SEWER SYSTEM MANAGEMENT PLAN

FOR THE

DAVENPORT, FREEDOM, SANTA CRUZ COUNTY SANITATION DISTRICTS AND THE COUNTY OF SANTA CRUZ

-2022-

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FOR THE

DAVENPORT, FREEDOM, SANTA CRUZ COUNTY SANITATION DISTRICTS AND THE COUNTY OF SANTA CRUZ

-2022-

CERTIFICATION

I hereby certify, as the Legally Responsible Official and as District Engineer/Deputy CAO/ Director of Community Development & Infrastructure for the Davenport, Freedom, Santa Cruz County Sanitation Districts and the County of Santa Cruz, that the following Sewer System Management Plan was prepared in compliance with the State Water Resources Control Board Order No. 2006-0003-DWQ, Statewide General WDR for Sanitary Sewer Systems, and was later updated by Order No. WQ 2013-0058-EXEC and establishes the requirements for a Sewer System Management Plan.

DocuSigned by:
Matt Machado
50EBAC64454C48C...

1/18/2023

MATT MACHADO

Date

District Engineer/Deputy CAO/Director of Community Development & Infrastructure

BEFORE THE BOARD OF DIRECTORS
OF THE DAVENPORT COUNTY SANITATION DISTRICT
STATE OF CALIFORNIA

RESOLUTION NO. 319-2022

On the motion of Director Caput
Duly seconded by Director Coonerty

The following resolution is adopted:

RESOLUTION APPROVING SEWER SYSTEM MANAGEMENT PLAN
FOR DAVENPORT COUNTY SANITATION DISTRICT

WHEREAS, the State Water Resources Control Board and the Regional Water Quality Control Board regulate the management, operation, and maintenance of the sewer system in Santa Cruz County; and

WHEREAS, the State Water Resources Control Board and the Regional Water Quality Control Board Order No. 2006-003 (General Waste Discharge Requirements) was updated by Order No. WQ 2013-0058-EXEC and establishes the requirements for a Sewer System Management Plan; and

WHEREAS, the Sewer System Management Plan for the Davenport County Sanitation District has been updated, and a copy of the Plan has been attached hereto as Exhibit A; and

WHEREAS, the State Water Resources Control Board and the Regional Water Quality Control Board further require that the Sewer System Management Plan be approved by the governing agency;

NOW, THEREFORE, BE IT RESOLVED AND ORDERED that the Sewer System Management Plan for the Davenport County Sanitation District attached hereto as Exhibit A is hereby accepted and approved by this Board.

PASSED AND ADOPTED by the Board of Directors of the Davenport County Sanitation District, State of California, this 13th day of December, 2022, by the following vote:

AYES:	Supervisors: Friend, Coonerty, Caput, McPherson and Koenig
NOES:	None
ABSENT:	None
ABSTAIN:	None

DocuSigned by:
Manu Koenig
43369812764640D...
12/19/2022

Manu Koenig
Chair of the Board

COB Rev. 8-1-22

ATTEST: DocuSigned by: Juliette Burke 12/19/2022
466B074F3141450...
Juliette Burke
Deputy Clerk of the Board

DS

Approved as to Form:

DocuSigned by: Justin Graham
40E85ACDEDAB42D...
Justin Graham (11/18/2022, AMS #13345)
Office of the County Counsel

Attachment(s):

BEFORE THE BOARD OF DIRECTORS
OF THE FREEDOM COUNTY SANITATION DISTRICT
STATE OF CALIFORNIA

RESOLUTION NO. 318-2022

On the motion of Director Caput
Duly seconded by Director Coonerty

The following resolution is adopted:

RESOLUTION APPROVING SEWER SYSTEM MANAGEMENT PLAN
FOR FREEDOM COUNTY SANITATION DISTRICT

WHEREAS, the State Water Resources Control Board and the Regional Water Quality Control Board regulate the management, operation, and maintenance of the sewer system in Santa Cruz County; and

WHEREAS, the State Water Resources Control Board and the Regional Water Quality Control Board Order No. 2006-003 (General Waste Discharge Requirements) was updated by Order No. WQ 2013-0058-EXEC and establishes the requirements for a Sewer System Management Plan; and

WHEREAS, the Sewer System Management Plan for the Freedom County Sanitation District has been updated, and a copy of the Plan has been attached hereto as Exhibit A; and

WHEREAS, the State Water Resources Control Board and the Regional Water Quality Control Board further require that the Sewer System Management Plan be approved by the governing agency;

NOW, THEREFORE, BE IT RESOLVED AND ORDERED that the Sewer System Management Plan for the Freedom County Sanitation District attached hereto as Exhibit A is hereby accepted and approved by this Board.

PASSED AND ADOPTED by the Board of Directors of the Freedom County Sanitation District, State of California, this 13th day of December, 2022, by the following vote:

AYES:	Supervisors: Friend, Coonerty, Caput, McPherson and Koenig
NOES:	None
ABSENT:	None
ABSTAIN:	None

DocuSigned by:
Manu Koenig 12/19/2022
43369812764640D...
Manu Koenig
Chair of the Board

COB Rev. 8-1-22

ATTEST: DocuSigned by: Juliette Burke 466B074F3141450... 12/19/2022

Juliette Burke
Deputy Clerk of the Board

DS

Approved as to Form:

DocuSigned by: Justin Graham 40E85ACDEDAB42D...

Justin Graham (11/18/2022, AMS #13343)
Office of the County Counsel

Attachment(s):

BEFORE THE BOARD OF DIRECTORS
OF THE SANTA CRUZ COUNTY SANITATION DISTRICT
RESOLUTION NO. 22-20

On the motion of Director Koenig
duly seconded by Director Friend
the following resolution is adopted:

RESOLUTION APPROVING SEWER SYSTEM MANAGEMENT PLAN FOR SANTA CRUZ COUNTY SANITATION DISTRICT

WHEREAS, the State Water Resources Control Board and the Regional Water Quality Control Board regulate the management, operation, and maintenance of the Santa Cruz County Sanitation Districts sanitary sewer system; and

WHEREAS, the State Water Resources Control Board and the Central Coast Regional Water Quality Control Board Order No. 2006-003 (General Waste Discharge Requirements) was updated by Order No. WQ 2013-0058-EXEC and established the requirements for a Sewer System Management Plan; and

WHEREAS, the Sewer System Management Plan for the Santa Cruz County Sanitation District has been updated, and a copy of the Plan has been attached hereto as Exhibit A; and

WHEREAS, the State Water Resources Control Board and the Regional Water Quality Control Board further require that the Sewer System Management Plan be approved by the governing agency;

NOW, THEREFORE, BE IT RESOLVED AND ORDERED that, the Sewer System Management Plan for the Santa Cruz County Sanitation District is hereby accepted and approved by this Board.

PASSED AND ADOPTED by the Board of Directors of the Santa Cruz County Sanitation District this 1st day of December, 2022, by the following vote:

AYES: DIRECTORS KOENIG, FRIEND AND BERTRAND
NOES: NONE
ABSENT: NONE
ABSTAIN: NONE

Chairperson of said Board

ATTEST: _____
Secretary of said Board

Approved as to Form:
DocuSigned by:
Justin Graham
40E85ACDEDAB42D...
District Counsel

Distribution: State Water Resources Control Board
Central Coast Regional Water Quality Control Board
doc: 22-20

BEFORE THE BOARD OF SUPERVISORS
OF THE COUNTY OF SANTA CRUZ
STATE OF CALIFORNIA

RESOLUTION NO. 320-2022

On the motion of Director Caput
Duly seconded by Director Coonerty

The following resolution is adopted:

RESOLUTION APPROVING SEWER SYSTEM MANAGEMENT PLAN
FOR SANITATION COUNTY SERVICE AREAS

WHEREAS, the State Water Resources Control Board and the Regional Water Quality Control Board regulate the management, operation, and maintenance of the sewer system in Santa Cruz County; and

WHEREAS, the State Water Resources Control Board and the Regional Water Quality Control Board Order No. 2006-003 (General Waste Discharge Requirements) was updated by Order No. WQ 2013-0058-EXEC and establishes the requirements for a Sewer System Management Plan; and

WHEREAS, the Sewer System Management Plan for the Sanitation County Service Areas has been updated, and a copy of the Plan has been attached hereto as Exhibit A; and

WHEREAS, the State Water Resources Control Board and the Regional Water Quality Control Board further require that the Sewer System Management Plan be approved by the governing agency;

NOW, THEREFORE, BE IT RESOLVED AND ORDERED that the Sewer System Management Plan for the Sanitation County Service Areas attached hereto as Exhibit A is hereby accepted and approved by this Board.

PASSED AND ADOPTED by the Board of Directors of the Sanitation County Service Areas, State of California, this 13th day of December, 2022, by the following vote:

AYES:	Supervisors: Friend, Coonerty, Caput, McPherson and Koenig
NOES:	None
ABSENT:	None
ABSTAIN:	None

DocuSigned by:
Manu Koenig 12/19/2022
433698127646400...
Manu Koenig
Chair of the Board

COB Rev. 8-1-22

ATTEST: DocuSigned by: Juliette Burke 12/19/2022
466B074F3141450...

Juliette Burke
Deputy Clerk of the Board

DS

Approved as to Form:

DocuSigned by: Justin Graham
40E85ACDEDAB42D...

Justin Graham (11/18/2022, AMS #13344)
Office of the County Counsel

Attachment(s):

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ACRONYMS

BMP	Best Management Practice
CCTV	Closed-Circuit Television
CDI	Community Development & Infrastructure
CIP	Capital Improvement Program
CIWQS	California Integrated Water Quality System
CMMS	Computerized Maintenance Management System
CSA	County Service Area
CWEA	California Water Environment Association
DCSD	Davenport County Sanitation District
ECU	Environmental Compliance Unit
ERP	Enforcement Response Plan
FCSD	Freedom County Sanitation District
FEA	Finite Element Analysis
FOG	Fats, Oils, and Grease
FSE	Food Service Establishments
FTE	Full Time Employee
GIS	Geographic Information System
GRD	Grease Removal Device
I/I	Infiltration and Inflow
LRO	Legally Responsible Official
MRP	Monitoring and Reporting Program effective 9/9/13
MS4	Municipal Separate Storm Sewer System
NASSCO	National Association of Sewer Service Companies
NGO	Non-Government Organization
NOI	Notice of Intent
NPDES	National Pollution Discharge Elimination System
NOV	Notice of Violation
O&M	Operations & Maintenance
OERP	Overflow Emergency Response Plan
OES	Office of Emergency Services, State of California
PACP	Pipeline Assessment & Certification Program
PLSD	Private Sewer Lateral Discharge
PM	Preventive Maintenance
POTW	Publicly Owned Treatment Works
PM	Preventative Maintenance
PPE	Personal Protective Equipment
QA/QC	Quality Assurance/Quality Control

ACRONYMS

R/R	Rehabilitation or Repair/Replacement
RWQCB	Regional Water Quality Control Board
SCADA	Supervisory, Control and Data Acquisition System
SCCSD	Santa Cruz County Sanitation District
SECAP	System Evaluation and Capacity Assurance Plan
SOP	Standard Operating Procedures
SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow
SSS WDR	Statewide General WDR for Sanitary Sewer Systems
SWRCB	State Water Resources Control Board
TPO	Treatment Plant Operator
UPC	Uniform Plumbing Code
USEPA	United States Environmental Protection Agency
WDID	Waste Discharge ID
WDR	Waste Discharge Requirements
WO	Work Order
WQMP	Water Quality Management Program
WWTP	Wastewater Treatment Plant

Introduction

This Sewer System Management Plan was prepared to cover the management, operation and maintenance, design, construction and emergency response of the Davenport Sanitation District, Freedom Sanitation District, Santa Cruz County Sanitation District and County Service Areas sanitary sewer systems. The three enterprise special districts are referred to as the Districts. The County Service Areas are referred to as the CSAs.

The County of Santa Cruz Department of Community Development & Infrastructure (CDI) - Public Works Division is responsible for the administration, engineering, maintenance, emergency response and construction of all County sanitation services. The department also manages various Board-governed special districts and County Service Areas. The Sanitation Operations unit is one of six organizational units within the Special Services Division of Public Works and provides operation and maintenance services to County sanitation districts and CSAs. Sanitation Operations employees work in all Districts and County Service Areas. Each sanitation district is governed according to its specific code of regulations. The Districts' codes are very similar and some sections are adopted by reference from the Santa Cruz County Sanitation District Code. The CSAs are governed according to the Santa Cruz County Code of Regulations. Most of the County Code pertaining to sanitary sewer collection systems is adopted by reference from the SCCSD Code.

Sanitary Sewer Collection System Description

The unique features of the Districts' and CSAs' sanitary sewer systems must be taken into account when comparing it to other sanitary sewer systems. The Districts'/CSAs' sanitary sewer systems consist of geographically dispersed service areas with sometimes significant travel time. The relatively large number of pump stations and associated force mains increase staffing and cost.

DISTRICT'S:

Santa Cruz County Sanitation District

The SCCSD is governed by a three-member board and managed by the Community Development & Infrastructure - Department of Public Works Division, under the direction of the District Board of Directors. The SCCSD includes the following areas in the County with sewer service: Aptos, Capitola, Soquel, and Live Oak. The SCCSD collection system is pumped to the City of Santa Cruz POTW for treatment. The District is required to comply with the requirements of the City of Santa Cruz NPDES permit NO. CA0048194. The District does not own nor is it responsible for maintenance or repair of any portion of the sewer service laterals (the portion between the building and the public sewer main).

Davenport County Sanitation District

The DCSD is governed by a District Board comprised of members of the Santa Cruz County Board of Supervisors. The DCSD is a nonprofit public agency providing treated drinking water and sewage collection, treatment and disposal services to the town of Davenport. Revenues to operate the District are collected yearly from residents and businesses that are connected to either the waterworks or the sanitary sewer system. The District does not own nor is it responsible for maintenance or repair of any portion of the sewer service laterals (the portion between the building and the public sewer main).

Sanitary Sewer Collection System Description

The Freedom County Sanitation District

The FCSD is governed by a District Board comprised of members of the Santa Cruz County Board of Supervisors and is a nonprofit public agency providing sewage collection, treatment and disposal service to the Freedom area. The FCSD collection system is pumped to the wastewater treatment plant on Beach Street, owned and operated by the City of Watsonville. The FCSD is required to comply with the City of Watsonville's NPDES permit NO. CA0048216. The District does not own nor is it responsible for maintenance or repair of any portion of the sewer service laterals (the portion between the building and the public sewer main).

COUNTY SERVICE AREAS:

The Sanitation Operations Division maintains and operates six small sewer systems in the County Service Areas. This includes unincorporated areas of the County that do not discharge to the Sanitation Districts. The CSAs are governed by the Santa Cruz County Board of Supervisors. The following CSAs were required to enroll under the GWDR.

CSA 5 Sand Dollar

This County Service Area has its own sewage treatment facilities which are maintained by the County Sanitation Operations Division. Revenues to maintain the sewage collection system are collected yearly from all residents whose homes are connected to the sanitary sewer system. The County does not own nor is it responsible for maintenance or repair of any portion of the sewer service laterals (the portion between the building and the public sewer main).

CSA 7 Boulder Creek

This County Service Area has its own sewage treatment facility which is maintained by the County Sanitation Operations Division. Revenues to maintain the sewage collection system are collected yearly from all residents whose homes are connected to the sanitary sewer system. The County does not own nor is it responsible for maintenance or repair of any portion of the sewer service laterals (the portion between the building and the public sewer main).

CSA 10 Rolling Woods

This County Service Area is connected to a gravity sewer main that delivers sewage to the regional POTW operated by the City of Santa Cruz. The collection system is maintained by the County Sanitation Operations Division. Revenues to maintain the sewage collection system are collected yearly from all residents whose homes are connected to the sanitary sewer system. The County does not own nor is it responsible for maintenance or repair of any portion of the sewer service laterals (the portion between the building and the public sewer main).

The other three CSAs, CSA 2-Place de Mer, CSA 20-Trestle Beach, and CSA-5 Canon Del Sol are not required to enroll under the Waste Discharge Requirements as they do not meet the minimum requirements for enrollment.

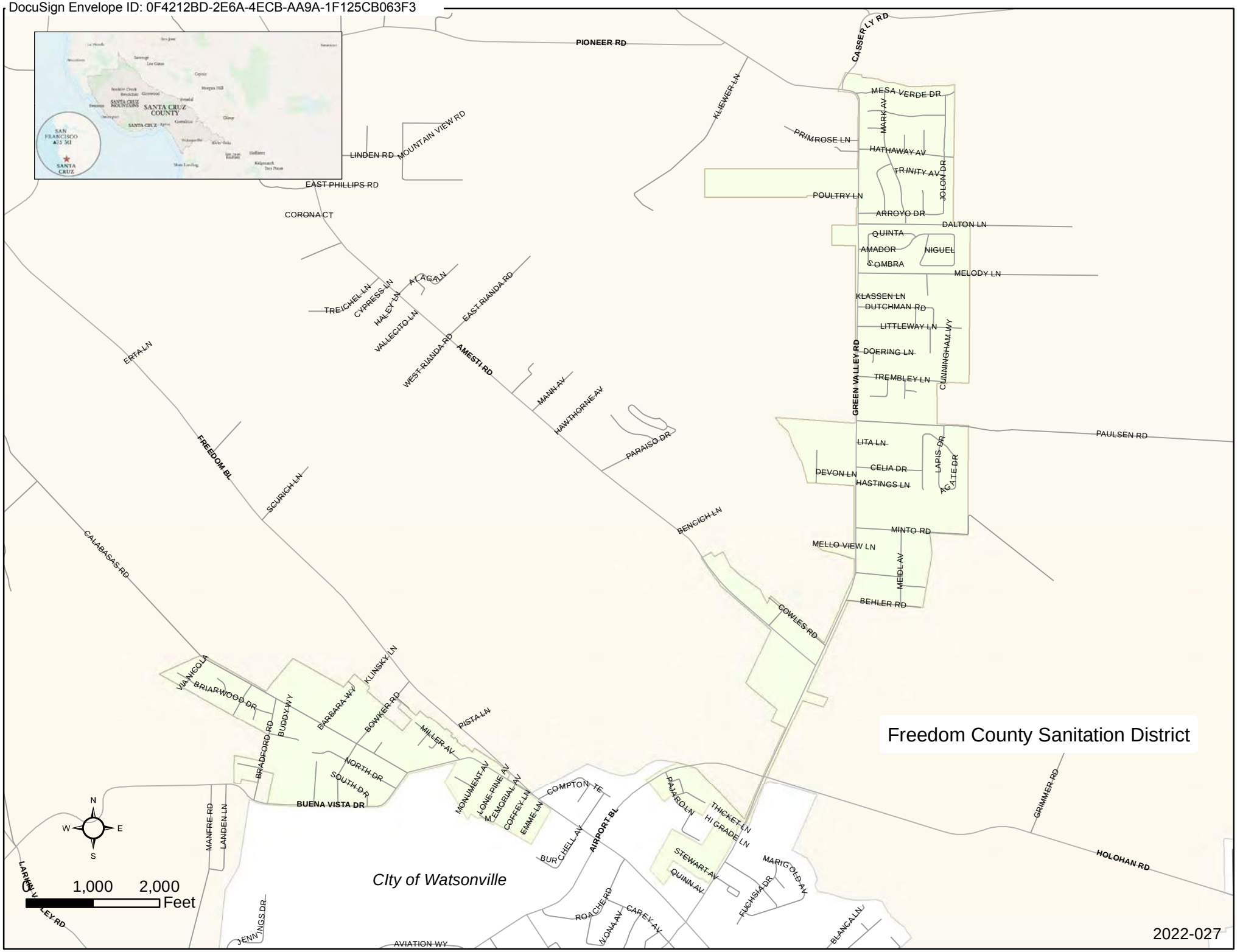
Santa Cruz County Sanitary Sewer Service Information by District/County Service Area

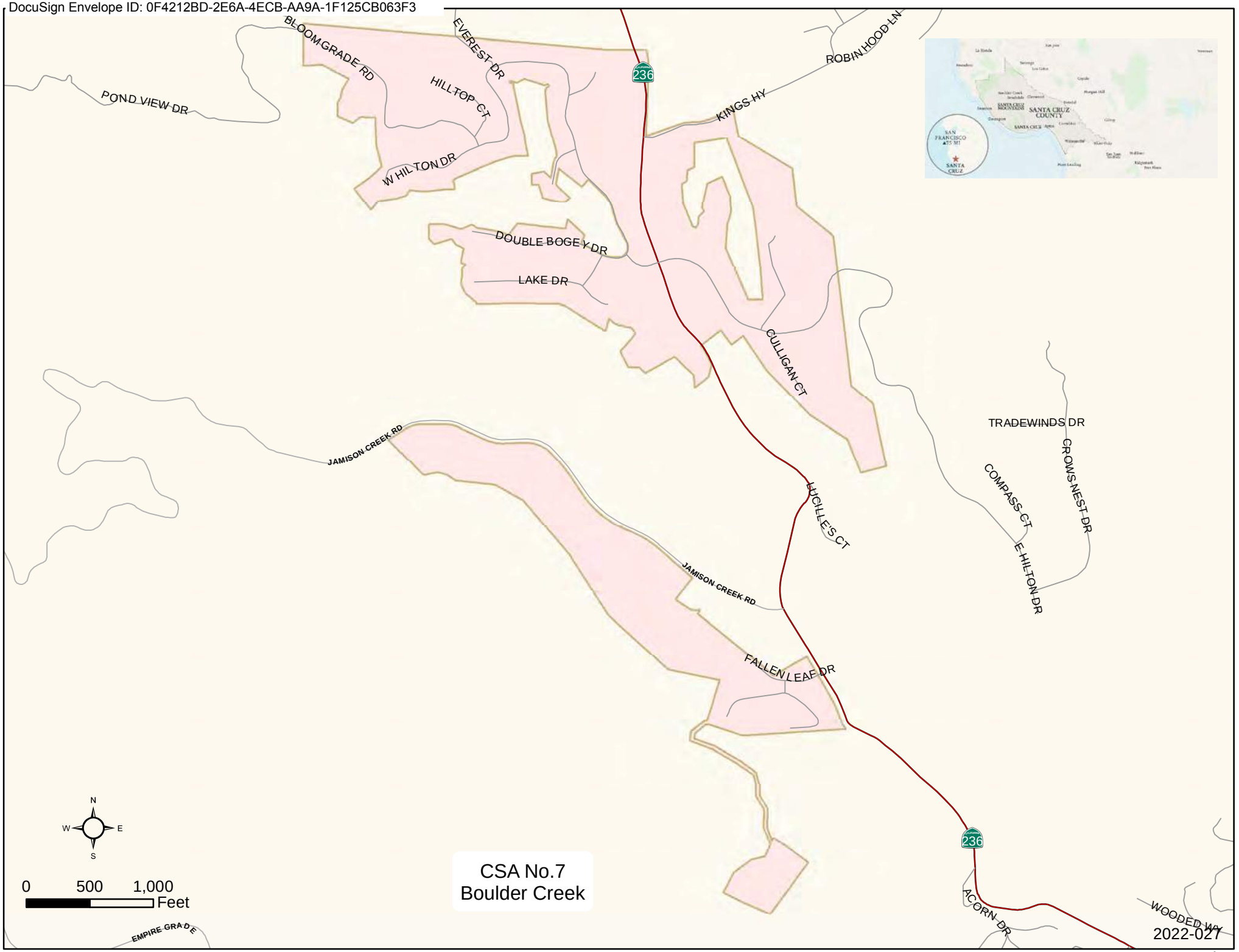
AGENCY/DISTRICT INFORMATION	DCSD	FCSD	SCCSD	CSA 5	CSA 7	CSA 10	Total
CIWQS WDID	3SSO10263	3SSO10267	3SSO10324	3SSO10323	3SS010326	3SSO10312	N/A
DISTRICT NAME	Davenport County Sanitation District	Freedom County Sanitation District	Santa Cruz County Sanitation District	Sand Dollar	Boulder Creek	Rolling Woods	N/A
POPULATION	215	4,158	72,200	218	650	78	77,519
SERVICE AREA, SQUARE MILES	0.10	1.1	13	1.00	0.24	0.42	15.86
SEWER CONNECTIONS, EACH	108	1,859	36,000	184	263	104	38,738
GOVERNING BODY	Board of Supervisors as District Board	Board of Supervisors as District Board	Santa Cruz County Sanitation District Board	Board of Supervisors	Board of Supervisors	Board of Supervisors	N/A
GRAVITY SEWERS, MILES	1.22	15.30	186.00	1.15	3.00	3.18	209.85
FORCE MAINS, MILES	1	1.20	14.00	0.53	1.27	0.35	18.35
PUMP STATIONS, EACH	3	9	35	2	5	1	55
LATERAL RESPONSIBILITY	None	None	None	None	None	None	None

Sanitation Districts and County Services Areas
in Santa Cruz County

2017-021
rgh

2022-027





Regulatory Requirements

The State Water Resources Control Board and the Central Coast Regional Water Quality Control Board regulate the management, operation, and maintenance of the Districts/CSAs sanitary sewer systems. The Statewide General Waste Discharge Requirements for sanitary sewer systems, SWRCB Order No. 2006-0003-DWQ (GWDR) as revised by Order No. WQ 2013-0058-EXEC, effective September 9, 2013, California State Water Resources Control Board, establishes the requirements:

- Sanitary Sewer Overflows are prohibited,
- All SSOs, with the exception of PLSDs, irrespective of size, must be reported to the SWRCB electronically using the California Integrated Water Quality System, and the Districts/CSAs must prepare and implement an SSMP.

Organization of SSMP

The structure of this SSMP follows the section numbering and nomenclature specified in the GWDR. The SSMP includes twelve sections:

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

Element 1.

Goals

1.1 Introduction

This section of the SSMP formally states the Districts/CSAs goals for this SSMP. These goals are intended to provide focus for the Districts/CSAs to continue to provide quality work and to implement improvements in the management and operation of the Districts/CSAs wastewater collection system.

1.2 Requirements for Goals Section

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

1.3 SSMP Goals:

1. To properly manage, operate, and maintain all parts of the Districts/CSAs sanitary sewer systems.
2. To provide adequate capacity to convey the peak wastewater flows. Adequate capacity, for the purposes of this SSMP, is defined as the capacity to convey the peak wastewater flows that are associated with the designed storm event.
3. To reduce the frequency of SSOs and, wherever possible, to prevent SSOs.
4. To mitigate the impacts that are associated with any SSO that may occur.
5. To meet all applicable regulatory notification and reporting requirements.

Element 2.

Organization

2.1 Introduction

This section of the SSMP identifies the District/CSA staff responsible for implementing this SSMP, responding to SSO events, and meeting the SSO reporting requirements. This section also includes the designation of the Legally Responsible Officials (LRO) or Authorized Representatives to meet RWQCB and Statewide SSO WDR requirements for completing and certifying SSO reports.

2.2 Requirements for Organization Section

The SSMP must identify:

(a) The name of the responsible or authorized representative as described in Section J of the Waste Discharge Requirement Order.

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

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

2.3 Organization

The organization chart for the management, operation, and maintenance of the enrolled Districts'/CSAs' sanitary sewer systems is shown on Table 2.1. The contact information for key sanitation operations staff is shown in Appendix 2-A. Community Development & Infrastructure Public Works Division, Engineering and Sanitation Operations is responsible for all the maintenance, design, construction compliance and emergency response for all six enrolled systems and three unenrolled CSAs.

2.4 Authorized Representative

The District Engineer/Deputy CAO/Director of CDI is the Legally Responsible Official in all sanitary sewer system matters for the Districts/CSAs. The Assistant District Engineer/Assistant Director of Special Services is authorized to act in the Director's absence.

2.5 Responsibility for SSMP Implementation

The District Engineer/Deputy CAO/Director of CDI is responsible for developing, implementing, and maintaining all elements of the Districts/CSAs SSMP. He has delegated responsibility of sections of the SSMP as shown in Table 2.1 SSMP Responsibilities.

2.6 Chain of Communication

The SSO detection, notification, response and reporting processes are described in detail in Appendix 6-A Overflow Emergency Response Plan (OERP). The communication chain for responding to an SSO is shown in Figure 2.1. The communication chain for reporting an SSO is shown in Figure 2.2. More detailed flowcharts are included in the OERP in Appendix 6-A.

SANITATION OPERATIONS ORGANIZATION

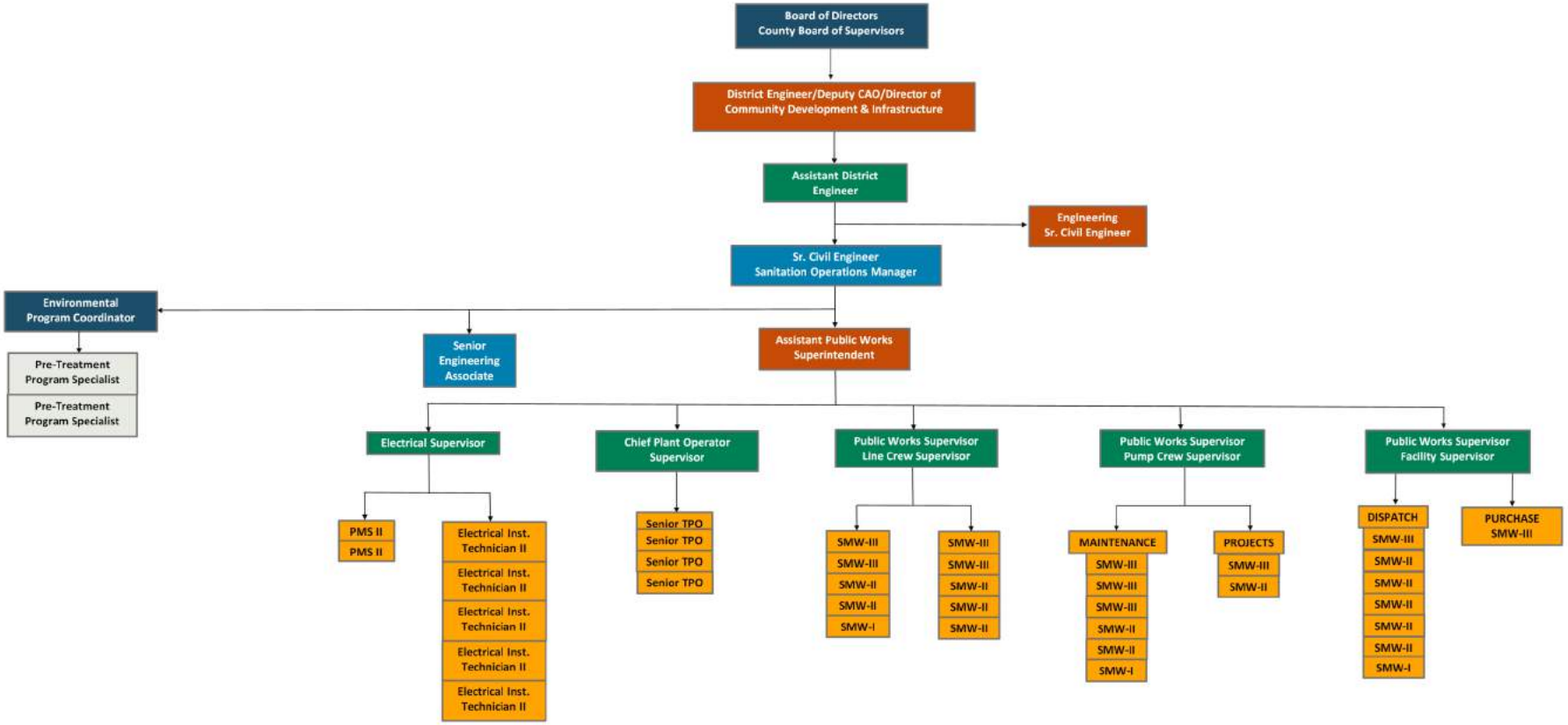
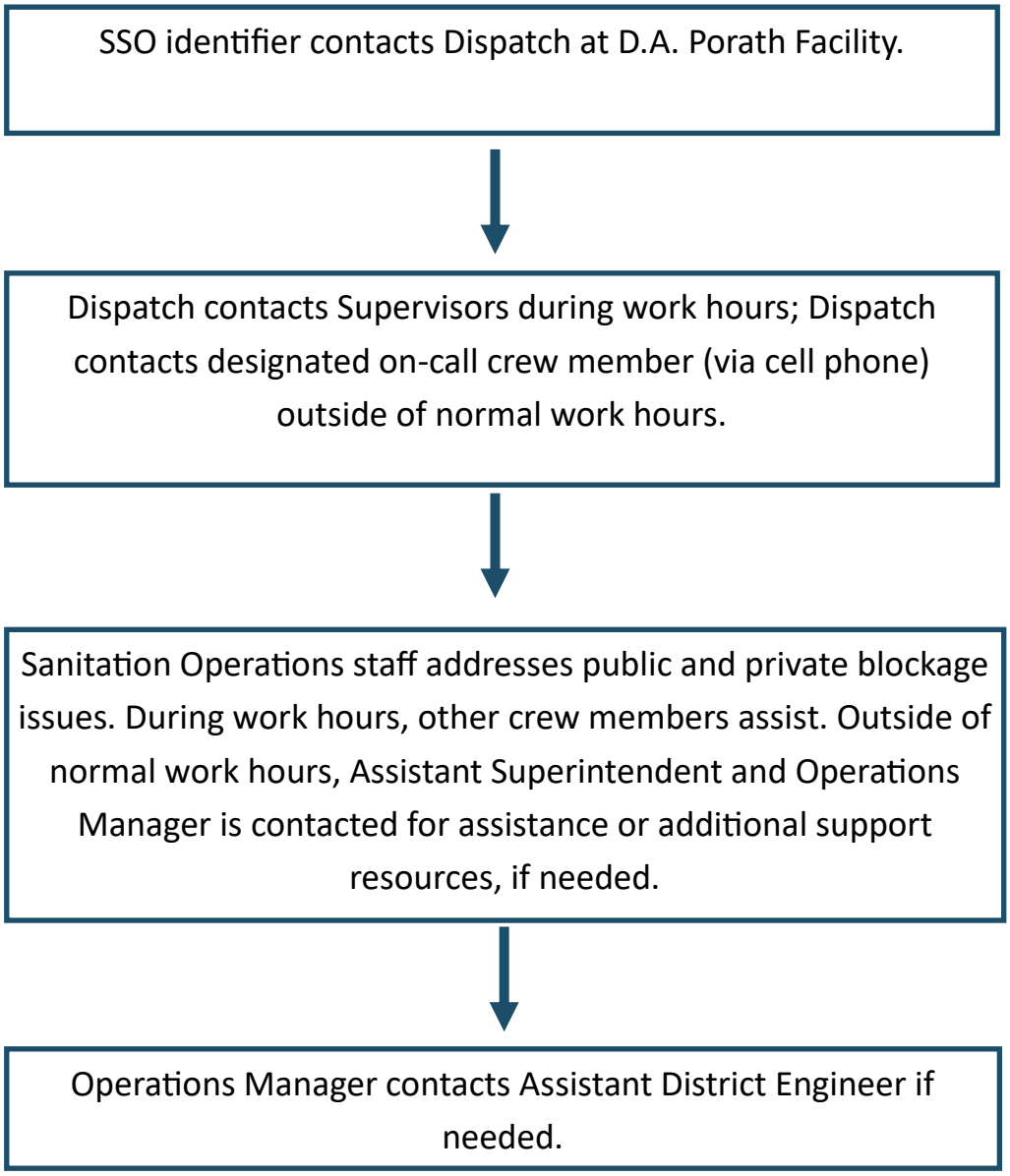


Table 2.1 SSMP Responsibility

JOB TITLE	SSMP IMPLEMENTATION AND MAINTENANCE RESPONSIBILITY
District Engineer/Deputy CAO/Director of Community Development & Infrastructure	Overall SSMP Development and Implementation; Introduction and Appendices
Sanitation Operations Manager	1. Goals
Sanitation Operations Manager	2. Organization
Sanitation Operations Manager	3. Legal Authority
Sanitation Operations Manager	4. Operation and Maintenance Program
Senior Civil Engineer	5. Design and Performance Provisions
Sanitation Operations Manager	6. Overflow Emergency Response Plan
Environmental Programs Coordinator	7. Fats, Oils and Grease (FOG) Control Program
Senior Civil Engineer	8. System Evaluation and Capacity Assurance Plan
Sanitation Operations Manager	9. Monitoring, Measurement, and Program Modifications
Sanitation Operations Manager	10. SSMP Audits
Senior Civil Engineer and Sanitation Operations Manager	11. Communications Program
Note: All personnel are employees of SCCSD and/or the County of Santa Cruz.	

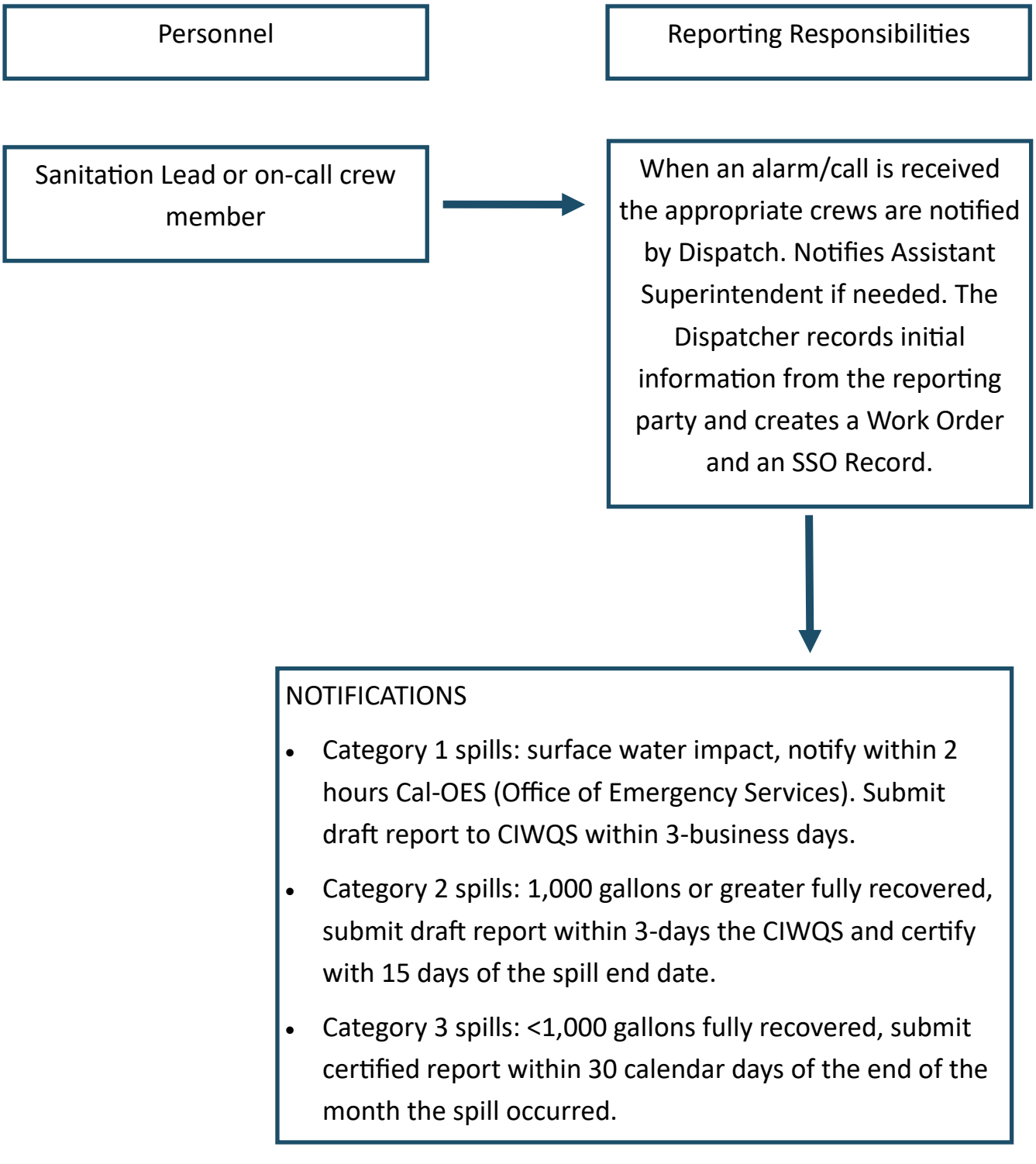
Chain of Communications Reporting SSOs

Figure 2.1



Chain of Communications Responding SSOs

Figure 2.2



INDEX OF ROLES RELATED TO SANITATION OPERATIONS

Assistant Director Special Services/Assistant District Engineer - Legally Responsible Official under general direction, plans, organizes and directs the Special Services Section, acts as the Director in the absence of the Director of CDI; and does other work as required. Assistant Director Special Services is the fully functional assistant department head level and is responsible for operations, management, and supervision of several sections of the department.

Assistant Public Works Superintendent - Legally Responsible Official under direction, assist in the planning and supervision of the Sanitation Division activities and facilities; supervise staff assigned to a variety of activities; evaluate personnel and equipment safety, and institute appropriate safety programs; and perform other duties as required.

Board of Directors - Establishes policy for the SCCSD.

District Engineer/Deputy CAO/Director of Community Development & Infrastructure - Legally Responsible Official required by legislative and administrative determination of policy, to plan, organize and direct the work of the Public Works Division; and to do other work as required. This position is responsible for administering the Public Works Division, including engineering, maintenance and construction of the County's roads, bikeways, sanitation and drainage facilities and solid waste disposal services. The District Engineer/Deputy CAO/Director of Community Development & Infrastructure serves as Road Commissioner and District Engineer.

Electrical Instrumentation Supervisor - The position in this series supervises the electrical instrumentation technicians and perform work related to the design, fabrication, installation, maintenance, operation, inspection, and testing of a variety of control systems equipment including, but not limited to, electrical, electronic, pneumatic, computer, micro processor and variable frequency drive, electro-mechanical, digital, telemetry, and analog components used in wastewater process control systems; and perform other duties as required.

Electrical Instrumentation Technician - Positions in this series perform work related to the design, fabrication, installation, maintenance, operation, inspection, and testing of a variety of control systems equipment including, but not limited to, electrical, electronic, pneumatic, computer, micro processor and variable frequency drive, electro-mechanical, digital, telemetry, and analog components used in wastewater process control systems; and perform other duties as required.

Environmental Programs Coordinator - Under direction, supervises, administers and manages the sampling, monitoring, and reporting programs for County household hazardous waste and solid waste programs; or industrial waste pretreatment, waste minimization, and source control programs; prepares, coordinates and administers grant funded programs in solid waste management, household hazardous waste management and resource recovery; or industrial waste pretreatment, waste minimization and source control; plans, develops and delivers hazardous, solid or industrial waste and waste minimization training programs; and does other work as required.

INDEX OF ROLES RELATED TO SANITATION OPERATIONS

Pretreatment Program Specialist - Under general supervision, inspects and monitors industrial and commercial wastewater sources for compliance with Federal, State and local discharge regulations; inspects pretreatment facilities, grease traps and interceptors; collects samples, and operates and maintains sampling equipment; and performs other work as required.

Public Works Supervisor - Under direction, to plan, assign and supervise the work of public works maintenance personnel in an assigned program/division (Roads, Sanitation, Solid Waste Disposal, or Drainage); assure the quality of the work performed; may perform the more difficult and technical work of the assigned division; and perform other duties as required.

Pump Maintenance Mechanic - Perform skilled mechanical repair and maintenance work on pumps, diesel engines and equipment in sewage transmission facilities, wastewater treatment plants and water treatment plants.

Sanitation Maintenance Worker -Under general supervision, perform a wide variety of tasks related to the maintenance and repair of pump stations and sewer lines and the maintenance of wastewater treatment and water treatment plants; and perform other duties as required.

Santa Cruz County Board of Supervisors - Establishes policy for the CSAs, Davenport, and Freedom County Sanitation Districts.

Sanitation Operations Manager – Plan, organize and manage the operation and maintenance of the Districts'/County's sanitation facilities; directs, through subordinate supervisors, the work of a staff engaged in a wide variety of activities connected with sanitation operations and maintenance; insures that all sanitation facilities comply with State and Federal laws and regulations.

Senior Civil Engineer - Plan, organize and manage the engineering of the Districts'/County's sanitation collection systems; directs, through subordinate supervisors, the work of a staff engaged in a wide variety of activities connected with the design and improvements of sanitation facilities.

Treatment Plant Operator -Under general supervision, to perform difficult and complex operations and maintenance functions for the County's wastewater and water treatment plants; to function as a lead worker to trainee operators; may act as chief plant operator for a class II or I wastewater treatment plant; and to perform other duties as required.

Treatment Plant Operator Supervisor -Under direction, to oversee all water or wastewater treatment operations, assist in the preparation of treatment plant budgets, plan, assign and supervise the work of a crew operating and maintaining wastewater or water treatment plants, and to perform other duties as required.

Element 3.

Legal Authority

3.1 Introduction

This section of the SSMP presents the Districts/CSAs legal authority to comply with the SSMP requirements.

3.2 Requirements for Legal Authority Section

The District/CSAs must demonstrate, through collection system ordinances, service agreements or other legally binding procedures, that it possesses the necessary legal authority to:

(a) Prevent illicit discharges into its sanitary sewer system (examples may include infiltration and inflow (I/I), storm water, chemical dumping, unauthorized debris and cut roots, etc.);

(b) Require that sewers and connections be properly designed and constructed;

(c) Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the agency (as applicable);

(d) Limit the discharge of fats, oils, and grease and other debris that may cause blockages; and

(e) Enforce any violation of its sewer ordinances.

3.3 Agencies Legal Authority

The Community Development & Infrastructure Public Works Division is responsible for the administration, engineering, maintenance, emergency response and construction of all County sanitation services. The division also manages various Board-governed special districts and County Service Areas. The Sanitation Operations unit is one of six organizational units within the Special Services Section of CDI and provides operation and maintenance services to the Santa Cruz County Sanitation District, Freedom County Sanitation District, Davenport County Sanitation District and CSAs. Sanitation operations employees work in all districts and service areas. Each sanitation district is governed according to its specific code of regulations. The Districts/CSAs codes are very similar and some sections are adopted by reference from the SCCSD Code. The CSAs are governed according the Santa Cruz County Code of Regulations. Most of the County Code pertaining to sanitary sewer collection systems is adopted by reference from the SCCSD Code.

3.3 Agencies Legal Authority Continued

The legal authorities provided in the Districts and County Code for this SSMP are summarized in Table 3.1. Each of the three Districts has separate codes adopted by their Board of Directors applying only to that District. The CSAs operate under the County Code Title 7, Health and Safety, Chapter 7.39 Public Sewers.

District codes can be found at:

- Davenport Sanitation County Code: https://www.dpw.santacruzcounty.us/Portals/19/pdfs/Sanitation/DCSD/DCSD%20Code%20%26%20Ordinances/DavenportSanitationCode.pdf
- Freedom Sanitation County Code: https://www.dpw.santacruzcounty.us/Portals/19/pdfs/Sanitation/FCSD/FreedomSanitationCode.pdf
- Santa Cruz County Sanitation District: https://sccsd.district.codes/

Santa Cruz County Code can be found at: https://www.codepublishing.com/CA/SantaCruzCounty/

3.4 Satellite Agencies

Neither the Districts nor the County have any satellite sewer systems that discharge to their sanitary sewer systems.

The Legal Authorities for each District and CSA are presented in Table 3.1

Santa Cruz County Sanitation District Code-SCCSD

Freedom County Sanitation District Code-FCSD

Davenport County Sanitation District Code-DCSD

County of Santa Cruz Code of General Ordinances

Table 3.1 Summary of Legal Authority and Requirements

REQUIREMENT	SCCSD CODE REFERENCE	FCSD CODE REFERENCE	DCSD CODE REFERENCE	COUNTY OF SANTA CRUZ/ CSA'S CODE REFERENCE
GENERAL				
Prevent illicit discharges into the sanitary sewer system.	7.04.310	3.04.380	4.04.370 4.04.410	SCCC 7.39.020 Ordinances Adopted by Reference. SCCSD 7.04.310
Limit the discharge of fats, oils, and grease and other debris that may cause block-ages.	7.04.310	3.04.430 B	4.04.410	SCCC 7.39.020 Ordinances Adopted by Reference. SCCSD 7.04.310
Require that sewers and connections be properly designed and constructed.	7.04.140	3.04.280	4.04.270	SCCC 7.39.020 Ordinances Adopted by Reference. SCCSD 7.04.140, 7.04.240
Require proper installation, testing, and inspection of new and rehabilitated sew-ers.	7.04.140	3.04.280 3.04.290	4.04.270 4.04.200	SCCC 7.39.020 Ordinances Adopted by Reference. SCCSD 7.04.140

Table 3.1 Summary of Legal Authority and Requirements

REQUIREMENT	SCCSD CODE REFERENCE	FCSD CODE REFERENCE	DCSD CODE REFERENCE	COUNTY OF SANTA CRUZ/ CSA'S CODE REFERENCE
LATERALS				
Maintenance and Repair	7.04.070 7.04.325 7.04.375	3.04.220 3.04.465	4.04.220 4.04.446	SCCC 7.39.020 Ordinances Adopted by Reference. SCCSD 7.04.070, 7.04.325, 7.04.375
Ensure access for maintenance, inspection, or repairs for portions of the service lateral owned or maintained by the County.	7.04.380 (Private)	3.04.540	4.04.520	SCCC 7.39.020 Ordinances Adopted by Reference. SCCSD 7.04.380
Control infiltration and inflow (I/I) from private service laterals	7.04.375	3.04.465	4.04.445	SCCC 7.39.020 Ordinances Adopted by Reference. SCCSD 7.04.375A.1
FOG SOURCE CONTROL				
Limit the discharge of fats, oils, and grease and other debris that may cause blockages.	7.04.340 7.04.310	3.04.490 3.04.490A	4.04.410 4.04.470A, C	SCCC 7.39.020 Ordinances Adopted by Reference. SCCSD 7.04.340
Authority to inspect grease producing facilities.	7.04.340	3.04.540	4.04.520	SCCC 7.39.020 Ordinances Adopted by Reference. SCCSD 7.04.340

Table 3.1 Summary of Legal Authority and Requirements

REQUIREMENT	SCCSD CODE REFERENCE	FCSD CODE REFERENCE	DCSD CODE REFERENCE	COUNTY OF SANTA CRUZ/ CSA'S CODE REFERENCE
ENFORCEMENT				
Enforce any violation of its sewer ordinances.	1.12.010 7.04.545	3.04.467 Ordinances Adopted by Reference. SCCSD 7.04.545	4.04.530, 4.04.447 Ordinances Adopted by Reference. SCCSD 7.04.545	7.39.020 Ordinances Adopted by Reference. SCCSD 7.04.545 SCCSD 1.12.010

Element 4.

Operations and Maintenance Program

4.1 Introduction

This section of the SSMP provides an overview of the Districts/CSAs mapping, operations, preventative maintenance, inspection, training and outreach activities.

4.2 Requirements for Operations & Maintenance Section

(a) Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable storm water conveyance facilities, above ground crossing's and siphons.

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

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

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

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

4.3 Collection System Maps

The Districts/CSAs maintain sewer collection system maps for all enrolled agencies using GIS and AutoCAD. The maps include all gravity line segments and manholes, pumping facilities, pressure pipes' valves, storm drains/catch basins and streams. In 2016, Sanitation Operations staff began using tablets in the field to view sanitary sewer maps through GIS. Hard copy maps produced from the GIS are used as necessary. The collection systems maps are updated continuously. Discrepancies identified by the field crews are forwarded to the GIS analyst for action.

CMMS

The Districts/CSAs utilize Lucity™ CMMS to manage assets, create work orders, track preventive maintenance, schedule repairs, track inventory, and record SSO events. Sewer asset information (pipe locations, material, size, manhole locations) can be accessed through the GIS application (capture MACP Data).

Granite Net Inspection Software

The Districts/CSAs utilize Cues GraniteNet Inspection software to capture CCTV inspections. GraniteNet provides asset information and PACP ratings. CCTV inspection reports and videos can be viewed for each asset inspected. Engineering can utilize this information to develop the CIP and prioritize projects.

4.4 Operation and Maintenance Program

The elements of the Districts/CSAs sewer system O&M program include:

- Proactive, preventive, and corrective maintenance of gravity sewers.
- Periodic inspection and preventive maintenance for pump station and force main facilities.
- Ongoing CCTV inspection program to determine the condition of the gravity sewers.
- Rehabilitation and replacement of collection system facilities that are in poor condition.

The details of the O&M program follow.

Preventative Maintenance

The District/CSAs have different methods of preventative maintenance and operation activities. Pipeline maintenance is performed on a daily basis by the line crews and includes regular sewer pipe cleaning, high frequency cleaning, and CCTV of the collection system. Sections of mainlines, where there is reported grease build up, pipe offsets, and excessive root intrusion require further assessment, are televised and the cleaning frequency is increased, or the pipe is repaired in-house or with a contractor. An area where grease is reported in the collection systems is further reviewed by the Environmental Compliance section. If the mainline sections require replacement, they are included in the CIP.

The Districts/CSAs are divided into basins alpha numerically. The cleaning schedule is assigned according to basin. Sanitation Operations proactively cleans all gravity sewers that are 12 inches in diameter and smaller every five years and preventively cleans sewer hotspots every 30 and 90 days depending on the severity of the hotspot. Hotspots are areas in the sewer collection system that have a history of blockages caused by grease, root intrusions, sags, and poor grade.

Sanitation Operations visually inspects the condition of its larger sewers (larger than 12 inches) every four years and conducts cleaning if needed. The visual inspection and cleaning is is contracted out. Standard operating procedure for sewer cleaning is included as Appendix 4-A. The FCSD has segments of sewer main larger than 12 inches and visual inspections and cleaning are planned in calendar year 2023.

Gravity sewer cleaning is scheduled using work orders generated by Lucity™. Completed work is documented in Lucity™. The completed work orders include field crew observations on the nature and quantity of materials removed from the gravity sewers during cleaning. This information, along with field crew recommendations, is used to establish the cleaning method and frequency.

Root Control

The Districts/CSAs contract for chemical root control throughout their systems on an as-needed basis. Approximately one third of the designated lines are treated by the contractor in the late spring of each calendar year. The City of Santa Cruz POTW must approve chemicals used by the root control contractor.

Sanitation Operations staff uses the procedures below when applying root treatment to sewer mains:

- Blocking the line upstream and downstream of the area of application.
- Using root control agents that have a half-life of sixty (60) days or less and the breakdown products are non-toxic to aquatic plants or animals.
- Record keeping that includes identifying the PACP rating in the section being treated; a map identifying locations where treatment occurs; the chemical(s) used including the MSDS sheets; and the amounts applied.

Root Control - Continued

- Not applying any root control agent to any sewer line that has a known PACP rating of 4 or 5 unless the Districts/CSAs can ensure that none of the root control agent will escape the sewer line through any line defect.
- Not knowingly applying any root control agent in any location where groundwater can be contaminated via infiltration or exfiltration.
- Verifying through CCTV'ing of the sewer lines, whenever possible, prior to the expiration of the applicable warranty that the root control agent applied worked effectively to remove the identified root(s).
- Using RootX between applications when root(s) problems are noticed, after 6 weeks of the application the root(s) are cut.
- If roots are encountered during routine maintenance, remove roots through high pressure hydro-jetting during regular cleaning.

CCTV

Sanitation Operations uses CCTV and a GoPro camera attached to a nozzle top to determine the condition of the gravity sewers and to determine the primary cause of blockages and SSOs and to determine the best method and frequency of cleaning or needed repair to prevent a repeat SSO. Sanitation Operations intends to continue inspecting the gravity sewers thereafter on a six-year cycle. A CCTV inspection crew operates daily. The inspection data is reviewed by the Public Works Supervisor and the Sanitation Senior Civil Engineer to determine whether repair or rehabilitation/replacement is warranted. Sanitation Operations staff assigns condition ratings as set forth by the Pipeline Assessment and Certification Program (PACP) to each inspected pipelines using the protocol established by the National Association of Sewer Service Companies (NASSCO).

Identified hot spots are used in prioritizing repair activities and for providing input to Sanitation Engineering on the Capital Improvement Program. Projects in the CIP are prioritized based on PACP ratings and Granite Net software. Additionally, Innovyze Info Asset Planner software is used to determine the likelihood and consequences of sewer system failures and will be used to develop the CIPs for each District and CSAs.

Siphons

The District/CSAs maintain 4 siphons that are designed to be self-flushing. The 3 siphons in SCCSD are high pressure hydro - jet cleaned monthly. The siphon in CSA 10 Rolling Woods is designed to be self-cleaning.

Manhole Inspections

The Districts/CSAs inspects manholes during CCTV activities. Deficiencies are noted in Lucity and manholes are replaced or repaired with adjacent pipelines, as needed and as scheduled in the District/CSAs CIP.

Pump Stations

The Districts/CSAs Pump Station O&M Program consists of monitoring, operational inspections, preventive maintenance, and corrective maintenance activities.

There are 55 pump stations throughout the Districts/CSAs. Nine employees are assigned to the pump crew. However, other sanitation operations staff may respond to pump stations when needed. Staff are cross-trained so they are able to work on various parts of the sewer collection systems. Pump stations are continuously monitored through a SCADA system

If the pumps are failing or wet well levels are too high or low, alarms are sent through SCADA, the SMW at dispatch reports the alarm, and the appropriate crew is notified of the alarms and responds.

Pump stations are visually inspected every week. Facility or equipment problems observed during the operational inspections are repaired at that time or noted in logs maintained at the pump stations and on work orders for follow-up action. Pumps turn on and off based on flow and wet well levels.

Large pump stations have backup pumps onsite. Pump stations that have pumps with over 40 horsepower motors are considered large. Spare pumps for the remaining pump stations are stored at the sanitation operations facility located at 2750 Lode St. Santa Cruz CA, 95062. Electrical control panels are maintained by the electrical instrumentation technicians.

Two pump stations are without emergency onsite back-up generators, A-3 pump station in the Santa Cruz County Sanitation District and Pauline pump station in the Freedom County Sanitation District. There are portable generators stored at the sanitation operations facility in case of an emergency—See Appendix 4-A, Table 4.3 for list of portable generators. Onsite and portable generators are maintained by two pump mechanics.

Pump stations are inspected weekly. The information in the inspection is used to identify major maintenance, rehabilitation and capital improvement needs. Sanitation Operations staff completes repairs and conducts maintenance. Specialty repairs, maintenance, or rehabilitation/replacement are completed by contract. Identified capital improvement needs will be included in the Capital Improvement Program. The locations and photos of the pump stations for the Districts/CSAs are included in Appendix 4-C.

A total of 15 Smart Covers and Mission Dialers were installed at critical pump stations to provide redundancy in the event that SCADA communication fails.

Force Mains

The Districts/CSAs force main O&M program consists of periodic inspections, preventive maintenance, and corrective maintenance activities.

The Districts/CSAs are members of Underground Service Alert and marks the location of the force mains to prevent damage by others during underground construction.

Air relief valves are inspected and maintained 3-4 times a year. Large force mains in the SCCSD are cleaned twice a year using a swab to scrub the line. This includes the 16-inch and 18-inch force mains from the Aptos Esplanade Pump Station to the transition structure in Park Avenue and the 36-inch transmission line from the D.A Porath Facility to the City of Santa Cruz POTW.

Sanitation Operations continues to develop a program to assess the condition of the force mains. The main transmission line from the DA Porath Facility to the City of Santa Cruz POTW was evaluated using a comprehensive approach which included a Close-Interval-Survey, electromagnetic internal inspections looking for broken bar wraps and steel cylinder corrosion, air pocket/leak detection surveys and hydraulic analysis. Additionally, a structural analysis was conducted, including a three-dimensional, nonlinear finite element analysis to determine the performance thresholds in light of any damage that was found.

Odor Control

SCCSD contracts a service provider for supply and equipment used to control odor causing sulfides in the sewer collection system. The odor control system includes 3 number of Vapor Links to alert staff of areas with high sulfide readings and staff are able to remotely adjust chemical feed to reduce odors. The odor control system also uses carbon media and mechanical devices to control odors. See Appendix 4-A, Figure 4.8 for SCCSD odor control map.

Non-Routine Maintenance

Non-routine maintenance activities include investigation and response to any complaints regarding a manhole overflow, missing or shifted manhole covers, manhole covers that are excessively noisy, residential plumbing issues, pump station malfunction, unexpected sewer odor, etc. Sewer complaints are investigated and appropriate actions are taken to resolve the source of the problem. The information is tracked in the Lucity™ data management system. Work orders are generated for all tasks including inspections, repairs, and SSOs. All complaint records are kept in Lucity™ including complaints that did not result in an SSO.

4.5 Rehabilitation and Replacement Plan

The Districts/CSAs Rehabilitation and Replacement Programs are driven by the condition of the sewer system assets. The condition of the gravity sewers is established using CCTV inspection. The condition of the pump stations is established during annual facility inspections and routine preventative maintenance activities.

The CCTV inspection results are based on the PACP standards: structural and maintenance defects are logged according to location and assigned a severity grade of 1 to 5 (1 indicates a minor defect and 5 indicates defects that are most significant and where failure is imminent). Future CCTV inspection frequencies may change based on the structural conditions identified during previous inspections. The condition-based inspection frequencies are shown in Table 4.1.

The results of CCTV inspections (PACP ratings) will be integrated into the SCCSD's Innovyze Info Asset Planner (IAP) software, which combines sewer asset data (year installed, material, size, etc), geographic mapping (biotic resources, waterways, etc.), CCTV inspection video data (including NASSCO PACP pipe scores), operation tasks including hydro-jetting, root control, Smart Cover monitoring and SSO data and other information. IAP provides a visual representation of where assets are requiring rehabilitation and replacement, but it is also used to prioritize projects based on the "Likelihood of Failure" and "Consequence of Failure" analyses. The information from IAP combined with information about known capacity deficiencies as identified by Carollo Engineer's 2019 Inflow and Infiltration Study, current system operational issues, and upcoming development projects is used to prioritize projects.

The SCCSD's Capital Improvement Plan (CIP) is updated yearly and identifies planned projects for the next five years. The projects include sewer main and pump station rehabilitation and upgrades. The current CIP is on the SCCSD's website, under About Us at: https://sccsd.wpcomstaging.com/about-us/

As stated earlier, pump station condition will be evaluated during periodic facility inspections and routine preventative maintenance.

Force main condition will be based on the future force main condition assessment program.

The sewer system projects that are included in the Five Year Capital Improvement Programs for the Districts/CSAs can be found on the County of Santa Cruz Public Works Department at:

https://www.dpw.co.santa-cruz.ca.us/Home/SewerWater.aspx

The Department of Community Development & Infrastructure Public Works Division, Sanitation Engineering is responsible for compiling condition and maintenance information for use in preparing and updating the Districts/CSAs Five Year Capital Improvement Program. Identified projects will be placed in priority order and included in the CIP.

The funds that support the CIP come from the Districts'/CSAs separate Sewer Funds. The Sewer Funds are enterprise funds for each agency that include revenues from sewer service charges, connection fees, and interest. The fees that provide the revenues are periodically reviewed and set based on current operating costs and identified capital improvement needs.

4.5 Rehabilitation and Replacement Plan– Continued

Table 4.1 Condition-Based CCTV Inspection Frequencies

MAXIMUM PACP STRUCTURAL SEVERITY INDEX/LINE SEGMENT	CCTV RE-INSPECTION FREQUENCY
1	6 years
2	5 years
3	3 years
4	2 years
5	1 years

4.6 Training Program

The County uses a combination of in-house classes, on-the-job training, conferences, seminars, and other training opportunities to train its sanitation operations and engineering staff. County of Santa Cruz staff whom maintain the treatment plants are also trained on the OERP and WQMP.

Equipment and operations training is initially provided by the vendor or manufacturer of the equipment. Ongoing technical training is provided through on-the-job training and rotation among the different maintenance crews and equipment. Districts/CSAs also rely on regional and statewide training available through seminars and conferences. New employees receive orientation training on SSOs and the OERP/ WQMP. Annual in-class refresher training is conducted by private contractors. The training resources are shown in Table 4.2.

Table 4.2 Training Resources (Conferences, Seminars, and Materials)

SPONSOR	EVENT	TIMEFRAME	REFERENCE
California Water Environment Association	State Conference	April	www.cwea.org
	Northern Regional Training Conference	September	
	Monterey Bay Section	Semi-Annually	
	San Francisco Bay and Santa Clara Valley Section Collection System Committees	Quarterly	
California State University, Sacramento	Videos, manuals, home study courses	As needed	www.owp.csus.edu
WDR and SSMP	Classroom	Annually	
Districts/CSAs	OERP/WQMP Training- Class-room and Field exercises	Semi-Annually and all new employees	
Consultants	PACP, Spill response volume estimation, and Pump Classes	Semi-Annually	
CSRMA	Sewer Summit	Annually	
Northern American Society for Trenchless Technologies	Various Trenchless Classes	As classes are offered	
California Association of Sanitation Agencies	Various	Varies as classes/ seminars are offered	www.casaweb.org

4.7 Major Equipment

The Districts/CSAs must provide equipment and replacement part inventories, including identification of critical replacement parts.

The District/CSAs are working on developing emergency response plans specific to each pump station to ensure continuous operation of the Districts'/CSAs' sewer collection facilities to achieve the Districts/CSAs chief objectives of upholding public health and safety and protecting the local environment. These plans will be developed over the next year and staff will be trained. Pump stations have backup generators. Sanitation Operations compiled a comprehensive list of pump stations, electrical components and pipeline spare parts.

See Appendix 4-A, Table 4.1

4.8 Outreach to Plumbers and Contractors

The Districts/CSAs Sanitation Engineering developed a Sewer Lateral Program for plumbers to repair and/or replace laterals. The SCCSD updated their lateral program in December 2018 and held informational meetings with plumbers. Plumbing companies sign a commitment letter indicating that they will follow the requirements of the sewer lateral program and are authorized to be listed on an approved contractor's list. The Sanitation Inspector reviews the requirements with plumbing companies interested in participating in the District/CSAs Sewer Lateral Program. See Appendix 4-E.

Information on the sewer lateral program is available on the:

SCCSD's website at: https://sccsd.wpcomstaging.com/sewer-lateral-program/

County of Santa Cruz Public Works website at: https://www.dpw.santacruzcounty.us/Home/SewerWater/SewerLateralResources.aspx

Element 5.

Design and Performance Provisions

5.1 Introduction

This Section identifies the Districts/CSAs design, construction, and acceptance standards for new and rehabilitated sanitary sewer system facilities.

5.2 Requirements for Design and Construction Standards Section

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

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

5.3 Design Criteria

Sanitary Sewer System Design Criteria are specified in the Santa Cruz County Design Criteria, December 2021 Edition located at the link below.

https://www.dpw.co.santa-cruz.ca.us/Portals/19/pdfs/Design%20Crit/2021%20DESIGNCRITERIA.pdf?ver=5F6RwR2H0Mp9sewb4ha58A%3d%3d&timestamp=1639529979194

Element 6.

Overflow Emergency Response Plan

6.1 Introduction

The purpose of the Overflow Emergency Response Plan is to support an orderly and effective response to Sanitary Sewer Overflows. The OERP provides guidelines for Sanitation Operations staff to follow in responding to, cleaning up, and reporting SSOs that may occur within the Districts/CSAs.

6.2 Requirements for OERP Sections

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

(b) A program to ensure appropriate response to all overflows;

(c) Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, regional water boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the Monitoring and Reporting Program (MRP). All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board Waste Discharge Requirements or National Pollutant Discharge Elimination System (NPDES) permit requirements. The Sewer System Management Plan should identify the officials who will receive immediate notification;

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

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

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

6.3 DISTRICT/CSAs OERP

The District/CSAs developed an Overflow Emergency Response Plan that is in compliance with the SWRCB OERP requirements. The OERP is included in Appendix 6-A. The OERP is organized as follows:

- Responsibilities
- Spill Detection
- SSO Detection
- SSO Response
- Mitigation
- Public Notification
- Water Quality Sampling and Testing
- SSO Reporting
- SSO Investigation and Documentation
- Emergency Response Equipment
- Training

Responsibilities

This section identifies the responsible parties for responding to all service calls, alarms, and SSO events that occur in the Districts/CSAs.

- Respond quickly to minimize the volume of the SSO.
- Contain the spilled wastewater to the extent feasible.
- Eliminate the cause of the SSO.
- Minimize public contact with the spilled wastewater.
- Mitigate the impact of the SSO.
- Photograph and/or videotape the emergency response.
- Meet the regulatory reporting requirements.

Spill Detection

The processes that are employed to notify Sanitation Operations staff of the occurrence of an SSO include observation by the public, receipt of an alarm, or observation by County of Santa Cruz staff during the normal course of their work and outside of normal working hours.

SSO Detection

Public observation is the most common way that Sanitation Operations is notified of blockages, spills and sewage system failures. Contact information for reporting sewer spills and backups is in The County of Santa Cruz Public Works website. The District/CSAs also distribute other public outreach and information materials that include The 24 hour telephone number for reporting sewer problems is (831) 477-3907.

Website: https://dpw.co.santa-cruz.ca.us/Home/SewerWater.aspx

Report a Problem: https://dpw.co.santa-cruz.ca.us/ReportProblem.aspx

Signage with contact number are posted at all stations and exposed sewer pipes crossing paddles markers are also marked with phone number an manhole that are not easily visible.

Sanitation Operations regular working hours are Monday through Thursday from 7:00 a.m. to 4:30 p.m. and Friday from 7:00 a.m. to 3:30 p.m., except holidays. When a report of a sewer spill or backup is made during normal work hours, a dispatcher receives the call, takes the information from the caller, and communicates it to a field crew.

Service calls are received by the Sanitation Operations SMW assigned to dispatch, who takes the information from the caller, and communicates it to Sanitation Operations On-Call Personnel.

SSO Response

This section describes the procedures to be followed when responding to and addressing spills, including priorities; Emergency After-Hours Response, initial response, containment or bypass and special consideration in sensitive areas. This section also includes information illustrating how to handle a spill or overflow.

Mitigation

This section describes the procedures to be followed when responding to and addressing spills, including priorities; Emergency After-Hours Response, initial response, containment or bypass and special consideration in sensitive areas. This section also includes information illustrating how to handle a spill or overflow.

Public Notification

This section addresses communications with the public during and after an SSO event

Water Quality Sampling and Testing

This section provides information on the Water Quality Monitoring Program for spills greater than 50,000 gallons where analytical testing is required to determine the extent and the impact of an SSO. The Water Quality Monitoring Program includes and SOP on the Sampling and Monitoring process and required procedures that must be followed. The WQMP and SOP are located in Appendix 6X of the Overflow Emergency Response Plan.

Spill Reporting

This section includes spill reporting requirements as established by the revised Monitoring and Reporting Program (MRP) which became effective September 9, 2013 by the State Water Board for all leaks, spills and overflows. Flowcharts illustrate the necessary procedures for reporting of SSOs are included in the OERP.

Spill Investigation and Documentation

This section addresses post-SSO assessment, with a focus on implementing processes and improvements that will prevent repeat SSOs with a goal to decreased SSOs. The three key element of post-SSO assessment are SSO documentation, post-SSO debriefing, and failure analysis investigation.

Emergency Response Equipment

This section includes a list of specialized equipment that will support the OERP locate at Appendix 6-A.

Training

This section provides information on the training that is required to support the OERP in Appendix 6-A.

Element 7.

FOG Control Program

7.1 Introduction

This section of the SSMP presents the Districts/CSAs approach to preventing FOG-related SSOs.

7.2 Requirements for FOG Control Section

(a) An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;

(b) A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area;

(c) The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;

(d) Requirements to install grease removal devices (such as traps or interceptors), design standards for the grease removal devices, maintenance requirements, Best Management Practices requirements, record keeping and reporting requirements;

(e) Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance;

(f) An identification of sewer system sections subject to FOG blockages and the establishment of a cleaning maintenance schedule for each section; and

(g) Development and implementation of source control measures, for all sources of FOG discharged to the sewer system, for each sewer system section identified in (f) above.

7.3 FOG Source Control Program

The Districts/CSAs have a FOG Source Control Program that is administered, along with the Pretreatment Program, by the Environmental Compliance Unit (ECU). The FOG Source Control Program has been in place since 1977. There are 282 food service establishments that have FOG control devices in the Districts/CSAs. All commercial businesses are inspected annually or more if needed. 30 day flush schedules are implemented in areas that have higher grease loadings in the lines. The sewer line maintenance crew regularly meets with the ECU to discuss the problematic lines in the Districts/CSAs. Based on that information the ECU inspectors will investigate the sources of the grease problems and perform repeated FOG inspections.

Public Outreach

Residential

The residential FOG outreach program consists of advertising in local newspapers and mailers, as well as door hangers used in areas where known grease problems exist. The focus of the program is to educate residents and small businesses on the proper disposal of FOG and about the consequences of discharging grease and other harmful wastes into the sewer. All of the pollution prevention public outreach information is available on the sanitation page of the County of Santa Cruz Public Works Website:

https://dpw.co.santa-cruz.ca.us/Home/SewerWater.aspx

Currently, the public outreach program contains several elements designed to help educate the public about FOG issues.

The bilingual “Think Before You Flush” pamphlet is distributed in residential areas that are consistently having problems. This mailer details what is not appropriate to send down residential sinks, and why these issues are important. The “Think Before You Flush” pamphlet details explicitly what causes FOG problems, how to reduce FOG loads on the sewer lines, and why it is important to eliminate FOG from sewer lines.

Additional public outreach materials include bilingual (Spanish and English) residential door hangers that are distributed to residential areas where sewer maintenance workers and repeat spills indicate there are FOG problems in sewer lines. As with the “Think Before You Flush ” pamphlet, the door hangers identify the problems associated with FOG and how these problems can be mitigated. The door hangers alert residents that the District/CSA is experiencing problems in the surrounding sewer lines due to grease. The FOG Alert door hanger is listed in Appendix 7-A.

Twice a year the Districts/CSAs publish an educational grease advertisement in several local papers to reduce residential sources of grease in the sanitary sewer. The advertisement is published before Thanksgiving and Christmas in order to reduce problems associated with grease from holiday foods. The ad details ways in which people can reduce FOG in sewers and properly dispose of cooking grease. The FOG advertisement is listed in Appendix 7-B.

The Districts/CSAs partnered with the Monterey Regional Water Control Agency to develop a television commercial that conveys the importance of keeping fats, oils and grease out of the sewers. The commercial is aired annually during the holiday season on public broadcasting channel.

The Districts/CSAs also utilizes Facebook and Twitter to provide outreach and education to the public.

Every year in April, the Districts/CSAs participates in Earth Day Santa Cruz. The event provides an opportunity to educate children and the community about proper use of residential sewers. The event is attended by nearly 3,000 people. Activities for children were developed for the event. Kids decorate their own grease can to take home and put in the freezer to store cooking grease. More information about Earth Day is located at: **http://scearthday.org/**

Due to the COVID 19 pandemic and other factors, Earth Day Santa Cruz has not been held since 2019; it may resume in 2023.

Commercial

Pretreatment inspectors educate businesses operating in Santa Cruz County on process-specific pollution prevention and waste minimization opportunities. Best Management Practices (BMPs) requirements for FSEs include installing screens on all sink drains used for dishwashing, eliminating the use of grease interceptor/trap additives, eliminating the use of garbage disposal units, scraping all plates prior to the primary rinse, and proper storage of used deep-fryer oil.

Districts/CSAs staff developed a bilingual Best Environmental Practices for Restaurants pamphlet that details the appropriate ways to reduce FOG in sewer laterals and municipal sewer lines. It also details proper janitorial cleaning methods, the differences between interior and exterior grease interceptors and their maintenance requirements.

English: https://dpw.co.santa-cruz.ca.us/Portals/19/pdfs/BMPs%20Restaurants.pdf?ver=2016-11-10-093329-830
Spanish: https://dpw.co.santa-cruz.ca.us/Portals/19/pdfs/Sanitation/2016%20SP%20Formatted%20for%20printing%20Restaurant%20BMP_SP.pdf

Green Business Program

Commercial outreach has also taken the form of the Monterey Bay Green Business Program. Goals of the green business program include promoting pollution prevention, waste minimization, and implementation of best management practices that go above and beyond the regulatory standards.

The program began certifying restaurants in July of 2004. A significant portion of the program for restaurants, hotels, and plumbers is dedicated to minimizing fats, oils, and grease into the sanitary sewer.

Several new jurisdictions joined the program in 2008, including San Benito County, several areas in Monterey County, and the City of Santa Cruz.

A Task Force consisting of multimedia regulators (stormwater, air, hazardous materials, as well as wastewater) and several non-profit organizations formed in 2004 continues to meet every quarter to coordinate the program.

Inspection and Enforcement

Significant effort has been focused on reducing Sanitary Sewer Overflows caused by FOG. All commercial businesses are inspected annually or more if needed. The Districts/CSAs Sewer Use Ordinances, are nearly identical, and each provides the legal authority to implement a FOG Control Program. Districts/CSAs codes require all FSEs to have a grease interceptor or trap. Grease interceptors and traps must meet sizing requirements and design criteria set forth by the Districts/CSAs. All grease interceptors and traps must be maintained according to a pump schedule specified by the District Engineer. Invoices and manifests of pumping must be sent to the ECU as proof of maintenance. The maximum allowable pump schedule is every 180 days, but is more commonly 90-120 days. The sections of code that gives the Districts/CSAs legal authority to require grease removal devices and conduct inspections is listed in Table 7.1.

All inspections are unannounced. Inspectors use Lucity™ to query the facilities that are due for inspections. Some facilities will receive multiple inspections if corrective actions are required. In an effort to further the Districts/CSAs sustainability goals, the ECU utilizes tablets in order to make inspections a paperless process. The tablets sync inspection data in real-time to the database. Appendix 7-B ,Figure 7.1 is an FSE inspection form.

During the annual inspections, all grease interceptors, traps, and drains are visually inspected to see if grease and/or solids are being allowed to enter the sanitary sewer. Additionally, pump records and all FOG recordkeeping are reviewed to ensure that FSEs are complying with the Districts/CSAs Codes.

Sanitation Operations uses Lucity™ to filter and sort all problems and stoppages associated with grease. Staff uses the data to identify and track hotspots in order to implement the appropriate source control measures, ranging from public outreach in residential areas to inspection and monitoring of FOG producing facilities and their pretreatment devices. This also results in the field crews changing maintenance schedules for lines impacted by FOG situations.

Legal Authority Enforcement Response

The ECU staff has developed an Enforcement Response Plan in accordance with Federal Pretreatment guidelines that details timelines and enforcement actions that are specifically aimed at FOG compliance issues and violations. The Districts/CSAs are prepared to bring repetitive non-compliant dischargers before the Board of Directors for the appropriate assessment of monetary penalties. The ERP is included in the sewer use ordinances and is available at the Sanitation page of the County of Santa Cruz Public Works website: https://dpw.co.santa-cruz.ca.us/Home/SewerWater.aspx

Table 7.1 FOG Legal Authority

FOG LEGAL AUTHORITY		
DISTRICT	CODE SECTION	CODE SECTION TITLE
SCCSD	7.04.310	Prohibited Wastes Designated
	7.04.340	Preliminary Treatment Facilities
	7.04.380	Inspection of Sewer Facilities on Private Premises
DCSD	4.04.410	Types of Wastes Prohibited
	4.04.430	Preliminary Treatment Facilities-Minimum Requirements
	4.04.520	Right of Entry for Inspection
FCSD	3.04.430	Types of Wastes Prohibited
	3.04.490	Preliminary Treatment Facilities-Minimum Requirements
	3.04.540	Right of Entry for Inspection
CSA	7.39.020	Ordinances adopted by reference SCCSD Title 7 Use of Sewers

7.4 FOG Evaluation

The sewer line maintenance crew regularly meets with the ECU to discuss existing and new grease hotspots in the Districts/CSAs. Based on that information, the ECU investigates the sources of the grease problems and performs repeat inspections. FSE inspections are conducted by the ECU staff throughout the year. Significant effort is aimed at reducing grease related SSOs and stormwater pollution caused by FSEs. In addition, ECU staff review architectural plan sets for new FSEs to ensure implementation of Sewer Use Ordinance requirements for grease control devices in each of the six enrolled agencies.

7.5 Staffing

One Environmental Programs Coordinator and two Pretreatment Program Specialists staff the Pretreatment Program, which includes the FOG Source Control Program. All three employees are required to be certified Environmental Compliance Inspectors under the California Water Environment Association Technical Certification Program. The County and the Districts considers this current level of staffing to be adequate.

7.6 Commercial FOG Disposal Sites

Districts/CSAs believe that there are adequate disposal sites for the FOG generated within its service areas. Table 7.2 lists the names and locations of the disposal sites.

As described above, Districts/CSAs participates in the FOG outreach and the Green Business Program in order to reduce FOG in sewers. In addition to this program, there are a variety of options available for commercial FOG disposal:

- The City of Santa Cruz POTW has a disposal facility for FOG from commercial grease interceptors or traps. This facility has the capacity to handle FOG generated in both the City and Districts/CSAs. The FOG is blended with the sludge generated from treatment processes and then put through a digestion system that recovers methane produced from the breakdown of the sludge. This in turn helps to generate the electrical power needed to run the treatment facility.
- The wastewater treatment plant located in the City of Watsonville has a similar FOG disposal facility and energy co-generation program.
- Additional disposal facilities (for deep fryer-type cooking oil only) are available to residents at the Household Hazardous Waste disposal facilities in Ben Lomond, Buena Vista, and City of Santa Cruz landfills.
- Facilities that accept cooking oil from commercial sources are located at the County landfill sites.

Table 7.2 Commercial and Residential Fog Disposal Sites

COMMERCIAL AND RESIDENTIAL FOG DISPOSAL SITES
City of Santa Cruz POTW 110 California Street Santa Cruz, CA 95060 831-420-6050 http://www.cityofsantacruz.com/government/city-departments/public-works/wastewater-treatment-facility/liquid-waste-haulers
City of Watsonville WWTP 500 Clearwater Lane Watsonville, CA 95076 Phone number: 831-768-3170 https://www.cityofwatsonville.org/1914/Mobile-Waste-Hauler-Discharge-Permits
Buena Vista Landfill (Residential) 1231 Buena Vista Drive Watsonville, CA 95076 Phone number: 831-454-2430 https://dpw.co.santa-cruz.ca.us/Home/RecyclingTrash/HouseholdHazardousWaste(HHW).aspx
Ben Lomond Transfer Station 9835 Newell Creek Road Ben Lomond, CA Phone number: 831-454-2430 (See the Buena Vista Landfill website for details)

Element 8.

System Evaluation and Capacity Assurance Plan

8.1 Introduction

This section of the SSMP presents the Districts/CSAs programs and activities to provide adequate sewer system capacity. Staff monitors the sewer collection systems to ensure that they possess adequate capacity to serve those systems users.

8.2 Requirements for System Evaluation and Capacity Assurance Plan Section

(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;

(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; and

(d) Schedule: The Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a)-(c) above. This schedule shall be reviewed and updated consistent with the Sewer System Management Plan (SSMP) review and update requirements as described in Section D. 14.

8.3 Evaluation, Design Criteria, Capacity Enhancement Measures

Evaluation

In 2019, the Santa Cruz County Sanitation District's engineering consultant, Carollo Engineers, completed a Flow Monitoring and I&I Mitigation Program Development (I&I Report). The program/report was based on a flow study using 24 flow meters distributed throughout SCCSD. Measured flow data was calibrated and input into the SCCSD's sewer flow model (InfoSWMM by Innovyze). Locations where the model shows SSOs, or flow that does not stay within the limits set in the design criteria was noted, and projects were preliminarily scoped. Since the model contains assumptions (potential exaggerated pipe roughness, application of inflow and infiltration measured at one meter, applied to that entire flow basin, etc.), SCCSD has not seen SSOs based on large storm flows as predicted in the conservative model. SCCSD continues to use the model to identify lines that may be susceptible to SSO's as the Capital Improvement Plan is developed.

The Sanitary Sewer System Capacity Evaluation and Assurance Plan finalized in 2007 by MWH identified a portion of Freedom County Sanitation District's sewer trunkline in Green Valley Road as being undersized. The pipe was upsized in the 2021 completed Freedom Sewer Rehabilitation – Phase 1 project. Besides the trunk line in Green Valley Road, nearly 16,000 linear feet of sewer pipes in FCSD were replaced with this project, and the second phase will likely begin next year (approximately 10,000 linear feet); these projects serve to reduce I&I and free up capacity in the lines.

Design Criteria

SCCSD evaluates capacity based on a requirement to have 3 feet of freeboard during the design storm event. A historic local storm, similar to a 10-year, 24-hour storm, was chosen as the design storm. This storm produced 4.02 inches in a 24-hour period. The Santa Cruz County Design Criteria requires all new sewers be designed and sized such that pipes 12 inches in diameter, or less, flow no more than 1/2 full and pipes greater than 12 inches in diameter flow no more than 3/4 full. This sizing criteria serves to prevent SSOs in these new systems. Sanitary Sewer System Design Criteria are specified in the Santa Cruz County Design Criteria, December 2021 Edition located at the link below.

https://www.dpw.co.santa-cruz.ca.us/Portals/19/pdfs/Design%20Crit/2021%20DESIGNCRITERIA.pdf?ver=5F6RwR2H0Mp9sewb4ha58A%3d%3d&timestamp=1639529979194

Capacity Enhancement Measures

A CIP is developed annually and identifies projects planned to begin in the next five years. One factor in determining which projects to include in the CIP are those pipes that are at risk of overflowing. For all districts and CSAs these would be pipes that Sanitation Operations has identified as having SSOs in the past, or pipes known to have flow with less than 3 feet of freeboard.

The CIPs for the districts and CSAs identify improvements to pump stations as well as the collection system. Planning and implementing redundancy in pumping capacity, increasing storage, and planning for emergency bypasses are typical types of projects included in the CIPs. The CIPs include implementation schedules, budgets, and identify sources of funding.

Capacity Enhancement Measures (continued)

In SCCSD where we have pipe capacity issues, we use the I&I Report and our flow model to scope projects to remedy capacity issues. In 2023, we will be doing targeted flow monitoring upstream of several of these identified pipes. The resulting flow data will be put into our flow model to determine if upsizing is really necessary or if the conservative and general assumptions of the initial I&I Report led to an inaccurate categorization of these pipes being over capacity. The new flow data will also inform SCCSD as to which pump stations require upgrades to handle peak flows during storm events.

Currently, SCCSD has a project in the design phase that will correct the capacity issues of the trunk line and pump station serving the Rodeo Creek sewer basin. A sewer connection moratorium has been in place to prevent more flow from being added to the system. With the completed project, the reduction in I&I, the larger pipes installed in the southern reaches, and the auxiliary wet well constructed at the pump station will allow the moratorium to be lifted.

Another project SCCSD has in design is a project to move sewer manholes out of a low-lying drainage area. This serves to reduce inflow flowing into the top of the manholes, replace pipe with a better-sealed system, and also prevents SSOs. This is typical of the type of capital projects planned and constructed throughout our Districts and CSAs. The reductions in I&I reduce sewer flows and keep our systems operating at or below capacity even as new developments come online. All new developments with significant flows are only allowed to be permitted after a flow analysis by staff is completed on the system.

The SCCSD has the following schedule to address the recommended sewer improvements:

- October 2022 – Evaluate FCSD, DCSD, and CSA CIPs and add additional projects as needed
- December 2022 /January 2023 – Adopt new SCCSD CIP
- Winter 2023 – Obtain new flow data for SCCSD and incorporate data into flow model
- Spring 2023 – Construct projects previously identified that increase pipe size, or eliminate I&I to address capacity issues
- Spring/Summer 2023 – Develop budgets to fund next fiscal year's construction projects, including those targeting capacity enhancement. The CIPs show schedules of planned projects.

The CIP for SCCSD is located on the District's website under About Us: https://sccsd.wpcomstaging.com/about-us/

Element 9.

Monitoring, Measurement, and Program Modifications

9.1 Introduction

This section presents the Districts/CSAs approach to Monitoring, Measurement, and Program Modifications.

9.2 Requirements for Monitoring, Measurement, and Program Modification Sections

(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; and

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

9.3 Performance Measures

The indicators that the Districts/CSAs will use to measure the performance of their sanitary sewer systems and the effectiveness of the SSMP are:

- Total number of SSOs;
- Number of SSOs for each cause (roots, grease, debris, pipe failure, capacity, pump station failures, and other);
- Portion of sewage contained compared to total volume spilled;
- Volume of spilled sewage discharged to surface water; and
- Comparison of planned to actual performance for preventive maintenance.

9.4 Performance Monitoring and Program Changes

The Districts/CSAs will evaluate the performance of their sanitary sewer systems at least annually using the performance measures identified in Section 9 of the SSMP – Performance Measures, above. The Districts/CSAs will update the data and analysis of performance measures at the time of the evaluation.

The Districts/CSAs may use other performance measures in the evaluation and will prioritize actions and initiate changes to this SSMP and the related programs based on the results of the evaluation. The performance measures are listed in Appendix 9-A.

Element 10.

SSMP Program Audits

10.1 Introduction

This section of the SSMP presents the process that the Districts/CSAs will follow to audit the SSMP.

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

10.2 Requirements for SSMP Program Audits

The Districts/CSAs will audit the SSMP every two years. The audit will determine whether the SSMP meets the GWDR, whether the SSMP reflects Districts/CSAs current practices, and whether Districts/CSAs are following the SSMP. A team consisting of Districts/CSAs staff will coordinate the audit process. The audit team will include representatives from the County, SCCSD, DCSD and FCSD and may also include members from other areas of the County, outside agencies, and/or contractors.

The scope of the audit will cover each of the sections of the SSMP. The SSMP Audit Checklist, based on the WDR, will be used for the audit (included as Appendix 10-A).

The results of the audit will be included in an SSMP Audit Report. The SSMP Audit Report will focus on the effectiveness of the SSMP program, compliance with the GWDR, and identification of any deficiencies in the SSMP. The SSMP Audit Report will identify revisions that may be needed for a more effective program. Information collected as part of Section 9 of the SSMP – Monitoring, Measurement, and Program Modifications, will be used in preparing the audit. Tables and figures or charts will be used to summarize information about these indicators.

Element 11.

Communication Program

11.1 Introduction

This section of the SSMP is intended to outline the process involved in communicating with interested members of the public regarding the development, implementation, and performance of this plan.

11.2 Requirements for the Communication Program

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

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

11.3 Communication during SSMP Development and Implementation

The County's Department of Public Works posted the SSMP on its website to inform interested members of the public of its development and implementation of the SSMP. The notice is:

> "Santa Cruz County has developed and is implementing a Sewer System Management Plan (SSMP) pursuant to State Water Resources Control Board Order 2006-003, Statewide General Discharge Requirements of Sanitary Sewer Systems. The goal of the SSMP is to minimize the frequency and severity of sanitary sewer overflows (SSOs). The SSMP covers the management, planning, design, and operation and maintenance of the County's sanitary sewer systems. Interested parties can contact the sanitation operations manager, Beatriz Barranco at 831-477-3907 for additional information."

The electronic SSO data, as well as information regarding regulatory actions, is available at:

http://www.waterboards.ca.gov/ciwqs/publicreports.html

11.4 Communicating Sanitary Sewer System Performance

The County of Santa Cruz Department of Public Works placed a notice on its website, under the Sewer and Water Home page, that the sanitary sewer performance information is available at the CIWQS public access website: https://www.dpw.santacruzcounty.us/Home/SewerWater.aspx

The Districts/CSAs report their performance annually, using the parameters listed in Section 9 of the SSMP – Monitoring, Measurement, and Program Modification, at a regularly scheduled meeting of their District Boards. The annual report will cover a calendar year. The reports will be presented by March 31 of the following year.

The Environmental Compliance Unit has an ongoing public outreach program. In addition to the informational brochures and videos posted on the Public Works website, Facebook, and Instagram pages, the Environmental Compliance Unit participates in Earth Day Santa Cruz every year (with the exception of 2020 - 2022 due to the COVID 19 pandemic) and dedicates much of the booth activities and outreach to FOG awareness and proper use of sanitary sewers. Additionally, the ECU distributes door hangers, mailers, and informational pamphlets about proper FOG disposal and problems with non-dispersible wipes in areas of concern.

When an SSO has occurred in a residential neighborhood, crews meet with residents to discuss the event. Door hangers are distributed to residents that are not home during the event. The ECU will follow up when the SSO is the result of a private lateral blockage. Informational pamphlets are distributed and a letter is sent to the responsible parties informing them of their requirements to maintain their sanitary sewer system. The SSO Alert door hanger is included in Appendix 11-A.

The District Boards and County Board of Supervisors agendas and meeting schedules are listed on the County of Santa Cruz Website: https://santacruzcountyca.iqm2.com/citizens/default.aspx?

A list of sanitation projects are listed on the Community Development & Infrastructure Public Works Division procurement portal, OpenGov at: https://procurement.opengov.com/portal/santacruzcounty .

The CIP for SCCSD is located on the District's website under About Us: https://sccsd.wpcomstaging.com/about-us/

The CIP for the Districts/CSA's is at County of Santa Cruz Public Works Department at: https://www.dpw.co.santa-cruz.ca.us/Home/SewerWater.aspx

11.5 Communication with Satellite Sanitary Sewer Systems

There are no satellite sanitary sewer systems.

Element 12.

SSMP Updates

12.1 Requirements

MRP Section E. 3. - Records documenting all changes made to the SSMP since its last certification indicating when a subsection(s) of the SSMP was changed and/or updated and who authorized the change or update. These records shall be attached to the SSMP.

The Districts/CSAs will update the SSMP at least every five years from the original adoption date of June 11, 2009. The Districts/CSAs will determine the need to update the SSMP more frequently based on the results of the annual audit and the performance of their sanitary sewer systems using information from the Monitoring and Measurement Program. In the event that the Districts/CSAs decide that an update is warranted, the process to complete the update will be identified at that time. Updates will be completed within one year following identification of the need for the update. The changes to the SSMP are tracked in the change log in Appendix 12-A.

Staff will seek the approval from the Districts/CSAs Boards for any significant changes to the SSMP. The authority for approval of minor changes such as employee names, contact information, or limited procedural changes is delegated to the District Engineer.

Appendix 1-A

Reserved

APPENDIX 1—SUPPORTING DOCUMENTS FOR ELEMENT 1

There are no Appendix documents to accompany Element 1. However, Appendix 1 is included as a placeholder for future documents.

Appendix 2-A

Operations Staff Contact Information

Key Wastewater Operations Staff Contact Information

NAME	JOB TITLE	PHONE NUMBER	EMAIL
Matt Machado	District Engineer/Deputy CAO/Director of Community Development & Infrastructure Legally Responsible Official	(831) 454-2160	dpwweb@santacruzcounty.us
Kent Edler	Assistant District Engineer/Assistant Director Special Services Legally Responsible Official	(831) 454-2160	Kent.edler@santacruzcounty.us
Beatriz Barranco	Sanitation Operations Manager Legally Responsible Official	(831) 477-3907	Beatriz.barranco@santacruzcounty.us
Ashleigh Trujillo	Senior Civil Engineer	(831) 454-2160	Ashleigh.trujillo@santacruzcounty.us
Ramon Sandoval	Assistant Public Works Superintendent Legally Responsible Official	(831) 477-3907	Ramon.sandoval@santacruzcounty.us
Monica Tomlinson	Environmental Programs Coordinator	(831) 477-3907	Monica.tomlinson@santacruzcounty.us
Sean Mathis	Pump Crew Supervisor Data Submitter	(831) 477-3907	sean.mathis@santacruzcounty.us
Marisol Goulett	Pretreatment Program Specialist Data Submitter	(831) 477-3907	marisol.goulett@santacruzcounty.us
Leslie Rios	Pretreatment Program Specialist Data Submitter	(831) 477-3907	leslie.rios@santacruzcounty.us

Appendix 3-A

Reserved

APPENDIX 3—SUPPORTING DOCUMENTS FOR ELEMENT 3

There are no Appendix documents to accompany Element 3. However, Appendix 3 is included as a placeholder for future documents.

Appendix 4-A

Standard Operating Procedures for Sewer

Purpose

The purpose of this Standard Operating Procedure is to ensure that sewer cleaning is performed in a manner that will produce a high quality result. Quality is important because it ensures that the sanitary sewers will not experience problems prior to their next scheduled cleaning.

Goal

The goal of cleaning a gravity sewer is to restore the flow area to 95% of the original flow area of the pipe.

Required Equipment and Tools

- Personal protective equipment (hardhat, steel toe boots, gloves, eye protection, face protection, hearing protection).
- Calibrated gas monitor for CO, LEL, O2 and H2S3. Proper safety cones, barricades, flagging, signs or other traffic control devices.
- Confined space equipment (tripod, harness, and ventilation blower).
- Sanitary sewer system map book, GIS cloud based maps.
- Combo sewer cleaner.
- Stone Age Tools Warthog or USB Primus sewer cleaning nozzle.
- Debris traps in the sizes that will be encountered during the day.
- Manhole hook or pick-axe.
- Measuring wheel.
- Disinfectant.
- Root control treatment by contracted vendor or RootX application by staff
- Jet bug for grease

Required Forms

- Cleaning Work Order

Procedures for Sewer Cleaning Crew prior to Leaving the Yard

- Plan the work so that it starts in the upstream portion of the area and moves downstream.
- Wherever possible, plan to clean sewers from the downstream manhole.
- Inspect the sewer cleaning nozzles for wear. Replace nozzles that are excessively worn.
- If this is the first day that this cleaning unit is being used this week, inspect the first 200 feet of hose and couplings for damage or wear.

At the Jobsite

- Wear proper personnel protective equipment.
- Fill the water tank at or near the first jobsite.
- Determine and confirm location of upstream and downstream manholes (use street addresses, if possible).
- Look for any overhead utilities that may come into contact with the vacuum boom during the cleaning operation.
- Set up proper traffic control by placing traffic signs, flags, cones, and other traffic control devices.
- Move the cleaning unit into the traffic control so that the hose reel is positioned over the manhole.
- Prior to opening the manhole use the gas detector to determine if it is safe to open the manhole then proceed with the cleaning operation.

Cleaning Operation

- Insert the debris trap.
- Start the auxiliary engine.
- Lower the hose, with a guide or roller to protect the hose, into the manhole and direct it into the sewer to be cleaned.
- Start the high-pressure pump and set the engine speed to provide adequate pressure for the sewer cleaning operation.
- Open the water valve and allow the hose to proceed up the sewer. The hose speed should not exceed 2-3 feet per second.
- If there is little or no debris, allow the hose to proceed to the upstream manhole.
- If there is moderate to heavy debris, clean the remaining portion of the sewer in steps not to exceed 25% of the length of the sewer.
- Open the upstream manhole and verify that the nozzle is at or past the manhole.
- The sewer has been adequately cleaned when:
  - ⇒ Successive passes with a cleaning nozzle do not produce any additional debris, and
  - ⇒ The sewer is able to pass a full size, six-wire skid ("proofer") for its entire length.
- Determine the nature and quantity of the debris removed during the cleaning operation. Use the codes in Table 4.5 to report the nature and quantity of debris. Figure 4.6 is an excerpt from the CWEA "Best Practices Cleaning Results" publication and sets guidelines for coding debris found during fieldwork. Remove the debris from the manhole using the vacuum unit.
- Rewind the hose on the reel.
- Remove the debris trap.
- Clean the mating surface and close the manhole. Ensure that the manhole is properly seated.
- Enter the results on the Work Order.
- Move the cleaning unit, break down and stow the traffic controls.
- Proceed to the next cleaning jobsite.

At the End of the Day

- Inspect the equipment and tools for problems.
- Report any problems with equipment, tools, or sewers that were cleaned during the day to the supervisor.
- Turn in all completed cleaning work orders to the supervisor at end of shift. Or enter work order update in Lucity™.

Table 4.1 Major Equipment

MAJOR EQUIPMENT TYPE	QUANTITY	MODEL YEAR
Boom (Crane) Truck	4	2006, 2009, 2014, 2019
CCTV Inspection Van	2	2006, 2020
Combination Sewer Cleaning Truck	2	2008, 2020
Confined Space Van	1	2006
Dump Truck	1	2020
Sewer Cleaning Truck	2	2003, 2011
Trailer Mounted Air Compressor	1	2002
Vacuum Truck	3	2002, 2006, 2018

Critical Spare Parts

The inventory forms is shown in Table 4.2, Table 4.3, Table 4.4

The specialized equipment that is required to support the Overflow Emergency Response Plan is:

Table 4.2 Critical Spare Parts Inventory

DESCRIPTION/ASSOCIATED EQUIPMENT	NUMBER IN STOCK	LOCATION
Air Compressor 185 Sullair	1	D.A. Porath Lode Street Facility
Confined Space entry equipment	1	D.A. Porath Lode Street Facility
Crane Truck	4	D.A. Porath Lode Street Facility
Dump Truck	1	D.A. Porath Lode Street Facility
Kubota Mower	1	D.A. Porath Lode Street Facility

Table 4.3 Portable Generators and Trash Pumps Inventory

BRAND	SIZE	QUANTITY	LOCATION
Whisperwatt	100KVA	1	D.A. Porath Lode Street Facility
Milti Quip	25 KW	3	D.A. Porath Lode Street Facility
Taylor	55 KW	1	D.A. Porath Lode Street Facility
Whisperwatt	300 KVA	2	D.A. Porath Lode Street Facility
Whisperwatt	125 KVA	1	D.A. Porath Lode Street Facility
2" Trash Pump		4	D.A. Porath Lode Street Facility
4" Trash Pump		2	D.A. Porath Lode Street Facility

Table 4.4 Critical Spare Parts Inventory

For Sewer Mains

Main Category	Subcategory	Brand	Model	Material	Coupling Size	Size O.D.	Size Inches	Notes	Quantity	Location
Clamp	Stainless					6.84-7.24 O.D. Range			2	Lode Facility- Warehouse
Clamp	Stainless					4.74-5.14 O.D. Range			1	Lode Facility- Warehouse
Clamp	Stainless					4.74-5.14 O.D. Range			1	Lode Facility- Warehouse
Clamp	Stainless					3.96-4.25 O.D. Range			1	Lode Facility- Warehouse
Clamp	Stainless					2.38-2.63 O.D. Range			2	Lode Facility- Warehouse
Clamp							1-1/2"x 5"		2	Lode Facility- Warehouse
Coupling	Maxadaptors		Max 8			8.4-10.15 O.D. Range			8	Lode Facility- Warehouse
Coupling	Maxadaptors		Max 6			6.27-8.10 O.D. Range			5	Lode Facility- Warehouse
Coupling	Maxadaptors		Max 6 Oversized			6.27-8.10 O.D. Range			2	Lode Facility- Warehouse
Coupling	Maxadaptors		Max 4			4.13-5.56 O.D. Range			2	Lode Facility- Warehouse
Coupling	Repair	Fernco			4"CI to PL to 4" CI or PL				5	Lode Facility- Warehouse
Coupling	Repair	Hymax					2"		1	Lode Facility- Warehouse
Coupling	Repair	Hymax					4"		4	Lode Facility- Warehouse
Coupling	Repair	Hymax					6"		3	Lode Facility- Warehouse
Coupling	Pipe	Hymax					2"		1	Lode Facility- Warehouse
Coupling	Pipe	Hymax					4"		4	Lode Facility- Warehouse
Coupling	Pipe	Hymax					6"		3	Lode Facility- Warehouse
Coupling	Pipe			Steel			3/4"		2	Lode Facility- Warehouse
Coupling	Pipe			Steel			1"		4	Lode Facility- Warehouse
Coupling	Pipe			Steel			1-1/4"		4	Lode Facility- Warehouse
Coupling	Pipe			Steel			1-3/4"		4	Lode Facility- Warehouse
Coupling	Pipe			PVC			1/2"		5	Lode Facility- Warehouse
Coupling	Pipe			PVC			3/4"		3	Lode Facility- Warehouse
Coupling	Pipe			PVC			1"		1	Lode Facility- Warehouse
Coupling	Pipe			PVC			1-1/4"		3	Lode Facility- Warehouse
Coupling	Pipe			PVC			1/2"		3	Lode Facility- Warehouse
Coupling	Pipe			PVC			2"		1	Lode Facility- Warehouse
Joint	Repair	Calder			10" CI, Plastic, PVC, to 10" Clay				2	Lode Facility- Warehouse
Plug	Pipe						6"-10"	35 PSI	2	Lode Facility- Warehouse
Plug	Pipe						8"-12"	35 PSI	2	Lode Facility- Warehouse
Plug	Pipe						12"-18"	25 PSI	1	Lode Facility- Warehouse
Plug	Pipe						12"-18"	35 PSI	1	Lode Facility- Warehouse
Plug	Pipe						3" Test ball		2	Lode Facility- Warehouse
Plug	Pipe						4" Test ball-long		1	Lode Facility- Warehouse
Plug	Pipe						6" Test ball		1	Lode Facility- Warehouse
Plug	Pipe						8" Test ball		2	Lode Facility- Warehouse
Plug	Pipe						6" Mini ball		1	Lode Facility- Warehouse
Plug	Pipe						8" Mini ball		1	Lode Facility- Warehouse
Plug	Pipe						8" Mini ball-long		2	Lode Facility- Warehouse
Plug	Pipe						10" Mini ball		2	Lode Facility- Warehouse
Plug	Pipe						12" Mini ball		1	Lode Facility- Warehouse
Plug	Pipe						24" Mini ball		1	Lode Facility- Warehouse
Plug	Pipe							Air/Lanyard	3	Lode Facility- Warehouse
Plug	Pipe							Various Air Hoses	5	Lode Facility- Warehouse
Plug	Pipe							Air Regulators	4	Lode Facility- Warehouse

Table 4.4 Critical Spare Parts Inventory

Electrical Parts

Manufacturer	Component	Control Voltage	Quantity	Part Number / Model	Vendor
Conery	Float Switch; NO/NC; 50Ft Cable	N/A	6	2902-B6S2-50'	USA Blubook
Flygt	MiniCas	120VAC	4	14407129	Shape
Flygt	Float Switch; NO/NC; 13M cable (42.6 Ft)	N/A	2	5828803-13M	Shape
Flygt	Float Switch; NO/NC; 20M Cable (65.6 Ft)	N/A	4	5828804-20M	Shape
Flygt	Float Switcg;NO/NC; 50M Cable (164 Ft)	N/A	3	5828885-50M	Shape
Pulsar	Transmitter / Controller; Dual Input	24 VDC / 120VAC	2	Ultra Twin	Muniquip
Pulsar	Transmitter / Controller	24 VDC / 120VAC	1	Zenith 140	Muniquip
Pulsar	Transducer; Ultrasonic; 3 dB	24 VDC	6	dB3	Muniquip
Pulsar	Transducer; Ultrasonic; 10 dB	24 VDC		dB10	Muniquip
Dwyer / Mercoid	Transducer; PSI; 20 PSIG; 60 Ft Cable	24 VDC	1	SBLT2-20-60	Allied
Dwyer / Mercoid	Transducer; PSI; 10 PSIG; 60 Ft Cable	24 VDC		SBLT2-10-60	Allied
Dwyer / Mercoid	Transduer; PSI; 5 PSIG; 40 Ft Cable	24 VDC		SBLT2-5-40	Allied
Carlo Gavazzi	Power Monitor; 3 ph; 480 Vac	N/A	1	DPC01DM48	Allied
Carlo Gavazzi	Power Monitor; 3 ph; 240 Vac	N/A		DPC01DM23	Allied
Square D	Motor Starter; 3ph; 600V Size 1 /w overload	600V Max	4	8536SCO3	Allied or Edges
Square D	Motor Starter; 3ph; 600V Size 2 /w overload	600V Max	3	8536SDO	Allied or Edges
APC	UPS; Stand Alone; Multiple Sizes	120 VAC	5	N/A	Santa Cruz Electronics
AB /APC	UPS; Panel Mount	120 VAC	2	1609-SPD	Buckles-Smith
Emerson	UPS; Panel Mount	120 VAC	1	SDU 850A	Allied

SANTA CRUZ COUNTY SANITATION DISTRICT

SCCSD

- Mission Dialer
- Gravity Lines
- Santa Cruz County Sanitaion District

2 Mission Dialers at Arana PS

MH AE90 Seacliff Dr

Monterey Bay

N
W E
S

0 0.25 0.5 Miles

Santa Cruz County Sanitation District
Mission Dialers Locations

2021-037
Date: 11/21/2022

	Pump Station		Sewer Mains
1	A1 PS	16	MH AE83 State Park
2	Aptos Blue PS	17	MH AK108 Palmer Ave
3	Aptos Esplanade PS	17	MH AK182 Sumner Ave
4	Brommer PS	18	MH AK228 Rio del Mar
5	Capitola PS	19	MH AL87 Cuesta Dr
6	Chaminade PS	20	MH EC43 17th Ave
7	Dolphin PS	21	MH ED50 Kristie Ct
8	Hidden Beach PS	22	MH EN110 East Cliff
9	Moran Lake PS	23	MH EN49 East Cliff
10	Rodeo	24	MH EO25 17th Ave
11	Schwan Lake PS	25	MH EO56 Coastview Dr
12	Sears PS		
13	Soquel PS		
14	Spreckles PS		
15	Tannery PS		

SCCSD

- Smart Cover
- Gravity Lines
- Santa Cruz County Sanitaion District

City of Santa Cruz

Monterey Bay

N
W E
S

0 0.5 1 Miles

Santa Cruz County Sanitation District
Smart Cover Locations

2022-028
Date: 10/17/2022

Freedom Sanitation District
Smart Cover Locations

MH FA65
78 Doering Ln

MH FC143
63 Lynwood

Green Valley PS

FCSD

- Smart Cover
- Gravity Lines
- Freedom Sanitation District

VARNI RD

FREEDOM BL

AMESTI RD

CASSERLY RD

GREEN VALLEY RD

BUENA VISTA DR

LARKIN VALLEY RD

HOLOHAN RD

AIRPORT BL

LOMA PRIETA AV

SOUTH GREEN VALLEY RD

City of Watsonville

N
W E
S

0 500 1,000
Feet

2021-037
Date: 10/13/2022

Clubhouse PS

BC52
101 E. Hilton

BC65
248 E. Hilton

Big Basin PS

JAMISON CREEK RD

JAMISON CREEK RD

EMPIRE GRADE

CSA No.7 Boulder Creek
Gravity Lines
County Service Area No.7

N
W E
S

0 0.125 0.25 Miles

CSA No.7 Boulder Creek
Smart Cover Locations

2021-037
Date: 11/16/2022

Figure 4.8 SCCSD Odor Control Map

Appendix 4-B

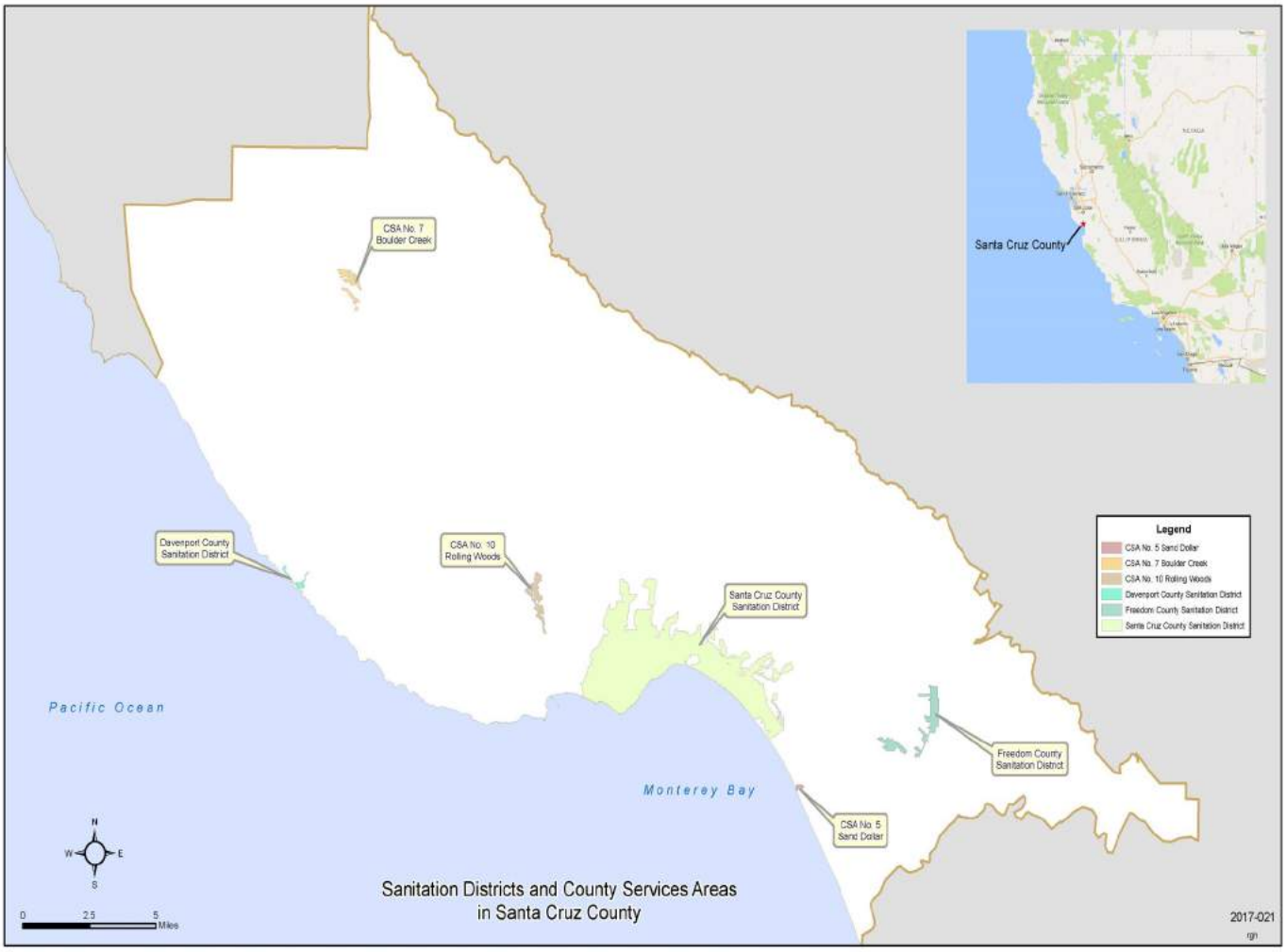
Preventative Maintenance Pump Station

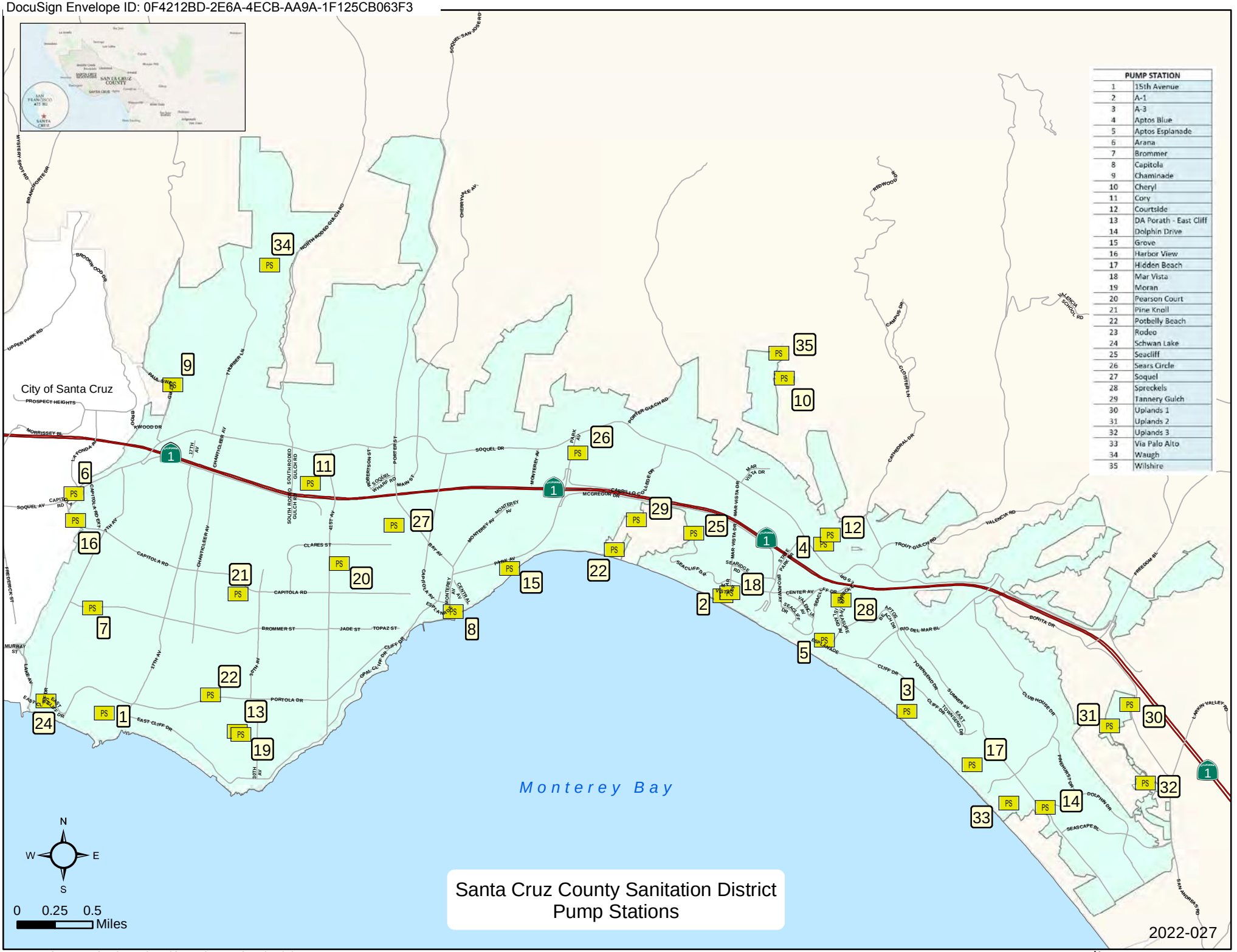
APPENDIX 4-B—SUPPORTING DOCUMENTS FOR ELEMENT 4

There are no Appendix documents to accompany Element 4. However, Appendix 4-B is included as a placeholder for future documents.

Appendix 4-C

Pump Station Photos





Appendix 4-C

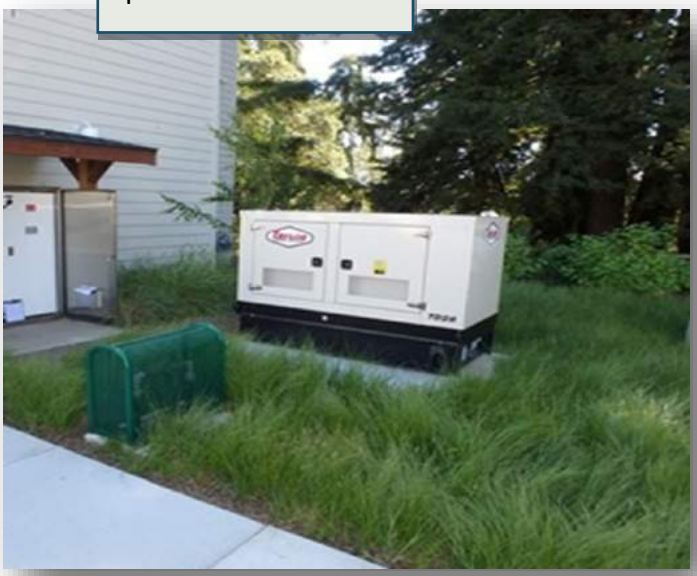
Santa Cruz County Sanitation District Pump Stations

15th Avenue

A1

A3

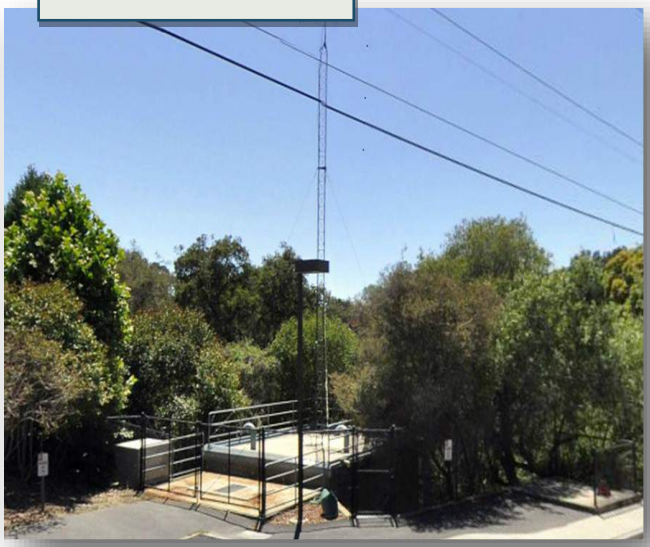
Aptos Blue



Santa Cruz County Sanitation District Pump Stations

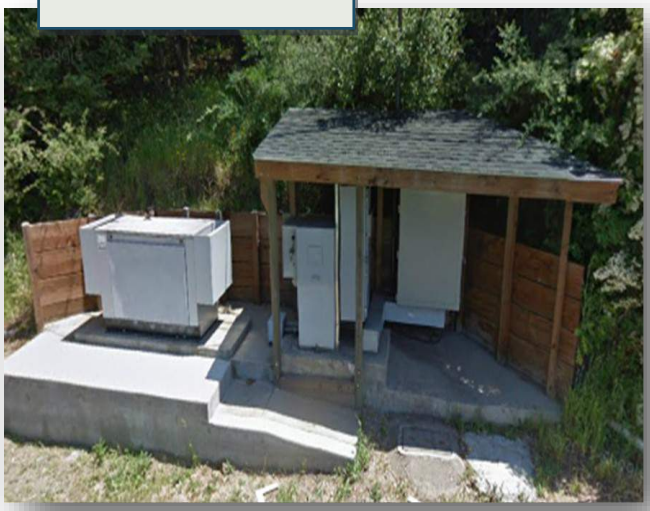
Arana

Brommer



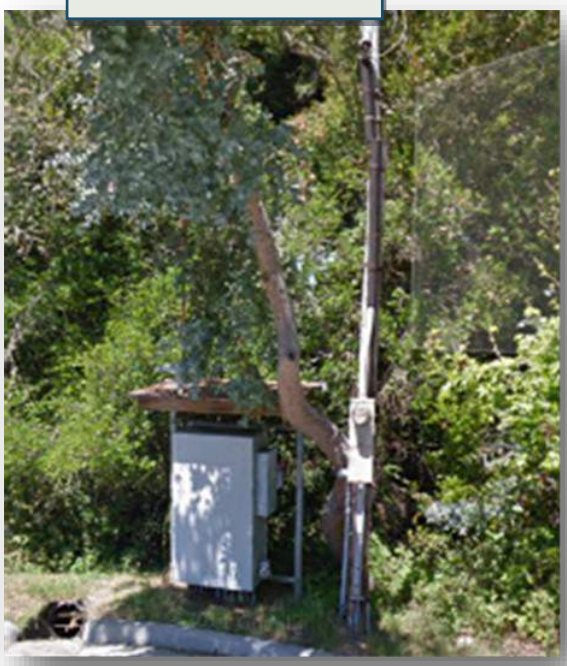
Capitola

Chaminade



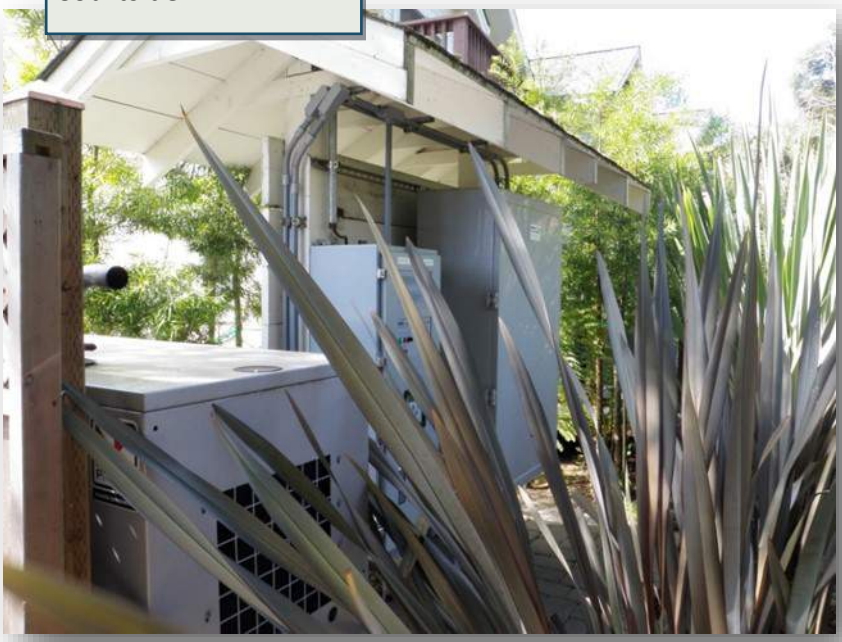
Santa Cruz County Sanitation District Pump Stations

Cheryl Way



Cory Street

Courtside



Santa Cruz County Sanitation District Pump Stations

D.A. Porath

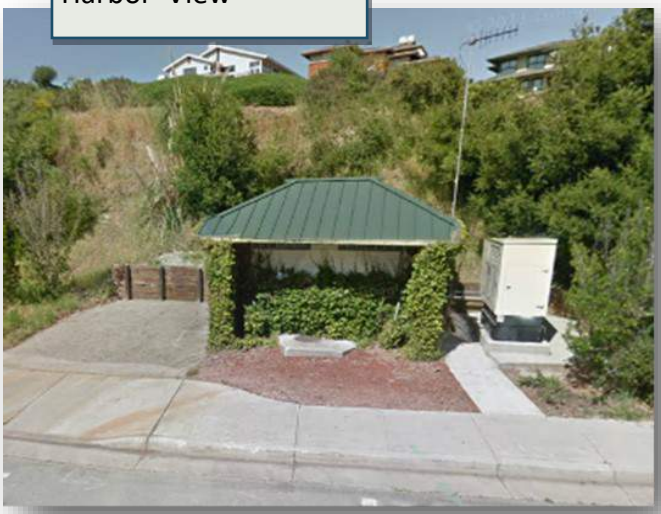
Dolphin Drive

Esplanade

Grove

Santa Cruz County Sanitation District Pump Stations

Harbor View



Hidden Beach

Mar Vista

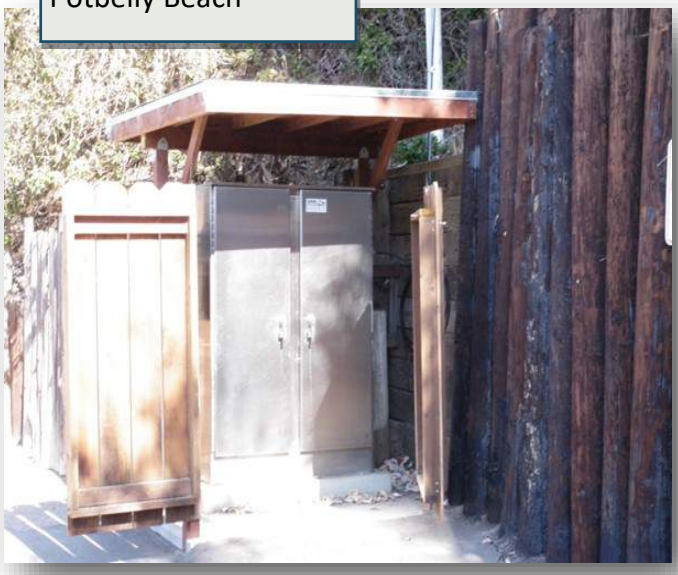
Moran

Santa Cruz County Sanitation District Pump Stations

Pearson Court

Pine Knoll

Potbelly Beach



Rodeo

Santa Cruz County Sanitation District Pump Stations

Schwan Lake

Seacliff

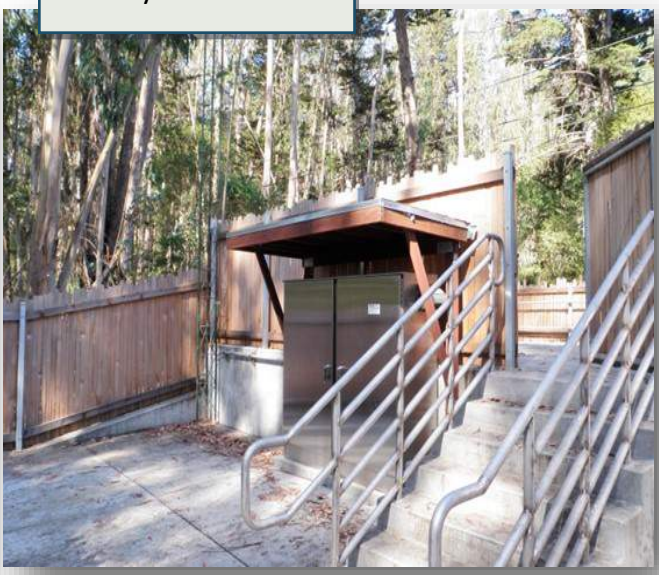
Sears Circle

Soquel

Santa Cruz County Sanitation District Pump Stations

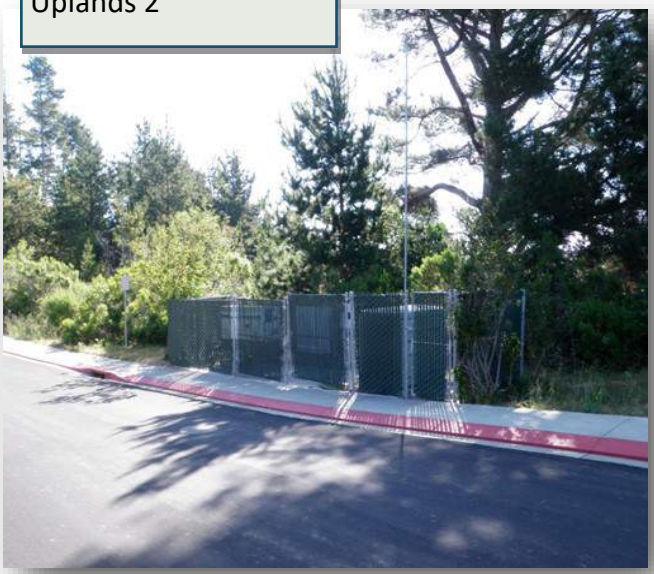
Spreckels

Tannery Gulch



Uplands 1

Uplands 2



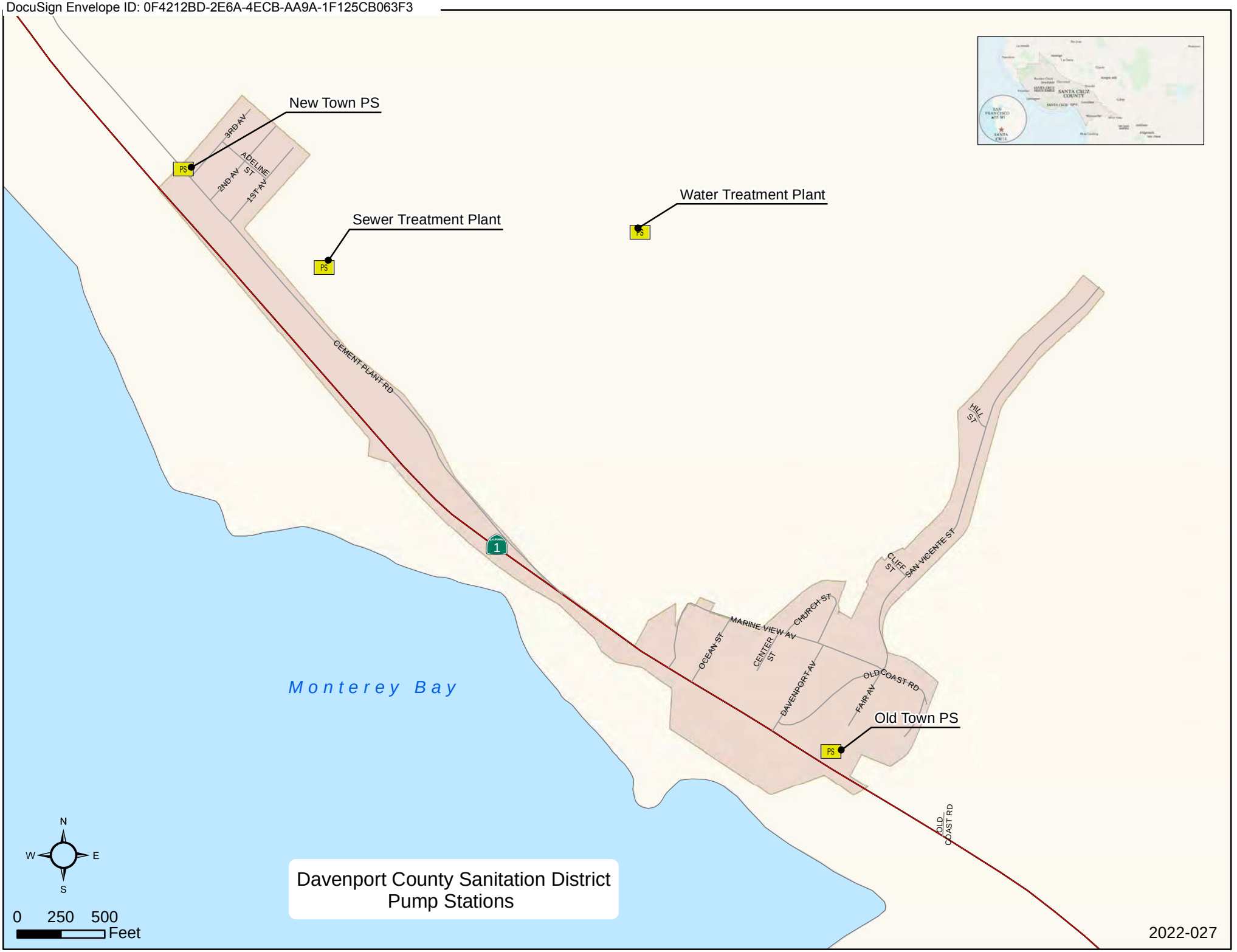
Santa Cruz County Sanitation District Pump Stations

Uplands 3

Via Palo Alto

Waugh Avenue

Wilshire

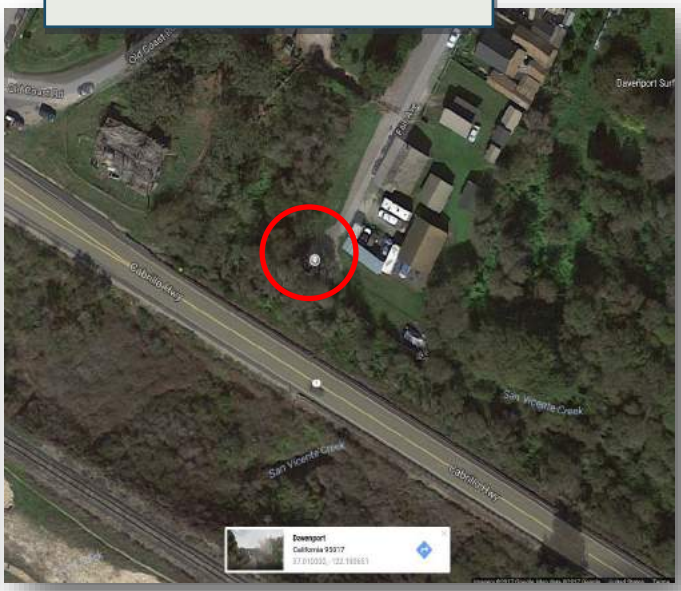


Appendix 4-C

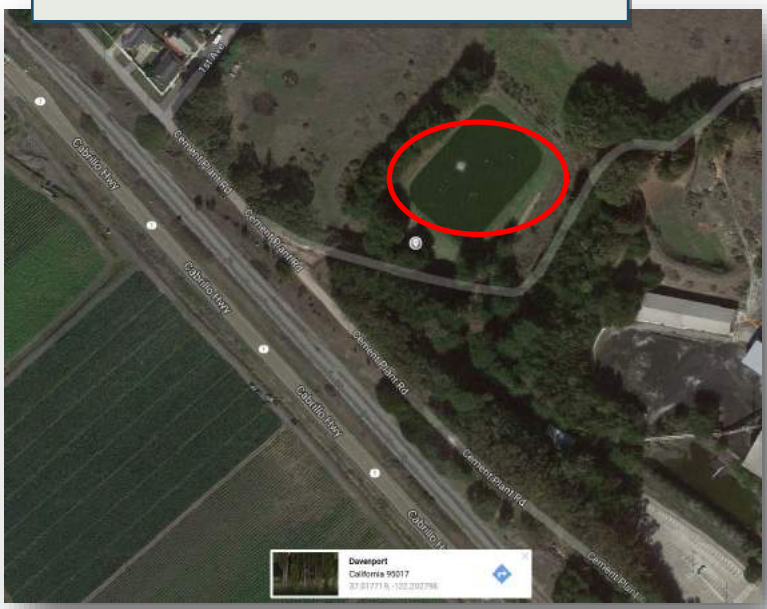
Davenport Pump Stations

New Town

Old Town



Waste Water Treatment Plant



Freedom County Sanitation District
Pump Stations

PUMP STATION	
1	Arroyo Verde
2	Behler
3	Briarwood
4	Diamond Estates
5	Green Valley
6	Los Arboles
7	Minto
8	Pauline
9	Trembley

PIONEER RD
VARNI RD
CORRALITOS RD
GREEN VALLEY RD
CASSERLY RD
AMESTI RD
LARKIN VALLEY RD
BUENA VISTA DR
FREEDOM BL
AIRPORT BL
HOLOHAN RD
SOUTH GREEN VALLEY RD
LOMA PRIETA AV

PS 1
PS 6
PS 9
PS 4
PS 7
PS 2
PS 3
PS 8
PS 5

CIty of Watsonville

N
W E
S

0 0.125 0.25 Miles

2022-027

Appendix 4-C

Freedom County Sanitation District Pump Stations

Arroyo Verde

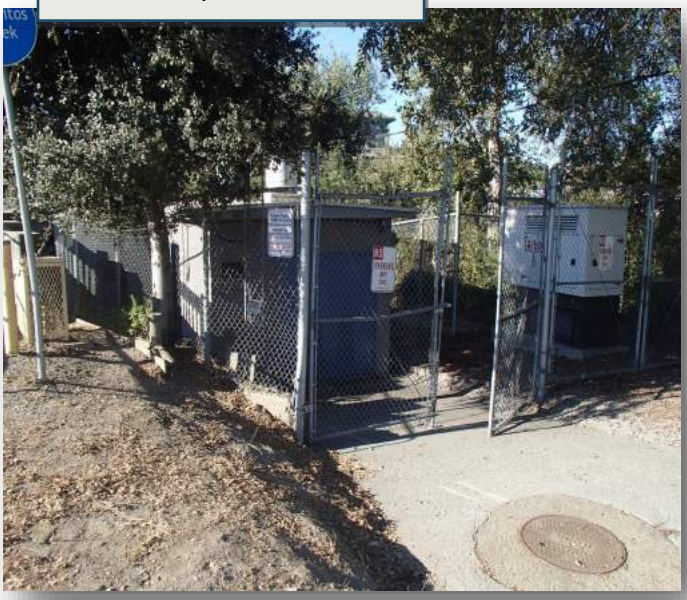
Behler

Briarwood

Diamond Estates

Freedom County Sanitation District Pump Stations

Green Valley



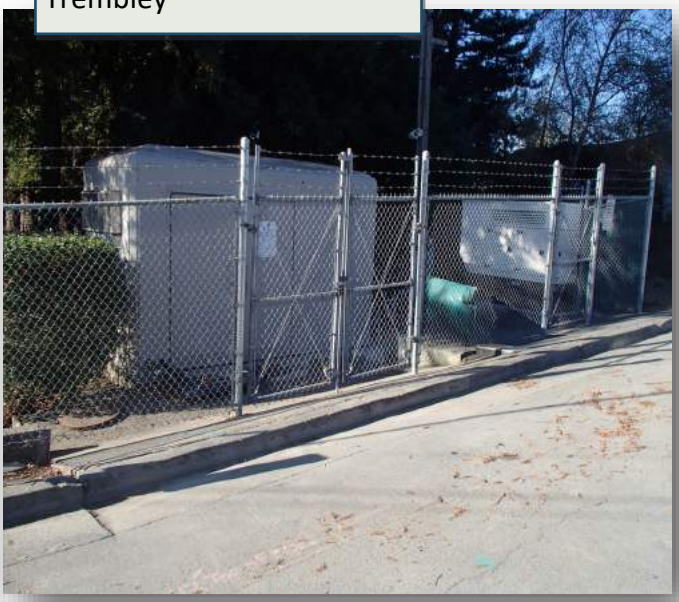
Los Arboles

Minto

Freedom County Sanitation District Pump Stations

Pauline

Trembley



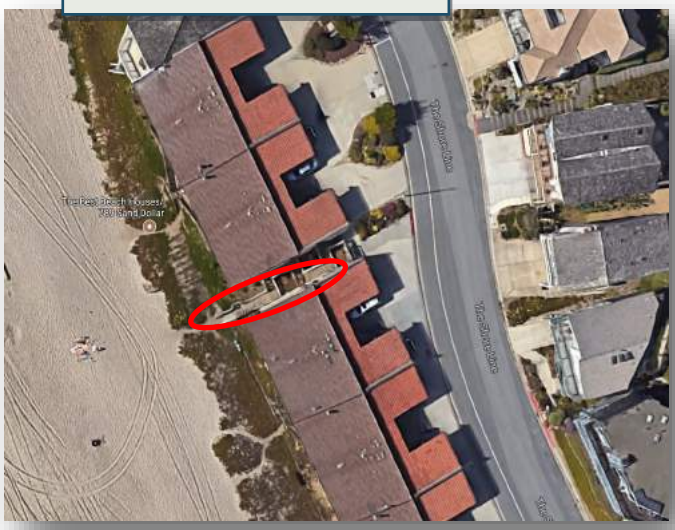
CSA No.5
Sand Dollar / Canyon del Sol
Pump Stations

2022-027

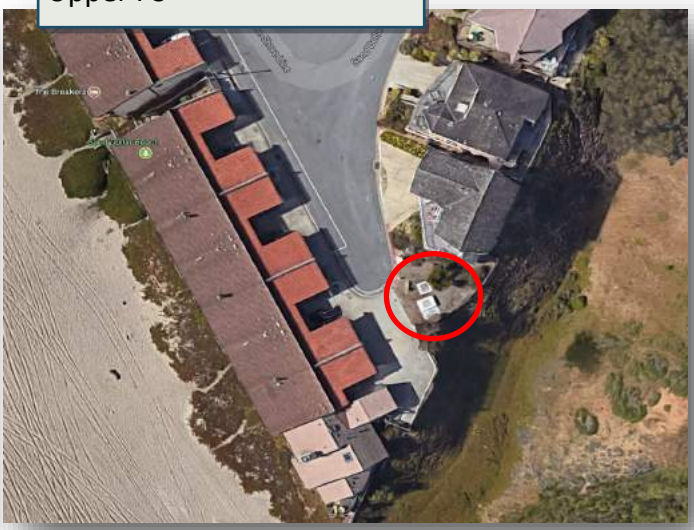
Appendix 4-C

CSA 5 Sand Dollar Pump Stations

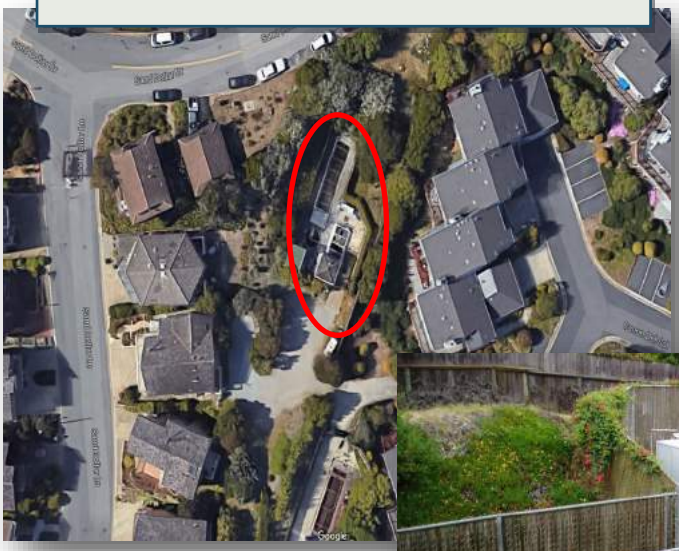
Lower PS

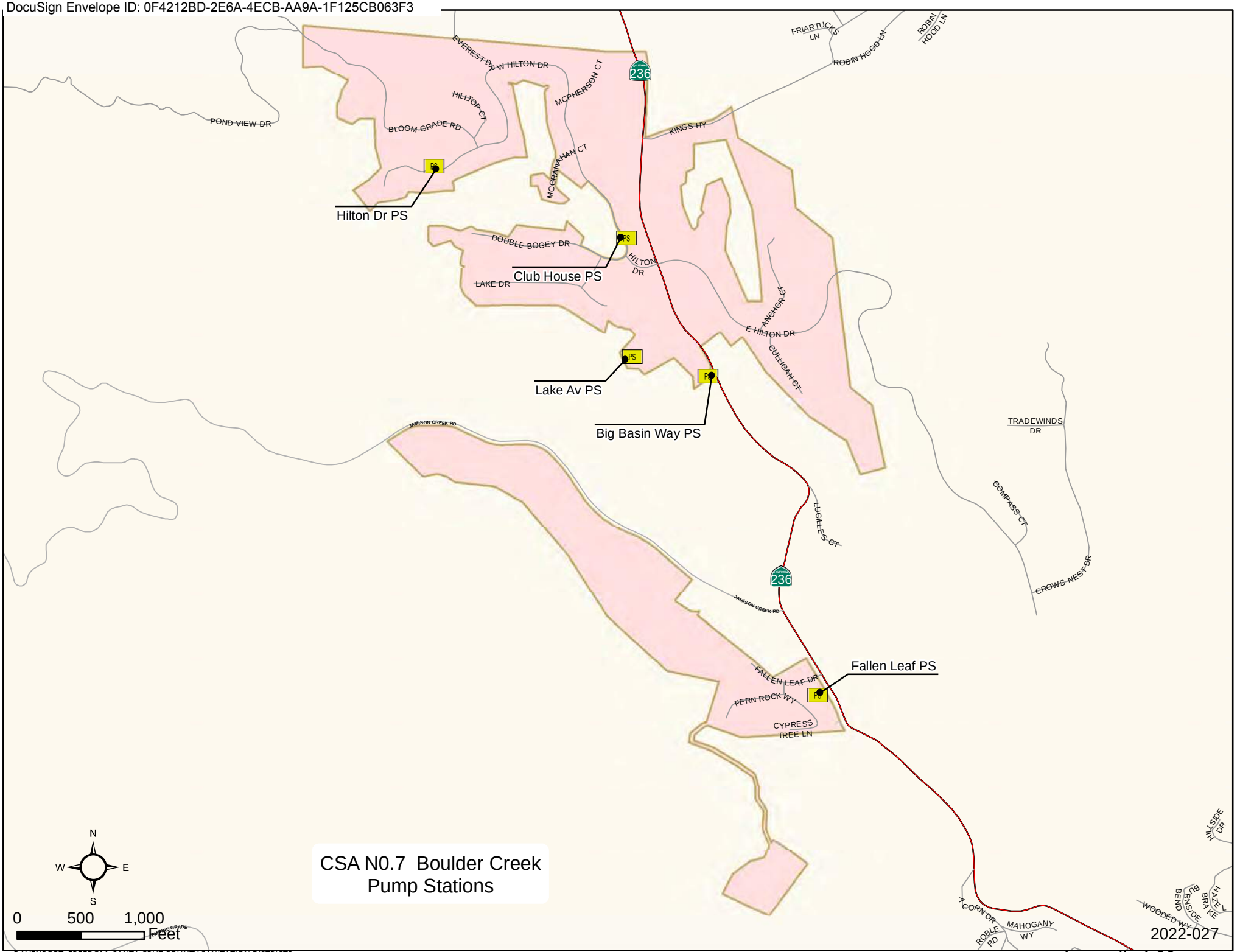


Upper PS



Canon del Sol WWTP & Sand Dollar WWTP





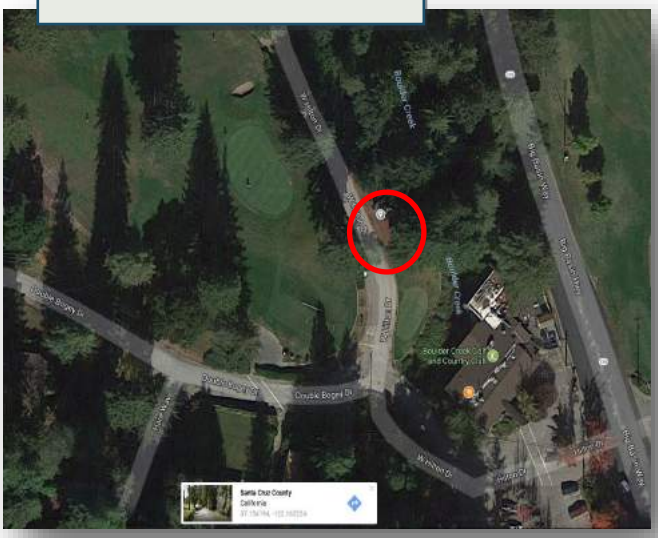
CSA N0.7 Boulder Creek Pump Stations

2022-027

Appendix 4-C

CSA 7 Boulder Creek Pump Stations

BC #1—Clubhouse

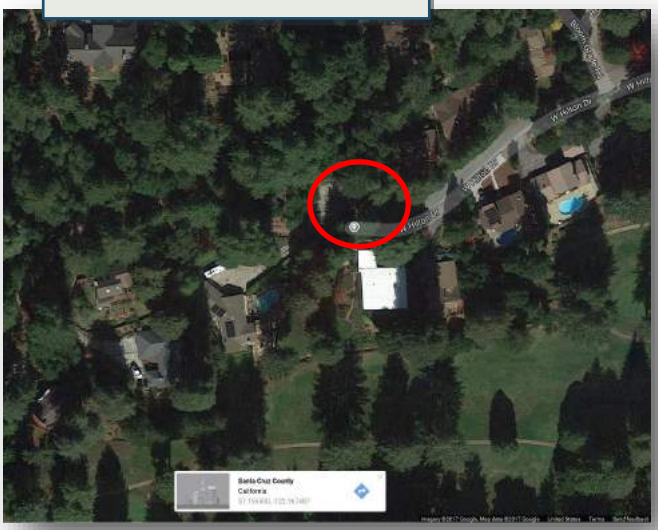


BC #2 - Lake & WWTP

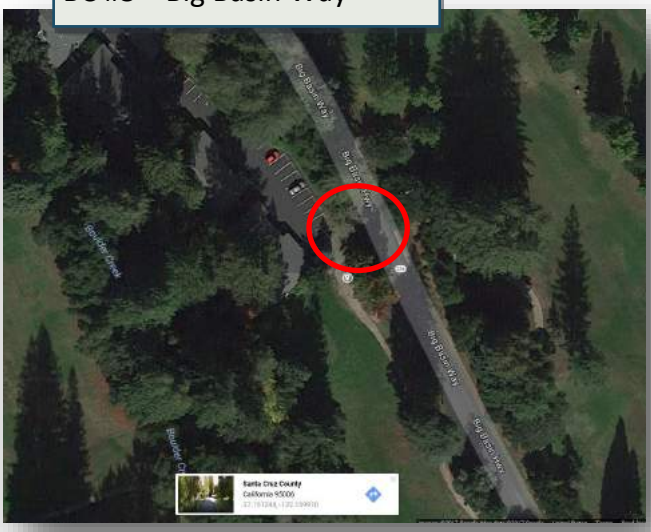
BC #3—Fallen Leaf

CSA 7 Boulder Creek Pump Stations

BC #4—Hilton



BC #5—Big Basin Way



CSA No.10 Rooling Woods Pump Stations

Wood's Cove PS

City of Scotts Valley

N
W
E
S

0 750 1,500 Feet

2022-027

Appendix 4-C

CSA 10 Rolling Woods Pump Station

Appendix 4-D

Pump Data

Pump Data

SANTA CRUZ COUNTY SANITATION DISTRICT			WDID 3SSO10324			
PUMP STATION	ADDRESS	HP	# OF PUMPS	FM SIZE	FM LENGTH	SPARE PUMPS
15th Avenue	262 15th Avenue	10	2	6-in	752 lf	1
A-1	Las Olas Drive	15	2	8-in	1270 lf	0
A-3	440 Beach Drive	7.4	2	10-in	280 lf	0
				18-in	2730 lf	
Aptos Blue	3200 Aptos Rancho Drive	5	2	4-in	466 lf	0
Aptos Esplanade	104 Marina Avenue	200	4	16-in	16,847 lf	0
				18-in	16,847 lf	
				24-in	1655 lf	
				27-in	885 lf	
				30-in	1843 lf	
Arana	2201 Soquel Avenue	23/20	2	8-in	1200 lf	1
Brommer	960 Brommer Street	15	3	8-in	1157 lf	0
Capitola	110 Monterey Avenue	73.7	3	10-in	1426 lf	1
				16-in	3242 lf	
				18-in	6223 lf	
				24-in	50 lf	
Chaminade	3700 Block of Paul Sweet Road	5	2	6-in	346 lf	2
Cheryl	1829 Cheryl Way	4	2	4-in	1115 lf	1
Cory	4035 Cory Street	5	2	4-in	237 lf	2
Courtside	7848 Tanias Court	7.5	2	4-in	1029 lf	1
DA Porath	2750 Lode Street	60/230	4	36-in	5 miles	1-60 HP/1-230 HP
Dolphin Drive	Dolphin & Sumner Avenue	30	3	10-in	800 lf	1
Grove	110 Grove Lane	5	2	4-in	400 lf	2
Harbor View	Capitola Road & Harborview Ct.		2	4-in	1094 lf	1
Hidden Beach	770 Cliff Drive	45	3	24-in	7660 lf	0
Mar Vista	110 Mar Vista Drive	3	2	3-in	150 lf	0
Moran	2750 Lode Street	20	5	10-in	118 lf	0
Pearson Court	4146 Pearson Court	3	2	4-in	295 lf	0
Pine Knoll	2546 Capitola Road	3	2	4-in	25 lf	1
Potbelly Beach	23 Potbelly Beach Road	1.7	3	2-in	1561 lf	2
Rodeo	1400 Block of Richmond Drive	45	5	16-in	1020 lf	2

Santa Cruz County Sanitation District Pump Data—Continued

SANTA CRUZ COUNTY SANITATION DISTRICT			WDID 3SSO10324			
PUMP STATION	**ADDRESS**	**HP**	**# OF PUMPS**	**FM SIZE**	**FM LENGTH**	**SPARE PUMPS**
Schwan Lake	Eastcliff & 7th Avenue	20	2	8-in	2040 lf	1
Seacliff	837 Seacliff Drive	18/15	2	8-in	621 lf	0
Sears Circle	18 Sears Circle	5	2	4-in	205 lf	0
Soquel	809 Bay Avenue	160	4	27-in	1265 lf	1
Spreckels	211 Forest Drive	20	2	8-in	129 lf	1
Tannery Gulch	181 New Brighton Road	10	2	8-in	729 lf	2
Uplands 1	102 Zanzibar	5	2	4-in	995 lf	1
Uplands 2	162 Zanzibar	6.2	2	4-in	1633 lf	0
Uplands 3	144 Castillo Court	5.5/6.2	2	4-in	832 lf	0
Via Palo Alto	1096 Via Palo Alto	5	2	6-in	829 lf	2
Waugh	407 Waugh Ave	3	2	4-in & 6-in	599 lf/60 lf	1
Wilshire	1752 Wilshire Drive	4	2	4-in	750 lf	0

Pump Data

DAVENPORT COUNTY SANITATION DISTRICT			WDID 3SSO10263			
PUMP STATION	**ADDRESS**	**HP**	**# OF PUMPS**	**FM SIZE**	**FM LENGTH**	**SPARE PUMPS**
New Town	Cement Plant Road	3	2	4-in	1067 lf	0
Old Town	30 Fair Avenue	23	2	4-in	4520 lf	1
FREEDOM COUNTY SANITATION DISTRICT			**WDID 3SSO10267**			
PUMP STATION	**ADDRESS**	**HP**	**# OF PUMPS**	**FM SIZE**	**FM LENGTH**	**SPARE PUMPS**
Arroyo Verde	326 Sombra Lane	5	2	6-in	918 lf	0
Behler	110 Behler Road	2.7	2	4-in	340 lf	1
Briarwood	309 Briarwood Drive	5	2	4-in	600 lf	0
Diamond Estates	135 Agate Drive	10	2	4-in	2213 lf	0
Green Valley	247 Green Valley Road	7.4/10	2	10-in	586 lf	2
Los Arboles	48 Littleway Lane	5	2	4-in	297 lf	0
Minto	33 Minto Road	3	2	4-in	214 lf	0
Pauline	116 Pauline Drive	5	2	3-in	514 lf	0
Trembley	42 Trembley Lane	10	2	4-in	990 lf	0
CSA NO. 5 - SAND DOLLAR			**WDID 3SSO10323**			
PUMP STATION	**ADDRESS**	**HP**	**# OF PUMPS**	**FM SIZE**	**FM LENGTH**	**SPARE PUMPS**
Sand Dollar Lower	775 Shoreline Drive	3/5	2	4-in	85 lf	0
Sand Dollar Upper	775 Shoreline Drive	5	2	4-in	982 lf	1

Pump Data

CSA NO. 7 - BOULDER CREEK			WDID 3SSO10326			
PUMP STATION	**ADDRESS**	**HP**	**# OF PUMPS**	**FM SIZE**	**FM LENGTH**	**SPARE PUMPS**
BC No. 1-Clubhouse	200 W Hilton Drive	2	2	3-in	245 lf	0
BC No. 2 -Lake	189 Lake Avenue	3	2	4-in	3790 lf	0
BC No. 3-Fallen Leaf	15999 Big Basin Way	25	2	4-in	1094 lf	2
BC No. 4-Hilton	321 W Hilton Drive	5	2	4-in	548 lf	1
BC No. 5-Big Basin Way	236 Big Basin Way	5	2	4-in	840 lf	0
CSA NO. 10 - ROLLING WOODS			**WDID 3SSO10312**			
PUMP STATION	**ADDRESS**	**HP**	**# OF PUMPS**	**FM SIZE**	**FM LENGTH**	**SPARE PUMPS**
Wood's Cove	374 Henry Cowell Drive	5	2	4-in	1881 lf	2

Pump Replacements

Brand	Model	Impeller	Hz	Hp	RPM	Volts	Amps	Serial Number	Stations
Gorman-Rupp	T 3A3-B / WW	STD.						1159059	Harbor view
									Trembly
									Diamond
Brand	**Model**	**Impeller**	**Hz**	**Hp**	**RPM**	**Volts**	**Amps**	**Serial Number**	**Stations**
Myers	E-68118	Cat.No. WGX 50 H-23-35	60	5	3450	230	18.8	BX-791978	Uplands #1
Brand	**Model**	**Impeller**	**Hz**	**Hp**	**RPM**	**Volts**	**Amps**	**Serial Number**	**Stations**
Flygt	3171.095-016	434	60	30	1760	460/230	38/75	3171.095-1280002	Dolphin
Brand	**Model**	**Impeller**	**Hz**	**Hp**	**RPM**	**Volts**	**Amps**	**Serial Number**	**Stations**
Flygt	3102.090-1063	435	60	5	1745	460/230	6.8/14	3102.090-0920135	Aptos Blue
									Arroyo Verde
									BC-5
									Briarwood
									Chaminade
									Cory
									Grove
									Los Arboles
									Pauline
									Sears Circle
									Via Palo Alto
									Woods Cove
Brand	**Model**	**Impeller**	**Hz**	**Hp**	**RPM**	**Volts**	**Amps**	**Serial Number**	**Stations**
Flygt	3102.090-0227	435	60	5	1745	460/230	6.8/14	3102.090-0920192	Aptos Blue
									Arroyo Verde
									BC-5
									Briarwood
									Chaminade
									Cory
									Grove
									Los Arboles
									Pauline
									Sears Circle
									Vial Palo Alto
									Woods Cove
Brand	**Model**	**Impeller**	**Hz**	**Hp**	**RPM**	**Volts**	**Amps**	**Serial Number**	**Stations**
Flygt	3102.090-1672	435	60	5	1745	460/230	6.8/14	3102.090-1060081	Aptos Blue
									Arroyo verde
									BC-5
									Briarwood
									Chaminade
									Cory
									Grove
									Los Arboles
									Pauline
									Sears Circle
									Via Palo Alto
									Woods Cove

Pump Replacements—Continued

Brand	Model	Impeller	Hz	Hp	RPM	Volts	Amps	Serial Number	Stations
Flygt	3068.090-7142	291	60	2.7	3310	460/230	3.8/7.5	3068.090-1680001	Behler
Brand	**Model**	**Impeller**	**Hz**	**Hp**	**RPM**	**Volts**	**Amps**	**Serial Number**	**Stations**
Barnes	XSGV3032L		60	3	3450	230		C 1444060	Place de Mer Lower/ upper
Brand	**Model**	**Impeller**	**Hz**	**Hp**	**RPM**	**Volts**	**Amps**	**Serial Number**	**Stations**
US Motors Motors and Pump	DT71		60	25	3530	208-230/460	64-58/28.2	V 077597311-0009 M0003	BC-3 Fallen Leaf
Brand	**Model**	**Impeller**	**Hz**	**Hp**	**RPM**	**Volts**	**Amps**	**Serial Number**	**Stations**
Flygt	3085.092.1448	255	60	4	3415	230	10	3085.092-104073	Cheryl
Brand	**Model**	**Impeller**	**Hz**	**Hp**	**RPM**	**Volts**	**Amps**	**Serial Number**	**Stations**
Flygt	3085.092-0206	436	60	3	1700	460/230	4.3/8.7	3085.092-0860112	Waugh
									Cory
Brand	**Model**	**Impeller**	**Hz**	**Hp**	**RPM**	**Volts**	**Amps**	**Serial Number**	**Stations**
Emerson / Cornwell	CN02		60	25	3530	208-230 /460	65-57/28.7	S 017473304-0008 M-0001	BC-3 Fallen Leaf
Brand	**Model**	**Impeller**	**Hz**	**Hp**	**RPM**	**Volts**	**Amps**	**Serial Number**	**Stations**
Flygt	3085.092-0206	436	60	3	1700	460/230	4.3/8.7	3085.092-0760141	Cory
									Waugh
									Pearson Ct
									Pine Knoll
Brand	**Model**	**Impeller**	**Hz**	**Hp**	**RPM**	**Volts**	**Amps**	**Serial Number**	**Stations**
Flygt	3152.091-0926	454	60	23	1745	240	59	9850021	Arana
Brand	**Model**	**Impeller**	**Hz**	**Hp**	**RPM**	**Volts**	**Amps**	**Serial Number**	**Stations**
Flygt	1431020900227W	462	60	5	1745	240	14	3102.090-1059021	Aptos Blue
									Arroyo Verde
									BC-5
									Briarwood
									Chaminade
									Cory
									Los Arboles
									Pauline
									Sears Circle
									Via Palo Alto
									Woods Cove
Brand	**Model**	**Impeller**	**Hz**	**Hp**	**RPM**	**Volts**	**Amps**	**Serial Number**	**Stations**
Flygt	3231/675-5052	430	60	160	1785	460	181	3231/675-0271133	Soquel

Appendix 4-E

SANTA CRUZ COUNTY SANITATION DIVISION
CONTRACTOR'S COMMITMENT

I understand that my role as a Contractor, authorized to be listed on the Approved Contractor's Road Opening List, for the Santa Cruz County Sanitation Division is a significant responsibility in regards to the safety of the travelling public (vehicles, bicyclists, and pedestrians), and the laborers working on the jobsite. I will strive to ensure that my work zones are in compliance with current OSHA and Caltrans standards.

When providing video inspections for the County's Sanitary Sewer Lateral Program, I, and my company, will:

- Provide quality videos adhering to the following:
  - ✓ Starting with a clean camera lens and if view becomes obscured, clean lens
  - ✓ Recording speed not to exceed 20 feet/minute
  - ✓ Stopping at all joints/defects/ tie-ins for at least 5 seconds
  - ✓ Attempting to video in a level orientation at the bottom of the pipe looking down center of pipe
  - ✓ Recording distances for reference
  - ✓ Well-lit and in color
  - ✓ Formatted in MP4, MPG, on MWV only (5 GB max)
  - ✓ Submitted in a timely manner

- Provide Inspection Reports adhering to the following:
  - ✓ Form is the current form
  - ✓ Form is filled out completely
  - ✓ APN is provided
  - ✓ All defects noticed are logged, paying special attention to signs of inflow and infiltration (I&I) and exfiltration
  - ✓ Sketch is completed and shows cleanout location
  - ✓ All questions are answered
  - ✓ Recommendations are provided (considering I&I)
  - ✓ Form is signed by a licensed plumber

I have attended the County's *Contractor Training for the Santa Cruz County Sanitation Division Lateral Program* on March 27, 2019 and I have read and fully agree to this *Contractor's Commitment*.

Signed _____ Date _____

Print name _____

Company_____

Address_____

Appendix 5-A

Reserved

APPENDIX 5—SUPPORTING DOCUMENTS FOR ELEMENT 5

There are no Appendix documents to accompany Element 5. However, Appendix 5 is included as a placeholder for future documents.

Appendix 6-A

Overflow Emergency Response Plan

DAVENPORT COUNTY SANITATION DISTRICT, FREEDOM COUNTY SANITATION DISTRICT, SANTA CRUZ

COUNTY SANITATION DISTRICTS AND THE COUNTY OF SANTA CRUZ

OVERFLOW EMERGENCY RESPONSE PLAN (OERP)

OERP—TABLE OF CONTENTS

Page No.

SECTION 1: INTRODUCTION AND PROJECT BACKGROUND

The Districts/CSAs are committed to the prevention of sanitary sewer overflows (SSOs). This commitment is reflected in Districts/CSAs record of proactive sewer maintenance and rapid spill response.

In 2005 and 2006, respectively, the Central Coast Regional Water Quality Control Board (RWQCB) and State Water Resource Control Board (SWRCB) established mandatory guidelines for development of Sewer System Management Plans (SSMP). This Overflow Emergency Response Plan (OERP) has been developed as required by the SSMP guidelines, and augments and enhances the Districts/CSAs ongoing efforts regarding SSO prevention and response.

On July 30, 2013 the SWRCB modified the Monitoring and Reporting Program which directly affect the SSMP and became effective on September 9, 2013; those changes, and subsequent updates, are incorporated into this OERP.

1.1 Objectives

The primary objectives of the OERP are to protect public health and the environment, satisfy regulatory agency requirements and waste discharge permit conditions, and minimize the risk of enforcement actions against Districts/CSAs by preventing SSOs, where possible, and supporting an orderly and effective response to SSOs that occur. This plan provides guidelines for Sanitation Operations staff and others working on behalf of the Districts/CSAs, for responding to, cleaning up, and reporting SSOs that may occur in the Districts/CSAs wastewater collection system. Any comments from these entities or others should be considered in future updates to this plan.

1.2 Organization of OERP Plan

This OERP is organized as follows:

- Responsibilities
- Spill Detection
- Spill Response
- Mitigation
- Public Notification
- Water Quality Sampling and Testing
- Spill Investigation and Documentation
- Spill Reporting
- Emergency Response Equipment
- Training

SECTION 2: RESPONSIBILITIES

2.1 General

The Districts/CSAs responds to all service calls, alarms, and SSO events that occur within the Districts/ CSAs collection system, including all gravity sewers, force mains, pump stations, and siphons. The District/ CSAs also evaluates and responds to Private Lateral Sewer Discharges (PLSD's); however, maintenance and repair of the private lateral, from the building to the connection to the Districts/CSAs mainline sewer, is the sole responsibility of the private property owner.

2.2 First Responder or Incident Lead

The First Responder is the person who responds to the site and is responsible for executing the required procedures of this OERP, except for specific notification and reporting that are handled by the Districts/ CSAs (LRO) Legally Responsible Officials (Operations Manager, the Assistant Operations Superintendent, or the Assistant Director of Special Services).

The First Responder is responsible for dispatching any necessary maintenance crews, and for ensuring safe work practices and operations at all events and responses.

The First Responder is "in command" until officially relieved by "senior personnel" (management or LRO)

Additional responsibilities of the First Responder are included in Section 4.

SECTION 3: SSO DETECTION

This section describes ways that spills are detected, and how these spills are communicated to the First Responder, both during and outside of normal working hours

The processes that are employed to notify Sanitation Operations staff of the occurrence of an SSO include observation by the public, receipt of an alarm, or observation by County of Santa Cruz staff during the normal course of their work and outside of normal working hours.

3.1 Public Observation

Public observation is the most common way that Sanitation Operations is notified of blockages, spills and sewage system failures. Contact information for reporting sewer spills and backups is in the phone book and on the County of Santa Cruz Public Works website. The District/CSAs also distribute other public outreach and information materials that include the 24 hour telephone number for reporting sewer problems is (831) 477-3907.

Sanitary sewer issues are also reportable through the County of Santa Cruz Public Works website: https://dpw.co.santa-cruz.ca.us/ReportProblem.aspx

Signage with emergency contact number are posted at all pump stations and exposed sewer pipes crossings. Sewer manholes that are not easily visible are marked with paddles markers and includes a emergency contact number and manhole ID.

3.2 Normal Working Hours

Sanitation Operations regular working hours are Monday through Thursday from 7:00 a.m. to 4:30 p.m. and Friday from 7:00 a.m. to 3:30 p.m., except holidays. When a report of a sewer spill or backup is made during normal work hours, a dispatcher receives the call, takes the information from the caller, and communicates it to a field crew.

3.3 After Hours

Service calls are received by the Sanitation Operations SMW assigned to dispatch, who takes the information from the caller, and communicates it to Sanitation Operations On-Call Personnel.

3.4 Districts' and County Staff Observation

Staff conducts periodic inspections of sewer system facilities as part of their routine activities. Any problems noted with the sewer system facilities are reported to the appropriate Supervisor. If the problem is causing or may cause an SSO, Staff implement the OERP procedures. If the problem noted is not an emergency a work order is created to repair the problem.

3.5 Alarms

All of the Districts/CSAs pump stations are alarmed and are monitored by a SMW at dispatch using SCADA. Alarm information is communicated to field crews during normal work hours and on call personnel after hours.

The District/CSAs also utilize SmartCover Monitoring Systems™, a remote manhole monitoring system that continuously delivers real time data of the collection systems and Mission Dialers to remotely monitor hot spots in the collection systems. The monitoring systems activate alarms and high level advisories that are set at each location and are communicated to the SMW at dispatch through email. Alarms and high level advisories are communicated to field crews during normal work hours and on call personnel after hours.

SECTION 4: SSO RESPONSE

This section describes procedures to be followed when responding to and addressing spills, including priorities; initial response; containment or bypass; and special considerations in sensitive areas.

The goal of the Districts/CSAs during normal working hours is to be on site in response to a report of an SSO in less than 30 minutes. After hours, the Districts/CSAs' policy is to be on-site within 30-45 minutes and to mitigate the SSO within 1 hour. SSOs that require outside agency reporting protocols shall be handled and reported within 2 hours as required by the State.

4.1 Spill Response Priorities

All staff involved in spill response assumes the following responsibilities:

- To follow safe work practices
- To respond promptly with the appropriate equipment
- To relieve the blockage and restore the sewer pipe flow
- To contain the spill wherever feasible
- To minimize public access to and/or contact with the spilled sewage and protect public health
- To promptly notify Districts/CSAs personnel of preliminary spill information, documentation of the event, provide field notes/logs, pictures, need for additional help, and potential impacts
- To ensure prompt notification of all appropriate District staff and other potentially affected entities. (RWQCB, County Health Departments, and City Representatives, etc.)
- To provide traffic and crowd control where necessary
- To return the spilled sewage to the sewer system
- To restore the spill area to a pre-SSO condition (or as close as possible)
- To document by photograph or video emergency response field conditions

4.2 Safety

The most important item to remember during handling of an SSO is that safe operations always take precedence over expediency or short cuts. This would include Police Assistance (Drive-by) when working at night, also, staff may call a second person for assistance.

Depending on the nature or cause of the overflow/spill, staff may need to perform mechanical or electrical repairs at a pumping station (including but not limited to), remove a mainline blockage with a Vacuum/Jetter truck or repair a damaged section of pipeline. All applicable safety rules and procedures are followed during this work to ensure worker safety.

If a spill appears to contain a hazardous material, call 9-1-1.

Typical responses may require staff to implement the following types of safety procedures:

- Lockout/Tagout of electrical or mechanical equipment for repairs
- Confined space entry procedures
- Trench safety and shoring procedures with supervisory overview of work by others
- Traffic control
- Equipment and/or vehicle operation
- Use of personal protective equipment

There may be times when it is necessary to utilize outside contractors or outside agency staff to restore flow during an overflow event. Although these responders are responsible for their own safety, it is appropriate to reinforce safety concerns, explain the order of work, and assist them with checking of safety equipment before starting the job.

4.3 SSO Response Procedures

All District staff must review and understand the following procedures in advance, and be prepared to implement necessary tasks as dictated by the nature and extent of an overflow. SSO training is performed annually and responding to an overflow is considered part of that training. Response will vary depending on the cause of overflow, which could include one or more of the following: blockage of private lateral or sewers; mainline blockage; pump station failure; capacity issues. The response crew should implement the following steps in a manner that will best prevent or minimize the volume of the overflow.

4.3.1 Initial Response

The first responder must respond to the reporting party/problem site and visually check for potential sewer stoppages or overflows.

The first responder should:

- Note arrival time at site on the Field Stoppage and Reporting Party Interview Report form. A sample report is included as Appendix 6-C.
- Verify the existence of a sewer system spill or backup. Use the Ammonia test kit if it is not obvious.
- Identify and assess the affected area and extent of spill.
- Contact reporting party.
- Notify the Public Works Supervisor (working hours) or the On Call Supervisor (after hours):
    i. If the spill appears to be large, flowing to a storm drain, in a sensitive area, or there is doubt regarding the extent, impact, or how to proceed.
    ii. If additional help is needed.
- Document conditions upon arrival with photographs and/or videos.

4.3.2 SSO Documentation

The SMW at Dispatch documents the details on the Districts/CSAs "Receiving a Sewer Service Call Report," included in Appendix 6-B, to gather necessary information and to indicate all actions implemented to assess and address the SSO.

The First Responder request details on the Overflow Incident Report and completes critical information and includes the following:

- SMW at Dispatch uses "Receiving a Sewer Service Call Report."
- Name of the property owner or the person who reported the overflow, including address and phone number, and location of the overflow (confirm that overflow is in the District's service area).
- Time overflow was detected and any possible exposure hazards.

First Responder details using the "Field Stoppage Report and Reporting Party Interview Report."

- Record arrival time and cause.
- Record names of persons on site (and respective organizations, if applicable) at initial response and throughout incident response.
- Record final cleanup efforts and note overflow end time.
- Record time when leaving site.
- Record names and times of others contacted during response efforts. Take necessary photographs during each phase of the mitigation process.

4.3.3 SSO Response Actions

Critical activities to complete in response to an SSO include the following:

- Verify the existence of an SSO or backup, and determine the source of the overflow (i.e. mainline or private lateral).
- Notify the Environmental Compliance Unit immediately if any of the following occur (See Spill Notification and Appendix 6-B, Receiving a Sewer Service Call Report):
  - ⇒ Any SSO flowing into the storm drain
  - ⇒ SSO of 1,000 gallons or greater in the street
  - ⇒ Identify if the spill is within close proximity to a sensitive area (i.e., surface water body or public area, such as a school).
- Call 9-1-1 if the spill appears to be a hazardous liquid. District responders should not participate in hazardous material spill cleanups.
- Call for District staff assistance, if required. Secure the area by placing cones or barricades around the site (Refer to the Employee Phone Roster for after-hour assistance).
- Block all openings to storm drains to prevent sewage entry or install plugs to contain the SSO within the drainage box. If flow threatens to enter receiving waters, follow requirements of Section 4.6.
- Perform a quick assessment of whether containment would be advantageous for the given spill. If it appears feasible to contain the spill without excessive delay in beginning steps to restore flow, the First Responder should take immediate action as described in Section 4.5.
- Work diligently to relieve the blockage. Record all work performed to mitigate the overflow or remove the source of overflow.
- Initiate bypass or “pump around” concurrently with continued work to remove blockage if, after 15 minutes, it appears that flow will not be quickly restored through cleaning or emergency pipe repair.
- After the blockage is removed and/or overflow otherwise resolved, make every attempt to recover the spilled and/or contained sewage.
- Select the estimation method for calculating the overflow volume by use of; Eyeball Estimation Method, Drop Bucket Estimation, Surface Area Formula, # of homes upstream of the blockage, SSCSC Manhole Overflow Gauge Method, combined with knowledge of start and end times. Every effort must be documented to determine the start time of the SSO. This may be obtained by interviewing the person who identified and reported the SSO, by interviewing the residents that live near the spill site, or by site conditions, i.e., visual observations, soil saturation depth vs. soil type, determination on estimated time upstream of the blockage for the system to reach overflow stage etc. Estimation methods are presented in Appendix 6-F.

4.4 Private Lateral Sewer Discharge (PLSDs)

Although the Sanitation Operations has a policy of responding to and assisting with the mitigation of every overflow, whether from a public or private system, the property owner is ultimately responsible for overflows that originate from a PLSD's.

- In the case of an overflow from a private lateral or sewer due to a blockage or failure in the private portion of the lateral or sewer, notify the owner or property manager of their responsibility for corrective action and consequences.
- Intervene with private efforts to mitigate only when there is immediate danger to public health or the environment. Sanitation Operations response should sufficiently mitigate the danger to public health or to the environment.
- Log all hours worked for proper billing to the property owner.
- The Environmental Programs Coordinator will contact the Santa Cruz County Department of Environmental Health and appropriate representative if chronic overflows from the same private lateral location occur.

4.5 Spill Containment or Bypass Measures

Spill containment or bypass measures may be appropriate as a first response, after it is apparent that the blockage cannot be easily or immediately cleared, and before a blockage is cleared and flow restored. Spill containment and bypass measures may involve the following:

- Determine the immediate destination of the overflowing sewage, using GIS storm drainage maps for isolating, containment, and recovery of spill prior to outfall to waterways.
- Review sewer maps for temporary upstream flow diversion bypassing.
- Plug storm drains where necessary using air plugs, sandbags, and/or plastic to contain the spill, whenever appropriate and feasible.
- Contain/divert spill as required by building a small berm to change direction of flow back to sewer. Use mats to absorb the spill from responding vehicles, dirt and/or sandbags, then recover the overflow using a vacuum truck.
- If flow diversion can be achieved with bypass pumping, install and implement bypass pumping equipment.
- If overflow cannot be diverted or bypassed back into the sewer system, dam/dike or sandbag the spill to provide containment where feasible.

4.6 Response to Flows in Sensitive Areas or Near Receiving Waters

In the event of an overflow is located near a sensitive area or near receiving waters or storm drains that lead to these waters, or for a wet weather overflow caused by insufficient pipe capacity (rather than a blockage), the First Responder will take the following steps in the order shown. These steps should occur concurrently with any continued efforts to resolve the overflow:

- Secure the area by placing cones or barricades around the site.
- Contact the Environmental Compliance Unit immediately as required by the process outlined in paragraph 4.3.1. Inform him/her of the situation; notify him/her of any property damage, public health concerns, and environmental concerns. The Environmental Compliance Unit will notify the required agencies as applicable.
- For SSOs greater than 1,000 gallons, any flow resulting in fish kill, or any flow posing imminent or substantial danger to human health or entering receiving waters, the Environmental Compliance Unit shall contact the California Emergency Management Agency (Cal-OES) and post the required signage at all access points to the affected area.
- The posted signs may not be removed until cleared to do so by the Environmental Compliance Unit. In addition, staff shall follow public notification guidelines provided in Section 6.
- Block all openings to storm drains to prevent further entry, and block appropriate downstream locations using drain blockers, sand bags, or other dams to minimize or stop flows from entering receiving waters. Make every effort to return the contained spill back to the sanitary sewer system.
- The Environmental Compliance Unit or their designee will take the necessary Grab-Samples of receiving waters, complete the “Chain of Custody” (COC) Documentation and submit for laboratory analysis. See Section 7 for sampling requirements.

SECTION 5 MITIGATION

This section addresses recovery and clean up after flow has been restored.

5.1 SSO Recovery and Clean Up Procedures

After addressing the cause of an SSO and restoring flow, complete the following:

- Post sign(s) warning the public, with the wording "Warning Contaminated Unsafe For Swimming or Water Contact" at all access points to the affected area and/or as directed by the Santa Cruz County Environmental Health Department policy for Warning Signage, included in Appendix 6-H (Record the location of each posted sign by address or GPS coordinates, so that when approval is given for removal all of the signage is removed).
- Distribute "Sewer Overflow Alert Door Hanger" to all affected properties. This is contained in Appendix 11-A.
- Recover Spilled Sewage. Using proper containment, dilute, wash down with de- chlorinated water, pump, or vacuum spilled sewage and discharge back into the sanitary sewer system. If the spilled sewage cannot be immediately returned to the sanitary sewer system (i.e., it is trapped in a low area or storm drain), then vacuum spilled sewage into a combination unit or pump it back into a sanitary sewer manhole.
- Clean Up and Disinfect. Implement the clean-up and disinfection procedures outlined in Section 5.2 to reduce the potential for human health issues and adverse environmental impacts that may be associated with a SSO event. These procedures are most effective in dry weather conditions and should be modified as required for wet weather conditions.

5.2 Cleaning Hard Surface Areas (Exterior)

This section addresses clean-up activities for overflows caused by backups in the District mainline sewer that cause damage to hard exterior surfaces. Addressing damage caused by private lateral blockages is the responsibility of property owner.

- In exterior hard surface areas, collect all signs of sewage solids and sewage-related materials either by hand (using appropriate PPE) or with the use of rakes and brooms.
- Using proper containment and protection of storm drains, flush the area with de-chlorinated water in the amount of three times the overflow volume, and then use a vacuum truck to return the SSO and wash water flows to the sanitary sewer.
- Allow area to dry. Inspect area for any remaining signs of sewage contamination. Repeat the process if an additional cleaning is warranted.

5.3 Cleaning Landscaped and Unimproved Natural Vegetation

Clean-up of landscaped and unimproved vegetated areas should follow the steps in Section 5.2, but does not require disinfection. Remove contaminated soil and replace with new soil. Allow area to dry.

5.4 Cleaning Natural Waterways

The California Department of Fish and Wildlife should be notified in the event an SSO impacts any riparian habitat. The California Department of Fish and Wildlife will provide the professional guidance needed to effectively clean-up spills that occur in these sensitive environments.

Clean-up should proceed quickly in order to minimize negative impact.

5.5 Wet Weather Modifications

Omit flushing and sampling during heavy storm events with heavy runoff where flushing is not required and sampling would not provide meaningful results.

5.6 Cleaning Private Property (Interior)

This section addresses clean-up activities for overflows caused by backups in the Districts/CSAs mainline sewer that cause interior property damage. Addressing interior damage caused by private lateral blockages is the responsibility of private property owner.

- Take detailed photographs of affected areas, and uninfected areas.
- Communicate with the owner or tenant that they should avoid contact with the sewage and inform them that they should contact a cleaning service.
- Provide owner or tenant with a Districts/CSAs claim form. Advise owner or tenant to contact the Environmental Compliance Unit for further assistance or to answer any questions regarding damage claims.

SECTION 6: PUBLIC NOTIFICATION

Post signs and place barricades to keep vehicles and pedestrians away from contact with spilled sewage. Do not remove the signs until directed by the Sanitation Operations Manager or the Assistant Public Works Superintendent. A sample warning sign is included as Appendix 6-H.

Creeks, streams and beaches that have been contaminated as a result of an SSO should be posted at visible access locations until the risk of contamination has subsided to acceptable background levels. The warning signs, once posted, should be checked every day to ensure that they are still in place.

In the event that an overflow occurs at night, the location should be inspected first thing the following day. The field crew should look for any signs of sewage solids and sewage-related material that may warrant additional clean-up activities.

Major spills may warrant broader public notice. The District Engineer will authorize contact with local media when significant areas may have been contaminated by sewage.

SECTION 7: WATER QUALITY SAMPLING AND TESTING

Water quality sampling and testing is required to determine the extent and impact of the SSO whenever there is an SSO that either enters a surface water or is discharged to a surface water and poses a risk to public health or the environment. If an SSO poses an imminent and substantial endangerment to public health or the environment that cannot be fully mitigated by the current SOPs, the Districts/CSAs shall consult the County of Santa Cruz Environmental Health Department to determine the effects of the SSO on the environment. In addition, procedures outlined in the WQMP are attached in Appendix 6.

In any area in which the County cannot confirm that all of the infectious materials from an SSO have been removed or mitigated, the Districts/CSAs shall post appropriate public notification signs and place barricades to keep vehicle and pedestrians away from contact with spilled sewage. For example, signs will be posted at creeks and streams that have been contaminated as a result of an SSO and at visible access locations until the risk of exposure has subsided to acceptable background levels. All signs and secured areas shall be photographed or videoed as part of the documentation of the emergency response. Additionally, health advisory information will be posted on the County's Environmental Health/Water Resources, Beach and Water Body Advisories page: https://scceh.com/NewHome/Programs/WaterResources/SurfaceWaterStewardship/WaterQualityMonitoring/BeachWaterBodyAdvisories.aspx

Warning signs should be checked every day to ensure that they are still in place. Major spills warrant broader public notice. Major spills may warrant broader public notice. The District Engineer will authorize contact with local media when significant areas may have been contaminated by sewage.

The signs and other public notices will not be removed until the Santa Cruz County Environmental Health Department has determined there is no further risk to public health and the environment.

Water Quality Sampling

Water quality sampling and testing is required within 48 hours for Category 1 spills greater than or equal to 50,000 gallons.

The first responder to the SSO should collect the samples or notify the Environmental Compliance Unit during regular working hours or the On-call employee after hours to collect samples. Samples should be collected as soon as possible after the discovery of the SSO event. The Santa Cruz County Environmental Health Water Quality Program should be notified of the spill and potential need to sample or run analyses in their laboratory. They can be reached at (831) 454-4624 or via email: WaterLab@santacruzcounty.us. Health advisory information will be posted on the Santa Cruz County Environmental Health/Water Resources, Beach and Water Body Advisories page: https://scceh.com/NewHome/Programs/WaterResources/SurfaceWaterStewardship/WaterQualityMonitoring/BeachWaterBodyAdvisories.aspx

The water quality samples should be collected, where feasible, from upstream of the spill, from the spill area, and downstream of the spill in flowing water. *Employees will not collect samples if it is not safe to do so.*

The water quality analyses shall include (total and fecal coliform) indicator bacteria (total coliforms and E. coli) along with ammonia and other geochemical parameters. Additional samples will be taken to determine when posting of warning signs can be discontinued. Water quality samples will be collected by the Environmental Compliance Unit, Sanitation Operations staff and/or the County Environmental Health Department staff.

Samples will be taken as follows:

- Sample far enough upstream of the SSO's point of entry into the surface water as to be free of contaminants from the SSO. Typically, 100-feet is sufficient, but this may vary on circumstances of the spill;
- Point of SSO contact in the water body; and
- Sample 100 feet downstream of point of contact or to the furthest extent that the sewage has flowed since inception of the contact with the creek or flowing water body. Multiple samples should be taken every 100 feet to the final spill distance.
- Proper protective equipment should be used including gloves and eye protection.
- Bacteria samples will be collected in three sterile 120 mL containers located in spill kits. Samples must be analyzed within 6 hours. Larger volume samples can be collected if there is a need for archiving the samples for molecular testing.
- Field Ammonia samples will be collected in accordance with the ammonia test strip directions. Ammonia and geochemical samples that will be analyzed in a laboratory will be collected in 250 mL or 500 mL clean and labelled plastic containers.
- Samples should be labeled with location, date and time taken and coordinates (latitude, longitude). The containers will be labeled Point (P) Upstream (U/S) and Downstream (D/S). If multiple samples are taken at the same point, label the containers with the sample number (D/S#1). The person taking the sample shall initiate and complete the Chain of Custody form for all samples taken.
- Samples should be taken to the certified lab immediately or brought back to the sanitation operations facility and stored in the designated sample refrigerator until they can be taken to a certified lab. The 6 hour sample hold time must be observed.
- Photographs or videos will be taken to photo document the event. Responding crew should take enough pictures to cover the entire spill, damaged infrastructure and spill path. They should also take pictures of all posted warning signs.

The certified lab will analyze the sample results to determine the nature and impact of the discharge. The analyses should include ammonia and bacterial indicators such as total and fecal coliforms or E. coli (Escherichia coli). In cases where marine waters are impacted, test should be run for Enterococci**.** Samples should be taken as soon as possible but no longer than 48 hours of the Districts/CSAs becoming aware of the SSO. Appendix 6-G, Figure 6.2 is a sampling flow chart.

Additional samples will be taken to determine when warning signs can be removed. If sewage has reached a creek or flowing stream, samples should be taken along the flowing creek or stream until clear samples are found or until the flow is dammed and sewage vacuumed. The Santa Cruz County Environmental Health Department should review the analyses and follow-up analyses.

When sampling is not possible due to safety and/or weather conditions, employees are required to document the water body affected and use drainage maps to determine additional downstream discharge points and possible sampling locations. Samples will be collected once it is safe to do so.

SECTION 8: SSO CATEGORIES AND SPILL REPORTING

The California State Water Resources Control Board has established guidelines for classifying and reporting SSOs. Reporting and documentation requirements vary based on category of SSO.

There are three categories of SSOs as defined by the SWRCB[1]: in the MRP effective September 9, 2013:

CATEGORY 1

Discharges of untreated or partially treated wastewater of any volume resulting from an enrollee's sanitary sewer system failure or flow condition that:

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

CATEGORY 2

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

CATEGORY 3

All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.

Private Lateral Sewage Discharge (PLSD)

Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the enrollee's sanitary sewer system or from other private sewer assets. PLSDs that the enrollee becomes aware of may be voluntarily reported to the California Integrated Water Quality System Online SSO Database.

[1]***State Water Resources Control Board Monitoring and Reporting Program No. 2006·0003DWQ (as revised by Order No. WQ 2013-0058-EXEC),*** California State Water Resources Control Board, July 26, 2016.

SSO Reporting Procedures

All SSOs should be thoroughly investigated and documented for use in managing the sewer system and meeting established notification and reporting requirements. The procedures for investigating and documenting SSOs are:

Internal SSO Reporting Procedures:

CATEGORY 1

The responding crew will immediately notify the Public Works Supervisor (working hours) and Sanitation Operations Dispatch. Dispatch will call the On Call Lead (after hours). The Public Works Supervisor or On Call Lead will notify the Assistant Public Works Superintendent or the Sanitation Operations Manager.

If necessary, the Public Works Supervisor (working hours) or the On Call Lead (after hours) will meet with field crew(s) at the site of the SSO event to assess the situation and to document the conditions with photos and/or videos. The field crew will complete the Field Stoppage Report and Reporting Party Interview form and add details in a Lucity™ work order and overflow record (if possible). If a work order has not been created, the field crew will create one. The field report and Lucity™ records are reviewed and approved by the Public Works Supervisor and the Assistant Public Works Superintendent. A post spill debriefing meeting with all Staff involved in the response will follow the next day to go over the details of the event.

In the event of a very large overflow or an overflow in a sensitive area, the Sanitation Operations Manager will notify the Assistant District Engineer. The Assistant District Engineer may notify the District Engineer.

CATEGORY 2

The field crew will immediately notify the Public Works Supervisor (working hours) and Sanitation Operations Dispatch. The responding crew will complete a Field Stoppage Report form and add details in a Lucity™ work order and overflow record (if possible). If a work order has not been created, the field crew will create one. The field report and Lucity™ records are reviewed and approved by the Public Works Supervisor and the Assistant Public Works Superintendent.

CATEGORY 3

The field crew will complete the Field Stoppage Report and Reporting Party Interview form and add details in a Lucity™ work order and Lucity™ overflow record. If a work order has not been created, the field crew will create one. The field report and Lucity™ records are reviewed and approved by the Public Works Supervisor and the Assistance Public Works Superintendent.

External SSO Reporting Procedures

The California Integrated Water Quality System electronic reporting system should be used for reporting SSO information to the SWRCB whenever possible. A flow chart is shown in Figure 6.1 showing the external reporting response requirements based on the type of SSO.

CATEGORY 1 SSOs That Reach Waters of the State

If a Category 1 SSO that is greater than or equal to 1,000 gallons is discharged to surface water or spilled in a location where it probably will be discharged to surface water then the following reporting requirements apply:

- Within two hours of notification of the spill event the Public Works Supervisor or On Call Lead or dispatcher will:

  i. Notify OES (and obtain spill number for use in other reports); and

- Document all calls and all information received.
- Within 3 business days of the spill event, the Assistant Public Works Superintendent or Sanitation Operations Manager or other data submitter will submit the initial report in the CIWQS system.
- Within 15 calendar days of the conclusion of SSO response and remediation, the Assistant Public Works Superintendent or Sanitation Operations Manager or other designated LRO must certify the SSO in the CIWQS system.
- The Assistant Public Works Superintendent or Sanitation Operations Manager or other LRO will attach additional information to the certified report, in the form of an attachment, as needed at any time.

The Districts/CSAs must submit a technical report in the CIWQS database within 45 days after the end of the Category 1 SSO in which 50,000 gallons or greater are spilled to surface waters.

CATEGORY 2

Submit draft report on CIWQS within 3 business days of becoming aware of the SSO and certify within 15 calendar days of the SSO end date.

CATEGORY 3

Submit a certified report within 30 calendar days of the end of the month in which the SSO occurred.

Private Lateral Sewage Discharges

The Assistant Superintendent or Sanitation Operations Manager may report private lateral SSOs at the Districts/CSAs discretion, specifying that the sewage discharge occurred and was caused by a private lateral and identifying the responsible party (other than the Districts' or the County), if known.

No Spill Certification (Monthly)

If there are no SSOs during a calendar month, then the LRO will submit an electronic certified report in CIWQS that Districts/CSAs did not have any SSOs. The Assistant Public Works Superintendent or the Sanitation Operations Manager or other LRO will certify the report within 30 calendar days after the end of each calendar month.

Annual Collection System Questionnaire

The Assistant Public Works Superintendent shall annually update and submit a certified Collection System Questionnaire in the CIWQS system.

CIWQS Not Available

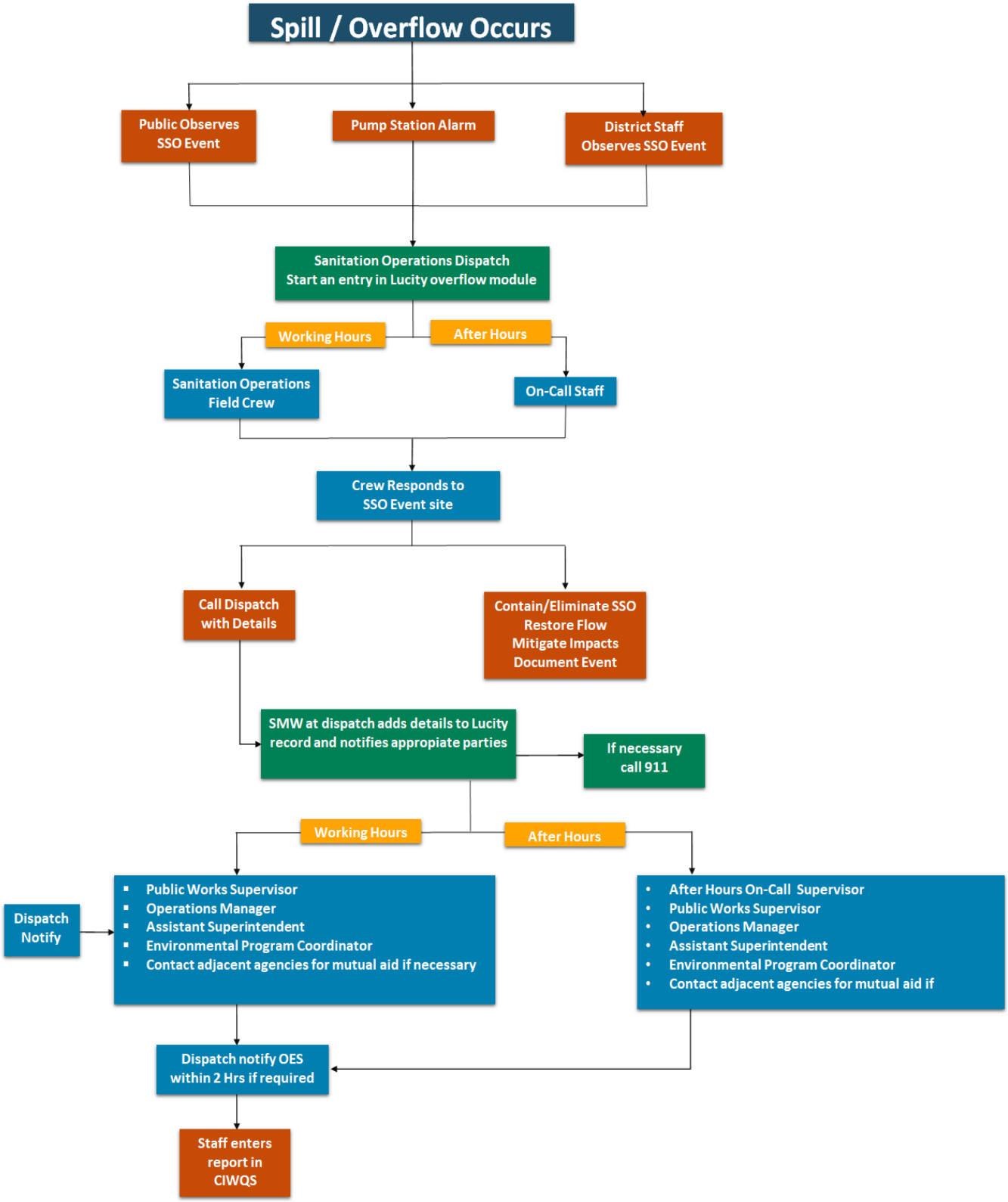
In the event that CIWQS is not available, the Assistant Public Works Superintendent or other LRO will fax all required information to the RWQCB office in accordance with the time schedules identified above. In such event, the LRO will submit the appropriate reports to the CIWQS system as soon as it becomes available. The RWQCB fax number is (805) 543-0397.

Additionally, for Category 1 spills greater than 50,000 gallons a SSO Technical Report is required and must be submitted within 45 calendar days of the SSO end date. This report shall include at a minimum the following:

Causes and Circumstances of the SSO

a. Complete and detailed explanation of how and when the SSO was discovered.
b. Diagram showing the SSO failure point, appearance point(s), and final destination(s).
c. Detailed description of the methodology employed and available data used to calculate the volume of the SSO and, if applicable, the SSO volume recovered.
d. Detailed description of the cause(s) of the SSO.
e. Copies of original field crew records used to document the SSO.
f. Historical maintenance records for the failure location.
g. Enrollee's Response to SSO:
    i. Chronological narrative description of all actions taken by enrollee to terminate the spill.
    ii. Explanation of how the SSMP Overflow Emergency Response plan was implemented to respond to and mitigate the SSO.
    iii. Final corrective action(s) completed and/or planned to be completed, including a schedule for actions not yet completed.

Figure 6.1 Notification and Response Procedure Flow Chart



Causes and Circumstances of the SSO continued:

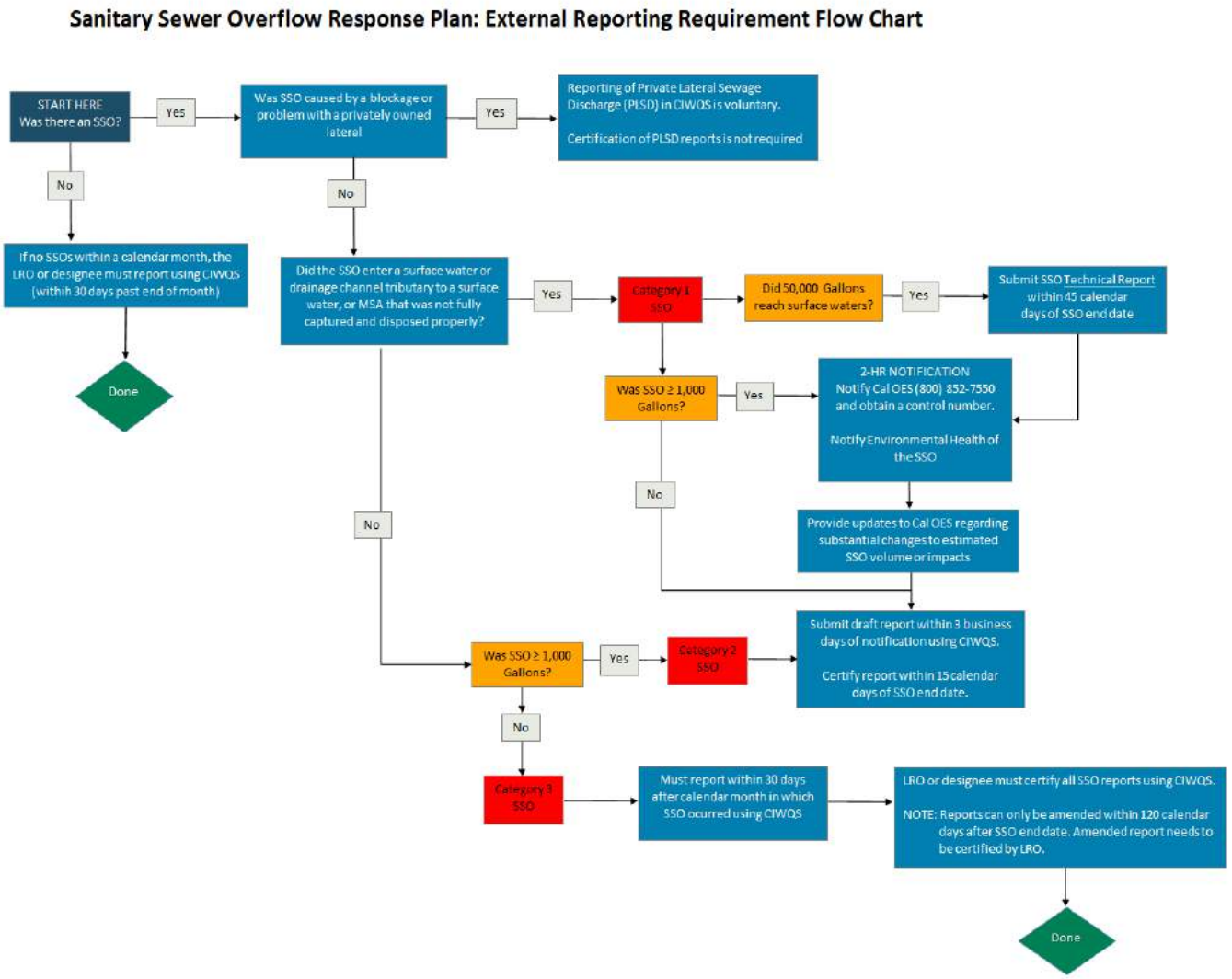
h. Water Quality Monitoring:

i. Description of all water quality sampling activities conducted including analytical results and evaluation of the results.

ii. Detailed location map illustrating all water quality sampling points.

Figure 6.2

Sanitary Sewer Overflow Response Plan: External Reporting Requirement Flow Chart



REPORTING AND CERTIFICATION CHECKLIST
Category 1 SSOs that reach Surface Waters
2-Hour Notification: • OES must be notified within two hours of a discharge of sewage greater than 1,000 gallons to a surface water or drainage channel (that is not fully captured and returned to sewer) Within 3 business days of Notification: • As a Category 1 SSO, it must be reported to SWRCB using CIWQS Within 15 Calendar days of SSO end date: • Must be certified by LRO using CIWQS Within 45 Calendar days of SSO end date: • If SSO was greater than 50,000 galloons, submit SSO Technical Report
Category 2 SSOs (≥1,000 gallons, no Property Damage or Surface Waters)
Within 3 business days of notification: • Must be reported to SWRCB using CIWQS Within 15 Calendar days of SSO end date: • Must be certified by LRO using CIWQS
Category 3 SSOs (≤1,000 gallons, no Property Damage or Surface Waters)
Within 30 days after end of calendar month with SSO event: • Must be reported and certified by LRO using CIWQS
Negative Reporting (No SSOs in Month)
Within 30 days past the end of the month: • Must be reported by LRO using CIWQS
Private Lateral SSOs (Reporting is Optional)
• If reporting is desired, report to SWRCB as "Private Lateral" SSO and Identify responsible party, if known, using CIWQS • Must be Certified by LRO using CIWQS
TWO-HOUR NOTIFICATION/24-HOUR CERTIFICATION & SWRCB
1. OES (800) 852-7550, Make sure you ask for an "OES Control Number" (for RWQCB) 2. County Health Officer or Environmental Health Office • Phone Number: (831) 454-2022 • After Hours: (831) 471-1175
CALIFORNIA INTEGRATED WATER QUALITY SYSTEMS (CIWQS)
SWRCB Reporting Timeframes Depend on the Size and Final Destination of the SSO: • CIWQS must be used for reporting if the website is available ⇒ http://ciwqs.waterboards.ca.gov ⇒ User Name: ⇒ Password: ⇒ Waste Discharge Identification Number (WDID): • RWQCB Fax is only for use if the CIWQS website is down

SECTION 9: SSO DOCUMENTATION

9.1 Internal SSO Documentation

CATEGORY 1, 2 and 3

The SMW at dispatch that receives the initial call will create a record in the Lucity™ sewer overflow module and a work order.

The first responder will complete the work order and the field stoppage report and provide copies to the Public Works Supervisor or On Call Supervisor. They will also update the sewer overflow module and work order.

The Public Works Assistant Superintendent will create and maintain a separate file for each individual SSO. Most of the information will be captured in the Lucity™ overflow module. The file should include the following information:

- Initial Sewer Service Call Report.
- Field Stoppage Report and Reporting Party information form.
- All CIWQS certified reports and emails verifying certification.
- All incident correspondence, field notes and customer interviews.
- Volume estimate calculations of spilled and recovered volumes.
- Failure analysis investigation results/debriefing meeting notes.
- Documentation of all changes to policies and procedures from debrief or failure analysis.
- Appropriate maps showing the spill location and sampling and signage locations.
- Photographs and videos of spill location.
- Electronic monitoring records relied upon.
- Water quality sampling and test results, if applicable.
- Claims handling forms provided to customers.

Private Lateral SSOs

The SMW at dispatch that receives the initial call will create a record in the Lucity™ sewer overflow module and a work order.

The first responder will complete the stoppage report and provide copies to the Public Works Supervisor or On Call Supervisor. They will also update the sewer overflow module.

A separate file will be prepared for each individual private lateral SSO, at the Public Works Assistant Superintendent's discretion. The file should include any relevant information from the Lucity™ overflow module and information from the above list. The Sanitation Operations Manager or The Assistant Public Works Superintendent shall determine whether to submit the PLSD to the CIWQS system.

9.2 External SSO Record Keeping Requirements

Individual SSO records must be maintained for all Districts/CSAs for five years from the date of the SSO. This period may be extended when requested by the SWRCB staff or the RWQCB Executive Officer.

All records shall be made available for review upon SWRCB or RWQCB staffs' request.

Records shall be retained for all SSOs, including but not limited to the following when applicable:

- CIWQS Certified report, (Is available online);
- All original recordings for continuous monitoring instrumentation;
- Service call records and complaint logs of calls received by Districts/CSAs;
- SSO calls;
- SSO records;
- Steps that have been and will be taken to prevent the SSO from recurring and a schedule to implement those steps;
- Work orders, work completed, and any other maintenance records from the previous five years which are associated with responses and investigations of system problems related to SSOs;
- A list and description of complaints from customers or others from the previous five years; and
- Documentation of performance and implementation measures for the previous five years.

If water quality samples are required by an environmental or health regulatory agency or State law or if voluntary monitoring is conducted by Districts/CSAs or its agent(s) as a result of any SSO, records of monitoring information shall include:

- The date, exact place, and time of sampling or measurements;
- The individual(s) who performed the sampling or measurements;
- The date(s) analyses were performed;
- The individual(s) who performed the analyses;
- The analytical technique or method used; and
- The results of such analyses.

9.3 Post SSO Event Debriefing

Every SSO event is an opportunity to evaluate the response and reporting procedures. Each SSO event is unique, with its own elements and challenges including volume, cause, location, terrain, and other parameters.

As soon as possible after major SSO events, all of the participants should meet to review the procedures used and to discuss what worked and where improvements could be made in responding to and mitigating future SSO events. The results of the debriefing should be recorded and tracked in the Lucity™ sewer overflow record to ensure the action items are completed.

9.4 Failure Analysis Investigation

The objective of the failure analysis investigation is to determine the "root cause" of the SSO and to identify corrective action(s) needed that will reduce or eliminate future potential for the SSO to recur.

The investigation should include reviewing all relevant data to determine appropriate corrective action(s) for the line segment. The investigation should include:

- Reviewing the Field Stoppage Report and Reporting Party Interview form, Appendix 6-C and all other documentation developed for the incident.
- Reviewing past maintenance records;
- Reviewing available photographs and/or videos;
- Conducting a CCTV inspection to determine the condition of the line segment immediately following the SSO and reviewing the video and logs;
- Meeting with staff that responded to the spill;
- All sampling and monitoring results from the incident; and
- Review of Districts/CSAs SOPs and determination of any change resulting from the analysis.

The product of the failure analysis investigation should be the determination of the root cause and the identification of corrective actions. The post spill failure analysis form (Appendix 6-E) should be used to document the investigation.

SECTION 10: EMERGENCY RESPONSE EQUIPMENT

This section provides information on the training that is required to support this Overflow Emergency Response Plan.

Closed Circuit Television (CCTV) Inspection Unit/GoPro: The Districts/CSAs CCTV Inspection Unit is required to evaluate the cause of overflow in lines that have not had issues in the past or to confirm the cause of overflow in lines on accelerated maintenance schedules.

Tablet/Smart Phone: A tablet or Smart Phone is required to record the conditions upon arrival, during cleanup, and upon departure (All Activities).

Emergency Response Truck: The Districts/CSAs truck with emergency response equipment obtained from the corporation yard may be required for effective overflow response. Necessary equipment may include barriers, delineators, warning tape and signboards; plugs and drain inlets mats; sandbags for containment or flow control; lights (for night work); small generator; and other small tools.

Portable Generators: A portable generator and spare pump are available to provide backup power and bypass for the Districts/CSAs pump stations in the event that a onsite standby generator should fail.

Portable Pumps and Hoses: Portable pumps and hoses are available to pump around line failures and lift station failures when required, and to pump spilled sewage and/or contaminated wash water back into the sewer system. For large pump-around requirements, outside contractor assistance may be required.

Spare Pipes and Clamps: Spare pipe, clamps, and other repair equipment are available for emergency pipeline repairs. The Districts/CSAs also maintains a list of emergency contractor contact numbers for larger or complex repairs.

Hydro-Jet Truck: A hyro-jet truck is available to clear root blockages in gravity sewers.

Combo/Vacuum Truck: A combo/vacuum truck is available to clear blockages in gravity sewers and to vacuum up spilled sewage and wash-down water.

Vacuum Truck: A vacuum truck is available to clean up spills from SSOs

Communications: Radios, cell phones and this OERP are available to facilitate proper communication during emergency response activities.

SECTION 11: TRAINING

This section provides information on the training that is required to support this Overflow Emergency Response Plan and the Water Quality Monitoring Plan.

Initial and Annual Refresher Training

All Sanitation Operations personnel who may have a role in responding to, reporting, and/or mitigating a sewer system overflow should receive regular training and field exercises on the contents of this Plan. All new employees should receive training before they are placed in a position where they may have to respond. Current employees should receive annual refresher training on these plans and the procedures to be followed.

SSO Response Drills

Periodic training drills should be held to ensure that employees are up-to-date on the procedures, the equipment is in working order, and the required materials are readily available. The training drills should cover scenarios typically observed during sewer-related emergencies (e.g. mainline blockage, mainline failure, force main failure, pump station failure, and lateral blockage). These drills will include practical volume estimation of both sewer spills and recovered volumes and start time evaluation techniques. The results and the observations during the drills will be recorded and follow-up action items will be tracked to ensure completion.

SSO Training Record Keeping

Records should be kept of all training that is provided in support of these plans. The records for all scheduled training courses and for each overflow emergency response training event and must include date, time, place, training content and description, name of trainer(s), and names of attendees.

Contractor's Working on Districts and County Sewer Facilities

All contractors working on the Districts/CSAs sewer facilities will be required to develop a project-specific OERP that is subject to Districts/CSAs approval. All contractor personnel will be required to receive training.

Appendix 6-B

Overflow Emergency Response Plan Supporting Documents

County of Santa Cruz

Receiving a Sewer Service Call Report

Dispatch staff receiving the report: _____

Date of Report: _____ Time of Report: _____

☐ What is the R/P's name? _____

☐ What is the R/P's phone number? _____

☐ What is the R/P's address? _____

☐ What is the address or location of the incident? _____

Type of incident: ☐ Sinkhole ☐ Odor ☐ Stoppage/Spill ☐ Manhole Issue ☐ Other

☐ R/P Description of the problem: _____

_____

_____

_____

☐ When did the R/P first notice the incident? _____

If overflow, is it still active? If not, what time did flow stop? _____

☐ If the problem is Sewer Odor only, where the smell is coming from per R/P: _____

_____

Overflow Instructions:

☐ *Communicate that if the blockage is in the Sewer Main Line it will be promptly cleared,* ***but that County staff is not permitted to work on blockages in property owner/resident's private lateral line****.*

☐ *Show concern and empathy for the R/P****, but do not admit or deny liability****.*

☐ *Instruct the R/P to stay away from affected area. Including family members and pets.*

If Overflow is in private property or inside home:

☐ *Instruct R/P to place towels, rags, etc. between areas that have been affected and areas that have not been affected.*

☐ *Instruct R/P to turn off all plumbing appliances. (Laundry, shower, sinks, etc.)*

☐ *Instruct the R/P to not move any contaminated items (let professionals do this).*

☐ *If possible, ask the R/P to take photographs of the damage.*

Crew Notified: _____ All Crew Responded: _____

Work Order #: _____ Overflow Report #: _____

☐ Email DPW Sanitation Sups Email Group all report numbers and info.

Please initial as completed: ☐ Enter info into Lucity ☐ Turn in to Supervisor ☐ Reviewed by Line Crew Supervisor

Additional Info for Lucity (asset info, work done, etc.):

Last updated by KH 09/30/2020

SPILL NOTIFICATION

All spills that are less than 1000 gallons

Regardless of it reaching a waterway

OPEN LUCITY AND CREATE WORK ORDER AND OVERFLOW MODULE

(Does not need to be reported to CAL OES)

Document clearly in the diary details of original report including R/P, address and phone number.

- Clearly document time of actions taken (i.e. notification, arrival, stoppage broken, and departure), size of spill, cleanup involved, if waterway was reached, etc.
- Email DPW Sanitation supervisors brief description of spill and Lucity W.O. #
- Fill in all times and information on the On Call Tracking Sheet

SPILL NOTIFICATION

Notify within 2 hours of Spill

Spills that are 1000 gallons or above discharged to surface water or in a location where it will be discharged to surface water.

OPEN LUCITY AND CREATE WORK ORDER AND OVERFLOW MODULE

- CAL O.E.S.—Get Control # (800)852-7550
- Environmental Health* (831)454-2022

If original reported info changes, call CAL OES with revised info

*If Environmental Health is needed onsite but is not responding, notify NetCom at (831) 471-1175 for assistance in contacting someone from E.H.

- Document clearly in the diary details of original report including R/P, address and phone number.
- Clearly document time of actions taken (i.e. notification, arrival, stoppage broken, and departure), size of spill, cleanup involved, if waterway was reached, etc.
- Email DPW Sanitation supervisors brief description of spill and Lucity W.O. #
- Fill in all times and information on the On Call Tracking Sheet

SPILL REPORTING AGENCIES

BOULDER CREEK AREA

IMMEDIATELY NOTIFY:

SANTA CRUZ CITY WATER TREATMENT PLANT

(831) 420-5457

(Sewer Spills may affect Santa Cruz City Water intake at San Lorenzo River)

Spills that are less than 1000 gallons

Regardless of it reaching a waterway

SEE SPILL NOTIFICATION PAGE 1

Appendix 6-C

FIELD STOPPAGE REPORT
AND
REPORTING PARTY INTERVIEW REPORT

Date:_____
Overflow Module #:_____
Lucity #_____

GENERAL INFORMATION: COURTESY JETTING: ☐ YES ☐ NO
SCCSD STOPPAGE/NO SPILL ☐ SCCSD STOPPAGE/SPILL: ☐ PRIVATE: ☐ YES ☐ TBD
DATE OF REPORT: _____ TAKE PICTURES: ☐ YES ☐ NO

TIME OF CALL: _____AM___ PM___ TIME CREW CALLED: _____AM___ PM___
TIME IN SERVICE: _____AM___ PM___ ARRIVED AT SITE: _____AM___ PM___

WAS SPILL ACTIVE WHEN CREW ARRIVED ONSITE: ☐ YES ☐ NO

SPILL STOP TIME: _____AM___ PM___
RESPONDING CREW: _____
EQUIPMENT:

SPILL INFORMATION:

SPILL SOURCE: ☐ M/H ☐ C/O ☐ PUMP STATION ☐ LATERAL
☐ LINE BREAK ☐ FORCE MAIN
☐ OTHER(explain):_____

SPILL DESTINATION:
☐ WATER BODY ☐ BUILDING ☐ STORM DRAIN ☐ UNPAVED SURFACE
☐ SURFACE WATER ☐ AC SURFACE ☐ CURB AND GUTTER ☐ DRAINAGE CHANNEL

LINE INFORMATION-BLOCKAGE:
LOWER MANHOLE:_____FT UPPER MANHOLE:_____FT TOTAL LENGTH RUN:_____FT
DISTANCE TO BLOCKAGE:_____FT
PIPE SIZE:_____ PIPE MATERIAL:_____

PRIMARY CAUSE:
☐ DEBRIS ☐ OPERATOR ERROR ☐ PUMP STATION FAILURE ☐ ROOT INTRUSION
☐ FLOW EXCEEDED CAPACITY ☐ PIPE STRUCTURAL PROBLEM ☐ LOSS OF ELECTRICITY
☐ GREASE DEPOSITION (FOG) ☐ RAINFALL EXCEEDED DESIGN ☐ VANDALISM
☐ OTHER(specify)_____

SECONDARY CAUSE(specify):_____

SPILL APPEARANCE POINT:
☐ BUILDING OR STRUCTURE ☐ FORCE MAIN ☐ GRAVITY SEWER
☐ MANHOLE ☐ OTHER SEWER STRUCTURE ☐ PUMP STATION
☐ LATERAL ☐ TREATMENT PLANT ☐ CLEAN OUT
☐ OTHER(explain):_____

CLEAN-UP INFORMATION:
TIME CLEAN UP STARTED: _____A.M. P.M. TIME CLEAN UP COMPLETED:_____A.M. P.M.
VOLUME RECOVERED (gal): _____ SIGNS POSTED: ☐ YES ☐ NO
DESCRIBE CLEAN UP: _____

DESCRIBE DAMAGE: _____

Updated9/29/2022

FIELD STOPPAGE REPORT
AND
REPORTING PARTY INTERVIEW REPORT

Date:_____

Overflow Module #:_____

Lucity #_____

REPORTING PARTY INTERVIEW REPORT:

REPORTING PARTY (RP):_____ PHONE:_____

(RP) ADDRESS:_____ CITY_____

OVERFLOW ADDRESS:_____ CITY_____

IS LOCATION EASILY ACCESSIBLE BY THE PUBLIC: ☐ YES ☐ NO
HAS IT RAINED IN THE PAST WEEK: ☐ YES ☐ NO
WHEN DID YOU FIRST NOTICE THE PROBLEM: DATE:_____ TIME:_____ A.M. P.M.
FLOW: ☐ CONTINUOUS ☐ INTERMITTENT
WEATHER: ☐ RAINY ☐ SUNNY AND DRY ☐ CLOUDY

WHAT DID YOU OBSERVE:

☐ ODOR ☐ WASTEWATER FLOWING OUT OF MANHOLE ☐ OVERLOWING CLEAN-OUT
☐ WASTEWATER DRAINING FROM LANDSCAPING AND/OR POOLED IN YARD
☐ WASTEWATER AND/OR SOLIDS IN NEARBY WATERBODY
☐ SOLIDS, RAGS, TOILETTE PAPER ☐ BROKEN PIPE ☐ REPORTING PARTY'S LATERAL
☐ WAS THERE A CHANGE IN APPEARANCE: ☐ YES ☐ NO
☐ OTHER(explain): _____

HAVE YOU HAD ANY PLUMBING WORK LATELY: ☐ YES ☐ NO
If yes explain: _____

ADDITIONAL REPORTING PARTIES:

NAME:_____ PHONE NUMBER:_____

NAME:_____ PHONE NUMBER:_____

NAME:_____ PHONE NUMBER:_____

OTHER COMMENTS AND OBSERVATIONS: _____

_____

_____

_____

Updated9/29/2022

Appendix 6-D

Private Property SSO

Sanitation Operations staff will follow the protocol outlined in OERP.

Private Sanitary Sewer Systems

A. All sewer lines and lift stations from the building wall to and including the connection to the sewer main are the property of the owner of the connected building. All property owners whose properties are connected to a sewer main or otherwise connected to the Districts/CSAs sewer system by sewer lateral shall, at their own expense, maintain the private sanitary sewer collection system and private sewer lateral in a fully functioning condition and ensure the lines are free of cracks, leaks, inflow or infiltration of extraneous water, root intrusion or open joints. Property owners shall ensure that lines drain freely to the sewer main without excessive sags that collect grease and sediments. Owners shall also ensure that pump or lift stations are maintained in proper working order.

B. Owners of private sanitary sewer systems shall ensure that they are maintained to prevent sanitary sewer overflows. If a sanitary sewer overflow occurs, the property owner shall cause the overflow to stop immediately and have sewer blockages, breaks, and other deficiencies permanently repaired by a licensed plumber within ten working days.

    1. If a sanitary sewer overflow occurs that flows off of the property, and response from the property owner is not immediate, or the property owner is unable to stop the overflow immediately, Districts/CSAs staff may enter onto the property and access to the sewer system to attempt to stop the overflow. The cost of material and labor for stopping the overflow shall be paid by the property owner. The District/CSAs will not be held liable for any damage to the sewer system while attempting to stop an overflow.

    2. The property owner shall be required to reimburse the District/CSAs for any fines levied against the District by regulatory agencies as a result of failure of the Private Sanitary Sewer System.

SCCSD Code Section 7.04.375, FCSD Code Section 3.04.465, DCSD Section 4.04.445, County of Santa Cruz adopted by reference SCCSD code 7.04.375

Appendix 6-E

Post SSO Debriefing

Post SSO Debriefing

COLLECTION SYSTEM FAILURE ANALYSIS FORM

Today's Date: _____ **Date of SSO:** _____

CIWQS SPILL ID: _____ **PREPARED BY:** _____

ADDRESS/LOCATION OF SSO: _____

TOTAL SSO VOLUME: _____ (GALLONS)

VOLUME RECOVERED: _____ (GALLONS)

CAUSE: ROOTS ☐ DEBRIS ☐ CAPACITY (HEAVY RAIN) ☐ CONSTRUCTION DAMAGE ☐
GREASE ☐ VANDALISM ☐ POWER FAILURE ☐ PUMP STATION FAILURE ☐

OTHER _____

SUMMARY OF HISTORICAL SSOS, BACKUPS, SERVICE CALLS

RECORDS REVIEWED BY: _____ **RECORD REVIEW DATE:** _____

DATE	CAUSE	PROBLEM

SUMMARY OF CCTV INFORMATION

CCTV INSPECTION DATE: _____

CCTV INSPECTION NUMBER: _____

CCTV TAPE REVIEWED BY: _____

CCTV OBSERVATIONS: _____

_____

_____

_____

RECOMMENDATIONS

NO CHANGES OR REPAIRS REQUIRED: _____

MAINTENANCE EQUIPMENT: _____

MAINTENANCE FREQUENCY: _____

REPAIR (LOCATION AND TYPE): _____

ADD TO CAPITAL IMPROVEMENT REHABILITATION/REPLACEMENT: _____

ADDITIONAL INFORMATION: _____

Meeting Atendees:

_____ _____ _____

_____ _____ _____

_____ _____ _____

Revised: 6/17 MG

County of Santa Cruz

DEPARTMENT OF COMMUNITY DEVELOPMENT AND INFRASTRUCTURE

701 OCEAN STREET, FOURTH FLOOR, SANTA CRUZ, CA 95060

PLANNING (831) 454-2580 **PUBLIC WORKS (831) 454-2580**

Matt Machado, Deputy CAO/Director

SEWER BACK-UP

If you want to file a claim against the County please fill out the tort claim form online **If you have experienced a sewer back-up on your property, please read the following information and take all necessary steps.**

First Steps:

1. Keep people and pets away from the affected area.
2. Contact a restoration company to conduct proper clean-up.
3. Call a plumber if there is a problem in your sewer lateral. You are responsible for your sewer lateral from your building sewer to the sewer main of the District.
4. Take pictures **if** possible of the items affected.

Your Next Steps:

1. at: https://www.co.santa-cruz.ca.us/Portals/0/County/COB/PER5003%20-%20English%20Fillable.pdf or attached. Provide as much detail as possible. For more information contact Santa Cruz County Risk Management Office at (831) 454-2600.
2. Fill out the Affected Personal Property sheet.
3. Keep all receipts of work done and expenses incurred as a result of the sewer back-up.
4. Keep a copy of all documentation for your records.

Claims must be presented to the Clerk of the Board of Supervisors within 6 months. Mail Claim form and supporting documents to address on the claim form or drop off at: Board of Supervisors, County of Santa Cruz, ATTN: Clerk of the Board, Governmental Center, 701 Ocean Street, Santa Cruz, CA 95060.

Pursuant to District Code Section 7.04.325, Property owners shall ensure that private sanitary sewer systems are maintained to prevent sanitary sewer overflows.

Pursuant to District Code Section 7.04.100, it is the property owner's responsibility to install & maintain an overflow or backflow protective device on your sewer lateral when any building's lowest floor elevation is less than one foot above the rim elevation of the nearest upstream manhole. For further information please contact the Sanitation Inspector at (831) 454-2160.

CLAIM AGAINST THE COUNTY OF SANTA CRUZ

(Pursuant to Section 910 et Seq., Govt. Code)

TO: BOARD OF SUPERVISORS
COUNTY OF SANTA CRUZ
ATTN: Clerk of the Board
Governmental Center
701 Ocean Street, Santa Cruz, CA 95060

1. Claimant's Name: _____

   Address: _____

   _____

   Phone No: _____

   P.O. Box to which notices are to be sent: _____

2. Occurrence: _____

   Date: _____ Place: _____

3. Circumstances of occurrence or transaction giving rise to claim: _____

   _____

   _____

   _____

4. General description of indebtedness, obligation, injury, damage or loss incurred so far as is now known:

   _____

   _____

   _____

5. Name(s) of public employee(s) causing injury, damage or loss, if known: _____

   _____

6. Amount claimed now . . . . . .$ _____

   Estimated amount of future loss, if known . . . . . .$ _____

   TOTAL $ _____

7. Basis for above computations: _____

   _____

8. If the amount claimed is over $10,000, indicate the court of jurisdiction:

   _____ Municipal Court _____ Superior Court

   CLAIMANT'S SIGNATURE: _____

Note: Claim must be presented to Clerk, Board of Supervisors, within six (6) months after the act, which occasioned the injury.

Americans with Disabilities Act questions or requests for accommodations may be directed to the ADA Coordinator at 454-2962 (TDD 454-2123).

PER5003

AFFECTED PERSONAL PROPERTY

Description of Item	Quality	Age	Cost	Replacement Value

Name Address

Signature Date

Appendix 6-F

Overflow Emergency Response Plan Method for Estimating SSO

A variety of approaches exist for estimating the volume of a sanitary sewer spill. This appendix documents the methods that are most often employed. The person preparing the estimate should use the method most appropriate to the sewer overflow in question and use the best information available.

All volume estimation worksheets were created and copyrighted by DKF Solutions Group, LLC. (Copyright 2013-2016 DKF Solutions Group LLC). The County and the Districts obtained prior written permission from DKF Solutions Group LLC to use these worksheets in this SSMP. The County and Districts did not change or alter the worksheets in any way. Permission to use the worksheets must be obtained in writing by DKF Solutions Group LLC.

Form #_____

Eyeball Estimation Method Worksheet

Use this method only for small spills of less than 200 gallons.

Spill Date: _____ Location: _____

STEP 1: Position yourself so that you have a vantage point where you can see the entire spill.

STEP 2: Imagine one or more buckets or barrels of water tipped over. Depending on the size of the spill, select a bucket or barrel size as a frame of reference. It may be necessary to use more than one bucket/barrel size.

STEP 3: Estimate how many of each size bucket or barrel it would take to make an equivalent spill. Enter those numbers in Column A of the row in the table below that corresponds to the bucket/barrel sizes you are using as a frame of reference.

STEP 4: Multiply the number in Column A by the multiplier in Column B. Enter the result in Column C.

	A	B	C
Size of bucket(s) or barrel(s)	How many of this size?	Multiplier	Estimated Spill Volume (gallons)
1 gallon water jug		x 1 gallons	
5 gallon bucket		x 5 gallons	
32 gallon trash can		x 32 gallons	
55 gallon drum		x 55 gallons	
Other: _____ gallons		x _____ gallons	
		Estimated Spill Volume:	

STEP 5: Is rainfall a factor in the spill? ☐ Yes ☐ No
If yes, what volume of the observed spill volume do you estimate is rainfall? _____ gallons
If yes, describe how you determined the amount of rainfall in the observed spill?

STEP 6: Calculate the estimated spill volume by subtracting the rainfall from the spill volume:

_____ gallons - _____ gallons = _____ gallons
Estimated Spill Volume — Rainfall — **Total Estimated Spill Volume**

Do you believe that this method has estimated the entire spill? ☐ Yes ☐ No
- If no, you MUST use additional methods to estimate the entire spill.
- If yes, it is advisable to use additional methods to support your estimation.

Explain why you believe this method has or has not estimated the entire spill:

This worksheet completed by:

Name: _____ Signature: _____

Job Title: _____ Date: _____

SMART Sewer Overflow Volume Estimation Workbook

Form #_____

Drop Bucket Estimation Method Worksheet

Use this method only for small spills where the entire flow stream can be captured in a bucket.

Spill Date: _____ Location: _____

STEP 1: Place a bucket under the flow stream. Volume of bucket: _____ gallons

STEP 2: Time how many minutes it takes to fill the bucket: _____ minutes

Convert seconds to minutes if necessary:

_____ ÷ 60 = _____

seconds minutes (round to 2 decimals)

STEP 3: Divide the volume of the bucket by the time it took to fill the bucket. This equals the flow rate in gallons per minute.

_____ gallons ÷ _____ minutes = _____ gallons/minute (gpm)

Volume of Bucket Time to Fill Bucket Flow Rate

STEP 4: Complete the **Start Time Estimation Worksheet** to provide a detailed description of how start time was determined. Copy the information from the Start Time Estimation Worksheet here:

Spill Start Date: _____ Spill Start Time: _____ ☐ AM ☐ PM

Spill End Date: _____ Spill End Time: _____ ☐ AM ☐ PM

Spill Duration: _____ minutes

STEP 5: Multiply the flow rate times the duration of the spill to calculate the total estimated spill volume.

_____ gpm x _____ minutes = _____ gallons

Flow Rate Flow Duration **Estimated Spill Volume**

Do you believe that this method has estimated the entire spill? ☐ Yes ☐ No

- If no, you MUST use additional methods to estimate the entire spill.
- If yes, it is advisable to use additional methods to support your estimation.

Explain why you believe this method has or has not estimated the entire spill:

This worksheet completed by:

Name: _____ Signature: _____

Job Title: _____ Date: _____

SMART Sewer Overflow Volume Estimation Workbook

Form #_____

Duration and Flow Rate Photo Comparison Worksheet

Spill Date: _____ Location: _____

STEP 1: Compare the spill to reference images to estimate flow rate of the current overflow. Describe which reference photo(s) were used and any additional factors that influenced applying the reference photo data to the actual spill:

Flow Rate Based on Photo Comparison: _____ gallons per minute (gpm)

STEP 2: Complete the **Start Time Estimation Worksheet** to provide a detailed description of how start time was determined. Copy the information from the Start Time Estimation Worksheet here:

Spill Start Date: _____ Spill Start Time: _____ ☐ AM ☐ PM

Spill End Date: _____ Spill End Time: _____ ☐ AM ☐ PM

Spill Duration: _____ minutes

STEP 3: Multiply the spill rate by the spill duration to calculate the estimated spill volume.

_____ gpm X _____ minutes = _____ gallons

Flow Rate | Spill Duration | Estimated Spill Volume

STEP 4: Did the spill occur during a period of consistent flow in this portion of the sytem? ☐ Yes ☐ No

If no, explain how, based on this portion of the collection system and its users, you believe it may have impacted the estimated spill volume:

By what percentage are you adjusting the estimation? ☐ increase ☐ decrease _____ %

Translate the percentage into gallons: _____ gallons

STEP 5: Calculate the adjusted spill volume estimate:

_____ gallons + or - _____ gallons = _____ gallons

Estimated Spill Volume | Adjustment | **Estimated spill volume**

Do you believe that this method has estimated the entire spill? ☐ Yes ☐ No

- If no, you MUST use additional methods to estimate the entire spill.
- If yes, it is advisable to use additional methods to support your estimation.

Explain why you believe this method has or has not estimated the entire spill:

This worksheet completed by:

Name: _____ Signature: _____

Job Title: _____ Date: _____

SMART Sewer Overflow Volume Estimation Workbook

SMART Sewer Overflow Volume Estimation Workbook

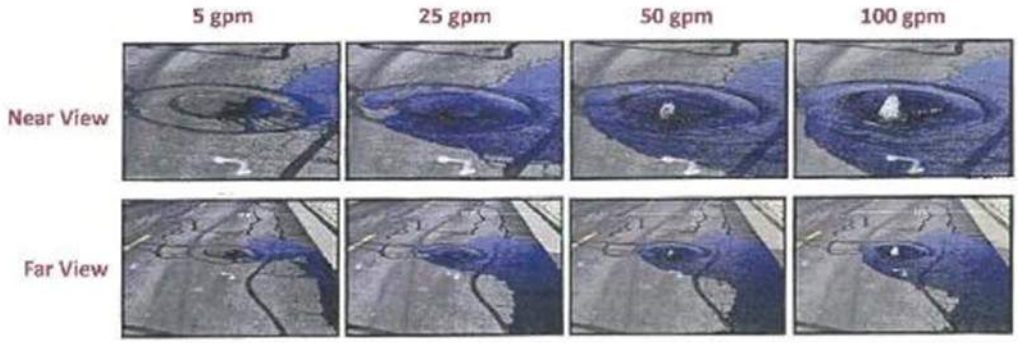
Duration and Flow Rate Photo Comparison Reference

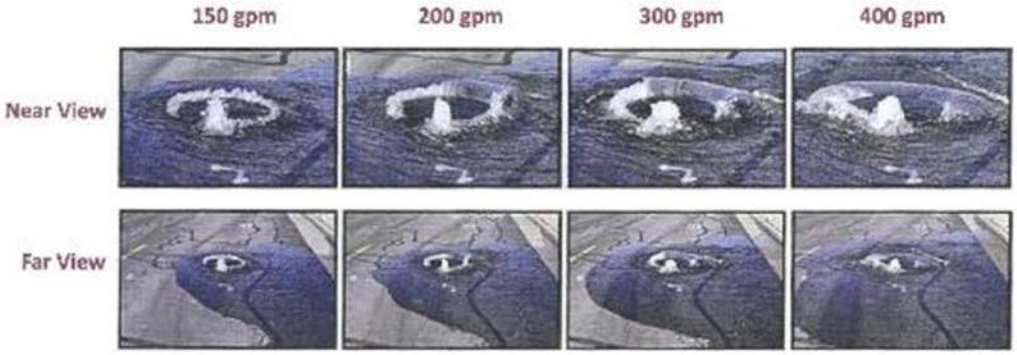
IMPORTANT NOTE:
These photographs are provided as examples only and will change with many factors.

SSCSC Manhole Overflow Gauge

CWEA Southern Section Collections Systems Committee
Overflow Simulation courtesy of Eastern Municipal Water District

24-inch manhole cover shown in all photos.





Form #_____

Area/Volume Method Worksheet: Ponded Sewage *(Page 1 of 2)*

Spill Date: _____ Location: _____

STEP 1: Describe spill area surface: □Asphalt □Concrete □Dirt □Landscape □Inside Building
□Other: _____

STEP 2: Draw/sketch the outline (footprint) of the spill. Then break the footprint down into recognizable shapes. Refer to the example on the **Area/Volume Method: Ponded Sewage Reference Page 1.**

STEP 3: Calculate the area of the footprint. Complete the table below for each shape identified in Step 2. If two shapes overlap, select one of the two shapes and estimate the percentage of that shape that does not overlap. Enter that percentage in the % Not Overlapping column. This will ensure that the overlap area is only counted once. Refer to the example on the Area/Volume Method: Ponded Sewage Reference Page 1.

Rectangles	Length	X	Width	X	% Not Overlapping	=	Area
	ft	X	ft	X	%	=	ft²
	ft	X	ft	X	%	=	ft²
	ft	X	ft	X	%	=	ft²

Triangles	Base	X	Height	Multiplier	X	% Not Overlapping	=	Area
	ft	X	ft	÷2	X	%	=	ft²
	ft	X	ft	÷2	X	%	=	ft²
	ft	X	ft	÷2	X	%	=	ft²

Circles	π	X	Radius	X	Radius	X	% Not Overlapping	=	Area
	3.14	X	ft	X	ft	X	%	=	ft²
	3.14	X	ft	X	ft	X	%	=	ft²
	3.14	X	ft	X	ft	X	%	=	ft²

Total Spill Area (sum of all three tables above): _____ ft²

STEP 4: Calculate the volume of the spill that **was NOT absorbed** into the ground. If the entire spill was absorbed, skip to Step 5.

a. If the spill is of varying depths, take several measurements at different depths and find the average.
_____ inches ÷ _____ = _____ inches ÷ 12 = _____ feet
sum of measurements | # of measurements | average depth in inches | average depth in feet of ponded sewage

b. Calculate spill volume of ponded sewage in cubic feet by multiplying the Total Spill Area in Step 3 by the average depth calculated in Step 4a. Convert from cubic feet to gallons by multiplying by 7.48.
_____ ft² x _____ ft = _____ ft³ x 7.48 gal = _____ gallons
spill area (Step 3) | average depth (Step 4a) | spill volume in cubic feet | estimated volume of ponded sewage

GO TO PAGE 2

Form #_____

Area/Volume Method Worksheet: Ponded Sewage *(Page 2 of 2)*

STEP 5: Calculate the volume of the spill that **was absorbed** into the ground. If only a wet stain is observed, use the guidelines from the **Area/Volume Method: Ponded Sewage Reference Page 1** for the average depth instead of performing the calculations in Steps 5a and 5b below.

a. In order to perform this calculation, you must first determine the water content in the soil using the method described on **Area/Volume Method: Ponded Sewage Reference Page 2**:

Volume of known quantity of water:	V_1 = _____ gallons
Area of wetted footprint:	A = _____ ft^2
Average Depth of Wet Soil:	D = _____ ft
Volume of Wet Soil in Feet = A x D	V_2 = _____ ft^3
Convert cubic feet to gallons = V_2 x 7.48	V_3 = _____ gallons
Calculate water content in soil $V_1 \div V_3$ x 100	Water Content = _____ %

b. Calculate the depth of the actual sewage spill that was absorbed into the ground. First, measure the depth of the wet soil in several locations within the wetted area of the sewage spill. Determine the average depth of the wet soil by taking several measurements at different depths and finding the average. Convert the measurement to feet:

_____ inches (sum of measurements) ÷ _____ (# of measurements) = _____ inches (average depth in inches) ÷ 12 = _____ feet (average depth in feet)

c. Calculate volume of the spill that was absorbed into the ground in cubic feet by multiplying the Total Spill Area from Step 3 by the average depth calculated in Step 5b. Then convert from cubic feet to gallons by multiplying by 7.48. Then multiply by the water content percentage determined in Step 5a.

_____ ft^2 (spill area [Step 3]) ÷ _____ ft (average depth [Step 5b]) = _____ ft^3 (spill volume in cubic feet) x 7.48 gal x _____ % (water content [Step 5a]) = _____ gallons (estimated volume of absorbed sewage)

STEP 6: Add the volume not absorbed (Step 4) plus the volume absorbed (Step 5) to get the total estimated volume:

_____ gallons (volume not absorbed) + _____ gallons (volume absorbed) = _____ gallons **Total Estimated Spill Volume**

Do you believe that this method has estimated the entire spill? ☐ Yes ☐ No

- If no, you MUST use additional methods to estimate the entire spill.
- If yes, it is advisable to use additional methods to support your estimation.

Explain why you believe this method has or has not estimated the entire spill:

This worksheet completed by:

Name: _____ Signature: _____

Job Title: _____ Date: _____

SMART Sewer Overflow Volume Estimation Workbook

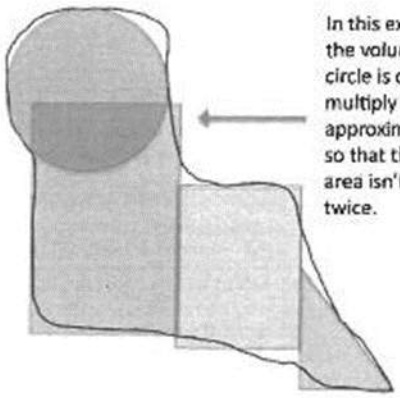
Area/Volume Method: Ponded Sewage Reference
Page 1 of 2

Miscellaneous computations:

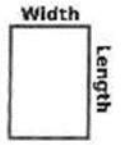
Computation	Formula/Guide
To convert inches to feet	Divide the inches by 12 or use the chart on the bottom right of this page.
Volume of one cubic foot	7.48 gallons of water
Area: Two-dimensional measurement represented in square feet	Square/rectangle: Area = Length x Width Circle: Area = πr^2 (where $\pi \approx 3.14$ and r = radius = ½ diameter) Triangle: Area = ½ (Base x Height)
Volume: Three-dimensional measurement represented in cubic feet	Rectangle/square footprint: Volume = Length x Width x Depth Circle footprint (cylinder): Volume = πr^2 x Depth. (where $\pi \approx 3.14$ and r = radius = ½ diameter) Triangle footprint: Volume = ½ (Base x Height) x Depth
Depth: Contained or "Ponded" sewage	Measure actual depth of standing sewage whenever possible. When depth varies, measure several representative sample points and determine the average. Add the depth of the sample points and then divide that total by the number of sample points. If the depth is not measurable because it is only a wet stain, consider using the following estimated depths: • Depth of a wet stain on concrete surface: 0.0026' (1/32") • Depth of a wet stain on asphalt surface: 0.0013' (1/64")

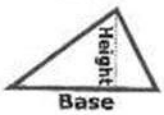
Example of how to draw/sketch the outline (footprint) of the spill for Step 2:

1. Sketch the outline of the spill (black line).
2. Break the sketch down into recognizable shapes (circles, squares, etc.) as well as you can.



In this example, after the volume of the circle is determined, multiply it by approximately 65% so that the overlap area isn't counted twice.





Convert Inches to Feet	
Inches	Feet
1/8"	0.01'
1/4"	0.02'
3/8"	0.01'
1/2"	0.04'
5/8"	0.05'
3/4"	0.06'
7/8"	0.07'
1"	0.08'
2"	0.17'
3"	0.25'
4"	0.33
5"	0.42'
6"	0.50'
7"	0.58'
8"	0.67'
9"	0.75'
10"	0.83'
11"	0.92'
12"	1.00'

Example of how to determine the water content in wetted soil, measured as a percentage.
By determining the water content in the soil when a known quantity of water is used, it will be possible to estimate the sewage content in the soil where the actual spill occurred.

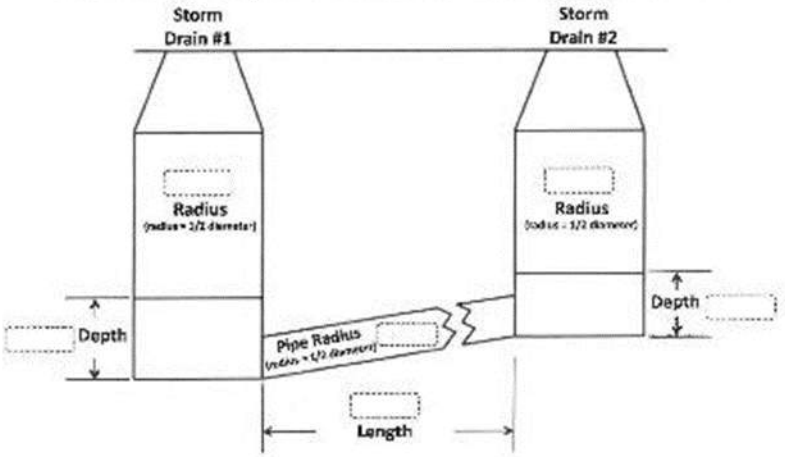
	Step	Example
	Select an area of dry soil (near the wetted footprint of the spill) to sample. If possible, use a form to keep the water contained to a geometric shape (circle, square, rectangle, etc.).	Place a 2 foot diameter form onto an area of dry soil.
V_1	Pour a known amount of water onto the soil and let it soak in for an adequate amount of time. (This quantity is V_1 in Step 5 on the worksheet)	Pour one gallon of water into the form and let it soak in for 15 minutes.
A	Pull the form and measure the AREA of the wetted soil. It will likely be larger than the form. (This measurement is A in Step 5 on the worksheet)	In this example, let's say the wetted soil footprint's diameter is 2 ft 2 in. We convert the inches to feet and get a diameter of 2.17 ft. The radius is ½ of the diameter, so r = 1.085 ft So using the formula: Area = πr^2 (where π = 3.14) the area of the footprint is 3.14 x 1.085 ft x 1.085 ft = 3.70 ft^2
D	Using a small hand tool, dig down into the soil until dry soil is reached. Measure the DEPTH of the wet soil. Do this in multiple locations and average the measurements. Convert to feet. (This measurement is D in Step 5 on the worksheet)	Dig into the soil in 3 locations and measure the depth of the wetted soil. It is usually easiest to measure this depth in inches, so in this example we will measure in inches and then convert to feet. In this example, let's say we take the following measurements: 2½ inches, 1½ inches and 3¾ inches We convert the measurements to decimals and get 2.5 in, 1.5 in, and 3.75 in. Then we average the 3 measurements by adding them together and then dividing by 3: 2.5 in + 1.5 in + 3.75 in = 7.75 in 7.75 in ÷ 3 = 2.58 in Convert the number to feet by dividing by 12: 2.58 in ÷ 12 in = 0.215 ft
V_2	Multiply the AREA of the wet soil by the average DEPTH of the wet soil to determine the VOLUME of the wet soil in cubic feet. (This measurement is V_2 in Step 5)	3.70 ft^2 x 0.215 ft = 0.80 ft^3
V_3	Multiply by 7.48 to convert the volume in cubic feet (ft^3) to the volume in gallons (gal). *NOTE: This measurement is V_3 in Step 5*	Multiply the volume in cubic feet by the conversion multiplier to get the volume in gallons 0.80 ft^3 x 7.48 gal/ft^3 = 6 gal
Water Content	Calculate the water content in the soil: • Since you started with a known amount, you know how much water is in the soil. • Divide that known amount of water by the calculated volume of soil to get the percent of water content in the soil.	Divide the known volume of water by the calculated volume of soil 1 gal ÷ 6 gal = .17 so 17% is the water content in the soil.

Form #_____

Area/Volume Method Worksheet: Sewage Contained in a Storm Drain System

Spill Date: _____ Location: _____

STEP 1: Take measurements (in feet) and enter them in the dashed boxes below.
Use the table to the right as needed to convert inch measurements to feet.



Convert Inches to Feet	
Inches	Feet
1/8"	0.01'
1/4"	0.02'
3/8"	0.03'
1/2"	0.04'
5/8"	0.05'
3/4"	0.06'
7/8"	0.07'
1"	0.08'
2"	0.17'
3"	0.25'
4"	0.33
5"	0.42'
6"	0.50'
7"	0.58'
8"	0.67'
9"	0.75'
10"	0.83'
11"	0.92'
12"	1.00'

STEP 2: Complete the table below for each part of the storm drain system diagrammed above.

Storm Drain #1	π	X	Radius	X	Radius	X	Depth	=	Volume
	3.14	X	ft	X	ft	X	ft	=	ft^3

Storm Drain #2	π	X	Radius	X	Radius	X	Depth	=	Volume
	3.14	X	ft	X	ft	X	ft	=	ft^3

Pipe	π	X	Radius	X	Radius	X	Length	=	Volume
	3.14	X	ft	X	ft	X	ft	=	ft^3

STEP 3: Add the right column together to calculate the total spill volume in cubic feet.
Multiply by 7.48 to convert to gallons.

_____ ft^3 + _____ ft^3 + _____ ft^3 x 7.48 = _____ gallons

Drain #1 Volume | Drain #2 Volume | Pipe Volume | **Estimated Spill Volume**

Do you believe that this method has estimated the entire spill? ☐ Yes ☐ No

- If no, you MUST use additional methods to estimate the entire spill.
- If yes, it is advisable to use additional methods to support your estimation.

Explain why you believe this method has or has not estimated the entire spill:

STEP 4: Attach a map of the impacted storm drain to this form for future reference.

This worksheet completed by:

Name: _____ Signature: _____

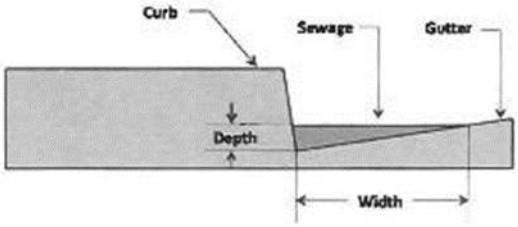
Job Title: _____ Date: _____

SMART Sewer Overflow Volume Estimation Workbook

Form #_____

Area/Volume Method Worksheet: Contained in a Roadway Gutter

Spill Date: _____ Location: _____



Convert Inches to Feet	
Inches	Feet
1/8"	0.01'
1/4"	0.02'
3/8"	0.01'
1/2"	0.04'
5/8"	0.05'
3/4"	0.06'
7/8"	0.07'
1"	0.08'
2"	0.17'
3"	0.25'
4"	0.33
5"	0.42'
6"	0.50'
7"	0.58'
8"	0.67'
9"	0.75'
10"	0.83'
11"	0.92'
12"	1.00'

STEP 1: Measure the length of the contained spill in feet: _____ feet

STEP 2: Measure the depth and width of the overflow in the gutter in feet at the upstream and downstream ends and at evenly spaced intervals if the slope changes in the flooded gutter length. Use the chart to the right as needed to convert inches to feet. For each location measured, calculate the cross-sectional area in square feet by multiplying the depth by the width and dividing by 2.

Location	Depth in Feet	x	Width in Feet	÷ 2	Cross-sectional Area
Upstream End	ft	x	ft	÷ 2	ft^2
Downstream End	ft	x	ft	÷ 2	ft^2
Interval (optional)	ft	x	ft	÷ 2	ft^2
Interval (optional)	ft	x	ft	÷ 2	ft^2
Interval (optional)	ft	x	ft	÷ 2	ft^2

STEP 3: Average all the area calculations from Step 2 by adding them together and dividing by the number of intervals (#). Calculate the volume in cubic feet by multiplying by length (Step 1).

_____ ft^2 ÷ _____ = _____ ft^2 x _____ ft = _____ ft^3

Sum of Areas # Average Area Length Est. spill volume in cubic feet

STEP 4: Convert the overflow volume from cubic feet to gallons:

_____ ft^3 X 7.48 = _____ gallons

Estimated spill volume in cubic feet **Estimated Spill Volume**

Do you believe that this method has estimated the entire spill? ☐ Yes ☐ No

- If no, you MUST use additional methods to estimate the entire spill.
- If yes, it is advisable to use additional methods to support your estimation.

Explain why you believe this method has or has not estimated the entire spill:

This worksheet completed by:

Name: _____ Signature: _____

Job Title: _____ Date: _____

SMART Sewer Overflow Volume Estimation Workbook

Form #_____

Flow Calculation Worksheet

Spill Date: _____ Location: _____

Manhole #1 ID: _____ Manhole #2 ID: _____ Inside Pipe Diameter: _____ inches

STEP 1: Complete the **Start Time Estimation Worksheet** to provide a detailed description of how start time was determined. Copy the information from the Start Time Estimation Worksheet here:

Spill Start Date: _____ Spill Start Time: _____ ☐AM ☐PM

Spill End Date: _____ Spill End Time: _____ ☐AM ☐PM

Spill Duration: _____ minutes

STEP 2: Calculate spill velocity:

A. Measure the distance between the two manholes: _____ feet

B. Drop a ball in at the upstream manhole.

C. Measure the time it takes to arrive at the downstream manhole: _____ seconds

D. Divide the distance in feet from A by the time in seconds from C:

_____ feet ÷ _____ seconds = _____ feet/second = Velocity **(V)**

STEP 3: Calculate inside pipe diameter squared (D^2) by multiplying the pipe diameter by itself. Convert to feet.

D^2 = _____ (Inside Pipe diameter) X _____ (Inside Pipe diameter) = _____ inches² (Diameter squared in inches) ÷ 144 = _____ feet² (Diameter squared in feet)

STEP 4: Calculate flow level (the depth of the flow) to pipe diameter ratio (L/D)

_____ inches (Level of flow) ÷ _____ inches (Inside Pipe diameter) = **L/D** _____

STEP 5: Identify Flow Unit Multiplier (K) in Table 1 using L/D. Read the GPM (Gallons Per Minute) column.

K = _____ gpm

STEP 6: Calculate the profiled flow by multiplying the numbers from Steps 2, 3 and 5 above.

_____ ft/sec (Velocity (V)) x _____ feet (Diameter Squared (D^2)) x _____ (Multiplier (K)) = _____ GPM (Profiled Flow)

STEP 7: Calculate the estimated spill volume by multiplying the numbers from Step 1 and Step 6.

_____ gpm (Profiled Flow) x _____ minutes (Spill Duration) = _____ gallons **Estimated Spill Volume**

Do you believe that this method has estimated the entire spill? ☐ Yes ☐ No

- If no, you MUST use additional methods to estimate the entire spill.
- If yes, it is advisable to use additional methods to support your estimation.

Explain why you believe this method has or has not estimated the entire spill:

This worksheet completed by:

Name: _____ Signature: _____

Job Title: _____ Date: _____

SMART Sewer Overflow Volume Estimation Workbook

SMART Sewer Overflow Volume Estimation Workbook

Flow Calculation Worksheet Reference

Table I Flow Unit Multiplier

L/D	K (Flow Unit Multiplier MGD	GPM	CFS
0.01	0.0009	0.5966	0.0013
0.02	0.0024	1.6824	0.0037
0.03	0.0044	3.0814	0.0069
0.04	0.0068	4.7296	0.0105
0.05	0.0095	6.5894	0.0147
0.06	0.0124	8.6351	0.0192
0.07	0.0156	10.8475	0.0242
0.08	0.0190	13.2113	0.0294
0.09	0.0226	15.7143	0.0350
0.10	0.0264	18.3460	0.0409
0.11	0.0304	21.0975	0.0470
0.12	0.0345	23.9609	0.0534
0.13	0.0388	26.9294	0.0600
0.14	0.0432	29.9967	0.0668
0.15	0.0477	33.1571	0.0739
0.16	0.0524	36.4056	0.0811
0.17	0.0572	39.7374	0.0885
0.18	0.0621	43.1480	0.0961
0.19	0.0672	46.6334	0.1039
0.20	0.0723	50.1898	0.1118
0.21	0.0775	53.8135	0.1199
0.22	0.0828	57.5012	0.1281
0.23	0.0882	61.2496	0.1365
0.24	0.0937	65.0555	0.1449
0.25	0.0992	68.9161	0.1535
0.26	0.1049	72.8286	0.1623
0.27	0.1106	76.7901	0.1711
0.28	0.1163	80.7982	0.1800
0.29	0.1222	84.8503	0.1890
0.30	0.1281	88.9439	0.1982
0.31	0.1340	93.0767	0.2074
0.32	0.1400	97.2464	0.2167
0.33	0.1461	101.4507	0.2260
0.34	0.1522	105.6875	0.2355
0.35	0.1583	109.9546	0.2450
0.36	0.1645	114.2500	0.2545
0.37	0.1707	118.5715	0.2642
0.38	0.1770	122.9172	0.2739
0.39	0.1833	127.2851	0.2836
0.40	0.1896	131.6733	0.2934
0.41	0.1960	136.0797	0.3032
0.42	0.2023	140.5026	0.3130
0.43	0.2087	144.9400	0.3229
0.44	0.2151	149.3902	0.3328
0.45	0.2215	153.8512	0.3428
0.46	0.2280	158.3212	0.3527
0.47	0.2344	162.7985	0.3627
0.48	0.2409	167.2811	0.3727
0.49	0.2473	171.7673	0.3827
0.50	0.2538	176.2553	0.3927

L/D	K (Flow Unit Multiplier MGD	GPM	CFS
0.51	0.6230	180.7472	0.4027
0.52	0.6384	185.2335	0.4127
0.53	0.6539	189.7162	0.4227
0.54	0.6693	194.1935	0.4327
0.55	0.6847	198.6636	0.4426
0.56	0.7001	203.1247	0.4526
0.57	0.7154	207.5749	0.4625
0.58	0.7307	212.0125	0.4724
0.59	0.7460	216.4354	0.4822
0.6	0.7612	220.8420	0.4920
0.61	0.7763	225.2302	0.5018
0.62	0.7913	229.5982	0.5115
0.63	0.8063	233.9440	0.5212
0.64	0.8212	238.2656	0.5308
0.65	0.8360	242.5611	0.5404
0.66	0.8507	246.8283	0.5499
0.67	0.8653	251.0651	0.5594
0.68	0.8798	255.2696	0.5687
0.69	0.8942	259.4393	0.5780
0.7	0.9084	263.5722	0.5872
0.71	0.9226	267.6659	0.5964
0.72	0.9365	271.7181	0.6054
0.73	0.9503	275.7263	0.6143
0.74	0.9640	279.6879	0.6231
0.75	0.9775	283.6004	0.6319
0.76	0.9908	287.4611	0.6405
0.77	1.0039	291.2671	0.6489
0.78	1.0168	295.0156	0.6573
0.79	1.0295	298.7033	0.6655
0.8	1.0420	302.3271	0.6736
0.81	1.0543	305.8836	0.6815
0.82	1.0663	309.3691	0.6893
0.83	1.0780	312.7798	0.6969
0.84	1.0895	316.1116	0.7043
0.85	1.1007	319.3602	0.7115
0.86	1.1116	322.5207	0.7186
0.87	1.1222	325.5881	0.7254
0.88	1.1324	328.5566	0.7320
0.89	1.1423	331.4201	0.7384
0.9	1.1518	334.1717	0.7445
0.91	1.1608	336.8034	0.7504
0.92	1.1695	339.3064	0.7560
0.93	1.1776	341.6703	0.7612
0.94	1.1852	343.8827	0.7662
0.95	1.1923	345.9285	0.7707
0.96	1.1987	347.7884	0.7749
0.97	1.2044	349.4366	0.7785
0.98	1.2092	350.8358	0.7816
0.99	1.2130	351.9215	0.7841
1.00	1.2150	352.5181	0.7854

L/D = Level to Diameter Ratio MGD = Millions of Gallons per Day GPM = Gallons per Minute CFS = Cubic Feet per Second

Form #_____

Lift Station Estimation Worksheet

Use this method only if the lift station influent and effluent rates are known.

Spill Date: _____ Location: _____

STEP 1: Identify the spill rate using flow meter data, which can be obtained from most SCADA systems.

- Influent Rate: If the spill is due to the station failure, then the rate of flow into the station less storage in the station wet well will be the spill rate.
- Effluent Rate: If the force main fails, then the pump discharge rate along with the cycle frequency will be the spill rate.

Spill Rate: _____ gallons/minute (gpm)

Last date the flow meter was calibrated: _____

What was the source of the data?

☐ This agency

☐ Another agency: Agency: _____

Contact Name: _____

Contact Telephone: _____

STEP 2: Complete the **Start Time Estimation Worksheet** to provide a detailed description of how start time was determined. Copy the information from the Start Time Estimation Worksheet here:

Spill Start Date: _____ Spill Start Time: _____ ☐ AM ☐ PM

Spill End Date: _____ Spill End Time: _____ ☐ AM ☐ PM

Spill Duration: _____ minutes

STEP 3: Multiply the spill rate by the spill duration to calculate the estimated spill volume.

_____ gpm X _____ minutes = _____ gallons

Spill Rate Spill Duration **Estimated spill volume**

Do you believe that this method has estimated the entire spill? ☐ Yes ☐ No

- If no, you MUST use additional methods to estimate the entire spill.
- If yes, it is advisable to use additional methods to support your estimation.

Explain why you believe this method has or has not estimated the entire spill:

This worksheet completed by:

Name: _____ Signature: _____

Job Title: _____ Date: _____

SMART Sewer Overflow Volume Estimation Workbook

Appendix 6-G

Water Quality Monitoring Plan

Introduction

A water quality monitoring program is required for any Category 1 SSO of 50,000 gallons or more. Water quality testing for SSOs of 50,000 gallons or more must be completed within 48 hours of Sanitation Operations becoming aware of the SSO. Additionally water quality monitoring will be conducted whenever there is an SSO that either enters a surface water or is discharged to a surface and poses a risk to public health or the environment.

A certified lab must analyze the sample results to determine the nature and impact of the discharge. The analyses should include ammonia and bacterial indicators such as total coliform, fecal coliform, and enterococcus.

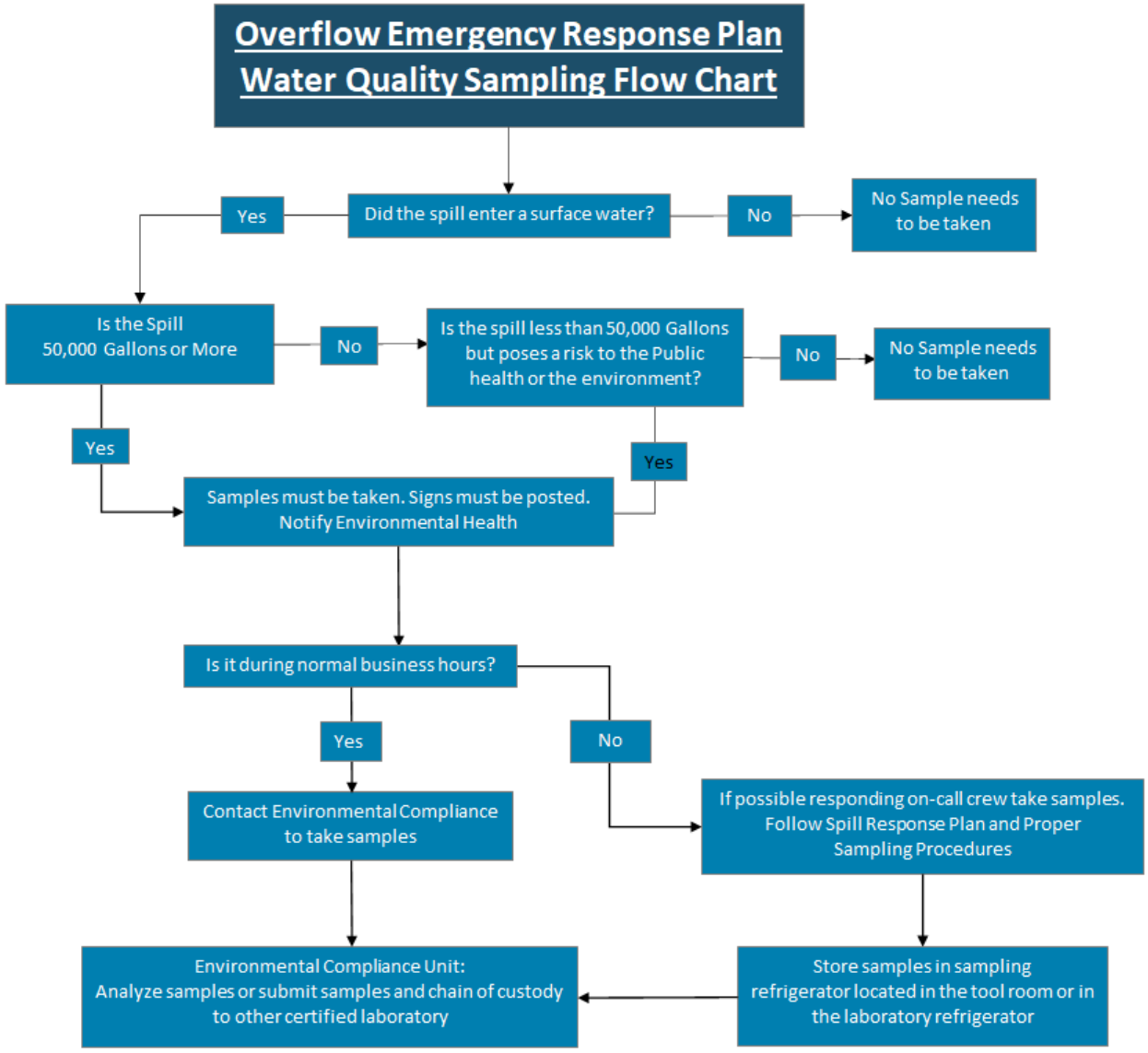
Water Quality Monitoring Requirements

State Water Resources Control Board Order No. WQ 2013-0058-EXEC, Amending Monitoring and Reporting Program for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (Effective September 9, 2013), requires the following:

To comply with subsection D7(v) of the SSS WDRs and Section D of the MRP, the enrollee shall develop and implement an SSO Water Quality Monitoring Program to assess impacts from Category SSOs to surface waters in which 50,000 gallons or greater are spilled to surface waters. The SSO Water Quality Monitoring Program, shall, at a minimum:

- Contain protocols for water quality monitoring.
- Account for spill travel time in the surface water and scenarios where monitoring may not be possible (e.g. safety, access restrictions, etc.).
- Require water quality analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory.
- Require monitoring instruments and devices used to implement the SSO Water Quality Monitoring Program to be properly maintained and calibrated, including any records to document maintenance and calibration, as necessary, to ensure their continued accuracy.
- Within 48 hours of the enrollee becoming aware of the SSO, require water quality sampling for, at a minimum, the following constituents:
    i. Ammonia
    ii. Appropriate Bacterial indicator(s) per the applicable Basin Plan water quality objective or Regional Board direction that may include total and fecal coliform, enterococcus, and e-coli.

Figure 6.3 Water Quality Sampling Flow Chart provides the steps to be taken when sampling of spilled sewage is required by Sanitation Operations or contract providers.



Water Quality Sampling Procedures

It is important to track the spill. If the spill discharges to a storm drain and it is unable to be fully captured you must determine the path the sewage has taken. If it is unclear, use the storm drainage GIS maps to locate all downstream gulches, creeks, rivers, and ocean outfalls that could be impacted by the spill. Based on the maps, follow the spill. If the SSO reaches a surface water and it is 50,000 gallons or more, you must sample. You must also sample if the SSO either enters a surface water or is discharged to a surface water and poses a risk to public health or the environment.

DO NOT SAMPLE IF IT IS NOT SAFE TO DO SO.

Water Quality Sampling Equipment:

- Sampling Kit
- Sample poles and attachments (If needed get pole from Lode St. spill trailer)
- PPE
- Timer
- Chain of Custody forms
- Tablet/Smart phone for photos

Sampling Kit

All supervisors and leads should have sampling kits on their truck. The sampling kit contains:

- Cooler
- 3-sterile 120 mL sterile plastic containers for bacteria samples.
- 3-250 mL plastic sample bottles for ammonia
- Blue ice
- Field test kit (ammonia)
- Pen
- Sampling kits should be checked regularly to ensure all items are included and in good condition. Check that ammonia kits are not expired.

Sampling Procedures:

- Typically, 100 feet up stream is sufficient, but this may vary on circumstances of the spill;
- Point of contact or every 100 feet in a moving water body until clear samples are observed;
- Sample 100 feet downstream of point of contact or to the furthest extent that the sewage has flowed since inception of the contact with the creek or flowing water body. Multiple samples should be taken every 100 feet to the final spill distance.
- Proper protective equipment should be used including gloves and eye protection.

Sampling Procedures, continued:

- Bacteria samples will be collected in three sterile 3 sterile 120 mL plastic containers located in spill kits. Samples must be analyzed within 6 hours. (If it is after hours the samples will be analyzed out of hold time). Larger volume samples can be collected if there is a need for archiving the samples for molecular testing.
- Field Ammonia samples will be collected in accordance with the ammonia test strip directions. Samples should be labeled with location (location will be the sample ID), and GIS coordinates, date and time taken. The containers will be labeled Point (P) Upstream (U/S# and Downstream (D/S). If more than one sample is taken, add the sample number (D/S#). Samples must be placed on ice immediately.
- Samples should be taken to the certified lab immediately or brought back to the sanitation operations facility and stored in the designated sample refrigerator until they can be taken to a certified lab. The 6 hour hold time should be observed.
- Pictures will be taken to photo document the event. Responding crew should take enough pictures to cover the entire spill, damaged infrastructure and spill path. They should also take pictures of all posted warning signs.

If sewage has reached a creek or flowing stream, you must account for spill travel time and samples should be taken along the flowing creek or stream until clear samples are found or until the flow is dammed and sewage vacuumed. The Santa Cruz County Environmental Health Department should review the analyses and follow-up analyses.

When sampling is not possible due to safety and/or weather conditions employees are required to document the water body affected and use drainage maps to determine additional downstream discharge points and possible sampling locations. You must account for spill travel time. Samples will be collected once it is safe to do so. Additional samples will be taken to determine when warning signs can be removed.

Accounting for Spill Travel Time

Information regarding spill travel time should be used to inform decisions about sampling locations, both initial and follow-up and total number of samples to be collected.

A visual method can be used for estimating spill travel. This can be done by dropping a floatable debris in the surface water and timing how long it takes to travel over a measured distance (e.g., 100 feet). Include sections in the surface water where there are bends, bottlenecks, or other characteristics that may slow down the flow. If the first measurement is uncertain, this estimate may be performed three to five times, and the values averaged to determine an estimated travel time. The velocity in the upper portion of the water body can then be calculated by dividing the measured distance by the average time.

Sample Delivery

Samples should be delivered to the Santa Cruz County Environmental Health Water Quality lab. The Chain of Custody form, must be filled out and signed upon delivery. If the laboratory staff is unavailable, samples may be taken to either the City of Santa Cruz wastewater treatment plant or Soil Control Lab in Watsonville. You must call the labs first before taking the samples there.

APPROVED LABORATORIES	
SOIL CONTROL LAB	Lab: 831.724.5422 42 Hangar Way , Watsonville, CA 95076
CITY OF SANTA CRUZ WASTEWATER TREATMENT PLANT LAB **-Contact Akin Babatola**	Lab: 831.420.6045 Main: 831.420.6050 110 California St., Santa Cruz, CA 95060
SANTA CRUZ COUNTY ENVIRONMENTAL HEALTH, WATER RESOURCES **Water Quality Program**	WaterLab@santacruzcounty.us Lab: 831.454.4624 Office: 831.454.5010, 831.454.2736 1060 Emeline Ave., B-1, Room 105 Santa Cruz, CA 95060

Chain of Custody

SANITARY SEWER OVERFLOW MONITORING						ANALYSIS								
SAMPLERS - Name						TC	FC	ENT	Ammonia					
SAMPLERS - Signature														
Lucity Overflow #	Sample ID	Date/Time	Source Description Upstream/Downstream/Point	Container Size-mL	Glass/Plastic/ Whirl-Pak									COMMENTS/PRESERVATIVE
Reliquished by:				Date/Time	Received by:									Remarks:
Reliquished by:				Date/Time	Received by:									
Reliquished by:				Date/Time	Received by:									

Sewer Overflow Water Quality Sampling Instructions

Follow the instructions below when taking water quality samples for a sewer overflow event.

IF SPILL IS 50,000 GALLONS OR MORE AND ENTERED A STORM DRAIN OR WATERBODY YOU MUST SAMPLE. If a spill poses a threat to the public or the environment you must sample.

ONLY SAMPLE IF IT IS SAFE TO DO SO.

Wear proper PPE

Wear gloves and eye protection and use the sterile containers in your sampling cooler.

Prepare Sample Containers

Label sample containers prior to sampling. Include location, **GIS coordinates**, date, and time taken. Label containers as Point (P), Upstream (U/S), and Downstream (D/S). Your goal is to take **6 samples** if possible – 3 bottles for Ammonia and 3 bottles for bacteria. **Larger volume samples can be collected if there is a need for archiving the samples for molecular testing.**

Sample Collection

Collect samples from the middle depth of the stream. Avoid sampling debris. You may need to use the sampling pole (Located in the spill trailer).

Collect from these three locations:

- Sample **point of contact** in the water body. Fill one 250 mL plastic bottle and one 120 mL bacteria bottle.
- Typically, 100 feet **upstream** is **sufficient**, but this may vary on circumstances of the spill. Fill one 250 mL plastic bottle and one 120 mL bacteria bottle.Sample a minimum of 100 feet **downstream** depending on spill travel time. Fill one 250 mL plastic bottle and one 120 mL bacteria bottle.

  ⇒ **Sample 100 feet downstream of point of contact or to the furthest extent that the sewage has flowed since inception of the contact with the creek or flowing water body. Collect one of each sample (ammonia and bacteria) for every additional 100 feet of spill travel until a clean sample is observed** (Include sample number on the label: D/S#1,2,3 etc. as well as approximate distance from point of contact).

Keep samples on ice and **take them to the certified lab immediately or** bring them back to the lab (refrigerator) at Lode St. **until they can be taken to a certified lab. Observe the 6-hour hold time if possible.** Complete the Chain of Custody.

If sampling is not possible, thoroughly document the water body affected and use drainage maps to locate downstream discharge points. You must also account for spill travel time to estimate the distance traveled.

ESTIMATION OF SPILL TRAVEL TIME

Visual ft/sec measurement.

This may be done by observing or dropping floatable debris in the surface water and timing how long it takes to travel over a measured distance (e.g., 100 feet). Include sections in the surface water where there are bends, bottlenecks, or other characteristics that may slow down the flow. If the first measurement is uncertain, this estimate may be performed three to five times, and the values averaged to determine an estimated travel time.

This will provide a means to estimate the distance traveled and identify where the SSO may be headed within the waterway.

Appendix 6-H

Sample Warning Signs

WARNING!

CONTAMINATED WATER
UNSAFE FOR SWIMMING
OR WATER CONTACT

BY ORDER OF SANTA CRUZ
HEALTH OFFICER

¡AVISO!

AGUA CONTAMINADA
PELIGROSO BAÑARSE
O TENER CONTACTO
CON LA AGUA

POR ORDEN DEL DEPARTAMENTO DE
SALUD DEL CONDADO DE SANTA CRUZ

Appendix 7-A

FOG Control Program

Public Outreach and Supporting Documentation

FOG Alert Residential Door Hanger

Appendix 7-B

FOG Advertisement

Figure 7.1 Food Facility Inspection Report

SANTA CRUZ COUNTY SANITATION DISTRICT
Food Facility Inspection Report

APN	Today's Date:	Last Inspection:
Name of Establishment:		
Address:	City:	
Facility Contact:		Phone:
Type of food prepared		

☐ Dishwasher
☐ Low Temp. Sanitizer
☐ Garbage Disposal
☐ Oven
☐ Grill
☐ Fryer
☐ Stove
☐ 3 – Tub Wash Basin

INTERIOR GREASE TRAP		Size:	
Self Cleaning		☐ Yes	☐ No
Self Cleaning Log is maintained		☐ Yes	☐ No
Condition:	☐ Good	☐ Fair	☐ Poor
Last date of Service:		Pump Cycle:	
Liquid Waste Hauler			
EXTERIOR INTERCEPTOR		Size:	
Condition:	☐ Good	☐ Fair	☐ Poor
Outlet Tee's are in place		☐ Yes	☐ No
Last date of Service:		Pump Cycle:	
Liquid Waste Hauler			

Fats, Oil, and Grease Required Best Management Practices

Are screens being used to reduce solids?	☐ Yes	☐ No
Are grease trap additives being used?	☐ Yes	☐ No
If yes, name:_____		
Food from plates is scraped prior to primary rinse?	☐ Yes	☐ No

Stormwater Required Best Management Practices

Trash enclosures are free of litter and spills?	☐ Yes	☐ No
Used grease/oil containers are stored properly? (Covered, leak free, and away from storm drains).	☐ Yes	☐ No
Is mop wastewater going to sanitary sewer?	☐ Yes	☐ No
Kitchen equipment (floor mats, hoods, etc.) is cleaned inside and wastewater is discharged to sanitary sewer?	☐ Yes	☐ No
Wastewater from pressure washing or hosing down of outdoor areas (trash storage, sidewalks) is discharged to sanitary sewer?	☐ Yes	☐ No
Are liquids kept out of trash containers?	☐ Yes	☐ No
Employees trained on Stormwater BMPs?	☐ Yes	☐ No

Violation: ☐ Recommendation: ☐ Required: ☐

_____ Inspector Signature

_____ Facility Operator Signature

Appendix 8-A

Reserved

APPENDIX 8—SUPPORTING DOCUMENTS FOR ELEMENT 8

There are no Appendix documents to accompany Element 8. However, Appendix 8 is included as a placeholder for future documents.

Appendix 9-A

Monitoring, Measurement and Program Modifications

PERFORMANCE MEASURES 1/1/17 TO 12/31/21

SANTA CRUZ COUNTY SANITATION DISTRICT 3SSO10324	YEAR				
	2017	2018	2019	2020	2021
Number of SSOs	9	9	8	6	9
Volume, gallons	20,909	496	22,635	686	6,349
Median Volume, Gallons	2323	55	2829	114	705
Volume Recovered, Gallons	17,302	484	2274	162	1869
Portion Recovered (%)	82	97	10	23	29
Volume to Surface Waters, gallons	17,475	0	18,899	0	2783
Portion to Surface Waters (%)	83%	0	83	0	43
Size of System, miles	200	200	200	200	200

PERFORMANCE MEASURES 1/1/17 TO 12/31/21

DAVENPORT COUNTY SANITATION DISTRICT 3SSO10263	YEAR				
	2017	2018	2019	2020	2021
Number of SSOs	0	1	0	0	0
Volume, gallons		980			
Median Volume, Gallons		980			
Volume Recovered, Gallons		200			
Portion Recovered (%)		20%			
Volume to Surface Waters, gallons		0			
Portion to Surface Waters (%)		0			
Size of System, miles	2.25	2.25	2.25	2.25	2.251.03

PERFORMANCE MEASURES 1/1/17 TO 12/31/21

FREEDOM COUNTY SANITATION DISTRICT 3SSO10267	YEAR				
	2017	2018	2019	2020	2021
Number of SSOs	1	1	2	1	2
Volume, gallons	127	30	256	3	1,647
Median Volume, Gallons	127	30	128	3	823
Volume Recovered, Gallons	0	28	255	3	206
Portion Recovered (%)	0	93%	99%	100%	12%
Volume to Surface Waters, gallons	0	0	0	0	0
Portion to Surface Waters (%)	0	0	0	0	0
Size of System, miles	16.5	16.5	16.5	16.5	16.5

PERFORMANCE MEASURES 1/1/121TO 12/31/21

SAND DOLLAR - CSA #5 3SSO10323	YEAR				
	2017	2018	2019	2020	2021
Number of SSOs	NONE	NONE	NONE	NONE	NONE
Volume, gallons					
Median Volume, Gallons					
Volume Recovered, Gallons					
Portion Recovered (%)					
Volume to Surface Waters, gallons					
Portion to Surface Waters (%)					
Size of System, miles	1.6	1.6	1.6	1.6	1.6

PERFORMANCE MEASURES 1/1/17 TO 12/31/21

BOULDER CREEK - CSA #7 3SSO10326	YEAR				
	2017	2018	2019	2020	2021
Number of SSOs	NONE	1	NONE	1	NONE
Volume, gallons		7		7	
Median Volume, Gallons		7		7	
Volume Recovered, Gallons		7		7	
Portion Recovered (%)		100%		0%	
Volume to Surface Waters, gallons		0		0	
Portion to Surface Waters (%)		0		0	
Size of System, miles	3	3	3	3	3

PERFORMANCE MEASURES 1/1/17 TO 12/31/21

ROLLING WOODS - CSA #10 3SSO10312	YEAR				
	2017	2018	2019	2020	2021
Number of SSOs	NONE	NONE	NONE	NONE	NONE
Volume, gallons					
Median Volume, Gallons					
Volume Recovered, Gallons					
Portion Recovered (%)					
Volume to Surface Waters, gallons					
Portion to Surface Waters (%)					
Size of System, miles	4	4	4	4	4

Appendix 10-A

SSMP Program Audits

SSMP Audit Checklist

ELEMENT 1 – GOALS		YES	NO
A	Are the goals stated in the SSMP still appropriate and accurate?		
Discussion:			

ELEMENT 2 — ORGANIZATION		YES	NO
A	Is the list of Key Staff responsible for SSMP current?		
B	Is the SSO responder telephone list current?		
C	Is the organization chart current and correct?		
D	Is SSO reporting and response “Chain of Communication” current?		
E	Are the position descriptions an accurate portrayal of staff responsibilities?		
Discussion:			

ELEMENT 3 – LEGAL AUTHORITY		YES	NO
Does the SSMP cite the Districts' legal authority to:			
A	Prevent illicit discharges?		
B	Require proper design and construction of sewers and connections?		
C	Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the County and the Districts?	NA	
D	Limit discharges of fats, oil, and grease?		
E	Require the installation of grease removal equipment?		
F	Enforce any violation of its sewer ordinances?		
G	Were any changes or modifications made in the past year to the sewer ordinances for the County and the Districts?		
Discussion:			

ELEMENT 4 – OPERATIONS AND MAINTENANCE		YES	NO
COLLECTION SYSTEM MAPS			
A	Does the SSMP reference the current process and procedures for maintaining the Districts' sanitary sewer system maps?		
B	Are the Districts' sanitary sewer system maps complete, current, and sufficiently detailed?		
C	Are storm drainage facilities identified on the collection system maps? If not, are SSO responders able to determine locations of storm drainage inlets and pipes for possible discharge to waters of the state?		
RESOURCES AND BUDGET			
D	Do the Districts and the County allocate sufficient funds for the effective operation, maintenance, and repair of their sanitary sewer systems and are the current budget structures documented in the SSMP?		
PRIORITIZED PREVENTIVE MAINTENANCE			
E	Does the SSMP describe current preventive maintenance activities and the system for prioritizing the cleaning of sewer lines?		
F	Based upon information in the Annual SSO Report, are the County's and the District's preventive maintenance activities sufficient and effective in minimizing SSOs and blockages?		
SCHEDULED INSPECTIONS AND CONDITION ASSESSMENTS			
F	Is there an ongoing condition assessment program sufficient to develop a capital improvement program addressing the proper management and protection of sanitary sewer system assets? Are the current components of this program documented in the SSMP?		
CONTINGENCY EQUIPMENT AND REPLACEMENT INVENTORY			
G	Does the SSMP list the major equipment currently used in the operation and maintenance of the sanitary sewer systems and does it document the procedures for inventory management?		
H	Are contingency equipment and replacement parts sufficient to respond to emergencies and properly conduct regular maintenance?		
TRAINING			
I	Does the SSMP document current training expectations and programs?		
J	Does the SSMP document currently outreach efforts to plumbers and building contractors?		
OUTREACH TO PLUMBERS AND BUILDING CONTRACTORS			
K	Does the SSMP document current outreach efforts to plumbers and building contractors?		

ELEMENT 5 – DESIGN AND PERFORMANCE STANDARDS		YES	NO
A	Does the SSMP reference current design and construction standards for the installation of new sanitary sewer systems, pump stations, and other appurtenances and for the rehabilitation and repair of existing sanitary sewer systems?		
B	Does the SSMP document current procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and the rehabilitation and repair of existing sewer lines?		
Discussion:			

ELEMENT 6 – OVERFLOW AND EMERGENCY RESPONSE PLAN		YES	NO
A	Does the Overflow Emergency Response Plan establish procedures for the emergency response, notification, and reporting of SSOs?		
B	Are staff and contractor personnel appropriately trained on the procedures of the Overflow Emergency Response Plan?		
C	Is the Overflow Emergency Response Plan effective in handling SSOs in order to safeguard public health and the environment?		
D	Are all SSO and claims reporting forms current or do they require revisions or additions?		
E	Does all SSO event recordkeeping meet the SSS GWDR requirements? Are all SSO event files complete and certified in the CIWQS system?		
F	Is all information in the CIWQS system current and correct? Have periodic reviews of the data been made during the year to assure compliance with SSS GWDR? Have all Technical Report and Water Quality Sampling requirements been certified and uploaded to the CIWQS data management system?		
G	Was required training on SSMP and OERP completed and documented? Were field exercises with field staff on SSO volume estimation conducted and documented?		
H	Did all public improvement plans and specifications that could impact collection system operations include requirements for OERP training or were contractor OERP programs at least as stringent as the County's OERP? Were regular items included in the project meeting agendas to discuss emergency response procedures and communications?		
Discussion:			

ELEMENT 7 – FATS, OILS, AND GREASE (FOG) CONTROL PROGRAM		YES	NO
A	Does the Fats, Oils, and Grease Control Program include efforts to educate the public on the proper handling and disposal of FOG?		
B	Does the FOG Control Program identify sections of the sanitary sewer system subject to FOG blockages, establish a cleaning schedule and address source control measures to minimize these blockages?		
C	Are requirements for grease removal devices, best environmental management practices, record keeping, and reporting established in the FOG Control Program?		
D	Do the Districts and the County have sufficient legal authority to implement and enforce the FOG Control Program?		
E	Is the current FOG Control Program effective in minimizing blockages of sewer lines resulting from discharges of FOG to the system?		
Discussion:			

ELEMENT 8 – SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN		YES	NO
A	Does the hydraulic capacity evaluation identify deficiencies in the sanitary sewer systems, establish sufficient design criteria and recommend both short-term and long-term capacity enhancement and improvement projects?		
B	Does the capital improvement program for the County and the Districts establish a schedule of approximate completion dates for both short-term and long-term improvements and is the schedule reviewed and updated to reflect current budgetary capabilities and activity		
Discussion:			

ELEMENT 9 – MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS		YES	NO
A	Does the SSMP accurately portray the methods of tracking and reporting selected performance indicators?		
B	Are the Districts and the County able to sufficiently evaluate the effectiveness of SSMP elements based on relevant information?		
C	Have all graphs and tables of performance results been updated with the most current results?		
Discussion:			

ELEMENT 10 – SSMP AUDITS		YES	NO
A	Will the SSMP Audit be completed, reviewed and filed in the Appendix?		
Discussion:			

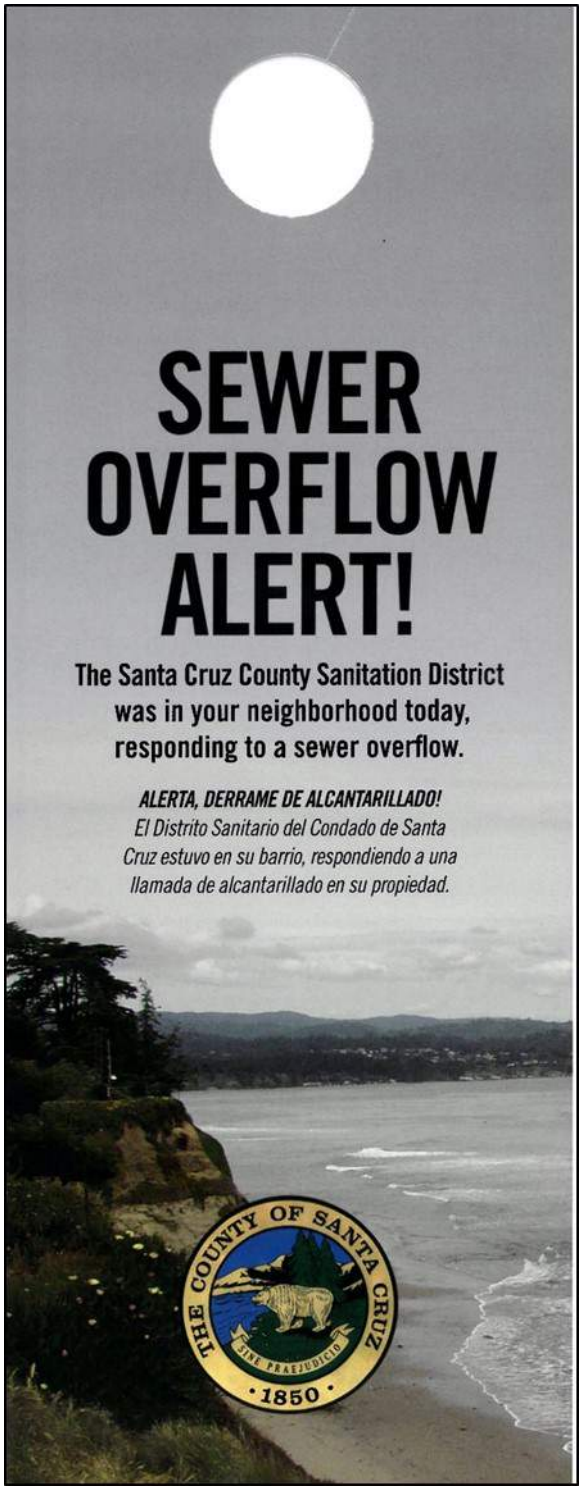
ELEMENT 11 – COMMUNICATION PROGRAM		Yes	No
A	Do the Districts and the County effectively communicate with the public, about the implementation of the SSMP and continue to address any feedback?		
B	Did the Board of Directors and the Board of Supervisors receive and review the Annual Sewer System Report? Was the annual report uploaded to the County's website and added to the Appendix.		
Discussion:			

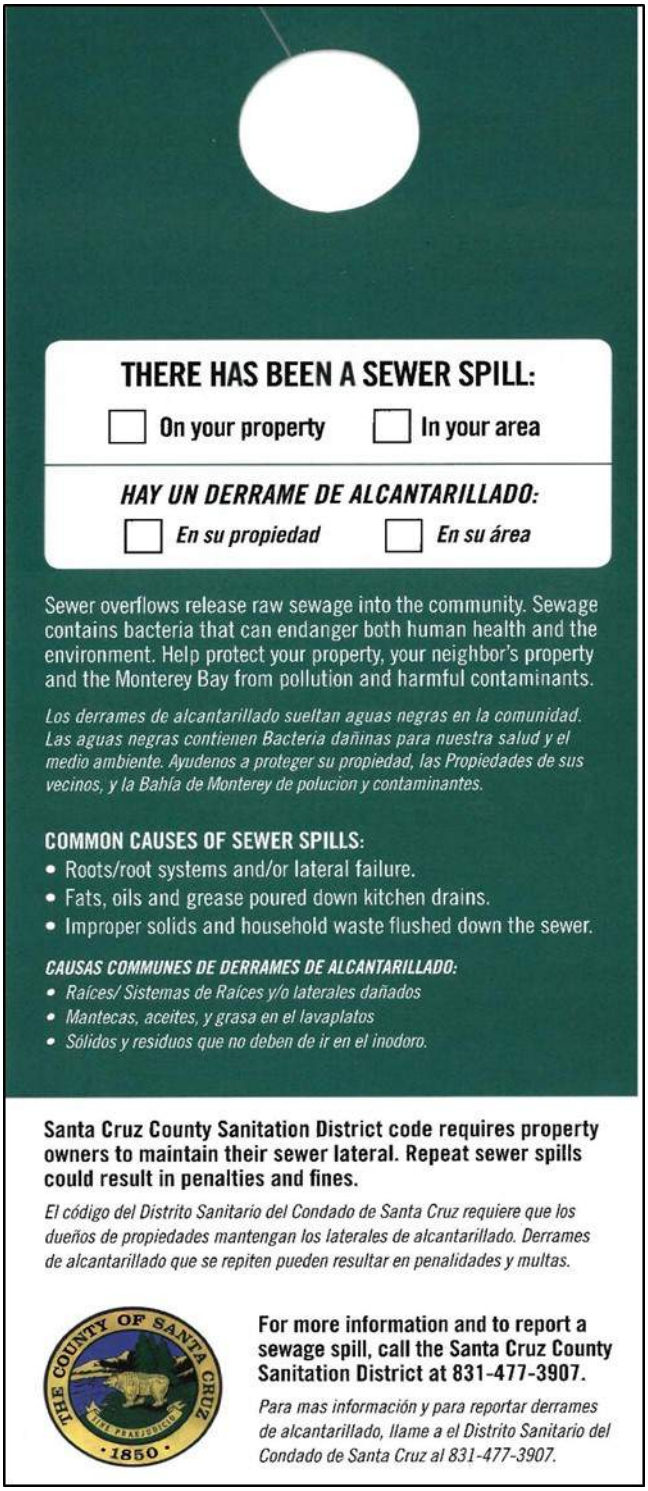
CHANGE LOG	YES	NO
A Is the SSMP Change Log, current and up to date?		
Discussion:		
Audit Team:_____		
Prepared By:_____ Date:		
Reviewed By:_____		

Appendix 11-A

Communication Program

Door Alert Hanger





Root Advertisement Door Hanger

ATTENTION REQUIRED!

During a routine video inspection of the sewer main pipeline in your neighborhood, Santa Cruz County Sanitation Operations staff found roots from your private sewer lateral growing into the County's sewer main at the connection. While the County maintains and removes roots from within the public sewer main, individual property owners are responsible for maintenance of their sewer lateral per County Code.

To avoid a sewer backup into your home and/or into the County's public sewer main, you must hire a licensed plumbing contractor to remove the roots.

The County recommends obtaining multiple estimates for lateral inspection, maintenance and repair work.

¡ATENCIÓN REQUERIDA!

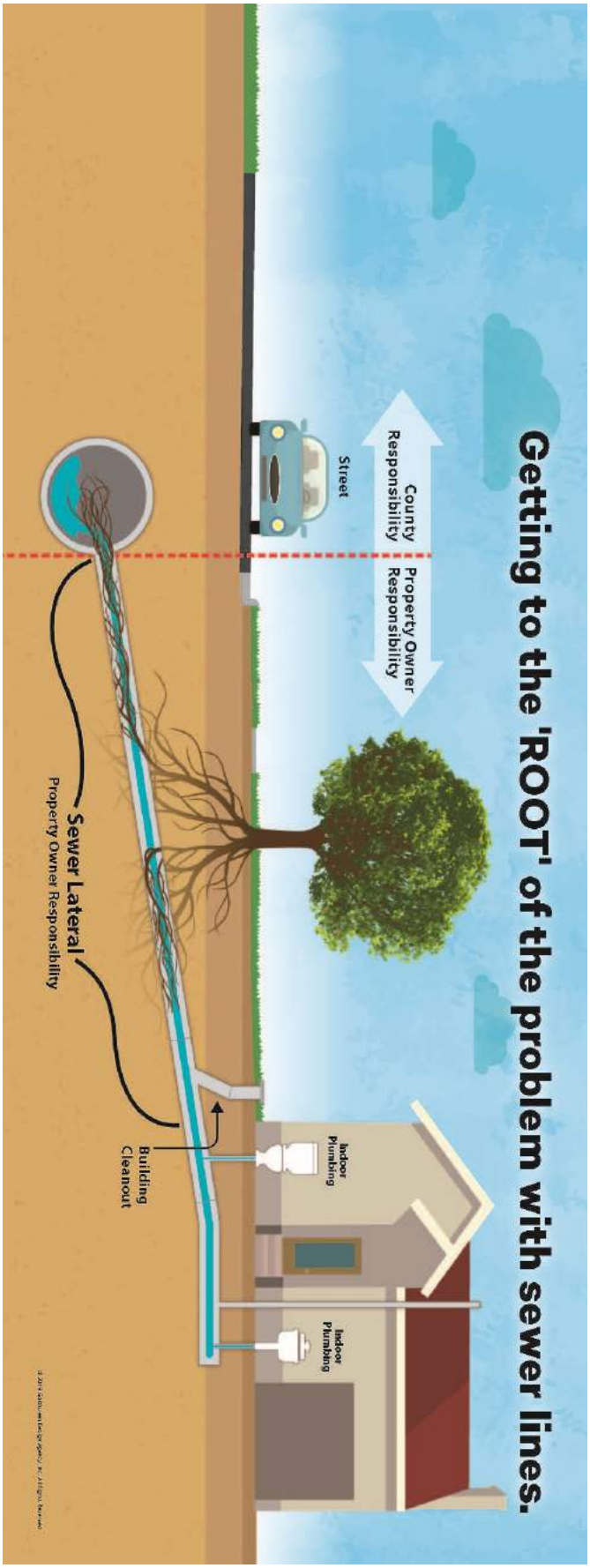
Durante una inspección de rutina de video del sistema de alcantrillado en su vecindario, el personal de Saneamiento del Condado de Santa Cruz encontró raíces dentro de la tubería que se conecta a su hogar. Mientras que el Condado mantiene y retira las raíces del alcantarillado principal, los propietaros son responsables del mantenimiento de la conneción lateral por el codigo del Condado.

Para evitar un desbordamiento del drenaje en su hogar ó en el alcantarillado principal del Condado, usted debe de contratar a un plomero con licencia para que retire las raíces. El Condado recomienda obtener varios presupuestos de inspección, mantenimiento y reparación de la conneción lateral.

For more information visit:
www.dpw.co.santa-cruz.ca.us/Home/SewerWater.aspx
or call (831)454-2160

For Sewer Emergencies call (831)477-3907

701 Ocean Street, Suite 410
Santa Cruz, CA 95060



Sewer Lateral Public Outreach Brochure Page 1

Santa Cruz County Sewer Lateral Code Highlights:

Owners of Private Sewers Shall:

- Maintain the private sanitary sewer collection system and private sewer lateral in a fully functioning condition and ensure the lines are free of:
  - ✓ cracks/fractures
  - ✓ leaks
  - ✓ inflow from connections to storm drains or surface water
  - ✓ infiltration of extraneous water below the ground
  - ✓ root intrusion
  - ✓ open joints
- Ensure no excessive sags exist collecting grease and sediment
- Keep records of all sewer maintenance and repairs and provide them to the County upon request
- Provide cleanout/backflow device when required*

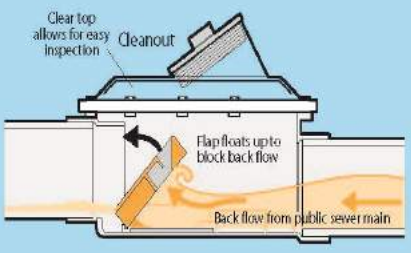
*Backflow requirement based on building elevation

The Santa Cruz County's Sewer Lateral Program Verifies Proper Sanitary Sewer Function Through:

- Video inspection by a owner-hired licensed plumber with completed lateral inspection form.
- County verification of the plumber's video and inspection form.
- County Verification of repairs completed by a licensed plumber.

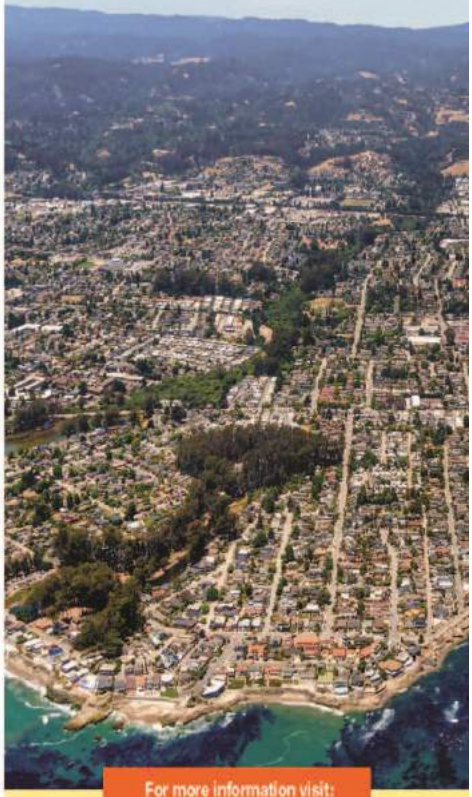
Protect Your Property

Sewer Cleanout/ Backflow Preventers
Keep sewage from flowing back into the building



County of Santa Cruz
701 Ocean Street, Room 410
Santa Cruz, CA 95060

Santa Cruz County Sewer Lateral Program



For more information visit:

www.dpw.co.santa-cruz.ca.us/Home/SewerWater.aspx
or call (831)454-2160

For Sewer Emergencies call (831)477-3907
701 Ocean Street, Room 410
Santa Cruz, CA 95060

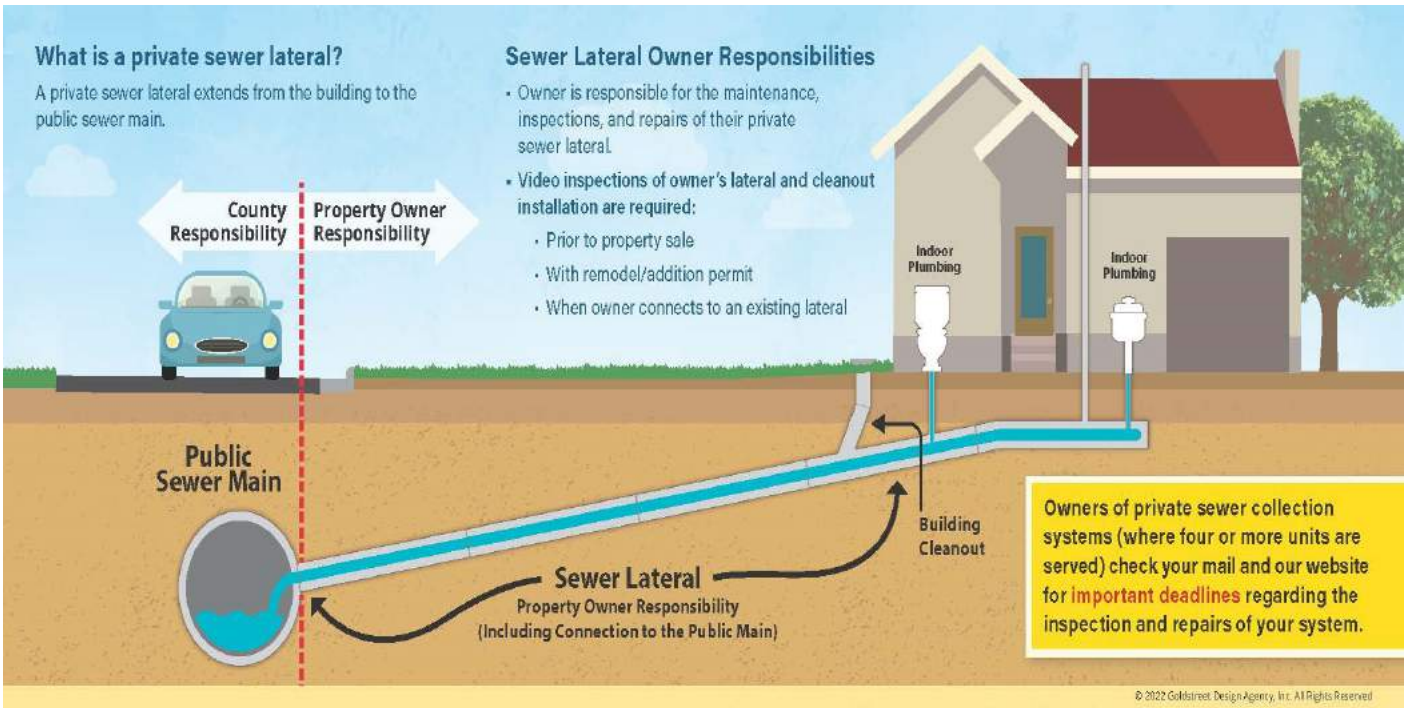
Sewer Lateral Public Outreach Brochure Page 2

What is a private sewer lateral?

A private sewer lateral extends from the building to the public sewer main.

Sewer Lateral Owner Responsibilities

- Owner is responsible for the maintenance, inspections, and repairs of their private sewer lateral.
- Video inspections of owner's lateral and cleanout installation are required:
  - Prior to property sale
  - With remodel/addition permit
  - When owner connects to an existing lateral



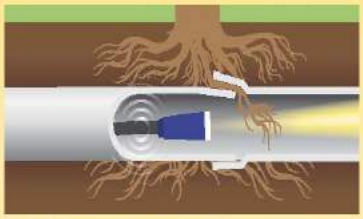
Owners of private sewer collection systems (where four or more units are served) check your mail and our website for important deadlines regarding the inspection and repairs of your system.

Out of Site Out of Mind

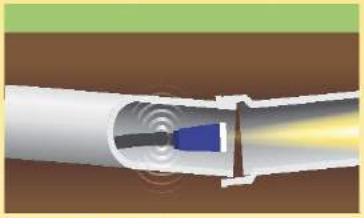
Failure to evaluate and maintain private sewers can result in:

- Sanitary sewer overflows which are hazardous to public health and the environment.
- Inflow and infiltration which can lead to overloaded public sewers during rain events, creating sanitary sewer overflows, more wear on the sewer system and higher treatment costs.

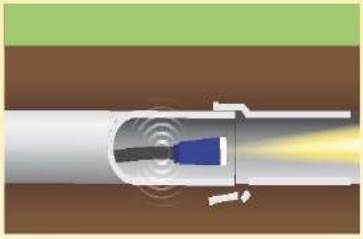
Common Lateral Problems Identified By Video Inspection



Pipe with **ROOT INTRUSION** with a camera showing it's location.



A **PIPE WITH SAG** with a camera showing it's location.



CRACKED OR MISALIGNED pipe with a camera showing it's location.

A **CRUSHED PIPE** with a camera showing it's location.

Sewer Lateral Public Outreach Brochure—Spanish Version—Page 1

Puntos destacados de el sistema de alcantarillado de el Condado de Santa Cruz:

Los propietarios de conecciones privadas deberán hacer lo siguiente:

- Dar mantenimiento al sistema sanitario privado de aguas residuales así como a la linea privada de drenaje y asegurarse de que este en buen funcionamiento y que este libre de:
  - ✓ Grietas/Fracturas
  - ✓ Filtraciones
  - ✓ Afluencia de conexiones a desagües pluviales o aguas superficiales
  - ✓ Infiltracion de agua del sub-suelo
  - ✓ Intrusión de raíces
  - ✓ Uniones separadas
- Asegurarse de que no existan hundimientos excesivos que acumulen grasa y sedimentos
- Mantener registros de todas las reparaciones asi como del mantenimiento del alcantarillado y proporcionarlos al Condado cuando lo solicite
- Proporcionar un dispositivo de limpieza/contrareflujo cuando sea necesario*

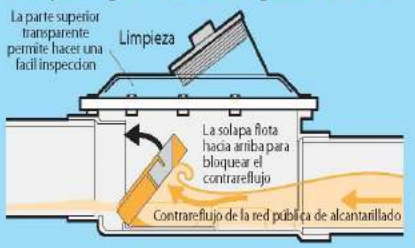
*Requisito de contrareflujo basado en la elevación del edificio

El Programa del sistema de alcantarillado del Condado de Santa Cruz verifica el funcionamiento correcto del alcantarillado mediante:

- Inspección por video realizada por un fontanero autorizado contratado por el propietario y con el formulario de inspeccion lateral.
- Verificación por parte del Condado del video del fontanero y del formulario de inspección.
- Verificación por parte del Condado de las reparaciones realizadas por un fontanero autorizado.

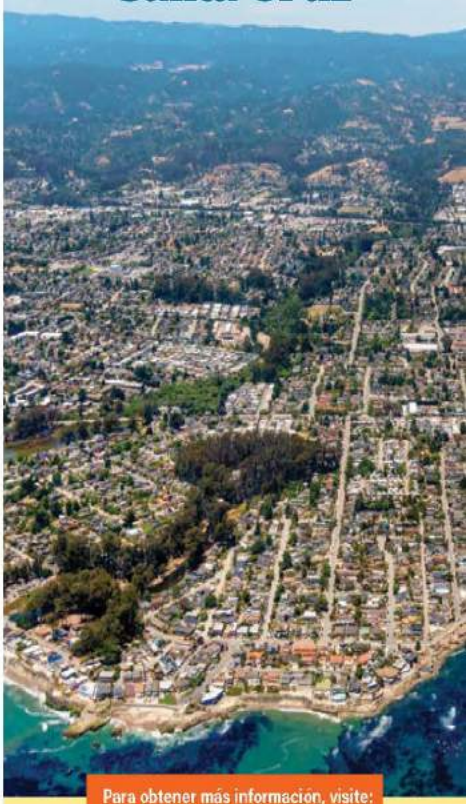
Proteja su propiedad

Válvulas contrareflujo/de limpieza
Evita que las aguas residuales se regresan a el edificio



Condado de Santa Cruz
701 Ocean Street, # 410
Santa Cruz, CA 95060

Programa del sistema de alcantarillado del Condado de Santa Cruz

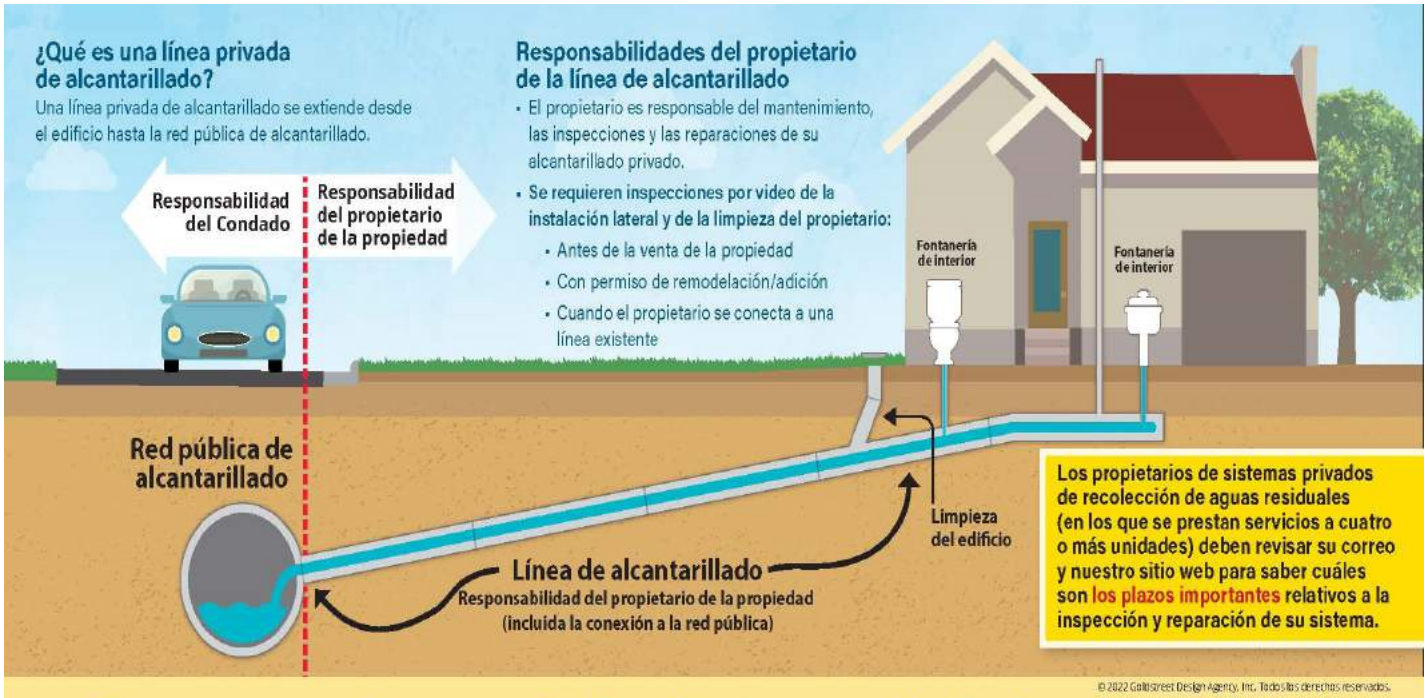


Para obtener más información, visite:

www.dpw.co.santa-cruz.ca.us/Home/SewerWater.aspx
o llame al (831) 454-2160

En caso de una emergencia de alcantarillado,
llame al (831) 477-3907
701 Ocean Street, # 410
Santa Cruz, CA 95060

Sewer Lateral Public Outreach Brochure—Spanish Version Page 2

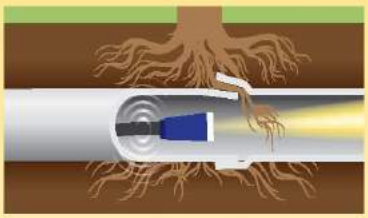


Ojos que no ven, corazón que no siente

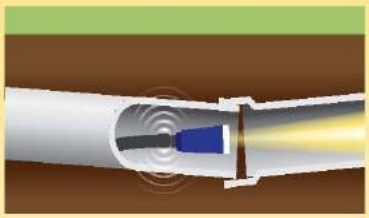
La falta de evaluación y mantenimiento de las alcantarillas privadas puede dar lugar a lo siguiente:

- Desbordamientos del alcantarillado sanitario que son peligrosos para la salud pública y el medio ambiente.
- El flujo y la infiltración, que pueden llevar a la sobrecarga de las alcantarillas públicas durante los eventos de lluvia, lo que crea desbordamientos del alcantarillado sanitario, más desgaste en el sistema de alcantarillado y mayores costos de tratamiento.

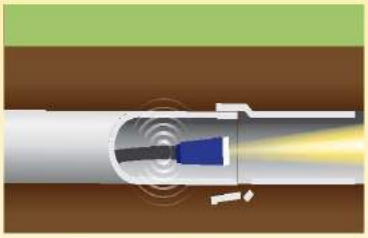
Problemas laterales comunes identificados por la inspección de video



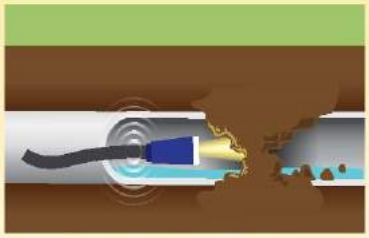
Tubería con **INTRUSIÓN DE RAÍCES** con una cámara que muestra su ubicación.



Tubería con **HUNDIMIENTOS** con una cámara que muestra su ubicación.



Tubería **AGRIETADA O MAL ALINEADA** con una cámara que muestra su ubicación.



TUBERÍA APLASTADA con una cámara que muestra su ubicación.

What You Need to Know About Your Sewer

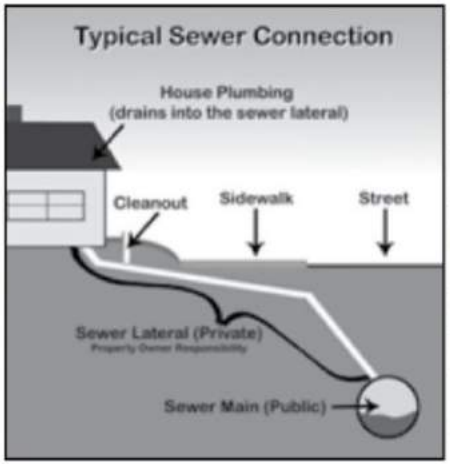
By Ashleigh Trujillo, Senior Engineer of the Santa Cruz County Sanitation District

When was the last time you thought about your home or business' sewer lateral? Unless it stinks or spills, sewer laterals are usually forgotten and neglected. Pipes hidden several feet underground could be deteriorating, leaking, or ensnarled with tree roots. Blockages in these pipes can lead to disgusting backups into buildings, messy sewer overflows on private or public property, and dangerous contamination of surface waters.

In recent years, agencies that manage sanitary sewers are launching programs to help combat this problem. The Santa Cruz County Sanitation District (District) most recently began updating their program (first introduced in 2006) in December 2018. Since that time, the District held informational meetings with realtors and plumbers seeking their input on the strengths and weaknesses of the Lateral Program. The public also weighed in with phone calls and emails.

In early August the District Board approved a new ordinance revising the District code governing the Lateral Program. The new ordinance incorporates much of the feedback from community outreach. Key highlights from the new ordinance are:

1) At the time of escrow, the sewer lateral for the property must be video inspected by a licensed plumber, reviewed by District staff, and repaired (if necessary) by a licensed plumber. Historically, the repairs had to be completed prior to the close of escrow, however, the new ordinance allows for a transfer of responsibility to the buyer. If agreed upon by both parties, the buyer has 90 days after the transfer of responsibility is filed with the District to make the required sewer repairs.
2) Vague language regarding the requirement for private lateral owners to inspect their sewer lateral "periodically" has been removed and a minimum 10-year inspection period has been specified. The private lateral extends from two feet outside the building all the way to the public sewer main (including the connection).
3) As individual residents of homeowner-association-governed properties (HOA's) typically do not have the responsibility (and sometimes the right) to maintain and repair the sewer lateral in their private development, the new ordinance specifies timeframes for HOA's to video inspect their entire system, create an operation and maintenance plan for the system, and then develop a multi-year plan to make any necessary repairs to bring the system into compliance with District requirements.



Code requirements for video inspection and repair of private sewer laterals of buildings undergoing remodels or additions remain, as does the requirement to video inspect and repair an existing sewer lateral before adding a new connection. Requirements for cleanouts and overflow devices remain unchanged.

Newer, properly installed, laterals do not typically require repairs. Therefore, owners of laterals that are less than 20-years old are offered some exemptions as outlined in the code.

From December 2018 through July 2019, 570 sewer laterals have been evaluated by District staff. Of those, 34% required no work, 51% required partial repair, 3% required only the addition of a cleanout/backflow device, and 12% required full replacement.

The reduction in cracks and breaks in these repaired laterals will reduce the amount of infiltration of stormwater/groundwater into the sewer system, saving the District, and ultimately the rate payers, money that would have been spent on increased treatment costs and other operational expenses.

The Freedom and Davenport County Sanitation Districts will be following suit with ordinance changes in the next couple months. The City of Santa Cruz has a similar program that began on July 1, 2019. ■

•••

More information regarding the District's Lateral Program can be found on the County's home page at www.santacruzcounty.us.

Out of Sight & Out of Mind

Sanitary Sewers: Infrastructure Assessment & Plans for Improvements

Courtesy of Santa Cruz County Sanitation District and the Santa Cruz County Board of Supervisors

Sanitary sewers are often out of sight and out of mind, and we rarely consider the vital infrastructure operating below the surface of our streets. But they are essential to the health and safety of the community.

The Santa Cruz County Sanitation District is responsible for constructing, maintaining, and repairing pipelines and pump stations that transport waste from the District — which includes the communities of Live Oak, the City of Capitola and portions of Aptos and Soquel — to the city-owned Wastewater Treatment Facility at Neary Lagoon.

The life cycle of an average sewer main is approximately 50 years. More than 60% of sewer mains within the District are operating beyond their life cycle. Deteriorating sanitary sewer infrastructure can create sinkholes, backups into homes and businesses, manhole overflows and surface water and groundwater contamination.

The District uses closed-circuit television cameras to video and assess the condition of the public sewer mains throughout the system.

Inspections completed prior to October 2021 found 238,700 linear feet of sewer mains (20% of the District's mains) have significant deficiencies and need repair or

replacement. An additional 20% of mains will likely need replacement in the near future.

With the City of Santa Cruz's treatment plant also in need of rehabilitation, plant improvements (i.e. major equipment replacement, infrastructure upgrades, and laboratory modernization) planned for next year will also lead to increased treatment costs, which will be passed on in the form of higher rates to the County's Sanitation District. These higher rates are a significant reason why the District will be considering a sewer rate increase at an upcoming public meeting.

Overall, the District currently requires an estimated $143 million to rehabilitate deteriorating sewer infrastructure and another $80 million to address capacity issues that put the sewer system at risk of overflowing in a large storm event, which is increasingly likely due to climate change.

To generate funds for these projects and cover the higher pass-through treatment costs from the City, the Board of Directors of the Santa Cruz County Sanitation District will hold a public hearing May 5 at 4:45 PM in the D. A. Porath Sanitation Facility Meeting Room, at 2750 Lode Street, Santa Cruz, CA 95062. Residents may join virtually at https://tinyurl.com/SanitaryDistrict.

The Board will consider a 6.5% rate increase, which is less than $5 per month more for a single-family residence. Approximately 95% of the District's proposed rate increase this year will cover the pass-through costs from the City's increased treatment costs.

Subsequent increases will be needed in coming years to address the aging infrastructure and increased pass-through costs. However, with this increased revenue, nearly all of the known significant deficiencies in the system will be remedied in the next ten years. ■

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For more information on the sewer system, rates and the Public Hearing visit the District website at https://www.sccsd.us.

Appendix 12-A

Change Log

SSMP ELEMENT #	DATE	DESCRIPTION OF CHANGE	PERSON AUTHORIZING CHANGE

Definitions

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

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

Capital Improvement Program - Refers to the document that identifies planned capital improvements to the Districts/CSAs sanitary sewer systems.

Certification of SSO Reports - The SWRCB requires the Legally Responsible Official to login to CIWQS within a given time period to electronically sign submitted reports thereby stating that to the best of his/her knowledge and belief, the information submitted is true, accurate, and complete.

City- Means the city of Santa Cruz

Closed Circuit Television - Refers to the process and equipment that is used to internally inspect the condition of gravity sewers.

Collection System – See Sanitary Sewer System.

Community Development and Infrastructure—Refers to the merger of the County of Santa Cruz Planning Department and Department of Public Works.

Computerized Maintenance Management System - Refers to software and a database that is used to manage maintenance and condition assessment data including the production of work orders and the recording of work completed.

Condition Assessment: A report that comprises inspection, rating, and evaluation of the existing condition of a sewer collection system. Inspection is based upon closed circuit television ("CCTV") inspections for sewer lines; manhole inspections for structural defects; and inspections of pipe connections at the manhole. After CCTV inspection occurs, pipe conditions are assigned a grade such as the Pipeline Assessment and Certification Program ("PACP") rating system, developed by the National Association of Sewer Service Companies.

County - Refers to Santa Cruz County, California.

County Service Areas- Refers to specific areas within the County where the County operates and maintains sanitary sewer system facilities. These CSAs are governed by the County Board of Supervisors.

Districts - Refers to the Davenport, Freedom, and Santa Cruz County Sanitation Districts.

Davenport County Sanitation District-Separate special district governed by the County Board of Supervisors.

Enrollee – A public entity that owns or operates a sanitary sewer system and has submitted a complete and approved application for coverage under Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (WQO No. 2006-0003-DWQ).

Definitions

Environmental Compliance Unit- The Environmental Compliance Unit implements the Pretreatment Program within the Santa Cruz County Sanitation Districts.

Environmental County Health - Refers to the Santa Cruz County Environmental Health Department.

Environmental Protection Agency- Refers to the United States Environmental Protection Agency.

Enforcement Response Plan- The Procedures indicating how the County of Santa Cruz and Santa Cruz County Sanitation Districts investigate and respond to instances of user noncompliance.

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

Full Condition Assessment- A Condition Assessment of all sewer lines in the sewer collection system.

Field Report - Refers to the Field Stoppage Report and Reporting Party Interview Report Form.

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

Force Main - Refers to a pressure sewer used to convey wastewater from a pump station to the point of discharge.

Freedom County Sanitation District- Separate special district governed by the County Board of Supervisors.

Full-time Equivalent - Refers to the equivalent of 2,080 paid labor hours per year by a regular, temporary, or contract employee.

Waste Discharge Requirements - Refers to the State Water Resources Control Board Order No. 2006-0003, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, dated May 2, 2006, as revised on September 9, 2013.

Grease Removal Device - Refers to grease traps or grease interceptors that are installed to remove FOG from the wastewater flow at food service facilities.

Hotspot - A gravity sewer identified as requiring more frequent preventive maintenance to reduce the likelihood of SSOs.

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

Legally Responsible Official - Refers to the individual who has been formally designated to certify reports and other actions that are submitted through CIWQS, the online SSO reporting system.

Definitions

Notification of an SSO - Refers to the time at which emergency response crews becomes aware of an SSO event through observation or notification by the public or other source.

Office of Emergency Services- Refers to the California Governor's Office of Emergency Services.

Pipeline Assessment and Certification Program -The North American Standard for pipeline defect identification and assessment, providing standardization and consistency to the methods in which pipeline conditions are identified, evaluated and managed.

The PACP assigns grades based on the significance of the defect, extent of damage, percentage of flow capacity restriction, and/or the amount of pipe wall loss due to deterioration. Grades are assigned as follows:

5 – Most significant defect

4 – Significant defect

3 – Moderate defect

2 – Minor to moderate defect

1 – Minor defect.

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

Private Lateral Sewage Discharges- Sewage discharges that are caused by blockages or other problems within a privately owned lateral and voluntarily reported in CIWQS.

Private sewer- A sewer privately owned and not directly controlled by the County.

Private sewer lateral- The portion of a sanitary sewer line, including clean outs, overflow valves, backflow valves, "wye" branches, and appurtenances that connects the building sewer to the sewer main of the Districts/CSAs.

Public sewer- A sewer which is under jurisdiction of a District or the County of Santa Cruz.

Publicly Owned Treatment Works-[40 CFR 403.3(q)]- A treatment works (as defined by CWA section 212) that is owned by a state or municipality [as defined by CWA section 502(4)]. This definition includes any devices or systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW treatment plant. The term also means the municipality [as defined in CWA section 502(4)] that has jurisdiction over the indirect discharges to and the discharges from such a treatment works.

Property Damage Overflow - Property damage overflow refers to a sewer overflow or backup that damages private property.

Definitions

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

(i) Overflows or releases of untreated or partially treated wastewater that reach waters of the United States;

(ii) Overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and

(iii) Wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system.

Regional Water Quality Control Board- Refers to the Regional Water Quality Control Board for the Central Coast Region (Region 3).

Sanitary Sewer System - Refers to the portion of the sanitary sewer facilities that are owned by the Districts/CSAs operated by sanitation operations employees. Sanitary Sewer System can also refer to the portion of sanitary sewer facilities that are located in the enrolled County Service Areas and are maintained by sanitation operations.

Sanitation Operations- The Sanitation Division of Santa Cruz Public Works. Sanitation Operations is responsible for the collection of wastewater (sewage) for several sanitation districts including Santa Cruz Sanitation District, Freedom Sanitation District, Davenport Sanitation District and County Service Areas (CSAs) located within Santa Cruz County. Sanitation operations also provides water service (Davenport only), and Environmental Compliance.

Santa Cruz County Sanitation District-The sanitary sewer system in all of the unincorporated areas in the County including: Aptos, Capitola, Soquel, and other parts of Santa Cruz outside of the City of Santa Cruz. This is a separate enterprise special district governed by a Board composed of one member from the City of Capitola and Board members from the County Board of Supervisors Supervisorial Districts 1 and 2.

Sensitive Area - Refers to areas where an SSO could result in a fish kill or pose an imminent or substantial danger to human health (e.g. parks, aquatic habitats, etc.).

Significantly Defective- A sewer pipe is considered to be Significantly Defective if its condition receives a Structural or Operation and Maintenance grade of 4 or 5based on the PACP rating system.

Standard Operating Procedures - Refers to written procedures that pertain to specific activities employed by sanitation operations in the operation and maintenance of the sanitary sewer system.

State Water Resources Control Board - Refers to the California Environmental Protection Agency State Water Resources Control Board and staff responsible for protecting the State's water resources.

Surface Waters - See waters of the State.

Definitions

Surface Water Condition Assessment- A Condition Assessment of sewer lines in the sewer collection system located sufficiently proximate to a surface water that if defective, could allow exfiltration to that surface water. A sewer main is "sufficiently proximate" will depend upon a number of factors including age, composition and PACP rating of the sewer line in question, the nature of the defect, soil types, and groundwater patterns.

Treatment Plant Operator - Under general supervision, to perform difficult and complex operations and maintenance functions for the County's wastewater and water treatment plants; to function as a lead worker to trainee operators; may act as chief plant operator for a class II or I wastewater treatment plant; and to perform other duties as required.

Volume Recovered – Refers to the amount of spilled sewage that is returned to the sanitary sewer system. When recording the volume that is captured, the volume of water used for flushing and/or cleaning should not be included.

Water Body - A water body is any stream, creek, river, pond, impoundment, lagoon, wetland, or bay.

Waters of the State - Waters of the State (or waters of the United States) means any surface water, including saline waters, within the boundaries of California. In case of a sewage spill, storm drains are considered to be waters of the State unless the sewage is completely contained and returned to the sanitary sewer system and that portion of the storm drain is cleaned.

Water Quality Monitoring Program-The response activities and standard operating procedures to be utilized in the Overflow Emergency Response Plan, in the event a sanitary sewer overflow is 50,000 gallons or more or whenever there is an SSO that either enters a surface water or is discharged to a surface and poses a risk to public health or the environment.

Waste Discharge ID - A unique identifier used to report to the State database, CIWQS.

Work Order- Refers to a document (paper or electronic) that is used to assign work and to record the results of the completed work by Sanitation Operations staff.

References

State Water Resources Control Board Order No. 2006-0003 Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, California State Water Resources Control Board, May 2, 2006.

State Water Resources Control Board Monitoring and Reporting Program order (as amended by Order No. WQ 2013-0058-EXEC), California State Water Resources Control Board, effective September 9, 2013.

A Guide for Developing and Updating of Sewer System Management Plans (SSMPs) September 2015