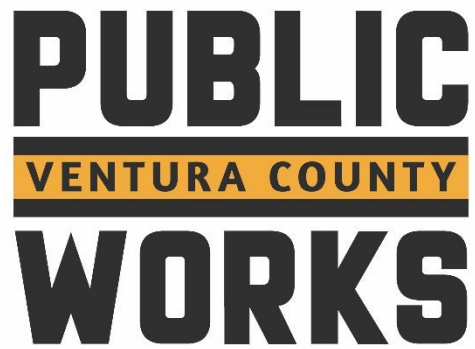


**Ventura County Waterworks District
County Service Area 29 (North Coast)
SEWER SYSTEM MANAGEMENT PLAN**

2023



**Ventura County Water and Sanitation
6767 Spring Road
Moorpark, CA 93021**

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Section 1: Goals

1.1 Introduction

The purpose of this Sewer System Management Plan (SSMP) is to provide a plan and schedule to properly manage, operate, and maintain the sanitary sewer system. This SSMP will assist the Ventura County Service Area No. 29 (CSA) with reduction and prevention of sanitary sewer overflows (SSOs) and mitigation of any SSOs that may occur.

1.2 Regulatory Requirements

A SSO is any overflow, spill, release, discharge or diversion of untreated sewage from a sanitary sewer system. Often, SSOs contain high levels of suspended solid, pathogenic organisms, toxic pollutants, nutrients, oxygen demanding organic compounds, oil and grease and other pollutants. A SSO may cause a nuisance, a temporary exceedance of water quality standards when the sewage is discharged to surface waters of the United States (U.S.), pose a threat to the public health, adversely affect aquatic life, and impair the public recreational use and aesthetic enjoyment of surface waters (State Water Resources Control Board).

1.3 CSA Goals

The CSA's goals include the following:

- Eliminate preventable SSOs
- Protect public health and safety
- Minimize adverse impacts of SSOs
- Prevent adverse impacts to the environment, waterways of the U.S., and their beneficial uses
- Ensure corrective action is taken in a timely manner
- Ensure compliance with current regulatory requirements
- Document and define procedures to address SSO prevention and response.

Each of these goals are defined further in Sections 2 to 11.

1.4 Background

CSA 29 owns, operates, and maintains the North Coast Sewer Collection System (Collection System). CSA 29 provides wastewater collection services to residents in the community of North Coast to serve Solimar Beach, Faria Beach, Mussel Shoals, Seacliff, and Ventura RV Park. The Ventura Regional Sanitation CSA (VRSD) provides operation and maintenance under a contract. Domestic and commercial wastewater is carried to the City of Ventura Sewer System Management Plan - County Service Area No. 29 through a collection system network comprised of four lift stations connected by a force main. A major portion of the force main runs along State Highway 1. The Collection System has a flow limit of 0.36 million gallons per day (MGD) average daily

flow. Currently, the average daily flow is 0.06 MGD.

1.5 Definitions and Acronyms

The following is a list of acronyms and definitions used in this report:

BM	Breakdown Maintenance
BWF	Base Wastewater Flow
CCTV	Closed Circuit Television
CIPP	Cured-In-Place Pipe
City	City of Moorpark
County	County of Ventura
CA DFG	California Department of Fish and Game
CIWQS	California Integrated Water Quality System Project
CM	Corrective Maintenance
CMMS	Computerized Maintenance Management System
CSA	County Service Area
FOG	Fats, Oils, and Grease
GIS	Geographic Information System
gpd	Gallons per day
gpm	Gallons Per Minute
GW	Groundwater Infiltration
HAZMAT	Hazardous Materials
I/I	Infiltration and Inflow
IIPP	Illness and Injury Prevention Program
MAR	Mean Annual Rainfall
MGD	Million Gallons per Day
MRP	Monitoring and Reporting Program
MWTP	Moorpark Wastewater Treatment Plant
NPDES	National Pollutant Discharge Elimination System
OES	California Office of Emergency Services
O&M	Operation and Maintenance
PF	Peaking Factor
PM	Preventative Maintenance
POTW	Publicly Owned Treatment Works
PVC	Polyvinyl Chloride
RD/I	Rainfall Dependent Infiltration and Inflow
US	United States
RWQCB	Los Angeles Regional Water Quality Control Board
SMR	Self-Monitoring Report
SOC	Security Operations Center
SOP	Standard Operating Procedures
SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow
SSOERP	Sanitary Sewer Overflow Emergency Response Plan
SSO Plan	Sanitary Sewer Overflow Prevention and Response Plan
SWRCB	State Water Resources Control Board
VCP	Vitrified Clay Pipe
WDR	Waste Discharge Requirements
WWTP	Wastewater Treatment Plant

Section 2: Organization

2.1 Introduction

This section provides a description of CSA staff responsible for implementing, managing and updating the SSMP, and responding to sanitary sewer overflows.

2.2 Regulatory Requirements

https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2022/wqo_2022-0103-dwq.pdf

2.3 Authorized Representatives

The CSA has identified the following authorized representatives in the California Integrated Water Quality System Project (CIWQS).

Primary Authorized Representative: Scott Meckstroth, Deputy Director

Secondary Authorized Representative: Joseph Pope, Director

Additional Contact: Augustine Godinez, Superintendent

2.4 Staff Responsible for Implementing Measures

The following are responsible for the various sections of this SSMP:

Section	Primary
Overall SSMP	Deputy Director
1-3	Deputy Director
4. O-M Plan	Wastewater Superintendent
5. Design/Performance	Engineering Manager
6. Overflow and Emergency Response	Wastewater Superintendent
7. Fats, Oils, and Grease Control	Wastewater Superintendent
8. System Evaluation and Capacity Assurance Plan	Engineering Manager
9. Monitor, Measure, and Modification	Deputy Director
10. Program Audits	Deputy Director
11. Communication	Deputy Director

2.5 Chain of Communication for Reporting Overflows

In the event of a sewage spill or notification of a spill by the public, one of the following personnel, in the order listed, shall be contacted:

County of Ventura Public Works Agency Water and Sanitation Department:

1. CSA 24-Hour emergency number, 805-378-3000
2. Business Hours: Go to 3. Non-Business Hours: On-call Operator
3. Wastewater Supervisor, 805-444-1109
4. Public Works Superintendent – Sanitation, 805-378-3050 / 805-444-1109
5. Public Works Superintendent, Water, 805-378-3035 / 805-377-7169
6. Deputy Director, Operations and Maintenance, 805-378-3015 / 805-231-7034
7. Director, Water and Sanitation Department, 805-378-3005

The CSA will also notify the Ventura County Environmental Health Division at (805) 654-2813 during normal business hours (Monday through Friday, 7:00 AM - 5:30 PM), or (805) 320-6244 after normal business hours.

Additional details regarding the chain of communication for reporting overflows is provided in Section 6

Section 3: Legal Authority

3.1 Legal Authorities

Ventura County Service Area No. 29 Rules and Regulations (CSA regulations) and ordinances are summarized below which allow the CSA to reduce the potential for sanitary sewer overflows.

CSA regulations and ordinances are summarized below for each of the regulatory requirements. CSA Rules & Regulations.(<https://s29422.pcdn.co/wp-content/uploads/2021/03/4341-Current-Ordinance-CSA-29-30-34.pdf>)

Section 4: Operation and Maintenance Program

4.1 Introduction

The purpose of preventative maintenance is to ensure ongoing reliable regulatory compliant sewer collection and treatment services. A properly maintained collection system will help minimize overflows in addition to addressing other operational issues on a proactive basis. Reducing sanitary sewer overflows reduces mitigation costs and protects public health and the environment. Section 4 summarizes the CSA's general maintenance, inspections, and training procedures.

4.2 Regulatory Requirements

https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2022/wqo_2022-0103-dwq.pdf

4.3 Collection System Maps

The CSA has a sewer map that includes the information for its wastewater collection system assets including: gravity pipelines, manholes, pumping facilities, and pressure pipelines (force mains). Data in the atlas will be periodically updated as new facilities are added and existing facilities are rehabilitated or replaced. The data is added through Sedaru either through the application by the CSA or the back end GIS by Sedaru. The collection systems maps are then updated by engineering, Sedaru, or County IT. The maps can also be viewed using the Sedaru application or Water and Sanitation's internal GIS.

4.4 General Maintenance Program

Regularly scheduled preventive maintenance is essential for keeping equipment in good running order. Material contained in this section is provided as a general overview of maintenance requirements and may not contain answers for specific maintenance questions. In general the supervisor is in charge of certain crew and produces a printed schedule at the beginning of each week indicating the job responsibilities of a person. Routine tasks are added and typically take a lower priority unless they are time sensitive. Corrective maintenance is added to the schedule after the supervisor hears of an issue in the prior week. Crews meet every morning for a 15 minute brief of the work for the day and receive a new schedule every Monday.

4.4.1 Categories of Maintenance

Wastewater system personnel are concerned with three categories of maintenance, including preventative maintenance, corrective maintenance, and breakdown maintenance. Each of these categories is described below.

4.4.1.1 Preventive Maintenance

Preventative maintenance (PM) actions are performed on a regular or "routine" schedule to keep equipment or structures operating effectively and to minimize unforeseen failures. These actions consist of inspections and/or maintenance tasks.

4.4.1.2 Corrective Maintenance

Corrective maintenance (CM) actions are taken to either repair or restore malfunctioning equipment or structures to effective operating condition through either scheduled or unscheduled work. These actions may result from problems discovered during preventive maintenance or as a result of failures during operation. CM actions are scheduled if they can be carried out as part of the normal work plan. They are unscheduled if immediate intervention is needed to correct a fault, a process often called emergency maintenance.

4.4.1.3 Breakdown Maintenance

Breakdown maintenance (BM) actions are taken to repair or restore equipment or structures to effective operating condition only after failure to operate. Any maintenance manager who recognizes BM as a normal mode of operation needs to reconsider the methods of maintenance management. As a rule, major overhaul and repairs are not made by operating personnel. This work is usually performed under contract.

4.4.2 Maintenance Information

Maintenance personnel need ready access to equipment O&M information, and this information should be recorded and updated as necessary. Operations personnel are responsible for preparing and submitting these maintenance records. In general, the CSA maintenance records hard copies are maintained at the treatment plant and digital copies are in the original capital project folders.

The best sources of maintenance information are the manufacturers' instruction manuals provided with each piece of equipment. This material shall be bound and organized according to equipment type and be kept in good order for quick reference. The following information is typically included in these manuals: descriptive literature (catalog cuts and data sheets); parts lists; instructions for installation, operation, maintenance, and repair; performance data (i.e., pump performance curves); electrical diagrams; and schedules of required lubricants and chemicals. It is normally recommended that operating personnel be familiar with each piece of equipment through careful examination of these instruction manuals. Consult the manufacturers' instruction manuals for specific maintenance information. The specifications, shop drawings, and as-built drawings, which should also be kept on file, show dimensions of each piece of equipment, and provide information on pipe sizes and materials, valve types, equipment types, etc. In addition, maintenance inventory can be input into a maintenance software program for work schedule and completion tracking. An example of a "Work Order Form" is provided in Appendix B.

4.4.3 Maintenance Management System

The CSA uses Sedaru to schedule preventative maintenance, capture preventative and reactive maintenance operations, and track performance and level of effort required to operate and maintain sewer system assets.

Data collected assist with determining the schedule for a proactive rehabilitation, repair and/or replacement of deteriorating wastewater collection system asset(s). This data is overlain on a GIS base map of the sewer system to quickly identify and visualize problem areas; communicate conditions and needs to CSA policy makers and management; and prioritize maintenance activities, urgent and emergency repairs, and short-term and long-term solutions.

4.4.4 Maintenance Personnel

Another component of an effective maintenance management system is efficient organization of maintenance personnel. This includes providing adequate staffing, developing job descriptions and an organizational chart, providing maintenance training programs, and holding periodic staff meetings.

Job descriptions are often developed for use in assessing the skill level required to perform particular tasks in a maintenance program. Depending on the size of the facility, complexity of equipment, and size of the maintenance department, various skill levels may be required (e.g., Service Worker, etc.). In many facilities, specialized equipment maintenance may require the use of outside contractors.

In general, it is best if well-trained personnel perform inspections, repairs, and preventive maintenance tasks. Personnel assigned to these tasks should possess a thorough knowledge of the functions and operations of the equipment and the procedures for servicing it safely.

4.5 Routine Preventative O&M Activities

Specific activities and frequencies for system maintenance are adjusted based on prioritized needs observed in the system over time. The CSA provides adequate operation and maintenance of its wastewater collection system facilities including collection system pipelines, manholes, and lift stations. Maintenance activities for each component is briefly described below.

4.5.1 Collection System Pipelines

Pipeline inspection procedures should include documented semi-annual periodic surface inspection to detect problems such as construction-related damages and leaks or failures. Examples of inspection forms are provided in Appendix B including Semi-Annual Trunk Line Inspection, Stream Crossing Inspection, and Sanitation System Air VACs forms. Table 4-1 summarizes the frequency of inspection and testing for the collection system.

TABLE 4-1 COLLECTION SYSTEM ROUTINE INSPECTION AND TESTING SCHEDULE		
System Component	Frequency	Procedure
Trunkline	Semi-Annual	- Inspect For Condition, Flow, Operation, Leakage - Cleaned and CCTV Inspection Once Every Ten Years
Air-Vacs	Semi-Annual	- Inspect Condition, Accessibility, Operation
Force Main Piping	Semi-Annual	- Inspect For Leakage, Condition, Accessibility, Operation - Pipeline Cleaning as needed - CCTV Inspection as needed
Sewer Collection Piping	Semi-Annual	- Inspect for leakage - Pipeline Cleaning Once Every Three Years - CCTV Inspection Once Every Ten Years

If the condition of a pipeline is found to be compromised, the following repair, rehabilitation, and/or replacement options are considered:

- **Spot Repair:** If the pipeline is structurally sound, the hydraulic capacity is sufficient, and the problem is isolated, the pipeline may be cleaned, open-cut repaired or replaced, grouted, or rubber sealed with stainless-steel mechanical bands.
- **Rehabilitation:** Rehabilitation may be used to improve the hydraulic capacity and/or improve the structural integrity of the pipeline. Rehabilitation options may include use of slip-lining, cured-in-place pipe (CIPP), fold-and-form lining, segmental lining or on-line replacement. The preferred rehabilitation option is selected based on economic considerations and the specific circumstances of the proposed pipeline rehabilitation.

Replacement: Pipeline replacement may be used when the integrity of the pipe is severely compromised and/or increased hydraulic capacity or relocation of the pipeline alignment is needed. The methods that may be used include open cut excavation, pipe bursting, or pipe reaming. The preferred replacement option is selected based on economic considerations and the specific circumstances that may select a specific replacement method.

The CSA cleans and inspects approximately 33 percent of the collection system each year, meaning that the entire gravity sewer collection system is cleaned approximately every three years. In addition, the CSA routinely cleans known hot spots on a semi-annual basis. According to CSA staff.

4.5.2 Manholes

Manhole inspection procedures include visually inspecting the frame condition and checking for offsets or misalignments, checking for evidence of surcharge and infiltration and/or inflow, checking for evidence of corrosive damage, checking for accumulations of grease, debris, or grit, and checking flow characteristics. The CSA current manhole maintenance is commonly completed during the CCTV inspection or cleaning of pipelines. Manholes located in the roadway should be inspected for settlement and subsidence around the outside of the manhole.

The CSA inspects approximately 33 percent of manholes annually to provide an overall evaluation of manhole condition. Manholes with noted deficiencies and corrosive damage are inspected annually to actively monitor condition. Other manhole inspections are completed as needed in response to a flow inconsistency or other indicators in the collection system.

Rehabilitation options for a deteriorated or deteriorating manhole include reset or replacement of the manhole frame and cover, replacement of the manhole frame seal, grouting, coating, lining or complete open-cut manhole replacement. An example of a manhole inspection form is provided in Appendix B.

4.5.3 Lift Stations

The CSA has a program of scheduled inspections and maintenance for all of the lift stations that it operates and maintains. Examples of inspection forms are provided in Appendix B.

Written site-specific standard maintenance procedures are in place for each lift station. Inspection and preventive maintenance activities are regularly scheduled.

Lift station inspection and maintenance activities are scheduled on a weekly, monthly, annual and as needed basis. Table 4-2 summarizes the CSA lift station routine inspection and testing. The lift stations are checked for general conditions including odors, building condition and

security, electrical component condition, alarm and remote monitoring system condition, and evidence of leakage.

**TABLE 4-2
LIFT STATION ROUTINE INSPECTION AND TESTING SCHEDULE**

System Component	Frequency	Procedure
Lift Station	Weekly	Check Fluids (Oil, Fuel, Etc.)
		Check Pumps Are Running Full and Clean
		Clean Wet Well as Needed
	Monthly	Run Pumps To Maximum and Minimum
	Annually	Manufacturer Recommended Annual Pump and Motor Maintenance "Annual Maintenance Checklist"

4.6 Additional Routine Maintenance

Additional Routine maintenance activities are listed below:

- Facility Safety Survey (Wastewater Lift Station) graded based on if it satisfactory, unsatisfactory, not N/A. If unsatisfactory comment and assign personnel to the hazard. (PWA Hazard Correction Log). Areas Surveyed check list test: Area clean and orderly, phone operational, security lights operational, safety guards in place on equipment, hatch covers work properly, bubbler level/ float back up OK, alarm system work properly (DIAL), electrical panel labeled, clean and orderly, emergency generator operational, generator transfer switch works properly, vault drain cleaner to wet well, walkways clear (no trip hazards).
- Corrective repairs on things like ripping the pond, and cleaning the reclaimed basins are done quarterly.
- Sewer plugs and annual inspections that are pass or fail tests.
- Standby generator inspections occur once a year.
- Pump equipment is tested weekly and is run for a minimum of 15 minutes, record the date, hours (note: be sure to take the hours from the meter not tachometer and be sure to pump the fuel) amps., pump pres, oil p.s.i, engine temp, fuel, compressor oil pressure, coolant level, battery, additional comments, and operators initials.
- Lift station and well maintenance are done quarterly or more frequently if needed.

4.7 Known Problem Areas

The CSA cleans known "hot spots" within the sewer system semiannually and as needed.

Hot spot locations are maintained in Sedaru and are available upon request.

4.8 Video Inspections

A visual CCTV inspection identifies sections of the system where structural deficiencies or deterioration are present. Sewer system pipelines are inspected internally using CCTV when they are built and problem areas are inspected after that time. An example of a video inspection form is provided in Appendix B.

4.9 Removing Equipment from Service

4.9.1 Short Period

Take precautions to prevent damage to equipment removed from service for a short time. Factors to be considered and precautions to be taken depend on the type of equipment and outside conditions. Lock out/tag out procedures must be used.

4.9.2 Protracted Period

Special precautions are necessary for equipment that is to be out of service for long periods. Failure to retire or adequately protect equipment may cause serious damage during idleness or on resumption of operation. When it is known that the outage will be protracted, dismantle the equipment, if practical, and protect it against corrosion and other damage with suitable greases, oils, and rust-preventative compounds or coverings. Lock out/tag out procedures must be used.

4.10 Rehabilitation and Replacement Plan

The CSA does not currently have a short term rehabilitation plan based on semi-annual inspections and CCTV findings. In the future, the CSA intends to hire an Engineer responsible for asset management whom will assist in the development of short term rehabilitation plans.

If sections of the system are identified where failure is imminent, a contractor will be retained and repairs will be initiated as soon as possible (short-term priority). Less severe deficiencies will be monitored and included in the CSA's Capital Improvement Program for rehabilitation in the future (long-term priority). Illicit connections will be eliminated as soon as possible to reduce potential storm water infiltration. Significant sources of infiltration will be a high priority for repair.

4.11 Spare Parts and Stock Control

The CSA keeps adequate types and quantities of materials and stock on hand to ensure practical, economical, and continuous service based upon experience of operating the system.

4.11.1 Expendable Stock

Stock levels for expendable items used at a fairly uniform rate (such as pump packing, treatment chemicals, and laboratory reagents) are based on maintenance experience and operating reports. However, levels may be modified for reasons of economy. Thus, savings

can sometimes result if treatment chemicals are bought in large quantities.

4.11.2 Standby Items

Seldom-used materials needed to safeguard health, ensure uninterrupted operation of facilities, or prevent destruction of property are classed as standby items. Typical examples are inflatable plugs and replacement pumps. The CSA stocks standby items for critical facilities.

4.12 Equipment and Tools

4.12.1 Inventory

Effective maintenance requires that the tools needed to service the facility properly be readily available. There is an inventory list of the tools kept by the supervisors. The majority of tools are stored on the trucks and maintained by the operator assigned to the truck. An operator communicates the need of specific new tools or replacements to their supervisor or superintendent.

Vehicle supply list:

Round shovel,
Square shovel,
Digging bar,
Manhole pick,
Sledge
hammer, Valve
key Wrenches
Socket set
Philips/ flat
head Allen
wrenches Drill
and impact
Tool bags/
boxes
Monkey
wrenches Pipe
wrenches
Crescent
wrench Grinder
Measuring tapes
Hammers
Pliers
Hard
hat
Gloves
Safety vest
Tyvek suit
Med kit
Respirator
Flashlights
Caution tape
Rain gear
Safety
glasses

Face shield
Safety cones
Water
Phone charger
Soap/ sanitizer
Ear protection
Fire
extinguisher
Pipe thread
putty Plumber's
tape Pvc
primer/ glue
WD40/ lube
Purple pain
Green marker paint Toilet paper
Shop rags
Pens/
pencils
Note pads
Cleaner/
degreaser Duct
tape
List of gate codes
List of contacts
Extra chain/ locks
Quick links / shackles
Rope
Zip ties

4.13 Training for Staff and Contractors

Well-trained workers are the most valuable resource available for successful completion of the CSA's objectives. Training is an essential part of the inspection and maintenance program. Training sessions provide CSA staff with skills required to ensure preparedness for all anticipated inspection, maintenance, and SSO response situations. Training sessions are based on the latest Emergency Response Plan and other reference materials, and incorporate hands-on field demonstrations. Goals of the training program include the following:

- Inform new employees of the CSA rules and regulations and its code of conduct.
- Remedy deficiencies in skills or knowledge required to perform assigned tasks with competence.
- Instruct personnel of modifications in the operation of the CSA facilities.
- Provide employees with new knowledge to qualify them for promotions.
- Instruct personnel in the need for good safety habits.

The CSA uses a combination of formal and informal training to train its maintenance staff. All field crews are trained to the same level of competency to provide the greatest level of redundancy in trained staff resources. Examples of formal and informal training programs

include the following:

4.13.1 Formal Training

1. Safety training – Generally, a training program determined by the PWA Safety Officer.

4.13.2 Informal Training

1. On-the-job training (OJT) – Given by supervisors and senior technicians on technical aspects of operations.
2. Tailgate meetings – Brief, scheduled meetings to discuss such topics as safety or specific actions.
3. Brown bag meetings – Informal discussions held during lunch hours concerning topics of interest to participants, often incorporating formal presentations followed by open discussion.
4. Demonstrations and simulations – These training sessions can be more complex to plan and conduct, however the learning experience is enhanced since it uses five human senses (sight, smell, hearing, touch, and body movement).

Examples of topics covered in regularly scheduled staff and safety meetings include the following:

- Customer service
- Sexual harassment
- Commercial drivers license
- CWEA Certifications
- Mainline cleaning
- Chainsaw
- High pressure equipment
- Forklift
- Confined spaces
- Gas detection
- Shoring
- Traffic control
- USA locating
- Work near railroads
- SCADA
- Blood borne pathogens
- Dehydration and heat stroke
- First aid and CPR
- Fall protection
- Railroad Training

4.13.3 Training Records

Records for personnel and professional training shall be maintained to document that employee training has been accomplished and up-to-date. The CSA should maintain a training log and copies of all training certifications for all employees. Records shall include the following for each employee:

- Employee's name

- Instructor's name
- Dates of training.

4.13.4 Incident Reports

California Integrated Water Quality System Project (CIWQS) asks for date of incident, time reported/ observed, nature of the incident, name of the person reporting the incident, location of the incident, description of the incident, damage/ loss assessment (describe the damages or losses to VCWWD, and/ or others). Correction Action Taken (include material/ services used), equipment used (VCWWD, others), Labor (employee and hours), additional information. Employee Signature, date, supervisor signature, date, directors initials is listed at the bottom of sheet. Form is only used for internal use, do not use for a reporting employee injury or fleet accident.

Section 5: Design/Performance

5.1 Design and Construction

Water and Sanitation have developed standards for the design and construction of projects related to the sanitary sewer system. The latest version of the following documents contain the various standards and are listed in order of precedence from high to low:

1. Rules and Regulations for County Service Areas Nos. 29, 30, and 34
 - <https://s29422.pcdn.co/wp-content/uploads/2021/03/4341-Current-Ordinance-CSA-29-30-34.pdf>
2. Ventura County Water and Sanitation Standard Drawings
 - <https://s29422.pcdn.co/wp-content/uploads/2023/03/2022-WS-Standard-Drawings.pdf>
3. Ventura County Water and Sanitation Approved Materials List
 - <https://s29422.pcdn.co/wp-content/uploads/2021/12/2021-VCWSD-Approved-Materials-List.pdf>
4. Ventura County Sewerage Manual
 - <https://s29422.pcdn.co/wp-content/uploads/2018/05/Sewerage-Manual.pdf>
5. Standard Plans and Standard Specifications for Public Works Construction
 - <http://www.greenbookspecs.org/>

Section 6: Overflow and Emergency Response

6.1 Introduction

This section defines the CSA's response to a SSO within the CSA. A SSO is any overflow, spill, release, discharge or diversion of untreated sewage from a sanitary sewer system. Often, SSOs contain high levels of suspended solid, pathogenic organisms, toxic pollutants, nutrients, oxygen demanding organic compounds, oil and grease and other pollutants. A SSO may cause a nuisance, a temporary exceedance of water quality standards when the sewage is discharged to surface waters of the United States (U.S.), pose a threat to the public health, adversely affect aquatic life, and impair the public recreational use and aesthetic enjoyment of surface waters (State Water Resources Control Board).

6.2 Potential for SSO

The CSA assessed the potential for sewage spills within its service area. Scenarios that the CSA determined could lead to or cause a sewage spill include the following:

1. Flooding Due to Above-Normal Rainfall and Runoff:

In the past, Ventura County has experienced above-normal rainfall that could damage many underground utility lines.

2. Earthquakes:

Major earthquakes could damage the sewer facilities and affect their structural integrity. During this event, sewage could spill onto City, County, and State roads.

3. Clogging up of Sewer Lines:

Accumulation of foreign debris, dirt, oil, and grease could result in sewer lines being clogged up. Clogging of sewer lines can cause upstream manholes to overflow.

4. Excavation:

A sewage spill could occur from accidental damage to sewer lines resulting from excavations near sewer facilities.

A sewage spill could also be the result of natural, man-made, accidental, or intentional occurrences. The CSA will take appropriate action to mitigate contamination.

6.3 Overflow and Emergency Response Procedures

The CSA follows procedures as outlined in the Emergency Procedures Manual Section III (available upon request).

Section 7: Fats, Oils, and Grease Control

7.1 FOG Control Program

Some wastewater agencies have indicated that approximately 50 percent of all sanitary sewer overflows (SSOs) were caused by FOG. Major FOG contributors are Food Service Establishments (FSEs), food processors, and some residential dwellings. FOG Control Program Manual (available upon request) for information on the CSA's FOG Program.

Section 8: System Evaluation and Capacity Assurance Plan

8.1 Introduction

This section defines the CSA's efforts to monitor sewer system capacity. In addition, the CSA capital improvement plans identify priority projects and implementation schedules.

8.2 Regulatory Requirements

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

- a. **Evaluation:** Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events;
- b. **Design Criteria:** Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria; and
- c. **Capacity Enhancement Measures:** The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.
- d. **Schedule:** The CSA shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a)-(c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described elsewhere.

8.3 System Evaluation

The CSA does not have a current valid Master Plan for this collection system. However, the CSA has determined that the system is operating adequately except for the identified hot spots and the existing CIP projects. Any significant new development is required to conduct a sewer hydraulic study to determine if the system is adequate to support the additional flows. Any short coming are rectified by the developer.

8.4 Design Criteria

Design criteria for the CSA were included in Section 5.

8.5 Capacity Enhancement Measures

CSA CIP is reviewed and updated annually based on identified needs. System deficiencies within the CSA are noted during routine operation, maintenance, or inspection procedures. The CIP lists all capital improvement projects scheduled for implementation during the following 5 years. A copy of the most recent CSA CIP is on the Public Works Website (<https://www.vcpublicworks.org/wsd/engineeringanddevelopment/>).

8.5.1 Short term

Short-term capital expenditures include minor improvements to address capacity issues and deficiencies, such as minor system infiltration and inflow, and unexpected emergency repair. Short-term deficiencies can be noted during on-going routine operation, maintenance, or system inspection and are typically repaired by O&M with the support of Engineering.

8.5.2 Long term

Long-term anticipated expenditures for major capital projects like planned replacement of portions of the wastewater collection system are addressed through the CSA's CIP. The CSA updates its CIP long-term projects each year as part of the budget process.

8.6 Schedule for CIP Improvements

The CSA includes implementation schedules associated with each CIP improvement. Priorities and project schedules may be adjusted based on a variety of reasons including technical and financial considerations and new or changing needs resulting in changes to project objectives and scope. CIP projects will be completed as system conditions warrant and funding opportunities are identified.

Section 9: Monitor, Measure, and Modification

9.1 Introduction

This section summarizes the CSA's activities to monitor the implementation and effectiveness of the SSMP. In addition, this section describes processes to evaluate and modify the SSMP.

9.2 Regulatory Requirements

The CSA shall:

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

9.3 Prioritize Appropriate SSMP Activities

The CSA currently maintains a portion of the collection system records of applicable information (i.e., construction, maintenance, inspection, etc.) in Sedaru. Paper copies of various documents are also maintained by the CSA. Various SSMP activities are currently prioritized by the Wastewater Superintendent and the Deputy Director.

9.4 Monitor Implementation of SSMP Elements

Monitoring SSMP elements includes conducting an audit every other year of the effectiveness of the SSMP. Performance indicators may be used to monitor the effectiveness of the SSMP. The audit may include recommendations for changes to the SSMP. Some of the performance indicators that could be assessed include the following:

- SSO Analytics Including:
 - Event dates, locations, reporting dates and times
 - Cause(s) of SSOs
 - Average time to respond to SSO
 - Number of SSOs over the past 12 months, distinguishing between dry weather and wet weather overflows
 - Volume of SSO that was contained in relation to total volume spilled
 - SSO impacts to public health, environment, and waters of the U.S.
 - Responses and corrective measures to prevent SSOs
 - Determination of any pattern of SSOs in the collection system

- Evaluate sewer system improvements and progress made or setbacks by compared the planned projects with the completed projects.
- Evaluate industrial pretreatment program compliance and impacts due to non-compliance or modifications in discharges by industrial users.

If performance measures or the SSMP audit indicate degradation in the performance of the collection system, the SSMP will be revised to specifically address the issue causing the performance problem.

9.5 Assess Success of Preventative Maintenance Program

The CSA shall conduct an audit once every other year to assess the effectiveness of the preventative maintenance program including the following performance indicators:

- Calculate amount of time spent by operation and maintenance staff (full time equivalent or FTE) to clean, repair, and monitor performance of a pipeline, manhole, pump station, and other sewer system assets
- Assess scheduled repairs and improvements based on system performance history and inspections (list)
- Interview collection system maintenance staff and management on the effectiveness of SSMP elements and recommend modifications and improvements.

If performance measures or the SSMP audit indicate degradation in the performance of the collection system, the SSMP will be revised to specifically address the issue causing the performance problem.

9.6 Update SSMP Elements

An audit once every year includes identification and analysis of any deficiencies in the SSMP. An audit report will be prepared and kept on file. The SSMP will be updated at least once every five years by the Public Works Superintendent – Sanitation with the contribution of key field crew members, and Operations and Maintenance Deputy Director and Engineering. The update will be based on the previous annual audits of SSMP activities. If warranted, addendums or modifications will be made to the SSMP and reviewed with Public Works Superintendent – Sanitation, field crew members, and Operations and Maintenance Manager. Should major changes arise, the SSMP will be updated and approved by the Director.

Section 10: Program Audits

10.1 Introduction

To ensure that the CSA SSMP continues to effectively prevent SSOs, the CSA is required to periodically reassess the Plan.

10.2 Regulatory Requirements

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

10.3 SSMP Audit

The review should occur once every two years and include identification and analysis of any deficiencies in the plan. Performance measures and benchmarks will be established. CSA's Public Works Superintendent – Sanitation will select an experienced staff member to audit the SSMP at least once every two years by evaluating the effectiveness of each SSMP Part and Sub-part and making recommendations for improvements and updates as appropriate. Additional details regarding auditing the SSMP were provided in Section 9. The CSA will track and report SSMP performance measures including but not limited to the following:

- SSOs and estimated volume by cause
- Average time for maintenance staff to respond to a spill
- Preventative maintenance effort and inspection hours by type
- Scheduled repairs and improvements based on system performance history and inspections (list)
- Emergency repairs (list) by cause.

If performance measures or the plan review indicate degradation in the performance of the CSA's wastewater system or other problems related to CSA operation of the system, the SSMP will be revised to specifically address the issue causing the performance problem. Overall SSMP performance should be evaluated and reported to management quarterly and annually following the end of each fiscal year. Any plan updates necessary to enhance the SSMP performance will be identified and included as a part of the following year's Five-Year Strategic Planning process. The SSMP will be updated by incorporating adopted recommendations. Audit reports and related materials will be maintained in a comprehensive hard copy and electronic document tracking and management system.

10.4 Record of Revisions

If, for any reason, this SSMP is amended, all holders of this SSMP (see Table 10-1) will be provided with copies of each revised page and a document listing the revision number, date of revision, and a listing of the revised page numbers (see Exhibit 10-1). Each revision number will be entered on the record of revisions (see Table 10-2). Amended pages will be removed and replaced with the copies of the most recent revisions.

**TABLE 10-1
LIST OF HOLDERS OF SSMP**

NAME	ADDRESS	PHONE No.
Deputy Director	6767 Spring Road, Mpk	805 378-3015
Laboratory Manager	9550 E. L.A. Avenue, Mpk	805 378-1168
Sanitation Superintendent	9550 E. L.A. Avenue, Mpk	
Sanitation Supervisor	9550 E. L.A. Avenue, Mpk	805 378-1169
Sanitation Supervisor	9550 E. L.A. Avenue, Mpk	805 529-7326
Sanitation Supervisor	9550 E. L.A. Avenue, Mpk	805 529-7326
Engineering Managers (2)	6767 Spring Road, Mpk	805 378-3020, 378-3025
Treatment Plant	9550 E. L.A. Avenue, Mpk	805 529-7326
Library	6767 Spring Road, Mpk	

EXHIBIT 10-1
LIST OF REVISED SSMP PAGES (EXAMPLE)

To all holders of the Ventura County Service Area No. 29 - Sewer System Management Plan (SSMP):

Revision Number: 001

Date of Revision: _____

Attached are the revised pages of the SSMP, of which you have a copy. Please remove the specified pages in your SSMP and replace them with these revised pages. Record those page numbers that were replaced in the Exhibit 10-1 table below. Also record each revision in Table 10-2 (see next page).

OLD PAGE (Page Number)	NEW PAGE (Page Number)

**TABLE 10-2
RECORD OF REVISIONS**

REVISION NUMBER	DATE OF CHANGE	Description	SIGNATURE OF PERSON ENTERING CHANGE
1		Update of the Entire SSMP	<i>Jamie Masukawa and Ryan Lippincott</i>

10.5 SSMP Update Every Five Years

The CSA should conduct a comprehensive update of the SSMP every five years. This update will incorporate all of the individual revisions completed to date. In addition, the update will assess all eleven elements of the SSMP to ensure compliance with the SWRCB regulations and CSA policies and procedures.

Section 11: Communication

11.1 Introduction

This section summarizes reporting and communications by the CSA. The CSA regularly communicates with the RWQCB and other County of Ventura agencies.

11.2 Regulatory Requirements

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

The CSA shall also create a plan of communication with systems that are tributary and/or satellite to the CSA's sanitary sewer system.

11.3 Communication with Public Agencies

The CSA submits to the RWQCB-Los Angeles periodic reports conforming to the Waste Discharge Requirements.

The CSA identified the Director as the liaison between the County and other public agencies.

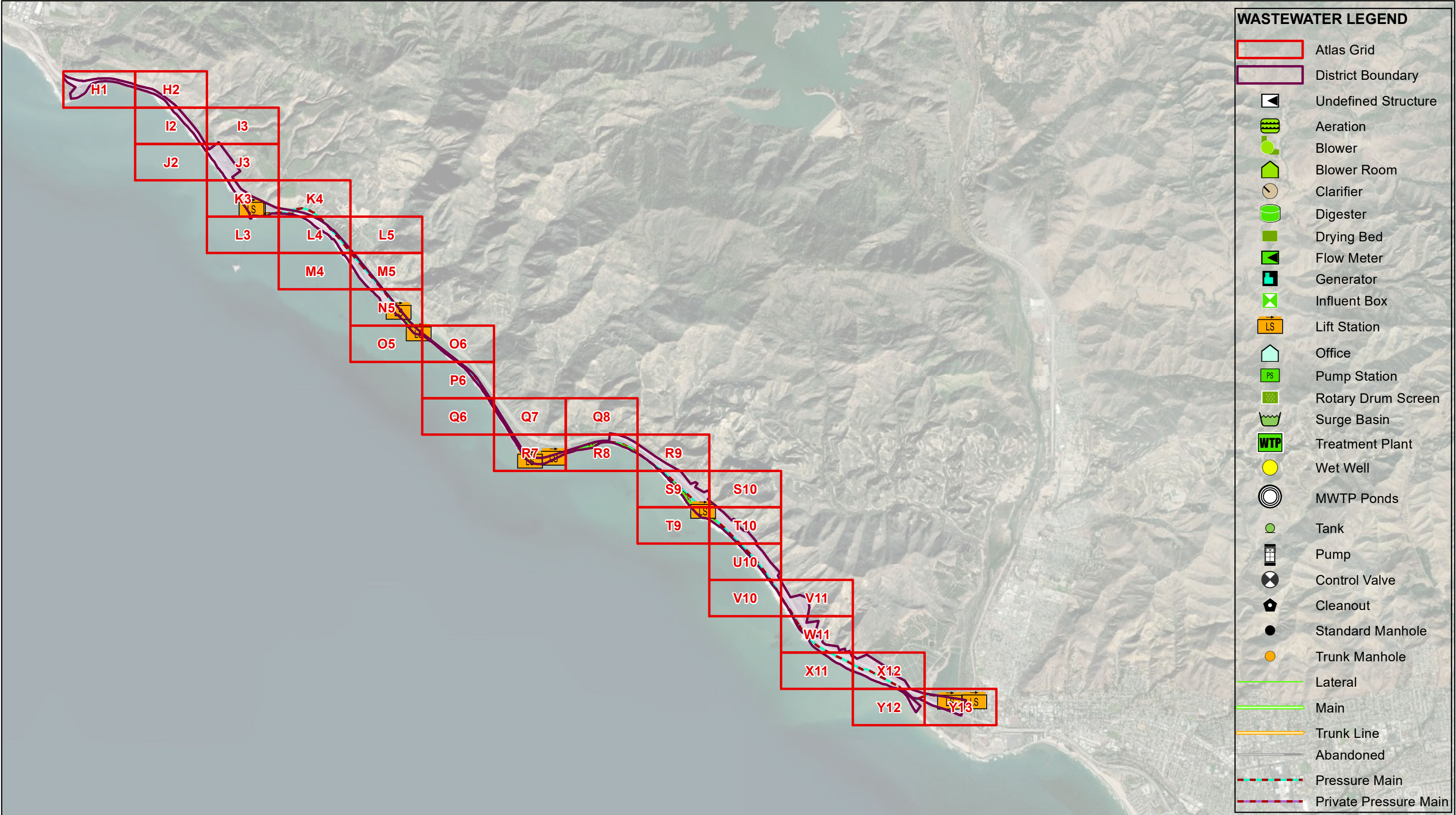
11.4 Communication with Public

The CSA will communicate on a regular basis with interested parties on the implementation and performance of its SSMP.

The CSA will place the SSMP-related documents on its web site, allowing interested parties easy access to the program.

County of Ventura Public Works Agency Water and Sanitation Department 1-805-378-3000

Appendix A: Sewer System Map



WASTEWATER LEGEND

Atlas Grid

District Boundary

Undefined Structure

Aeration

Blower

Blower Room

Clarifier

Digester

Drying Bed

Flow Meter

Generator

Influent Box

LS

Lift Station

Office

PS

Pump Station

Rotary Drum Screen

Surge Basin

WTP

Treatment Plant

Wet Well

MWTP Ponds

Tank

Pump

Control Valve

Cleanout

Standard Manhole

Trunk Manhole

Lateral

Main

Trunk Line

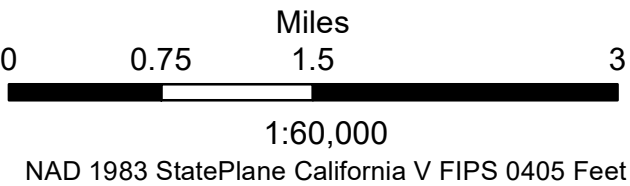
Abandoned

Pressure Main

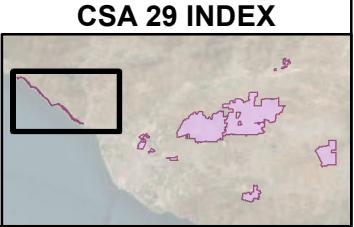
Private Pressure Main

CSA 29 - INDEX

SEWER



Prepared by Aquatic Informatics on 3/22/2023



Appendix B: CSA Inspection Forms

**VENTURA COUNTY WATERWORKS
SANITATION
ARROYO LIFT STATION
DAILY SYSTEM CHECK**

Month _____ Day _____ Year _____

Operator: _____
Arrival Time: _____ A.M.

CONTROL RM		DIAL	FANS		UNLOCK GATES/HATCH		ALARMS			ALARM PANEL				BREAKERS			
Intrusion Alarm	Tone	H.O.A.					Emerg.	Gas Monitors							H.O.A.		
Disable	Circle	F-1	F-2	Stairwell	Drywell	Exit	≥	≤	<	Drywell Hiwater	Pull-Cord	Gas Detector	Dial Security	P-1	P-2	P-3	
A.M.	Yes No																

PUMPS										WETWELL		AUTO SWITCH GEAR			
Status % Speed / HRS										Level		Position		Source	
P-1				P-2				P-3				(Circle one)		(Circle one)	
												N	E	N	E

SURGE TANK			DRY WELL AREA LIGHTS		COMPRESSOR				SEALWATER		BLEED ALL VOLUMES		PUMP ON P.S.I.		DRY WELL AREA CLEAN	
Level	Lights	(Circle one)	On	Off	Breaker		H.O.A.	(Circle one)	Oil	Drain Water	P.S.I.	ON	≥	≤	<	
		On Off						On Off								

P L C	PROCESS OVERVIEW	F-2 RETURN	ALARM SUMMARY	ENTER	ALARMS DATE	TIME	NOTIFY SUPERVISOR	CLEAR ALARM LIST	F-2 RETURN	PROCESS OVERVIEW
							(List in "Comments")			

GENERATOR					AREA				
GEN. HOURS (TOT)	HOURS RUN	FUEL	BATT.	ALARM CHECK	FAN ON/HAND	WETWELL AREA CLEAN	GRINDER RUNNING	FLOW LEVEL	

CONTROL ROOM			SECURE AREA			
Vent Fans in Auto	Lights Out	Gates	Hatches	Doors Locked	Enable Switch	Departure Time (write in)
A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	_____ A.M.

COMMENTS:

**VENTURA COUNTY WATERWORKS
SANITATION COLLECTION SYSTEM
SEMI-ANNUAL TRUNK LINE INSPECTION
MANHOLE NUMBERS 1 – 80**

[illegible]

General comments:

**VENTURA COUNTY WATERWORKS
SANITATION COLLECTION SYSTEM
SEMI-ANNUAL TRUNK LINE INSPECTION
MANHOLE NUMBERS 1 - 80
STREAM CROSSING INSPECTION**

DATE	CROSSING M.H. #S	COMMENTS	✓	INSPECTED BY
	8 ^{xing}			
	18 ^{xing}			
	32 ^{xing}			
	56 ^{xing}			
	^{xing} @ 59-60			
	^{xing} @ 65-66			
	^{xing} @ 73-74			
	^{xing} @ 78-79			

General comments:

VENTURA COUNTY WATERWORKS

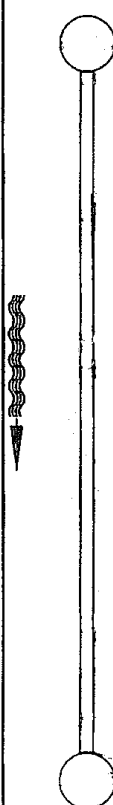
SANITATION COLLECTION SYSTEM SEMI-ANNUAL TRUNK LINE INSPECTION EQUIPMENT INVENTORY

Inspected by _____

Date: _____

ITEM	QUANTITY	CONDITION
Sewer Plugs/Repair Sleeves		
3"→4" 4" • 8"		
8" • 12"		
12" • 18"		
18" • 24"		
20" • 26"		
8" • 12" w/4" FlowThru		
6/8/18" Mechanical		
18" Mechanical		
Traps		
4-6"		
8"		
10"		
Nylon Rope Hoses		
Air Tanks w/Reg.		

SEMIANNUAL INSPECTION - SANITATION SYSTEM AIR VAC'S		Date: _____
DISTRICT/LOCATION	STATUS (Observe Cycle)	COMMENTS/FINDINGS
DISTRICT NO. 1 SEWER		
ARROYO LIFT STATION WET WELL		
ARROYO LIFT STATION FORCEMAIN		
HITCH/LOS ANGELES AVENUE - 16" IN CAN		
HITCH/LOS ANGELES AVENUE - 14" IN VAULT		
LOS ANGELES AVE./MEJICO - 14" EAST SIDE		
LOS ANGELES AVE./MEJICO - 16" WEST SIDE		
CHAMPIONSHIP FORCEMAIN - EAST OF LIFT STATION		
TREVINO FORCEMAIN MH @ Championship/Trevino		
DISTRICT NO. 1 RECLAMATION		
PUMP STATION 1 - AT POND 28/29		
PUMP STATION 2 - PUMP 1		
PUMP STATION 2 - PUMP 2		
PUMP STATION 2 - PUMP 3		
FORCEMAIN - MEJICO WEST SIDE		
FORCEMAIN - GRIMES BRIDGE 215		
FORCEMAIN - GRIMES BRIDGE 225		
FORCEMAIN - GRIMES BRIDGE 226A (25' WEST OF BRIDGE)		
FORCEMAIN - GRIMES BRIDGE 226B		
FORCEMAIN - GRIMES/CHAMPIONSHIP		
CHAMPIONSHIP - EAST AT ENTRANCE		
CHAMPIONSHIP - BEFORE TREVINO		
CHAMPIONSHIP - AT LAKE		
CSA 30 - NYELAND ACRES		
LIFT STATION FORCEMAIN		
CSA 34 - EL RIO		
LIFT STATION FORCEMAIN		
CARNEGIE/VINEYARD - IN CAN		
SIMON WAY/VINEYARD - IN CAN		
ORANGE/VINEYARD - IN CAN		
CUE - NONE		
TODD JAIL - NONE		

Inspection Report / Inspection:							
Date	P/O. No.	Weather	Surveyor's Name	Pipe Segment Reference	Section No.		
Certificate No.	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning	Sewer Category		
Street City Loc. details Location Code		Use of Sewer Drainage Area Flow Control Length surveyed		Upstream MH Downstream MH Dir. of Survey Section Length			
Purpose of Survey Year Laid Year Rehabilitated Tape / Media No.			Joint Length Dia./Height Material Lining Method				
Add. Information :							
Position		Observation			Photo		
							
OSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	0000	0	0	0	0	0	0

**VENTURA COUNTY WATERWORKS
SANITATION
LIFT STATION
WEEKLY SYSTEM CHECK**

AREA	Level/ Inches	Pump #1 Hr. Min.	Hours Run	HOA	Pump #2 Hr. Min.	Hours Run	HOA	Seal Fail	Over Temp.	Gen. Hours	Hours Run	Fuel	Batt.	Alarm Check	Time	OPER #
CHAMPIONSHIP LIFT STATION																
MILLER LIFT STATION																
TREVINO LIFT STATION																

COMMENTS: _____

TOTAL MANHOURS _____

[illegible]

TOTAL GRIT REMOVED: _____

Appendix C: Hot Spots

Maintained in asset management software.