program, to include rags and other debris. Update the FOG Control Program section to this new name. If it is determined that a Sewer Block Control Program is still not needed, note such in this section. Update to include VVWRA's oversight of its member agencies' Sewer Pipe Blockage Control Programs, if applicable.		
	Since the 2021 decision to delegate FOG Control Program work to the member agencies was determined, consider changing from VVWRA's SSMP the sentence "An annual evaluation of the need to initiate a FOG Control Plan is conducted each year." to "Evaluations of the need to initiate a VVWRA Sewer Pipe Blockage Control Program are done on an as-needed basis."		
	Describe the 2021 decision to delegate the FOG Control Program work to the member agencies, VVWRA oversight of the member agencies FOG Control Programs, and the FOG public outreach that VVWRA does in more detail in the SSMP Update.		
	Briefly describe member agencies (e.g. City of Victorville and Town of Apple Valley) FOG Control Programs in the SSMP Update.		
	Per 2018 SSMP Audit, consider adding number of permitted restaurants in the SSMP Update.		
	Consider including frequency of inspections by member agencies.		
	Update Ordinance to provide the authority to identify measures to prevent spills and blockages.		



Section	Recommendations from Audit	Person Accountable	Due Date
Sewer Pipe Blockage Control Program (Cont.)	Ensure all inspections and enforcement measures are being formally tracked.		
	Consider creating a schedule for public education and outreach.		
	Adjust the list of items in VVWRA's resources that should not be disposed down the drain to include wipes, rags, paper towels, and plastics.		
	This section should be periodically reviewed to ensure that the information included remains accurate and up to date. If inaccuracies are found, they should be corrected and noted as to when the corrections were made and by whom. Corrections can be tracked in a log or on an errata sheet placed in the SSMP.		
System Evaluation, Capacity Assurance & Capital Improvements	Complete the 2021 I/I study to gain a more current and comprehensive understanding of existing system capacity under rain dependent I/I.		
	Develop an updated CIP to reduce I/I found in the I/I study and reevaluate collection system capacity with reduced I/I.		
	Continue to determine schedule and sources of funding for updated CIP list started in 2022.		
	Ensure VVWRA's CCTV inspection contractor, Innerline Engineering, is on a regular schedule for CCTV inspection. System deficiencies should continue to be tracked and translated to CIP projects/system improvements.		
	<p>In next master plan, make sure to include:</p> <ul style="list-style-type: none"> • Identify/justify and prioritize specific system areas (high env. consequences/areas, new surface waters, steep terrain, high groundwater, near surface waters), exfiltration, recordkeeping enhancements, assets vulnerable to climate impacts. • More information for capacity assessments, inspections, audits • Capacity of flood-prone systems subject to inflow/infiltration • Increases in erosive forces, pumping redundancy, prioritization of corrective actions 		
	Describe 2021 Interceptor Risk Analysis and 2022 Regional Inflow and Infiltration studies in the SSMP Update.		
	List sources of schedule and funding for updated CIP in SSMP Update.		



Section	Recommendations from Audit	Person Accountable	Due Date
System Evaluation, Capacity Assurance & Capital Improvements (Cont.)	In future CIPs, prioritize projects into different categories based on their need for repair and replacement and create a schedule to complete these.		
	Include implementation of capital improvements.		
	Include enhanced coordination (operations/maintenance/engineering, other utilities)		
	Identify and justify the amount (percentage) of the system for condition to be assessed each year.		
	Evaluate and prioritize the condition assessment of system areas that: <ul style="list-style-type: none"> • Hold a high level of environmental consequences if vulnerable to collapse, failure, blockage, capacity issues, or other system deficiencies; • Are located in or within the vicinity of surface waters, steep terrain, high groundwater elevations, and environmentally sensitive areas; • Are within the vicinity of a receiving water with a bacterial-related impairment on the most current Clean Water Act section 303(d) List. 		
	Maintain documents and recordkeeping of system evaluation and condition assessment inspections and activities.		
	Identify system assets vulnerable to direct and indirect impacts of climate change, including but not limited to: sea level rise; flooding and/or erosion due to increased storm volumes, frequency, and/or intensity; wildfires; and increased power disruptions. Determine solutions to protect from these issues and consider adding this to upcoming CIPs based on need.		
	Ensure capacity assessment evaluates requirements within Reissued WDR.		
	Consider a requirement for new developments that propose to connect to VVWRA's system to provide capacity evaluations to ensure these developments do not exceed the VVWRA's design criteria based on the model to be performed as part of the future master plan. This will reduce the occurrence of spills or system failures in the future due to capacity issues.		
	In future CIPs, include joint coordination between operation and maintenance staff, and engineering staff/consultants during planning, design, and construction of capital improvement projects; and Interagency coordination with other impacted utility agencies.		



Section	Recommendations from Audit	Person Accountable	Due Date
	Include and implement system-specific procedures to proactively prioritize O/M, condition assessments, and repair/rehabilitation.		
	This section should be periodically reviewed to ensure that the information included remains accurate and up to date. If inaccuracies are found, they should be corrected and noted as to when the corrections were made and by whom. Corrections can be tracked in a log or on an errata sheet placed in the SSMP.		
Monitoring, Measurement and Program Modifications	Maintain up-to-date, organized and easily accessible mutual aid (e.g. contractors or member agencies) partner training and inspection records.		
	Consider annual reviews of performance parameters if numbers of spills increase or Elements for adequately being addressed.		
	Improve tracking of all SSMP elements. Recommend creating a database to maintain central repository for updated information in the SSMP.		
	Create a schedule to evaluate whether SSMP elements have changed, so that it can remain accurate and up to date. Create a schedule for tracking the success of SSMP elements and assessing the preventive operation and maintenance activities.		
	Continue to regularly track whether the SSMP elements are being performed and their effectiveness in regular audits.		
	Track audit findings and ensure implementation of recommendations.		
	Continue to track preventive operation and maintenance activities.		
	Update procedures and activities based on the above tracking and assessment.		
	Continue to identify and illustrate any spills trends, including spill frequency, locations and estimated volumes.		
	Add spill trend charts and/or table to the SSMP.		
	Determine a schedule for: <ul style="list-style-type: none"> • evaluating whether SSMP elements have changed, so that it can remain accurate and up to date; • tracking the success of SSMP elements; and • assessing the preventive operation and maintenance activities. 		
	Include adaptive management/implementation effectiveness (Key Performance Indicators).		
Update plan procedures/activities based on monitoring/performance evaluations.			



Section	Recommendations from Audit	Person Accountable	Due Date
	This section should be periodically reviewed to ensure that the information included remains accurate and up to date. If inaccuracies are found, they should be corrected and noted as to when the corrections were made and by whom. Corrections can be tracked in a log or on an errata sheet placed in the SSMP.		
SSMP Audits	Conduct an audit of the SSMP every three years, per the current WDR, certify and upload the audit to CIWQS by the LRO, and maintain the audit report on file at VVWRA offices.		
SSMP Audits (Cont.)	Use the checklist from audit findings (Appendix A) and incorporate findings to ensure recommendations are implemented.		
	Submit this audit to CIWQS		
	Update audit to modify schedule for SSMP audits to comply with the Water Board's 3-year schedule and other modifications necessary to comply with the reissued WDR.		
	<p>Include information that Audits must:</p> <ul style="list-style-type: none"> • be sized/scaled to system, • evaluate implementation and effectiveness of SSMP in preventing spills, • identify necessary modifications to SSMP for correcting deficiencies, and • include a proposed schedule for correcting deficiencies. 		
	Consider adding a log of audit recommendations to an appendix of the SSMP Update.		
	This section should be periodically reviewed to ensure that the information included remains accurate and up to date. If inaccuracies are found they should be corrected and noted as to when the corrections were made and by whom. Corrections can be tracked in a log or on an errata sheet placed in the SSMP.		
Communication Program	Continue to maintain regular communication with satellite systems.		
	Include a space on VVWRA's website for information on spills and discharges requiring closures of public areas or that enter a source of drinking water.		
	Hold public awareness events and presentations.		
	Adjust the list of items on VVWRA's website that should not be disposed down the toilet/drain to include rags, paper towels, and plastics.		
	Consider creating a schedule for public education and outreach.		
	Consider additional outreach opportunities for the public such as in the local newspaper, utility bill inserts, a website section with updates, and social media.		



Section	Recommendations from Audit	Person Accountable	Due Date
Communication Program (Cont.)	Create a procedure for communicating to the public regarding spills and discharges.		
	Provide specific information on the Public Outreach Program on VVWRA's website. Consider including information regarding preventing pipe blockages; proper disposal of pipe-blocking substances; information on what not to put down drains/toilets and storm drains; fog control; and information on reporting blockages, spills, or illegal discharge.		
	Consider additional public education and outreach such as public awareness events, presentations, utility bill inserts, social media, local newspaper ads, etc.		
	Add information about VVWRA's methods of communicating to the public about SSMP development, implementation, and updates in the SSMP Update.		
	Add procedures for VVWRA to communicate with the public regarding spills and discharges resulting in closures of public areas, or that enter a source of drinking water per Attachment D.11.		
	Include enhanced communications procedures (public/owners/operators connected to sewers)		
	Add information about monthly Board meetings in the SSMP update.		
	This section should be periodically reviewed to ensure that the information included remains accurate and up to date. If inaccuracies are found, they should be corrected and noted as to when the corrections were made and by whom. Corrections can be tracked in a log or on an errata sheet placed in the SSMP.		
Funding	Continue to determine sources of funding, both internal and external, for updated CIP list started in 2022.		
	Separate lift station O&M budget and expenses from other VVWRA staff budget and expenses for easier tracking of this collection system item's funding source.		
	The Reissued WDR incorporates this section into the revised Section 8: System Evaluation, Capacity Assurance, and Capital Improvements. This funding section should now be incorporated into this section for the SSMP Update. See section 8 for additional recommendations for funding.		
	VVWRA to continue to review the costs associated with the required maintenance and operation of its collection system to ensure that adequate funds are available for current and future needs.		



Appendix B

Example Training Records

Log Detail Report



Entry ID:	69529	Location:	Collection System
Log:	Training Documentation	Created By/Date:	Latif Laari - Wednesday, May 10, 2023 8:08:17 AM
Crew:	EC	Mod By/Date:	Latif Laari - Wednesday, May 10, 2023 8:46:12 AM
Shift:	Day		
Log Date:	Wednesday, May 10, 2023 8:04:00 AM		

Training Delivered

Staff Training Documentation

SOP/Training Course	Annual SSO Training	Training Delivery Method	Classroom/Face to Face	Training Date	Wednesday, May 10, 2023 6:00:00 AM	Training Length	1.25 Hours
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Trainer	Latif Laari	Attendees	Allen Dorado, Audra Anderson, Craig Taylor, Daniel Enriquez, Daniel Kessell, Danny Mullikin, David Wylie, Derek Evans, James Carothers, Johnny Bustos, Jordan Rodriguez, Juan Alvarez, Kalin Westover, Latif Laari, Lucas Wilkens, Marcos Avila, Michael Medina, Mike Koncur, Mike Tarango, Moises Castro, Raymond Lopez, Travis Prine
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Comments Training about element 6 (SPILL EMERGENCY RESPONSE PLAN) of VWRA SSMP in light of the new Statewide Sanitary Sewer Systems General Order – Effective June 5, 2023

SPILL EMERGENCY RESPONSE PLAN:

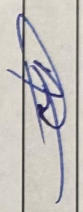
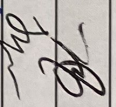
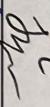
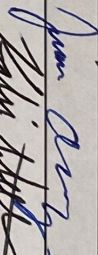
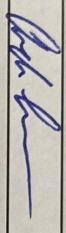
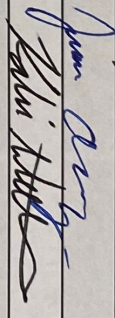
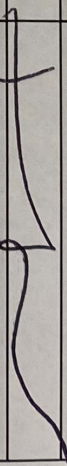
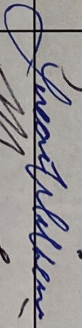
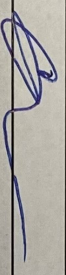
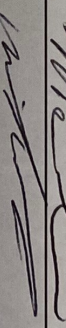
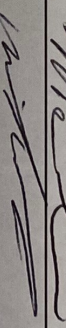

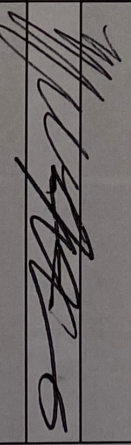
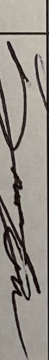
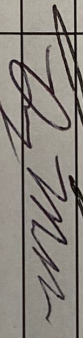
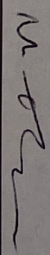
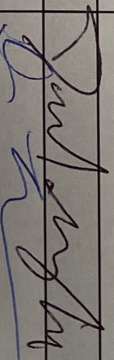
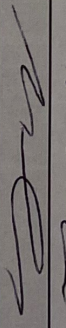
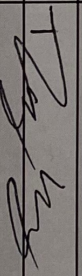

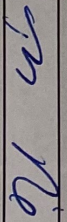

The Plan includes an up to date Spill Emergency Response Plan to ensure prompt detection and response to spills to reduce spill volumes and collect information for prevention of future spills. The Spill Emergency Response Plan must include procedures to:

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

Attachment	Type	Created By	Create Date
VVWRA SSO SOP Annual Training Presentation 2023pptx	File	Latif Laari	Wednesday, May 10, 2023 8:08:32 AM
https://www.waterboards.ca.gov/water_issues/programs/sso/	URL	Latif Laari	Wednesday, May 10, 2023 8:08:55 AM
FINAL VVWRA SSMP Audit 2022 12-19-2022.pdf	File	Latif Laari	Wednesday, May 10, 2023 8:10:04 AM
Sign In Sheet Completed 05102023.pdf	File	Latif Laari	Wednesday, May 10, 2023 8:46:09 AM

Acknowledgements

Annual SSO Annual Training

Name	Signature	Name	Signature
Alfredo Garibay		James Pasieka	
Allen Dorado		Johnny Bustos	
Andrei Davis		Jordan Rodriguez	
Anne Mazzarella		Juan Alvarez	
Audra Anderson		Kalin Westover	
Brad Adams		Kristi Casteel	
brad doneff		Kyle Parker	
Brandon Talley		Kyle Regis	
Charles Trammel		Latif Laari	
Chase Cottrell		Lucas Wilkens	
Craig Taylor		Marcos Avila	
Cyle Palazzo		Martin Cedeno	
Cynthia Bernal		Mauricio Marin	
Daniel Enriquez		Michael Koncur	
Daniel Kessell		Michael Medina	
Danny Mullikin		Miguel Mendoza	
Darron Poulsen		Mike Tarango	
David Wylie		Moises Castro	
Derek Evans		Raymond Lopez	
Eric Schweitzer		Richard Swartzell	
Eugene Davis		Robert Coromina	
Hillary Chavez		Toni Henning	
James Carothers		Travis Prine	
James Hunsaker		Xiwei Wang	

Log Detail Report



Entry ID: 61485 **Location:** Collection System
Log: Training Documentation **Created By/Date:** Latif Laari - Thursday, June 16, 2022 8:26:23 AM
Crew: EC **Mod By/Date:** Latif Laari - Thursday, June 16, 2022 8:32:26 AM
Shift: Day
Log Date: Thursday, June 16, 2022 8:20:00 AM

Training Delivered

Staff Training Documentation

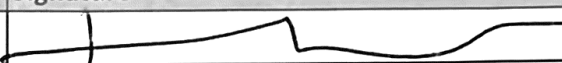
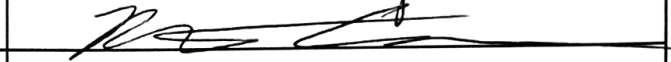
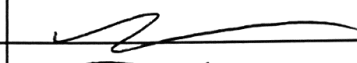

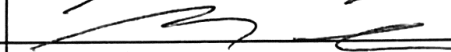


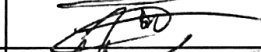

SOP/Training Course	Sanitary Sewer Overflow Emergency Response Plan	Training Delivery Method	Classroom/Face to Face	Training Date	Thursday, June 16, 2022 7:00:00 AM	Training Length	1 Hours
Trainer	Latif Laari	Attendees	Allen Dorado, Andrew Henriquez, Daniel Enriquez, Daniel Kessell, David Wylie, David Sharp, James Hunsaker, James Pasieka, Latif Laari, Marcos Avila, Robert Townsend, Mike Tarango, Moises Castro, Richard Swatzell				

Comments **Sanitary Sewer Overflow Emergency Response Plan**

1. Overflow detection, the initial response
2. Recovery and clean-up (mitigation)
3. Public access and warning
4. Water quality and sampling analysis, investigations, and documentation
5. Regulatory notification and reporting, equipment
6. Training, additional emergency response preparations

Attachment	Type	Created By	Create Date
VWRA SSO SOP Annual Training Presentationpptx	File	Latif Laari	Thursday, June 16, 2022 8:26:26 AM
Annual SSO Training Sign Up Sheet 061622.pdf	File	Latif Laari	Thursday, June 16, 2022 8:26:37 AM

Acknowledgements

Training Topic	Annual SSO Training
Date	6/16/2022
Training Facilitator	EC/Latif Laari
Employee	Signature
LATIF LAARI	
Mike Tarango	Mike Tarango
Robert "Townsend"	
Richard Sutzels	
Daniel Enriquez	DE
Michael Molina	
James Pasieka	James Pasieka
ADREH HENRIQUEZ	Adh
David Wylie	David Wylie
MARGES CASANO	
Daniel Kosser	
MARCOS ACILA	Marcos
David Sharp	
Allen Davado	
James Hunsaker	

Log Detail Report



Entry ID: 69388 **Location:** Collection System
Log: Training Documentation **Created By/Date:** Latif Laari - Wednesday, May 3, 2023 1:08:37 PM
Crew: EC **Mod By/Date:** Latif Laari - Wednesday, May 3, 2023 1:08:37 PM
Shift: Day
Log Date: Wednesday, May 3, 2023 1:05:00 PM

Training Delivered

Staff Training Documentation

SOP/Training Course	Sanitary Sewer Systems Waste Discharge Requirements Order	Training Delivery Method	Computer Based	Training Date	Wednesday, May 3, 2023 12:30:00 PM	Training Length	3 Hours
Attendees	Daniel Enriquez, Latif Laari						
Comments							

- Video – [Spill Emergency Response Plan Requirements in Reissued Order](#)
 - [Walter Mobley, SWRCB](#)
- Video – [Prospective Updates and Changes to Enrollees' Plans](#)
 - [Michael Flores, CWEA \(HDR, Inc.\)](#)
- Video – [Spill Emergency Response Plan Implementation](#)
 - [Andy Morrison, AM Consulting](#)

Acknowledgements

Log Detail Report



Entry ID: 67216 **Location:** Collection System
Log: Training Documentation **Created By/Date:** Daniel Enriquez - Thursday, January 12, 2023 7:32:20 AM
Crew: EC **Mod By/Date:** Latif Laari - Thursday, January 12, 2023 12:56:02 PM
Shift: Day
Log Date: Wednesday, January 11, 2023 9:00:00 AM

Training Delivered

Staff Training Documentation

SOP/Training Course: Overview of Statewide Sanitary Sewer Systems General Order and Upcoming Compliance Due Dates
Training Method: Computer Based
Training Date: Wednesday, January 11, 2023 12:00:00 AM
Training Length: 2.5 Hours

Attendees: Daniel Enriquez, Latif Laari

Comments: **Trainers: Walter Mobley (California Water Board), Michael Flores (CWEA), Paul Causey (California Association of Sanitation Agencies) and Rich Cunningham (Bay Area Clean Water Agencies). See attachments for major changes and other information.**

Attachment	Type	Created By	Create Date
Mobley, Walter - 20230111-02.pdf	File	Daniel Enriquez	Thursday, January 12, 2023 7:32:20 AM
Causey, Paul - 20230111-05.pdf	File	Daniel Enriquez	Thursday, January 12, 2023 7:32:31 AM
Cunningham, Rich - 20230111-05.pdf	File	Daniel Enriquez	Thursday, January 12, 2023 7:32:31 AM
Flores, Michael - 20230111-09.pdf	File	Daniel Enriquez	Thursday, January 12, 2023 7:32:32 AM

Appended Comments

Good job Daniel (Latif Laari, Thursday, January 12, 2023 12:56:02 PM)



CERTIFICATE OF COMPLETION

This certifies that

Christopher J Noriega

has successfully completed the course
Confined Space 8 hours (General Industry)



Course Duration
8.0



Completion Date
03/07/2024

Samantha Montalbano
Samantha Montalbano, Chief Operating Officer

6504 Bridge Point Parkway, Suite 100 | Austin, TX 78730 | www.360training.com

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This certifies that the person named below
has successfully completed the

Christopher J Noriega
Confined Space 8 hours (General Industry)

Samantha Montalbano
Samantha Montalbano, Chief Operating Officer

03/07/2024
Completion date

6504 Bridge Point Parkway, Suite 100 | Austin, TX 78730 | www.360training.com

This is your pocket card which may be used as proof of training completion. This training program is intended to provide supplementary job safety training and is not required or approved by any regulatory authority. Please check Federal, State, and local regulations for additional training requirements related to your specific job.

Questions? support@360training.com
visit: www.360training.com/osha-campus

Certificate of Completion



360training.com™

This Certifies That

christopher Noriega

is awarded this certificate for

Confined Space Entry Training

Complying with OSHA Standard 29 CFR 1910.146, Entrant, Attendant, Supervisor

Credit Hours: 8

Completion Date: 11/18/2018

A handwritten signature in blue ink that reads "Marie Athey".

Marie Athey, OSHA Trainer



360training.com®

Certificate of Completion

This is to certify that

Erik Quinones

has completed the course

Confined Space Entry Training for Construction

Completion date: 02/20/2024

Course duration: 8.0

Certificate # 000016679684

Samantha Montalbano
Chief Operating Officer



CERTIFICATE OF COMPLETION

This certifies that

Matthew Gomez

has successfully completed the course
Confined Space 8 hours (General Industry)



Course Duration
8.0



Completion Date
03/07/2024

Samantha Montalbano
Samantha Montalbano, Chief Operating Officer

6504 Bridge Point Parkway, Suite 100 | Austin, TX 78730 | www.360training.com

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This certifies that the person named below
has successfully completed the

Matthew Gomez

Confined Space 8 hours (General Industry)

Samantha Montalbano

Samantha Montalbano, Chief Operating Officer

03/07/2024
Completion date

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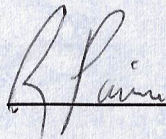
Questions? support@360training.com
visit: www.360training.com/osha-campus

CERTIFICATE OF COMPLETION

This is to certify that

Mohamad Nasri

has successfully completed an 8 Hour Class on **CONFINED SPACE ENTRY-PERMIT REQUIRED**, and is authorized by the Innerline Engineering in Corona California to conduct operations involving confined space entry at base Facilities.



Ron Paine, OSHA Authorized Trainer

April 15, 2016

Date





CERTIFICATE OF COMPLETION

This certifies that

Shane Swanson

has successfully completed the course
Confined Spaces - 8 Hour - Construction



Course Duration
8.0



Completion Date
07/04/2023

Samantha Montalbano
Samantha Montalbano, Chief Operating Officer

5000 Plaza on the Lake, Suite 305 | Austin, TX 78746 | 877.881.2235 | www.360training.com

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This certifies that the person named below
has successfully completed the

Shane Swanson

Confined Spaces - 8 Hour - Construction

Samantha Montalbano
Samantha Montalbano, Chief Operating Officer

07/04/2023
Completion date

5000 Plaza on the Lake, Suite 305 | Austin, TX 78746 | 877.881.2235 | www.360training.com

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Questions?

support@360training.com

visit: www.360training.com/osha-campus

877.881.2235

Certificate of Completion

BRYCE SWANSON

Has diligently and with merit completed training in
OSHA 40-Hour HAZWOPER Training
on
12/15/2019

from the USF OTI Education Center



Mylene Kellerman, CWCP
Program Manager
USF OTI Education Center

University of South Florida

An Authorized
OSHA Training Institute
Education Center®

This course references current OSHA 29 CFR 1910.120(e) standards to assist employers in meeting training requirements.

Certificate #: 00171837



CERTIFICATE OF COMPLETION

This certifies that

Matthew Gomez

has successfully completed the course
HAZWOPER 8 hr Annual Refresher



Course Duration
8.0



Completion Date
03/06/2024

Samantha Montalbano
Samantha Montalbano, Chief Operating Officer

6504 Bridge Point Parkway, Suite 100 | Austin, TX 78730 | www.360training.com

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This certifies that the person named below
has successfully completed the

Matthew Gomez
HAZWOPER 8 hr Annual Refresher

Samantha Montalbano
Samantha Montalbano, Chief Operating Officer

03/06/2024
Completion date

6504 Bridge Point Parkway, Suite 100 | Austin, TX 78730 | www.360training.com

This is your pocket card which may be used as proof of training completion. This training program is intended to provide supplementary job safety training and is not required or approved by any regulatory authority. Please check Federal, State, and local regulations for additional training requirements related to your specific job.

Questions? support@360training.com
visit: www.360training.com/osha-campus

Certificate of Completion

MOHAMAD NASRI

Has diligently and with merit completed training in
OSHA 40-Hour HAZWOPER Training
on
10/8/2023
from the USF OTI Education Center



A handwritten signature in black ink that reads "Mylene Kellerman".

Mylene Kellerman, CWCP
Program Manager
USF OTI Education Center

University of South Florida

An Authorized
OSHA Training Institute
Education Center®

This course references current OSHA 29 CFR 1910.120(e) standards to assist employers in meeting training requirements.

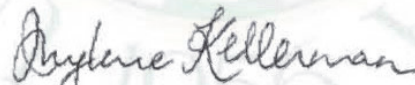
Certificate #: 00171833

Certificate of Completion

SHANE SWANSON

Has diligently and with merit completed training in
OSHA 40-Hour HAZWOPER Training
on
05/17/2023

from the USF OTI Education Center



Mylene Kellerman, CWCP
Program Manager
USF OTI Education Center

University of South Florida

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OSHA Training Institute
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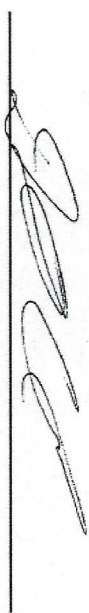
This course references current OSHA 29 CFR 1910.120(e) standards to assist employers in meeting training requirements.

Certificate #: 00171872

OSHA OUTREACH TRAINING
Completion Certificate

Bryce Swanson

On 02/07/2019, BRYCE SWANSON successfully completed the
10-Hour OSHA Outreach Training Course for the Construction Industry.



David Couch

OSHA Authorized Trainer

Construction #: 20-0106090 General #: 20-0079009

*As an OSHA Outreach trainer, I verify that I have conducted this OSHA Outreach training class in accordance with OSHA Outreach Training Program requirements.
I will document this class to my OSHA Authorizing Training Organization. Upon successful review of my documentation,
I will provide each student their completion card within 90 days of the end of the class.*

OSHA Authorized Provider:



Certificate of Completion



CHRISTOPHER NORIEGA JR.

This certifies that the person named
above has successfully completed the

International CPR Institute

Three Hour Course in

CPR / AED / FIRST AID

Adult/Child/Infant

Completion Date

April 3, 2024



www.icpri.com

1063637



www.icpri.com

Apr/3/2026



CHRISTOPHER NORIEGA JR.

This certifies that the person named above has completed the cognitive assessment of the following International CPR Institute course based on current CPR, ECC & OSHA standards

CPR / AED / FIRST AID
Adult/Child/Infant

Completion Date: Apr/3/2024

Expiration Date: Apr/3/2026

Cert Num: 1063637

Instructor D1317

Cardholder's Signature

Keep this card for your records. Void if reproduced

CHRISTOPHER NORIEGA JR.

This certifies that the person named above has completed the cognitive assessment of the following International CPR Institute course based on current CPR, ECC & OSHA standards

CPR / AED / FIRST AID
Adult/Child/Infant



Keep this card for your records. Void if reproduced

Appendix C

Completed 2022 Audit Checklist

2022 VVWRA SSMP Audit Checklist

Section	Recommendations from Audit	Person Accountable	Due Date
Goals	Maintain and/or improve training of VVWRA staff and contractors on O&M, OERP and SSMP activities.	Latif & Daniel	Ongoing
	Complete I/I study.	Latif & Dudek	6/30/2024
	Maintain annual communication with satellite sewer systems regarding O&M of these satellite systems.	Latif & Daniel	Ongoing
	Consider adding measurable goals to the SSMP (e.g. clean 20% of the VVWRA collection system per year, have one or less SSO per year).	Latif	6/30/2024
Organization	Consider maintaining a list of updated personnel and contact information at the VVWRA office, if not kept already.	Latif	Completed 4/3/2024
	Periodically review and make any necessary changes to the organizational structure listed in the SSMP and document in SSMP change log.	Latif	Ongoing
	Periodically review and make necessary revisions to the roles and responsibilities of positions listed in the SSMP and document in SSMP change log.	Latif	Ongoing
	Periodically review and update the contact information for individuals involved with the SSMP and document in SSMP change log.	Latif	Ongoing
	Periodically review and ensure that the proper legally responsible official (LRO) and data submitters are registered with the state.	Latif	Completed 4/3/2024
	Periodically review and update the contact information for SSO notification and document in SSMP change log.	Latif	Ongoing
	Update the organizational chart in the SSMP Update to match that found in the FY 2022-23 Adopted Budget.	Latif	6/30/2024
	List the names for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program in the SSMP Update.	Latif	Ongoing
	Add the names and contact information for contractors that are involved in implementing of the SSMP program in the SSMP Update.	Latif	Completed 4/30/2024
Legal Authority	Since inflow and infiltration (I/I) entering VVWRA's collection system from satellite systems has been of issue, establish agreements with satellite agencies to control I/I into the VVWRA's collection system.	Latif	Unknown



Section	Recommendations from Audit	Person Accountable	Due Date
Legal Authority (Cont.)	Since VVWRA relies on the member agencies FOG programs to limit the discharge of FOG into VVWRA's system, consider establishing agreements with satellite agencies to control FOG in their systems.	Latif	We have in place since 2021
	Add Table 8.1 of the VVWRA SSMP 2022 Audit to the SSMP Update.	Latif	Will do
	Add section listing the agreements (title and date; e.g. 1998 Joint Exercise of Powers Agreement) between the VVWRA and any owners of satellite sewer systems to document these agreements explicitly.	Latif	Will do
O&M Program	Add applicable stormwater conveyance facility data to VVWRA GIS map. Especially, stormwater facilities near VVWRA collection system infrastructure.	Latif	12/31/2024
	Continue to regularly review and update the GIS sanitary sewer collection system maps for accuracy.	Latif	Ongoing
	Add more sensors to assist in determining where performance-based cleaning is needed.	Latif	We have 51 sensors in place
	Ensure documentation of lift station inspection is happening and records readily accessible.	Latif	In place already
	Consider listing specific performance metrics for triggering as-needed cleaning based on sewer level rise.	Latif	Ongoing
	Consider evaluating whether an enhanced cleaning or inspection cycle is needed at certain portion of the VVWRA collection system.	Latif	In place
	Remove the "5-year" cycle language from the SSMP since VVWRA cleans based on performance.	Latif	5/2/2025
	Describe lift station routine preventative operation and maintenance activities in the SSMP Update.	Latif	5/2/2025
	Any future CIP manhole rehabilitation projects will replace unsecure manholes with secure manholes per the new manhole standards mentioned in Section 10 of the VVWRA SSMP 2022 Audit.	Latif	Ongoing
	Continue to review and update the current CIP list. If dates are not realistic or have passed new dates should be reassigned. Projects that have been completed or are no longer necessary should be removed. Any new projects based upon the system evaluation or CCTV inspection should be added.	Latif	Dates being updated routinely



Section	Recommendations from Audit	Person Accountable	Due Date
O&M Program (Cont.)	Develop and provide training on the SSMP to relevant VVWRA staff and contractors. Also train VVWRA staff on California Integrated Water Quality System (CIWQS) to meet requirements in the new SSMP Order describe in Section 18 of the VVWRA SSMP 2022 Audit.	Latif	5/2/2025
	Modifications to the training should be implemented on an as-needed basis especially when new equipment is installed or operating procedures have been changed.	Latif & Daniel	Ongoing
	All new employees should be trained as soon as possible, and records of all training should be maintained.	Latif & Daniel	Ongoing
	Add new collection utilities truck and new vactor truck to equipment list in the SSMP Update.	Latif	Will do when a new hire starts
Design and Performance Provisions	Update manhole standards to require that future manholes have composite manhole frames and lockable lids.	Latif & Daniel	5/2/2025
	Create VVWRA procedures and standards for inspecting and testing sewers, pumps, and other appurtenances.	Latif & Daniel	5/2/2025
	By December 31 st , 2024, include statement in a revised SSMP about the new manhole standard update to make future manholes more secure.	Latif	12/31/2024
	Consider either placing VVWRA standards and specifications on VVWRA website or updating the SSMP to state that the standards and specifications are not on the VVWRA website, but available upon request.	Latif	5/2/2025
Overflow Emergency Response Plan	Consider adding more level sensors in VVWRA manholes just upstream of lift stations to detect lift station failures.	Latif	We have these sensors in place already
	As stated in the 2018 SSMP Audit, per VVWRA current NPDES permit (Order No. R6V-2020-0028, NPDES No. CA0102822; Attachment D Section V.E.) spills are to be provided orally to the Regional Board within 24 hours from the time VVWRA is aware of the spill and a report shall be provided within five (5) days from the time VVWRA is aware of the spill.	Latif	This is SOP
	Ensure contact information listed in this section up-to-date.	Latif	5/2/2025
	Similar to recommendations in the 2018 SSMP Audit, consider adding standard field report forms specific to SSOs and a procedure on how to fill out these forms in the SSMP.	Latif	4/20/2020



Section	Recommendations from Audit	Person Accountable	Due Date
Overflow Emergency Response Plan (Cont.)	Add a new "Overflow Detection" item in the VVWRA SSMP for the SmartCover sensors that were installed in January 2022 for detecting an SSO.	Latif & Daniel	5/2/2025
	Add notification of regulatory agencies step the OERP "Initial Response" (Section 6-3.b of the VVWRA SSMP) for an SSO where a bypass is necessary.	Latif & Daniel	5/2/2025
	Differentiate between the "Recovery and clean-up (mitigation)" steps (Section 6-4 of the VVWRA SSMP) for an SSO during dry versus wet weather conditions.	Latif & Daniel	5/2/2025
	Since VVWRA only analyses coliform for bacteria indicator sampling of SSOs, remove the statements about enterococcus bacteria indicator sampling from the SSMP.	Latif & Daniel	5/2/2025
	Update the references to the "Regional Plant Laboratory" with "BSK or Babcock laboratories".	Latif & Daniel	5/2/2025
	Per the 2018 SSMP Audit, add information about "SSO Technical Report" from Table 2 of the Order No. WQ 2013-0058 EXEC to Section 8 – "Regulatory notification and reporting" of VVWRA's OERP.	Latif & Daniel	5/2/2025
FOG Program	Continue evaluations of the need for VVWRA to implement a FOG Control Program.	Latif & Daniel	Ongoing
	Continue to review VVWRA member agencies FOG Control Programs.	Latif & Daniel	Ongoing
	Since the 2021 decision to delegate FOG Control Program work to the member agencies was determined, consider changing from VVWRA's SSMP the sentence "An annual evaluation of the need to initiate a FOG Control Plan is conducted each year." to "Evaluations of the need to initiate a VVWRA Control Program are done on an as-needed basis."	Latif & Daniel	Ongoing
	Describe the 2021 decision to delegate the FOG Control Program work to the member agencies, VVWRA oversight of the member agencies FOG Control Programs, and the FOG public outreach that VVWRA does in more detail in the SSMP Update.	Latif & Daniel	5/2/2025
	Briefly describe member agencies (e.g. City of Victorville and Town of Apple Valley) FOG Control Programs in the SSMP Update.	Latif & Daniel	5/2/2025
	Per 2018 SSMP Audit, consider adding number of permitted restaurants in the SSMP Update.	Latif & Daniel	5/2/2025
SECAP	Complete the 2021 I/I study to gain a more current and comprehensive understanding of existing system capacity under rain dependent I/I.	Latif & Daniel	5/2/2025



Section	Recommendations from Audit	Person Accountable	Due Date
SECAP (Cont.)	Develop an updated CIP to reduce I/I found in the I/I study and reevaluate collection system capacity with reduced I/I.	Latif	5/2/2025
	Continue to determine schedule and sources of funding for updated CIP list started in 2022.	Latif	Ongoing
	Describe 2021 Interceptor Risk Analysis and 2022 Regional Inflow and Infiltration studies in the SSMP Update.	Latif	5/2/2025
	List sources of schedule and funding for updated CIP in SSMP Update.	Latif	5/2/2025
Monitoring, Measurement and Program Modifications	Maintain up-to-date, organized and easily accessible mutual aid (e.g. contractors or member agencies) partner training and inspection records.	Latif & Daniel	5/2/2025
	Consider annual reviews of performance parameters if numbers of SSOs increase or Element 1 goals are found as not adequately being addressed.	Latif & Daniel	5/2/2025
	Add SSO trend charts and/or table to the SSMP.	Latif & Daniel	5/2/2025
SSMP Audits	Continue to conduct an audit of the SSMP every two years and maintain the audit report on file.	Latif & Daniel	Ongoing
	Use checklist from audit findings (this document) and incorporate findings to ensure recommendations are implemented.	Latif & Daniel	5/2/2025
	Consider adding a log of audit recommendations to an appendix of the SSMP Update.	Latif & Daniel	5/2/2025
Communication Program	Maintain annual communication with satellite systems.	Latif & Daniel	In place already
	Add information about VVWRA's methods of communicating to the public about their SSMP in the SSMP Update.	Latif & Daniel	5/2/2025
	Add information about monthly Board meetings in the SSMP update.	Latif & Daniel	5/2/2025
Funding	Separate lift station O&M budget and expenses from other VVWRA staff budget and expenses for easier tracking of this collection system item's funding source	Latif & Daniel	5/2/2025

