



# SEWER SYSTEM MANAGEMENT PLAN

Sewer Authority Mid-Coastside

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Prepared by

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- Appendix F - Element 7 (None)
- Appendix G - Element 8 (None, refer to SAM website for previous capacity studies)
- Appendix H - Element 9 (None)
- Appendix I - Element 10 (SSMP Audit Form, SSMP Change Log, SSMP Audits 2016, 2018)
- Appendix J - Element 11 (none)

## LIST OF ACRONYMS

BACWA	Bay Area Clean Water Agencies
BMP	Best Management Practices
CCTV	Closed-Circuit Television
CFR	Code of Federal Regulations
CIP	Capital Improvement Program
CITY	City of Half Moon Bay
CIWQS	California Integrated Water Quality System
CMMS	Computerized Maintenance Management System
CDFW	California Department of Fish and Wildlife
EHS	Environmental Health Services
FOG	Fats, Oils and Grease
FSE	Food Service Establishment
GIS	Geographical Information System
GPM	Gallons per Minute
GSD	Granada Sanitary District I/I or I&I      Inflow & Infiltration
IPS	Intertie Pipeline System
LRO	Legally Responsible Official
MGD	Million Gallons per Day
MRP	Monitoring and Reporting Program
MWSD	Montara Water and Sanitary District
NASSCO	National Association of Sewer System Companies
NPDES	National Pollution Discharge Elimination System
OERP	Overflow Emergency Response Plan
OES	California Office of Emergency Services
PACP	Pipeline Assessment and Certification Program
PM	Preventive Maintenance
POTW	Publicly-Owned Treatment Works
RWQCB	Regional Water Quality Control Board
SAM	Sewer Authority Mid-Coastside

SMCRCD	San Mateo County Resource Conservation District
SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow
SWRCB	State Water Resources Control Board
WDR	General Waste Discharge Requirements
WWTP	Wastewater Treatment Plant



## LIST OF TERMS

Bay Area Clean Water Association (BACWA) – Association comprised of Bay Area wastewater treatment and collection system agencies. BACWA represents the interests of public wastewater agencies in regulatory matters and to support the exchange of information.

Website: <http://www.bacwa.org>

Blockage – An object that partially or fully hinders flow through a sewer pipeline. The blockage can be caused by debris in the sewer, grease buildup, root intrusion, or a partial or full collapse of the pipeline. Also known as a stoppage

California Association of Sanitation Agencies (CASA) - A non-profit, statewide association representing public agencies that provide wastewater collection, treatment, disposal, and/or water reclamation services to California agencies. Website: <http://www.casaweb.org>

California Integrated Water Quality System (CIWQS) – A computer system used by the State and Regional Water Quality Control Boards to track information about SSOs, among other information. CIWQS is the tool used for online submittal of SSO details, which are then made available to the public. Website: <http://www.swrcb.ca.gov/ciwqs/>

California Water Environment Association (CWEA) – The statewide association of wastewater professionals that trains and certifies wastewater professionals, disseminates technical information and promotes policies to protect and enhance the environment.

Website: <http://www.cwea.org>

Enrollee – The legal public entity that owns a sanitary sewer system, as defined by the Statewide WDR. Also known as a sewer system agency or wastewater collection system agency.

Fats, Oils, and Grease (FOG) Control Program – Program implemented at the discretion of the agency, based on the identified causes of sewer overflows, to reduce the discharge of fats, oils and grease into the sewer system

Geographical Information System (GIS) – A database linked with mapping that records sewer system information. The GIS database could include sewer features such as pipe location, diameter, material, condition, or last date cleaned or repaired. GIS maps also typically contain base information such as streets and parcels

Governing Board – SAM Board of Directors

Infiltration – The seepage of groundwater into a sewer system, including service connections. Seepage frequently occurs through defective or cracked pipes, pipe joints, connections or manhole walls and joints

Inflow – Water discharged into a sewer system from such sources as roof leaders, cellars, yard and area drains, foundation drains, through holes in manhole covers, cross connections from the storm system or street wash waters. Inflow differs from infiltration in that it is a direct discharge into the sewer rather than a leak through defects in the sewer.

Lateral or Private Lateral – The privately-owned sewer pipeline that conveys wastewater from the premises of a user to SAM’s sewer system. The upper lateral extends from the building to property line (or easement line). The lower lateral extends from the property or easement line to the connection to the pipe.=

Monitoring and Reporting Program - The State requirement, Executive Order WQ-2013-0058.EXE, to monitor, maintain records for, and report SSOs,.=

Overflow Emergency Response Plan – This document identifies measures that are needed to respond to sanitary sewer overflows in a way that maximizes the protection of public health and the environment.=

Preventive Maintenance (PM) – Regularly scheduled servicing of machinery, infrastructure or other equipment using appropriate tools, tests, and lubricants.=

Rehabilitation and Replacement Plan (also referred to as a Capital Improvement Plan) – Identifies and prioritizes system deficiencies and implements short-term and long-term rehabilitation actions to address each deficiency.=

San Francisco Bay Regional Water Quality Control Board (RWQCB) – Also known as Region 2 or RWQCB. This regulatory agency preserves, enhances and restores the quality of California's water resources, and ensures their proper allocation and efficient use for the benefit of present and future generations.

Website: <http://www.waterboards.ca.gov/sanfranciscobay>

Sanitary Sewer Overflow (SSO) – Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system, including overflows or releases that reach waters of the United States, overflows or releases that *do not* reach water of the United States, and backups into buildings and/or private property caused by conditions within the publicly owned portion of the sewer system

Sanitary Sewer System – Any system of pipes, pump stations, sewer lines, or other conveyances, upstream of a wastewater treatment plant headworks used to collect and convey wastewater to the wastewater treatment plant

Satellite Collection System – The portion, if any, of a sanitary sewer system that is owned or operated by a different public agency or user

Sewer System Management Plan (SSMP) – A series of written programs that address how a collection system owner/operator conducts daily business. Each SSMP is unique for an individual discharger. The plan includes provisions to provide proper and efficient management, operation, and maintenance of sanitary sewer systems, while taking into consideration risk management and cost benefit

State Water Resources Control Board (SWRCB) – Also called the State Board. This agency developed and passed the Statewide Waste Discharge Requirements for collection systems and maintains the SSO reporting web site

System Evaluation and Capacity Assurance Plan (SECAP) – A required component of an agency’s SSMP that provides hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event

Statewide Waste Discharge Requirements (WDR) – The Statewide General Waste Discharge Requirements for Sanitary Sewer Systems was adopted by the SWCRB in 2006 to provide a structure and guidance for SSMP development. Also known as Order No. 2006-0003-DWQ and Executive Order WQ-2013-0058.EXE

Wastewater Collection System – See Sanitary Sewer System

## INTRODUCTION

This Sewer System Management Plan (SSMP) has been prepared in compliance with requirements of the State Water Resources Control Board (SWRCB) Order No. 2006-0003-DWQ, and Amended Monitoring and Reporting Program (MRP), Order No. WQ 2013-0058-EXEC.

### 1.1 INTRO-1 Background

On July 7, 2005, the RWQCB issued a letter to the San Francisco Bay Region (Region 2) sewer collection system agencies, including the Sewer Authority Mid-Coastside (SAM) that required SAM to prepare a SSMP. At the same time, the RWQCB released the SSMP Development Guide that was prepared in cooperation with the Bay Area Clean Water Agencies (BACWA).

The 2005 directive stated that SAM must also comply with RWQCB sanitary sewer overflow (SSO) electronic reporting requirements issued in November 2004.

The Bay Area Clean Water Agencies (BACWA), with a broad base of collection system management experience, worked collaboratively with the Regional Water Board to develop a system which would meet the needs of the regulators while retaining a commonsense approach to the practicalities of managing sewage collection systems. BACWA representatives and staff from the Regional Water Board developed an outline of the key elements of a sewer system management plan (SSMP), an electronic reporting system for SSOs, and an implementation schedule for both of those items. BACWA-sponsored training was provided for all collection system agencies in this area prior to the Regional Water Board implementing this new program beginning in January 2005.

On May 2, 2006, the State Water Resources Control Board (State Water Board) adopted new statewide SSO requirements, including a new electronic reporting system and a requirement for sanitary sewer collection system agencies to develop SSMPs. These new General Waste Discharge Requirements (GWDRs) are applicable to all federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly-owned treatment facility in the State of California. The elements of the SSMP were similar to, but not the same as, the elements previously required by the Regional Water Board.

In early 2008, the State Water Board amended the notification and reporting requirements for any SSO that discharges to a drainage channel or surface water. SSOs of that type must be reported to the Office of Emergency Services, the Regional Water Board, and the local health department within two hours of becoming aware of the SSO, and within 24 hours the collection system agency must certify to the Regional Water Board that those two-hour notifications have taken place. As a follow-up to this State Water Board action, the Regional Water Board then implemented new procedures, including re-establishing electronic reporting to the Regional Water Board, for these type SSOs. The State Water Board again amended their notification and reporting requirements such that the Regional Water Board is no longer one of the notification or reporting agencies. Instead, notifications are limited to the State Water Board and the local health department, with follow-up reporting required with the State Water Board.

Effective September 9, 2013, the SWRCB amended the Monitoring and Reporting Program by Executive Order WQ-2013-0058.EXE that modified the categories of SSOs, notification and recordkeeping requirements and instituted new requirements for a Technical Report and Water Quality Monitoring Plan for SSO greater than 50,000 gallons reaching waters.

### 1.1.1 Historical Regulatory Documents Associated with the GWDR.

Regional Water Board Letter of 11/15/2004  
Outlining New Requirements for Reporting  
Sanitary Sewer Overflows (SSOs)

Regional Water Board Letter of 07/07/2005  
Outlining New Requirements for Preparing  
Sewer System Management Plans (SSMPs)

State Water Board Order No. 2006-003-DWQ,  
Statewide General Waste Discharge  
Requirements for Sanitary Sewer Systems

Regional Water Board Letter of 09/29/2006  
Discussing Impact of State Water Board  
Order No. 2006-003-DWQ

State Water Board Amendment of  
Monitoring and Reporting Requirements  
For Order No. 2006-003-DWQ (02/20/2008)

Regional Water Board Letter of 05/01/2008  
With New Reporting Requirements for SSOs  
That Discharge to Drainage Channels or Surface Waters

State Water Board Order No. 2013-0058-EXEC,  
Amending Monitoring And Reporting Program For  
Statewide General Waste Discharge Requirements For Sanitary Sewer Systems effective September  
9, 2013

The SAM Waste Discharge ID Number (WDID) for the California Integrated Water Quality System  
(CIWQS) is 2SSO10175.

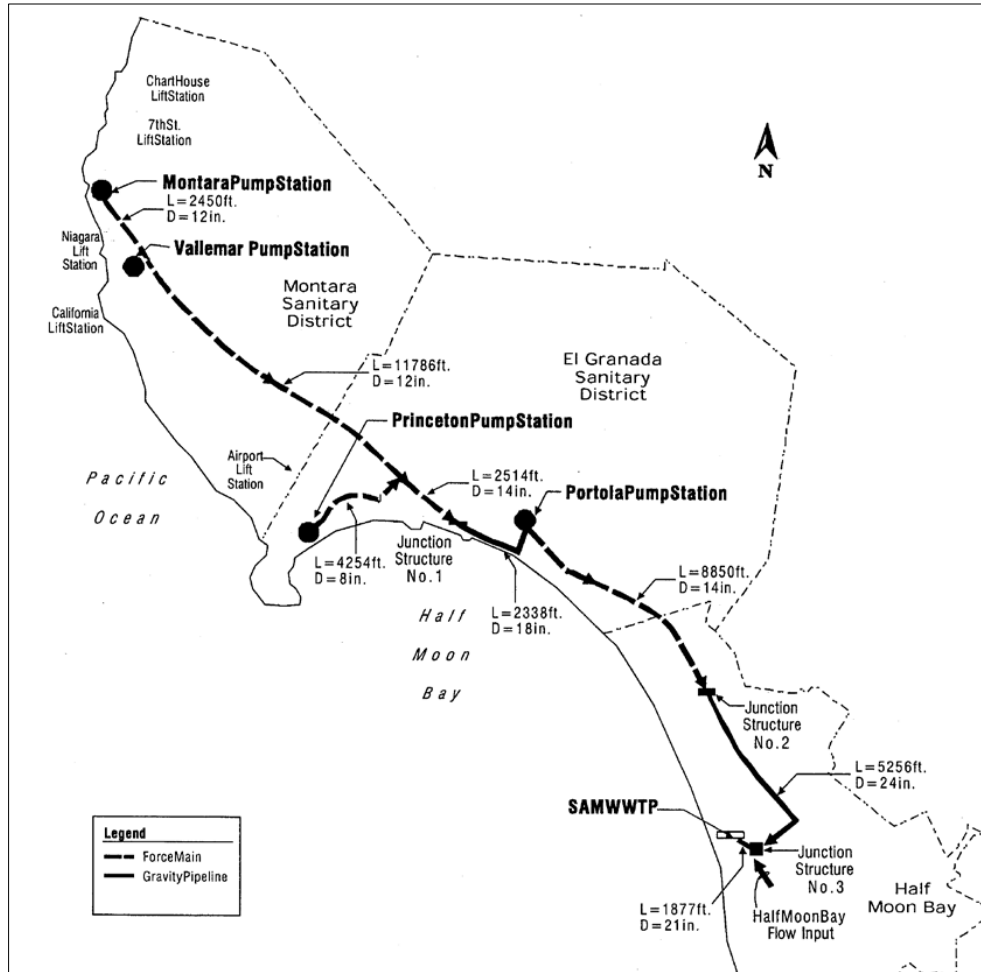
## 1.2 INTRO-2 SAM Service Area

The Sewer Authority Mid-Coastside (SAM) is a Joint Powers Agency formed in 1976 to consolidate wastewater treatment functions for approximately 22,000 coastal residents in San Mateo County.

SAM is made up of three Member Agencies, which comprise the City of Half Moon Bay, Granada Sanitary District, and Montara Water and Sanitary District. Each member agency has two seats on the SAM Board of Directors. However, the City of Half Moon Bay holds 50 percent of voting authority on the Board.

Each member agency owns, operates and maintains a sanitary sewer system. These sewer systems connect to the pump stations, force mains, and interceptor pipelines owned by SAM. The SAM facilities are collectively known as the Intertie Pipeline System or IPS. The SAM system includes approximately 1.8 miles of gravity sewer pipe and 5.7 miles of force main pipeline, as well as three pumping stations. These facilities are collectively called the Intertie Pipeline System (IPS).

SAM receives average dry weather flow of approximately 1.5 million gallons per day (mgd). The plant has capacity to treat 4 mgd in average dry weather flow and 15 mgd in peak wet weather flow. The plant has not experienced flows that reached or exceeded maximum peak wet weather capacity since its expansion in the late 1990s. Figure INTRO-1 shows the SAM IPS facilities.



**FIGURE INTRO-1. SAM Intertie Pipeline System (IPS) Facilities**

### 1.3 INTRO-3 SSMP Objectives

The objectives of the SSMP are to accomplish the following:

1. Establish goals that align SAM’s sewer collection system operation, management and capacity assurance activities in a manner that achieves the intended purpose of this SSMP
2. Comply with the Statewide WDR through provision of the following:
  - Elements I through XI, following the outline of the Statewide WDR, including a description of the regulatory requirements and a summary of existing and planned documents and plans related to each element.
  - Appendices that are amended over time to reflect changes in contact personnel, job descriptions, policies, procedures and programs.

Table INTRO-1, shown on the following page, identifies the objectives that must be addressed to comply with each SSMP element.

Element	Objective
I. Goals	<ul style="list-style-type: none"> <li>• Properly manage, operate and maintain the collection system</li> <li>• Provide capacity to convey base and peak flows</li> <li>• Minimize the frequency and severity of SSOs</li> <li>• Mitigate the impact of SSOs</li> </ul>
II. Organization	<ul style="list-style-type: none"> <li>• Identify agency staff responsible for the SSMP</li> <li>• Identify chain of communication for responding to and reporting SSOs</li> </ul>
III. Legal Authority	<ul style="list-style-type: none"> <li>• Control I/I from the collection system and laterals</li> <li>• Require proper design and construction of sewers and connections</li> <li>• Require proper sewer installation, testing and inspection</li> <li>• Ability to impose source control requirements</li> </ul>
IV. Operation and Maintenance Program	<ul style="list-style-type: none"> <li>• Maintain up-to-date system maps</li> <li>• Allocate adequate resources for system operation and maintenance</li> <li>• Prioritize preventive maintenance activities</li> <li>• Identify critical equipment and spare parts to minimize equipment and/or facility downtime</li> <li>• Provide staff training on a regular basis</li> </ul>
V. Design & Construction Standards	<ul style="list-style-type: none"> <li>• Identify minimum design and construction standards and specifications</li> <li>• Identify procedures and standards for inspecting and testing</li> </ul>
VI. Overflow Emergency Response Plan (OERP)	<ul style="list-style-type: none"> <li>• Provide SSO notification procedures</li> <li>• Develop and implement a plan to respond to SSOs</li> <li>• Develop procedures to report and notify SSOs</li> <li>• Develop procedures to prevent overflows from reaching surface waters, and to minimize or correct any adverse impact from SSOs</li> </ul>
VII. FOG Control Program	<ul style="list-style-type: none"> <li>• Develop a Fats, Oil and Grease (FOG) control plan, if needed</li> </ul>
VIII. System Evaluation and Capacity Assurance	<ul style="list-style-type: none"> <li>• Establish a process to assess the current and future capacity requirements</li> <li>• Implement a capital improvement plan to provide adequate hydraulic capacity</li> </ul>
IX. Monitoring, Measurement and Program Modifications	<ul style="list-style-type: none"> <li>• Measure the effectiveness of each SSMP element</li> <li>• Monitor each SSMP element and make updates as necessary</li> </ul>
X. SSMP Audits	<ul style="list-style-type: none"> <li>• Conduct a bi-annual audit that includes deficiencies and steps to correct them</li> </ul>
XI. Communication Program	<ul style="list-style-type: none"> <li>• Communicate with public (Customers) on SSMP development, implementation and performance and create a plan for communication with tributary/satellite sewer systems</li> </ul>

**Table INTRO-1 SSMP Objectives**



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## ELEMENT 1 - GOALS

The purpose of this element is to identify the goals that SAM has established for its SSMP. These goals are intended to define a program that promotes continuous improvement in SAM's existing wastewater collection system management and maintenance processes.

### 1.1 SWRCB Waste Discharge Requirements: SSMP Goals

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

### 1.2 SAM's Goals

The goals of SAM's SSMP are to accomplish the following:

- To properly manage, operate, and maintain all parts of the wastewater collection system, so as to preserve and protect the public's investment in the system
- To provide adequate capacity to convey peak flows to the SAM wastewater treatment plant
- To minimize the frequency and duration of SSOs, including implementing regular, proactive maintenance of the system to remove issues that may cause sewer backups or SSOs
- To mitigate the impact of SSOs on public health and the environment
- To respond quickly and respectfully to public notifications of SSOs or other collection system problems
- To collect complete and accurate information regarding SSOs for reporting to the appropriate regulatory agencies, and to make SSO reports as required by the State
- To uphold SAM's standards and specifications on newly constructed public and private sewers
- To provide a safe working environment for SAM staff
- To provide SAM staff with the tools and training needed to perform their work effectively and achieve SAM's goals

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## ELEMENT 2 - ORGANIZATION

The purpose of this element is to identify SAM 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 Official (LRO) or Authorized Representative to meet State WDR requirements for completing and certifying SSO reports.

### 2.1 SWRCB Waste Discharge Requirements: SSMP Organization

The Sewer System Management Plan (SSMP) must identify:

The name of the responsible or authorized representative as described in Section J of the SSO WDR.

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

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)).

### 2.2 Organization Chart and SSMP Responsibilities

The SSMP responsibility organization chart is shown in **Figure 2-1**. Roles and responsibilities of key personnel involved in the wastewater collection system are as noted below.

SAM Board of Directors: Adopts SSMP plan and policy. Approves budget to implement SSMP.

SAM General Manager: Overall responsibility for preparing and implementing the SSMP. Monitors SSMP budget and performance. Manages capital improvement projects. Designated as the Legally Responsible Official (LRO) for certifying SSO reports.

Supervisor of Treatment/Field Operations (Operations Superintendent): Directs contractor activities in cleaning and television inspection of the collection system. Manages wastewater collection system staff and oversees sewer overflow response. Prepares and submits reports. Responsible for preparation of the annual work plan for maintaining, inspecting and improving the sewer system.

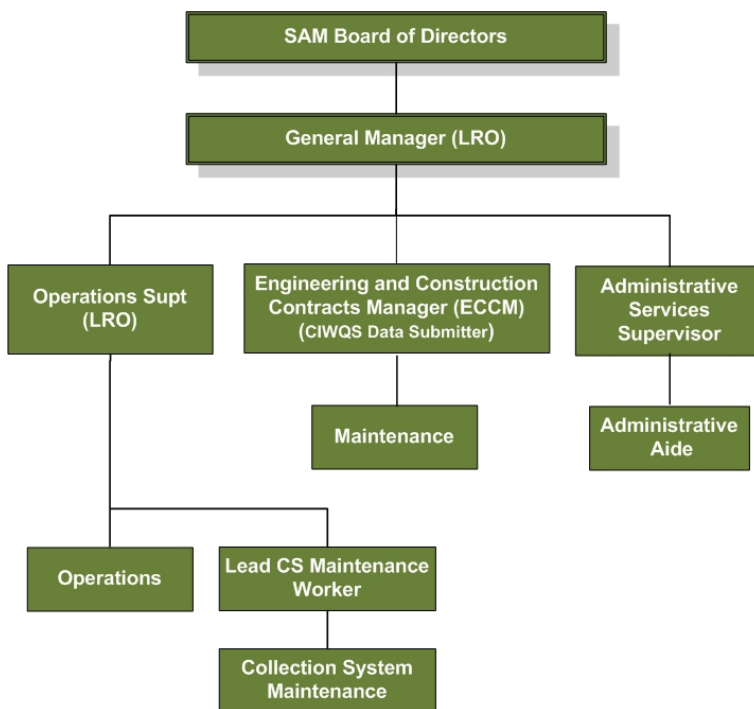
Designated as a LRO and can report SSOs into the State CIWQS system.

Engineering and Construction Contracts Manager (ECCM): Manages all engineering functions including support of collection system maintenance activities. .

Collection System Maintenance Workers: Performs sewer system maintenance, cleaning and minor repairs, and lead SSO response activities. This staff is trained in confined space entry and rescue. Lead Worker supervises Workers.

Maintenance Staff: Performs pump station maintenance and minor repairs, and assist with SSO response activities. This staff is trained in confined space entry and rescue.

Administrative Services Supervisor: Provides administrative, budget, human resources, and claims handling support on activities completed in accordance with the SSMP.



**Figure 2-1 Organization Chart**

**Table 2-1** on the following page summarizes the individuals who are responsible for each section of the SSMP.

**Table 2-1 SSMP Responsibilities**

SSMP Element	Responsible Position
I. Goals	The <b><u>General Manager</u></b> leads staff in the implementation of SAM's goals
II. Organization	The <b><u>SAM Board</u></b> updates the organizational structure. The <b><u>Operations Superintendent</u></b> manages SSMP implementation assignments, and amends SSO response and reporting chains of communication, as needed.
III. Legal Authority	The <b><u>General Manager and Engineering and Construction Contracts Manager</u></b> uphold and enforce SAM Ordinances and draft new ordinances as needed.
IV. Operations & Maintenance	The <b><u>Operations Superintendent</u></b> manages resources and budget, and the SAM field activities, including prioritized preventive maintenance, training, maintaining a current IPS system map, and overseeing the schedule for line cleaning, inspections, and condition assessment.
V. Design and Construction standards	The <b><u>Engineering and Construction Contracts Manager</u></b> reviews design and construction documents to ensure that all construction projects meet SAM's standards. Construction inspection is managed by outside consultants.
VI. Overflow Emergency Response Plan	The <b><u>General Manager and Operations Superintendent</u></b> implement the Overflow Emergency Response Plan (OERP), make revisions to the plan and ensure regular training for maintenance crew members is performed.
VII. FOG Control Program	SAM has no grease hot spots – all FSEs are within the jurisdiction of the SAM member agencies. SAM implements the FOG control program for the members by contract. The program is referenced in this SSMP. However, <b>FOG control activities are not required for SAM assets.</b>
VIII. System Evaluation and Capacity Assurance	The <b><u>General Manager and Engineering and Construction Contracts Manager</u></b> establish and assess capacity requirements for SAM's IPS. The General Manager and Technical Services Supervisor also develop and implement SAM's long- term Capital Improvement Plan including updating budgets and schedules.
IX. Monitoring, Measurement and Program Modifications	The <b><u>General Manager and Operations Superintendent</u></b> monitors implementation and assesses the success of the overall SSMP and its program elements with the assistance of staff. This effort includes the identification of trends in SSO occurrences.
X. SSMP Audits	The <b><u>General Manager</u></b> oversees the completion of biennial SSMP audits.
XI. Communication Plan	The <b><u>Board of Directors and General Manager</u></b> communicate with the public and nearby agencies regarding SAM's SSMP.

## 2.3 Chain of Communication for Reporting

Figure 2-2 shows a simplified Chain of Communication for reporting overflows.

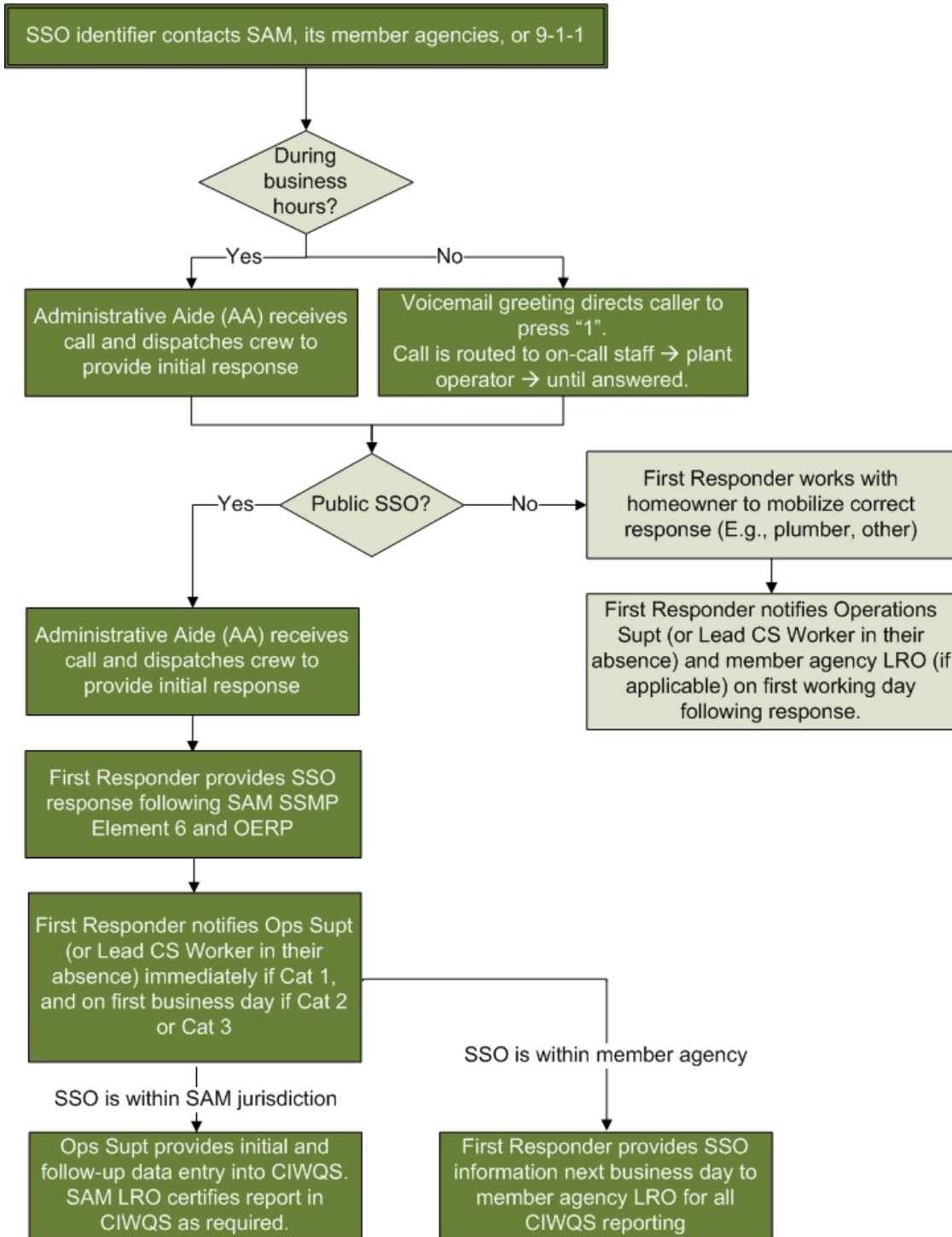


Figure 2-2 SSO Chain of Communication

## 2.4 Appendix A – Element 2 Documents

Appendix A includes the following documents related to this section. The information in these documents will be revised from time to time, and the documents in Appendix A may have been superseded. Please contact the General Manager for the most recent updates to the Appendix A documents.

- \* First Responder Contact List (with phone numbers)



## ELEMENT 3 - LEGAL AUTHORITY

This element of the SSMP discusses SAM's Legal Authority to comply with the SSMP requirements and establishes wastewater discharge requirements for the users of SAM's sanitary sewerage facilities.

### 3.1 SWRCB Waste Discharge Requirements: Legal Authority

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

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

### 3.2 Legal Authority to Enforce SSMP Requirements

SAM has legal authority to enforce SSMP requirements through Resolution No. 2-94, "A Resolution Adopting Revisions to Regulations Establishing Standards and Regulations for Wastewater Treatment, Authorizing Transmittal, and Requesting Adoption Thereof by the Member Agencies." SAM also uses existing Ordinances established by the member agencies for guidance on items that are not addressed by Resolution No. 2-94. Resolution No. 2-94 is included in its entirety in Appendix B.

#### 3.2.1 Prevention of Illicit Discharges

SAM Resolution 2-94, Article II prohibits the discharge of deleterious substances into the sewer collection system. Prohibited materials include storm drainage and groundwater, radioactive wastes, and water softening wastes. Specifically, Section 2.9 prohibits materials that exceed specific temperatures, flow containing fats, oils, or grease, corrosive materials, and flow with sand, grit,

straw, and other solid substances capable of causing obstruction to sewer flows.

Further, SAM Resolution 2-94, Article IV requires any type of business or establishment where grease or other objectionable materials may be discharged into a public or private sewer main or disposal system to install a grease interceptor that is sized and approved by SAM.

### 3.2.2 Proper Design and Construction of Sewers and Connections

SAM is a conveyance agency, and therefore does not manage local collector sewer design and construction. However, when design standards are needed, SAM refers to (and uses) Chapter 13.32 of the City's Municipal Code or the County of San Mateo design and construction standards for sewer assets.

### 3.2.3 Access for Maintenance, Inspection & Repairs

All of SAM's facilities are within public right of way or easements allowing access for inspection and repair.

### 3.2.4 Limit Discharge of Fats, Oils & Grease and Debris

The SAM member agencies are responsible for managing the discharge of residential fats, oils, grease (FOG), and debris into the individual collection systems. SAM provides contract support in implementing the FOG control program for its members. SAM Resolution 2-94 provides the legal authority to limit the discharge of FOG and debris into the sewer system. Specifically, SAM Resolution 2-94, Article IV, Monitoring, Inspection and Pre- Treatment, provides requirements for the monitoring, inspection, sampling, and pre-treatment of discharges to the sewer system, and also requires the installation of grease interceptors.

### 3.2.5 Enforcement Measures

SAM Resolution 2-94, Article V, Enforcement, provides SAM with the authority to enforce actions that are in violation of the program. This section defines responsibility, unauthorized discharges, defines the appropriate time schedules for compliance, authorizes revocation of permits and termination of service, defines additional actions and remedies, and describes the process for appeals.

### 3.2.6 Interagency Agreements and Satellite Systems

SAM is a Joint Powers Agency comprised of three member agencies, which can be considered to be satellite systems. Agreements between SAM and its members are governed by the Exercise of Joint Powers Agreement, which is included in Appendix B.

### 3.3 Appendix B – Element 3 Documents

Appendix B includes the following documents related to this section. The information in these documents will change from time to time, and the documents in Appendix B may have been superseded. Please contact the General Manager for the most recent updates to the Appendix B documents.

- SAM Exercise of Joint Powers Agreement
- SAM Ordinance No. 2-94
- City of Half Moon Bay Municipal Code Chapter 13.32

## ELEMENT 4 - OPERATIONS AND MAINTENANCE PROGRAM

This element of the SSMP discusses SAM's mapping, operations, preventive maintenance, inspection, training, and outreach programs.

### 4.1 SWRCB Waste Discharge Requirements: Operations and Maintenance

The Sewer System Management Plan (SSMP) must include those elements listed below that are appropriate and applicable to the Enrollee's system

- Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities;
- 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;
- 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;
- Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained; and
- Provide equipment and replacement part inventories, including identification of critical replacement parts.

## 4.2 Collection System Mapping

### 4.2.1 Collection System Map Description

SAM currently maintains system maps in the ICOMMM computerized maintenance management system (CMMS). The system maps include pipes and manholes, including pipe lengths and diameters. Maps are updated by the ICOMMM provider, which is now owned and managed by RedZone ® Robotics.

Some storm drain information may be available through the City of Half Moon Bay, other satellite systems, and various local organizations including the County. If needed, these maps can be used to trace the path of SSOs that enter into storm drain systems. Currently, SAM does not store or maintain storm drain maps as part of its map files.

## 4.3 Resources and Budget

### 4.3.1 Resources and Budget for Sewer System Management

SAM prepares an annual budget, and funds improvements to and maintenance on the IPS as part of the Combined Operating and General Operating Budget.

SAM has both operating and capital budgets. A capital improvement program (CIP) includes the five year Infrastructure Plan that was adopted in 2017.. This budget allocates over \$5,750,000 for various IPS and pump station improvements. The current FY 2018/19 budget is available on the SAM website at <https://samcleanswater.org> through the "Documents" link.

## 4.4 Prioritized Preventive Maintenance

The prioritized preventive maintenance (PM) discussion relates to maintenance of SAM assets only. Although SAM provides cleaning services to the member agencies by contract, each member agency establishes its own approach towards prioritized preventive maintenance. SAM contracts with outside contractors to clean the accessible gravity portions of the IPS as determined to be needed. SAM has conducted repairs of the gravity pipelines on an as-needed basis, when CCTV inspection has shown structural damage. SAM has also completed emergency repairs in 2018 to portions of the IPS force main pipelines following sanitary sewer overflows and recently (2018) completed replacement of a significant portion of its Granada force main in this type of project.

## 4.5 Scheduled Inspections, Condition Assessment and Rehabilitation Plan

### 4.5.1 CCTV Inspection Program

SAM has performed CCTV inspection of accessible gravity pipelines, using an outside contractor. All known, notable structural defects have been corrected through rehabilitation. Most of SAM's IPS is comprised of force main pipelines, which cannot be easily inspected using CCTV. SAM has developed a longer term, five year infrastructure plan in its CIP that funds projects like IPS force main replacement and rehabilitation, as previously mentioned, in order to address its infrastructure needs. This plan was approved in April 2019 by the SAM Board. As an example, \$2,500,000 was budgeted for the Granada Force Main replacement project.

## 4.6 Training

### 4.6.1 Training of SAM Personnel and Contractors

SAM conducts general operations and maintenance training on an annual basis for its employees. Training includes SSO response, volume estimation, and other collection system management training as offered through the professional organization CWEA, contractors such as DKF Solutions, or others. SAM staff has also received training on the updated SSMP and OERP on a regular basis since the SSMP was updated in 2014. SAM maintains training records that include the date, time, place, content, name of trainer(s) and names of attendees.

## 4.7 Contingency Equipment and Replacement Inventories

SAM's equipment that may be needed for emergency and overflow response is included in Appendix C. The equipment is also noted in 6.5.2.

## 4.8 Appendix C – Operation and Maintenance Program Documents

Appendix C includes the following documents related to this section. The information in these documents will be revised periodically, and the documents in Appendix C may have been superseded. Please contact the General Manager for the most recent updates to the Appendix C.

- SAM FY 2018/19 Budget (<https://samcleanswater.org> "Documents" link)
- Contingency Equipment and Replacement Parts List

## ELEMENT 5 - DESIGN AND PERFORMANCE PROVISIONS

This element of the SSMP discusses SAM's use of established guidelines, standards and specifications for design, construction, rehabilitation, repair, and inspection of sanitary sewer systems and appurtenances.

### 5.1 SWRCB Waste Discharge Requirements: Design and Performance Provisions

#### SWRCB Waste Discharge Requirements:

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

### 5.2 Standards for Installation, Rehabilitation and Repair

SAM utilizes the expertise of professional consultants in establishing design criteria for the pump station, force main, and gravity interceptor rehabilitation projects. However, for reference, SAM also has access to the City of Half Moon Bay design standards, which are provided through the City's Municipal Code Chapter 13, and the County of San Mateo standards.

### 5.3 Procedures and Standards for Inspection, Testing, Rehabilitation and Repair

SAM does not manage the member agency collection systems and does not have direct connections to the IPS. Therefore, criteria for the design of new collection system sewer lines and manholes, or for the connection of private laterals to the public sewer system, are not necessary. Also SAM does not require a process for the review and approval of new sewer installations in the satellite collection systems, since that is properly the purview of those satellite systems. Criteria for testing and inspecting of new and rehabilitated interceptor sewers and force mains are defined by the design engineering firm that is selected for each project, and reviewed by SAM. SAM uses consultant engineers to monitor the construction of CIP projects to ensure compliance with the specifications.

### 5.4 Appendix D – Design and Performance Provisions Documents

Appendix D is a placeholder for any future documents related to SAM Design and Construction Standards.

Please contact the General Manager for the most recent updates to the Appendix D documents.

## ELEMENT 6 – OVERFLOW EMERGENCY RESPONSE PLAN

This element of the SSMP provides a summary of SAM’s emergency response documents and procedures for the handling of sanitary sewer overflows, including SSO response, clean up, and reporting .The OERP that is included in Appendix E is also maintained by SAM as a stand-alone document as required by the SWRCB.

### 6.1 SWRCB Waste Discharge Requirements

#### SWRCB Waste Discharge Requirements:

Each Enrollee shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

- Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;
- A program to ensure an appropriate response to all overflows;
- Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, Regional Water Boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the MRP. All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDRs or NPDES permit requirements. The Sewer System Management Plan (SSMP) should identify the officials who will receive immediate notification;
- Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;
- Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and
- A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters of the United States and to minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

### 6.2 OERP Goals

The purpose of the Overflow Emergency Response Plan (OERP) is to support an orderly and effective response to Sanitary Sewer Overflows (SSOs). The OERP provides guidelines for SAM to follow in responding to, cleaning up, and reporting SSOs that may occur within SAM’s service area.



### 6.3 SSO Categories

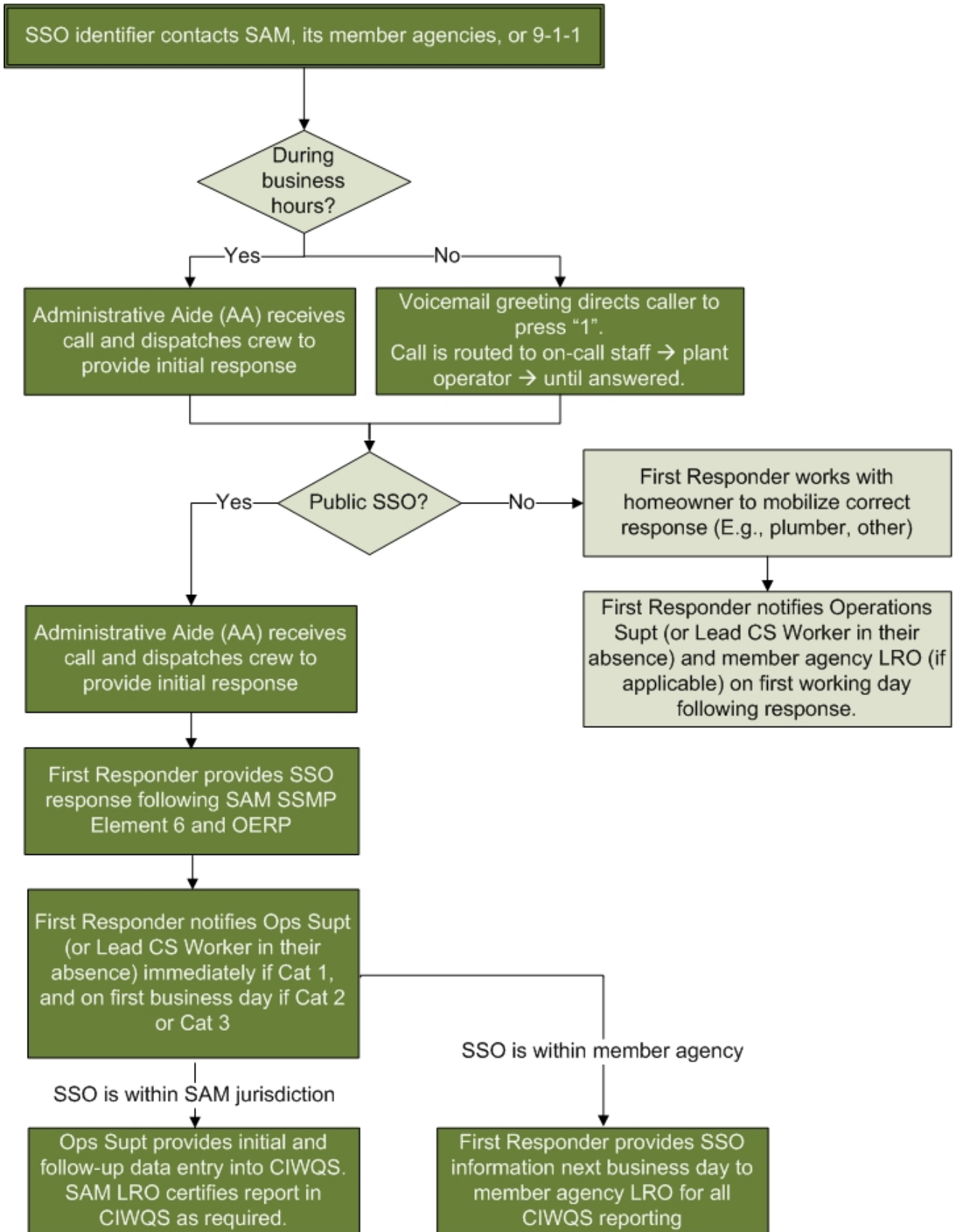
- **Category 1 SSO**: Discharges of untreated or partially treated wastewater of any volume resulting from an enrollee's sanitary sewer system failure or flow condition that:
  - Reach surface water and/or reach a drainage channel tributary to a surface water; or
  - Reach a municipal separate storm 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 municipal separate storm sewer system is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or ground water infiltration basin (e.g., infiltration pit, percolation pond).
- **Category 2 SSO**: Discharges of untreated or partially treated wastewater of 1,000 gallons or greater resulting from an enrollee's sanitary sewer system failure or flow condition that do not reach surface water, a drainage channel, or a municipal separate storm sewer system unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.
- **Category 3 SSO**: All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.

### 6.4 Notification Procedures

SAM is most often notified about SSOs by the public. The public contacts SAM through the agency's main telephone number, which is **(650) 726-0124 day or night**, or may report the SSO in person at the SAM office or may contact the member agencies.

The main telephone number is included on the SAM website under "Contact" in the "About" section: [www.samcleanswater.org](http://www.samcleanswater.org)

Figure 6-1 on the following pages present a flowchart showing the SAM notification process during business hours and non-business hours. This flowchart is also included in Element 2, Organization.



**Figure 6.1 SSO Notification and Response Process**

#### 6.4.1 Response During and After Normal Working Hours

After normal working hours, the caller calls SAM's main number and is directed to press "1". The caller is directed to leave a message and told that SAM will call them back. The caller is directed to leave their name, address, telephone number, and a description of the problem. The telephone system then calls the First Responder with a message that there is a message in voice mail box "911".

After hours, SAM's First Responder is the on-duty treatment plant/lift station operator. The plant is staffed every day, including weekends and holidays. SAM also designates and pays on-call staff after hours, weekends, and holidays. The First Responder retrieves the message remotely, and may call the caller for additional information. The voice mail notification system rolls over to a back-up cell phone number after 15 minutes of trying to contact the First Responder. After the call is received, SSO response and reporting proceed in the same manner as during normal working hours. SAM's general voice mail box is checked at the beginning of the next working day to ensure that all calls have received a response.

#### 6.4.2 Notification from Pump Station SCADA Alarms

SAM's pump stations are monitored by a Supervisory Control and Data Acquisition (SCADA) System. Alarm events are transmitted to the SAM Treatment Plant SCADA via radio. The alarm events are then transmitted to the Mechanic and Technical Services Supervisor.

In the event that the radio system fails, the alarm is transmitted to a private alarm monitoring company via telephone. The alarm monitoring company, in turn, notifies the Technical Services Supervisor.

Alarm conditions include equipment failure, power failure, and high wet well level. In a non-emergency response situation, a Work Order to address the issue is generated by SAM.

### 6.5 Staff and Contractor Training

All personnel and contractor employees who may have a role in responding to, reporting and/or mitigating a sewer system overflow receive training on the contents of the OERP. All new employees receive training before they are placed in a position where they may have to respond. Current employees receive annual refresher training on this plan and the procedures to be followed.

Records are kept of all training that is provided in support of this plan. The records for all scheduled training courses and for each overflow emergency response training event include date, time, place, content, name of trainer(s) and names of attendees.

## 6.6 Response Program

Currently, the following positions are responsible for responding to SSOs:

- First Responder to SSOs: SAM Collection System Maintenance Workers
- First Responder to Pump Station Failures: SAM Operations Superintendent, and/or Maintenance Staff
- Claims Processing: SAM Administrative Services Supervisor and CSRMA

The contact information for those currently holding the positions named above are included in the OERP.

### 6.6.1 First Responder Priorities

The first responder's priorities are as follows:

- To follow safe work practices, including those related to traffic control, confined space, and employee and public safety
- To respond promptly with the appropriate equipment
- To evaluate the cause of spill and determine responsibility
- To restore the flow as soon as possible
- To contain the spill whenever feasible
- To minimize public access to and/or contact with the spilled sewage

### 6.6.2 Initial Response

Figure 6-2, too detailed to be legible here so included (by reference) in the OERP, provides a flowchart (B-1) that shows the steps involved in initial SSO response. The First Responder reports to the location within 60 minutes of the initial SSO report with the objective of minimizing and/or eliminating an overflow.

The appropriate response measure varies based on the circumstances and nature of the SSO and the information provided by the caller. Actions related to external and internal SSOs are summarized below. SAM uses a field form provided by ICOMMM to document the contact and response for each SSO that occurs.

### 6.6.3 Available Equipment (also included in Appendix C)

SAM has a variety of equipment available for clearing blockages and impact mitigation and cleanup activities, including the following:

- Hydrojet trucks
- Push Camera
- Cell Phones
- Trash pump and hoses
- Vacuum trailer
- Combination vactor/hydrojet unit

(Refer to SSO Response Flowchart B-1 in SAM's OERP)

### 6.6.4 External SSO

Upon arrival at the site, the First Responder should complete the following:

- Note arrival time at spill site, and include the time in the SAM SSO Reporting Form.
- Record basic incident information on site, and complete the form after finishing the response.
- Verify the existence of the SSO
- Field verify the address and nearest cross street, and confirm that the SSO is part of SAM's or a Member Agency's sewer/conveyance system
- Conduct visual monitoring to determine immediate actions, starting with documentation of SSO volume using the methods included in the OERP
- Begin activities to contain, mitigate, and minimize impacts from the SSO, and restore flow.
- If the blockage cannot be cleared within a reasonable time, or sewer requires construction repairs to restore flow, then initiate containment and/or bypass pumping.
- Identify and clearly assess the affected area and extent of spill, including possible impacts on surface water. Where it is safe and practical, visually inspect surface water in the vicinity of the SSO & record observations on the SSO Report Form. Signs of receiving water impacts include clear signs of sewage (solids, grease, paper), abnormal color, fish kills, etc.

- The California Department of Fish and Wildlife (CDFW) should be notified in the event an SSO impacts any creeks, cullies, or natural waterways. CDFW will provide guidance associated with cleanup. Cleanup should proceed quickly, and any water used in the process should be dechlorinated prior to use.
- Notify the General Manager if the spill appears to be large (over 1000 gallons), in a sensitive area, may imminently and substantially endanger human health, results in fish kills, if there is doubt regarding the extent, impact, or how to proceed, or if additional help is needed for line cleaning or repair, containment, recovery, lab analysis, and/or site cleanup
- For spills greater than 10,000 gallons, engage an outside consultant to assist with volume estimation activities.
- Where safe and feasible, take necessary water quality samples at the point of discharge and at upstream and downstream locations. Use best judgment and consult with the General Manager if uncertain. Water quality monitoring is not given precedence over stopping the SSO or protecting public health. However, if sufficient personnel are available, monitoring is conducted in parallel with these activities or with the cleanup effort.
- Comply with all safety precautions (traffic, confined space, etc.)
- Contact caller, if time permits. Identify SSO cause, including conducting CCTV inspection as appropriate.
- Document all activities through photos and written documentation. SAM is developing a process to establish start time, in the event the SSO identifier cannot confirm this information. Please check the OERP and utilize this process if it has been established prior to the date of SSO.

The First Responder should provide the completed SSO Reporting Form to the Operations Superintendent for input into the computerized maintenance management system. Contact information is included in the OERP.

#### 6.6.5 Internal SSO (Affects Private Property)

Internal SSOs are not common, since SAM operates a pump station and force main system and does not have private lateral connections. However, upon arrival at the location of a spill into a house or a building, the First Responder should evaluate and determine if the spill was caused by a blockage in a private pipeline or in a publicly owned sewer pipelines.

If a blockage is found in a private line, it should be clearly communicated that response and repair of private pipelines are not SAM's responsibility. The property owner is responsible for clearing any blockage in the private plumbing system and for any resulting flood damage to private property. The property owner is also responsible for damage that happens because a private line was not properly installed.

If a backup in the public sewer system is found to have caused the SSO in a house or building, the First Responder should take steps to address the issue as described above. The First Responder

should attempt to instruct the property owner to follow the following guidelines:

- Keep all family members and pets away from the affected area
- Place towels, rags, blankets, etc. between areas that have been affected and areas that have not been affected, and move any uncontaminated property away from the overflow area
- Move any uncontaminated property away from the overflow area. Do not remove any contaminated items.
- Turn off the HVAC system.

The First Responder should follow the following steps to assist the homeowner:

- Gather information
- Call a restoration company (contact numbers are included in the OERP), and wait for the restoration firm to arrive.
- Forward incident reports and related documents to the respective Member
- Agency manager, if applicable, and the SAM General Manager

#### 6.6.6 Pump Station SSO

The First Responder to a potential pump station or forcemain failure should determine whether flow can be restored within a reasonable time. If it appears that flow cannot be restored within a reasonable time or if the conveyance system facility requires construction and/or repairs, then the First Responder should employ a pump station contingency plan covering containment, bypass pumping, and contractual assistance.

SAM currently does not have a formalized emergency contingency plan for the pump stations, and will develop this plan in the future.

In addition, response activities discussed above should be implemented where applicable.

#### 6.7 Recovery and Cleanup

The recovery and cleanup phase begins immediately after the flow has been restored and the SSO has been contained to the extent possible. The SSO recovery and cleanup procedures include volume estimation, sewage recovery, and cleanup and disinfection.

## 6.8 Estimate and Recover the Volume of Spilled Sewage

Use the methods outlined in the OERP in Appendix E to estimate the volume of the spilled sewage. Wherever possible, document the estimate using photos of the SSO site before and during the recovery operation. Spilled sewage shall be vacuumed and/or pumped, and to the extent possible, discharged back into the sanitary sewer system.

## 6.9 Clean-Up and Disinfection

Clean up and disinfection procedures should be implemented to reduce the potential for human health issues and adverse environmental impacts that are associated with an SSO event. The procedures described are for dry weather conditions and should be modified as required for wet weather conditions. Clean up should proceed quickly in order to minimize negative impact. Any water that is used in the cleanup process should be de-chlorinated prior to use.

Where cleanup is beyond the capabilities of response staff, the Technical Services Supervisor will contact a cleanup contractor to complete the work.

Sewage from SSOs that are inside houses or buildings should be cleaned by a professional cleaning company. Contact information for professional cleaning companies can be found in the "Water Damage Restoration" section of the Yellow Pages. Claims by homeowners should be forwarded to the SAM General Manager or Member Agency manager, as appropriate.

### 6.9.1 Guidelines for Cleanup

On **hard surface areas**, collect all signs of sewage solids and sewage-related material either by hand or with the use of rakes and brooms. Take reasonable steps to contain and vacuum up the wastewater. Disinfect all areas that were contaminated from the SSO as appropriate. Apply minimal amounts of the disinfectant solution using a hand sprayer. Document the volume and application method of disinfectant that is employed. Allow area to dry. Repeat the process if additional cleaning is required.

On **landscaped or unpaved areas**, collect all signs of sewage solids and sewage-related material either by hand or with the use of rakes and brooms. Allow the area to dry. Repeat the process if additional cleaning is required.

If the SSO has reached the **storm drain system**, a combination sewer cleaning truck should be used to vacuum/pump out the catch basin and any other portion of the storm drain that may contain sewage. In the event that an overflow occurs at night, the location should be re-inspected as soon as possible the following day. The operator should look for any signs of sewage solids and sewage-related material that may warrant additional cleanup activities.

## 6.10 Impact to Waters of United States

If an SSO is confirmed to have entered waters of the United States<sup>1</sup>, the General Manager must be



notified immediately. The response team would then proceed with the following additional activities:

- Determine the extent of the SSO by investigating downstream until there is no evidence of sewage or debris along the creek or water body
- Conduct Water Quality Sampling, following the process described below. If the SSO is 50,000 gallons or greater, collect water quality samples within 48 hours of becoming aware of the SSO.
- Immediately post contaminated water sign(s) and protect the water body from public access on all sides.
- Photograph sign placement and evidence of the overflow in and around the water body to the farthest point reached by the sewage

<sup>1</sup> 40 CFR 230.3(s) defines the term “waters of the United States.” This term includes all lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, or natural ponds, or waters that could be used for recreational or other purposes.

- Determine if the water body is safe to enter. During the winter storm season, cleaning the water body may not be feasible due to high water flows.
- If feasible, block the water body downstream of the affected area in a location that is safe to enter and is accessible to set up a pump or utilize other sewer cleaning equipment.
- To the extent feasible, recover and return contaminated water to the collection system.
- Perform follow-up sampling until the area shows no water quality impairment and the posted signs can be removed. The County Environmental Health Services (EHS) ultimately determines when this happens and makes any follow up calls to affected agencies

## 6.11 Water Quality Sampling

Water quality sampling and testing is required whenever the spilled sewage enters a water body. The purpose of testing is to determine the extent and impact of the SSO. The following guidelines, or alternative guidelines as directed by the County, should be followed:

- The First Responder should arrange for collection of samples. Samples should be collected as soon as possible after the discovery of the SSO event.
- For spills less than 1,000 gallons, at a minimum, water quality samples should be collected at the discharge point, 100 feet upstream, and 100 feet downstream.
- If a spill is more than 1,000 gallons, additional sites may require sampling, following the requirements of the County Environmental Health Services (EHS) department
- The water quality sampling procedures should follow EHS procedures as follows:

- Keep the sterile collection bottle closed until it is to be filled. Do not contaminate inner surface of the lid or bottle rim.
- Collect water sample just below the surface in knee deep water, approximately 3 feet deep (full arm's length), without rinsing. If needed, extend the sampling pole to the fullest length to reach deeper water depth. Minimize contact with bank or beach bed as water fouling may occur.
- Remove cap and hold the bottle near its base and plunge it, neck downward, below the surface.
- Turn bottle until neck points slightly upward and mouth is directed toward the current. Fill bottle leaving about 1 inch of air to allow lab to mix by shaking.
- Collect a minimum of 100 ml. (If applicable, insert sterile collection bottle into the holder on the sample pole. Extend the sample pole and plunge bottle end into the water, bottle opening downward.)
- Immediately place cap securely on bottle to avoid leaks and contamination.
- Dry the bottle.
- Label container with distinctive sample site name, date, and time collected.
- Complete the laboratory requisition slip with requested information (site, bottle number, collector, date and time of collection, type of sample, test requested, name and phone number of responsible person for reporting purposes, and deliverer name). Note any field observations that may have occurred during the sampling.
- Samples should be tested for fecal coliform, total coliform and enterococcus.
- Samples should be stored and shipped by placing the water sample bottle in a cooler with frozen blue ice. Water sample must be kept cool. Ice may be used but care must be taken so water samples are not contaminated or diluted by the ice.

Water samples may be taken to the **County of San Mateo Public Health Laboratory at 225 W. 37th Avenue, Room No. 113, San Mateo, CA 94403, (650) 573-2500**. The water samples must be brought to the laboratory within 6 hours of collection, before 3:00 pm, for processing.

If the County laboratory is closed, an alternate testing laboratory should be designated. SAM is currently in the process of identifying a backup laboratory.

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.

## 6.12 Water Quality Monitoring Plan

SAM's Water Quality Monitoring Plan (this section) must be implemented immediately upon discovery of any Category 1 SSO of 50,000 gallons or more in order to assess impacts from SSOs to surface waters. Water quality sampling must be completed within 48 hours of SAM becoming aware of the SSO, when and where it is safe to sample.

SAM's SSO Water Quality Monitoring Program is included in the OERP, and includes the following:

- 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.).
- Requirement for water quality analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory.
- Requirement for 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.

### 6.13 SSO Technical Report

If 50,000 gallons or greater from an SSO reaches surface waters, an SSO Technical Report must be prepared and submitted to the CIWQS online SSO database within 45 calendar days of the SSO end date. The SSO Technical Report must include, at a minimum, the following:

1. Causes and circumstances of the SSO(s)
2. Complete and detailed explanation of how and when the SSO was discovered
3. Diagram showing the SSO failure point, appearance point(s), and final destination(s)
4. Detailed description of the causes(s) of the SSO
5. Copies of the original field crew records used to document the SSO
6. Historical maintenance records for the failure location
7. Response to SSO:
8. Chronological narrative description of all actions taken to terminate the SSO
9. Explanation of how the OERP was implemented to respond to and mitigate the SSO
10. Final corrective action(s) completed and/or planned to be completed, including a schedule or actions not yet completed
11. Water Quality Monitoring:
12. Description of all water quality sampling activities conducted including analytical results and evaluation of the results
13. Detailed location map illustrating all water quality sampling points

The General Manager is responsible for the development and certification of the SSO Technical Report.

## 6.14 Containment or Bypass

The First Responder should attempt to contain as much of the spilled sewage as possible using the following steps:

- Determine the immediate destination of the overflowing sewage
- Plug storm drains using available equipment and materials to contain the spill, where feasible. If spilled sewage has made contact with the storm drainage system, attempt to contain the spilled sewage by plugging downstream storm drainage facilities.
- Contain/direct the spilled sewage using dike/dam or sandbags
- Pump around the blockage/pipe failure/pump station or vacuum flow from upstream of the blockage and dispose of downstream of the blockage to prevent further overflow
- If an SSO reaches a water body, follow the requirements below for posting and
- SSO notification signage. Also conduct water quality sampling as discussed above.

## 6.15 SSO Notification Signage

Barriers shall be installed to prevent the public from having contact with the sewage. Signs should be posted to keep vehicles and pedestrians away from contact with spilled sewage. Signs should remain in place until removal of the signs is directed by the Operations Superintendent. A sample warning sign is included in the OERP.

If a creek, stream and/or beach have been contaminated as a result of an SSO, notifications 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. "Closed" signs should be posted at the outfall and a minimum of 100 feet upstream and 100 feet downstream of the discharge. If there is a large volume of sewage, more signs must be posted downstream.

Signs must remain posted until at least two consecutive days of sampling meet the Public Beach Sanitation and Ocean Water-Contact Sports standards that are described above. The removal of signs must be approved by EHS and the County Public Health Officer.

## 6.16 Failure Analysis

For each Category 1 SSO event, or a smaller event as determined by the ECCM, all participants involved in the response – from the person who received the call to the last person to leave the site – should meet, as soon as feasible, after the event to review and evaluate the incident and SAM response procedures.

The objective of the Post-SSO Debrief is to determine actions necessary, if any, to reduce the

recurrence and better mitigate the effects of SSOs.

## 6.17 SSO Documentation and Reporting

### 6.17.1 Documentation

In accordance with the WDR, SAM maintains records for each sanitary sewer overflow. Records include:

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

The records are maintained at the SAM office and are also entered into SAM's CMMS system.

### 6.17.2 Regulatory Reporting

Table 6-1 summarizes the regulatory reporting requirements that are also described in the paragraphs following the table.

#### Multiple Appearance Points – Single SSO

For reporting purposes, if one SSO event of whatever category results in multiple appearance points in a sewer system, a single SSO report is required in CIWQS which includes the GPS coordinates for the location of the SSO appearance point closest to the failure point, blockage or location of the flow condition that caused the SSO, and descriptions of the locations of all other discharge points associated with the single SSO event.

#### 2-Hour Notification to Regulatory Agencies of SSOs

Cal OES is only to be notified of a Category 1 SSO greater than or equal to 1,000 gallons discharged to surface water or spilled in a location where it probably will be discharged to surface water. In addition, both the County Health Officer and EHS are to be contacted. During regular business hours, the Health Officer can be reached at (650) 372-6200. During evenings/weekends, call the County Sheriff's Office at (650) 216-SMSO (7676).

The First Responder is responsible for reviewing field data for reporting to regulatory agencies by the ECCM. If it is determined that the criteria for OES notification was met, than the First Responder

must notify OES of the event no later than two (2) hours after:

- SAM has knowledge of the SSO;
- Notification is possible; and
- Notification can be provided without substantially impeding cleanup or other emergency measures.

The OES phone number is **(800) 852-7550**. The First Responder is responsible for obtaining an OES Control number. Following the initial notification to OES and until the SSO report is certified in the SWRCB online SSO Database, the LRO will provide updates (or provide direction for updates to be provided) to OES regarding substantial changes to estimated volume of untreated or partially treated sewage discharged and any substantial changes to known impact(s).

#### Detailed SSO Reporting Requirements

Table 6-1 in Appendix E provides detail on SAM's regulatory reporting process, which is also described below.

#### SSO Reporting for Category 1 SSOs

Cal OES and EHS shall receive notification of Category 1 SSOs greater than or equal to 1,000 gallons, as stated earlier in this Section. The Data Submitter must then submit the initial draft report to the SWRCB's CIWQS Online SSO database @ <http://ciwqs.waterboards.ca.gov/ciwqs> within 3 business days of becoming aware of the SSO. Within 15 calendar days of the SSO end date, the LRO must review and certify the report in the CWIQS Online SSO database @ [https://www.waterboards.ca.gov/ciwqs/chc\\_sso.html](https://www.waterboards.ca.gov/ciwqs/chc_sso.html)

#### Reporting for Category 2 SSOs

Within 3 business days of becoming aware if the SSO, the Data Submitter must submit the initial report to the SWRCB's CWIQS Online SSO database @ <http://ciwqs.waterboards.ca.gov/ciwqs>. Within 15 calendar days of the SSO end date, the LRO must review and certify the report in the CWIQS Online SSO database @ [https://www.waterboards.ca.gov/ciwqs/chc\\_sso.html](https://www.waterboards.ca.gov/ciwqs/chc_sso.html).

#### SSO Reporting for Category 3 SSOs

Within 30 calendar days of the end of the calendar month in which the SSO occurred, the LRO must submit and certify a report to the SWRCB's CWIQS Online SSO database @ [https://www.waterboards.ca.gov/ciwqs/chc\\_sso.html](https://www.waterboards.ca.gov/ciwqs/chc_sso.html).

#### No Spill Certification (Monthly)

Within 30 calendar days of the end of a calendar month that there are no SSO's, the LRO must submit and certify a "No Spill" certification to the CIWQS online SSO database.

### CIWQS Not Available

In the event that the CIWQS online SSO database is not available, the LRO should fax or e-mail all required information to the RWQCB office at (510) 622-2460 in accordance with the time schedules identified above. In such an event, SAM will submit the appropriate reports using the CIWQS online SSO database when the database becomes available. A copy of all documents that certify the submittal in fulfillment of this section shall be retained in the SSO document file.

### Amending SSO Reports

The LRO is responsible for amending SSO reports. Certified SSO reports may be updated by amending the report or adding an attachment to the SSO report within 120 calendar days after the SSO end date. After 120 days, SAM must contact the State SSO Program Manager to request to amend an SSO report along with a justification for why the additional information was not available prior to the end of the 120 days. The SWRCB SSO Program Manager contact information is as follows:

SSO Program Manager [https://www.waterboards.ca.gov/water\\_issues/programs/sso/](https://www.waterboards.ca.gov/water_issues/programs/sso/)  
State Water Resources Control Board, Division of Water Quality  
1001 I Street 15th Floor  
Sacramento, CA 95814  
E-mail: [Armando.Martinez@waterboards.ca.gov](mailto:Armando.Martinez@waterboards.ca.gov)  
Phone: (916) 341-5586



## 6.18 Contractors Working On SAM Sewer Facilities

All contractors working on SAM sewer facilities should be trained in SAM's OERP and will be required to follow the OERP in the event that they cause or observe an SSO.

## 6.19 SSO Response Training

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

### 6.19.1 Initial and Annual Refresher Training

All personnel who may have a role in responding to, reporting, and/or mitigating a sewer system overflow should receive training on the contents of this OERP. 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 this plan and the procedures to be followed. Affected employees will receive annual training on the following topics, at a minimum, by knowledgeable trainers:

- SAM's Overflow Emergency Response Plan
- SSO Volume Estimation Techniques
- Impacted Surface Waters: Response Procedures

SAM will verify that annual safety training requirements are current for each employee, and that employees are competent in the performance of all core competencies. SAM will address, through additional training/instruction, any identified gaps in required core competencies.

SAM is in the process of developing a tri-fold handout for contractors summarizing SSO response requirements.

### 6.19.2 SSO Response Drills

Periodic training drills should be held to ensure that employees are up to date on these procedures, equipment is in working order, and the required materials are readily available. The training drills will cover scenarios typically observed during sewer related emergencies (e.g. mainline blockage, mainline failure, force main failure, pump station failure, and lateral blockage). The results and the observations during the drills will be recorded and action items should be tracked to ensure completion.

### 6.19.3 SSO Training Record Keeping

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

### 6.20 Appendix E – Overflow Emergency Response Plan

Appendix E includes a full copy of SAM’s Overflow Emergency Response Plan. The information in this document will be revised periodically, and the OERP may have been superseded. Please contact the General Manager for the most recent updates to the OERP.

## ELEMENT 7 - FOG CONTROL PROGRAM

This element of the SSMP evaluates the extent and nature of SSOs related to Fats, Oils and Grease (FOG), determines the need or not for a FOG Control Program, and outlines the elements of SAM's FOG control program.

SAM does not have a history of FOG-related issues in its system. SAM provides source control inspections to the Member Agencies by contract.

### 7.1 SWRCB Waste Discharge Requirements: FOG Control

#### SWRCB Waste Discharge Requirements:

Each Enrollee shall evaluate its service area to determine whether a FOG control program is needed. If an Enrollee determines that a FOG program is not needed, the Enrollee must provide justification for why it is not needed. If FOG is found to be a problem, the Enrollee must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. This plan shall include the following as appropriate:

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

## 7.2 FOG Control Goals

SAM does not have FOG-related SSOs, and has no Food Service Establishments (FSEs) that discharge directly to the SAM system. Therefore, SAM has not established a FOG Program. SAM does maintain a Non-Domestic Waste Source Control Program for its system to manage other deleterious substances, and to guide source control activities that are provided to the Member Agencies by contract. The contract services should be described in the individual Member Agency SSMPs.

## 7.3 Legal Authority to Prohibit SSOs and Blockages Caused by Fog Discharge

If SAM were to regulate the discharge of FOG, authority would be provided by Ordinance No. 2- 94, which is discussed in Element 3.

## 7.4 Sewer Sections Subject to FOG Blockages

SAM has no history of any FOG-related SSOs.

## 7.5 Appendix F – FOG Control Program Documents

Appendix F is a placeholder for any future documents related to a SAM FOG Control Program. Please contact the General Manager for the most recent updates to the Appendix F documents.

## ELEMENT 8 - SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

This element of the SSMP discusses SAM's approach and activities related to addressing hydraulic capacity management, through appropriate evaluation of the system and development of capital projects.

### 8.1 SWRCB Waste Discharge Requirements: System Evaluation & Capacity Assurance

#### SWRCB Waste Discharge Requirements:

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

- **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;
- **Design Criteria:** Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria; and
- **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.
- **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.

## 8.2 System Evaluation and Capacity Assurance Plan

SAM completed a hydraulic analysis of the IPS in 1998. The study (IPS Capacity Evaluation Phase II, Carollo Engineers, 1998) reviewed flow monitoring data collected through 13 temporary flow meters, developed a design storm hyetograph, developed a calibrated hydraulic model, and recommended potential improvements to address capacity issues. The 1998 study concluded that the IPS facilities require additional capacity to convey projected peak wet weather flows. However, the wastewater treatment plant would not have sufficient capacity to treat the flows that would result from these capacity improvements. Therefore, to address the projected capacity needs, the study recommended that SAM and its member agencies consider projects to achieve inflow and infiltration reduction, as well as projects to add storage capacity at the SAM pump stations.

Additional flow data was collected in 2004 and 2005, leading to several updates of the IPS study in between 2005 and 2007. These updates discussed various options for phasing in the required capacity improvements.

In 2012 and 2013, SAM added storage capacity at the Montara pump station (by restoring a pre-existing clarifier at the site of the historical Montara wastewater treatment plant), and at the Portola pump station (through the addition of a new buried storage facility). These projects addressed the first phase of a long-term solution to capacity management. Documents related to the wet weather storage analyses are available through SAM's website, at the following url:

<http://www.samcleanswater.org/ww.htm>.

In addition, between 1998 and 2013, the SAM member agencies implemented various improvements to the local collection systems that are likely to have reduced inflow and infiltration. SAM has historically addressed capacity issues in CIP plans and projects and uses the CIP budget and schedule for planning relevant capacity-related projects. SAM conducted additional studies in 2014 to reassess system flows and needed capacity. All capacity improvement needs were addressed in SAM's five year Infrastructure Plan that was adopted in 2017. There are currently no known capacity deficiencies in the SAM collection system and therefore no additional capacity-related collection system projects planned at this time.

Capacity evaluations for the member agency sewer collection systems that discharge to the IPS are the responsibility of each member agency, and are described further in each member agency SSMP.

## 8.3 Appendix G – System Evaluation and Capacity Assurance Plan Documents

SAM has extensive documentation related to the various capacity studies that have been completed over the past 15 years. These documents are available upon request. Appendix G is included as a placeholder for future documentation related to SAM capacity assessments.

## ELEMENT 9 - MONITORING, MEASUREMENT AND PROGRAM MODIFICATIONS

This element of the SSMP discusses SAM's Monitoring, Measurement, and Program Modifications. The intent is to maintain system performance results, assess the effectiveness of the SSMP and update the SSMP program as needed.

### 9.1 SWRCB Waste Discharge Requirement: Monitoring, Measurement and Program Modifications

SWRCB Waste Discharge Requirement:

The Enrollee shall:

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

### 9.2 Maintenance Metrics to Measure Progress and Prioritize Activities

SAM has established the preventive maintenance system metrics that are shown in the following Table 9-1 for use in monitoring, measuring and adjusting sewer maintenance activities. These metrics are included in SAM's CMMS system and are monitored on a regular basis.

**Table 9-1 Success Factors and Metrics**

Sewer Maintenance Success Factor	Metric
<ul style="list-style-type: none"> <li>Pipes Cleaned</li> </ul>	<ul style="list-style-type: none"> <li>Miles/Year</li> </ul>
<ul style="list-style-type: none"> <li>Pipe Inspected (CCTV)</li> </ul>	<ul style="list-style-type: none"> <li>Miles/Year</li> </ul>
<ul style="list-style-type: none"> <li>SSOs</li> </ul>	<ul style="list-style-type: none"> <li>Number by Underlying Cause per 100 Miles/Year</li> <li>Number, By Cause</li> <li>Number, by Category</li> <li>Rate (number/100 miles/year)</li> <li>Volume (gallons)</li> <li>Volume (gallons./100 miles/year)</li> </ul>
<ul style="list-style-type: none"> <li>Response Time</li> </ul>	<ul style="list-style-type: none"> <li>Average time (Minutes/SSO)</li> </ul>
<ul style="list-style-type: none"> <li>Pump Station Overflows</li> </ul>	<ul style="list-style-type: none"> <li>Number</li> </ul>
<ul style="list-style-type: none"> <li>Pipe Replaced &amp; Rehabilitated</li> </ul>	<ul style="list-style-type: none"> <li>Feet/Year</li> </ul>

### 9.3 SSO Trends – Frequency, Location and Volume

SAM has not had a Category 1 SSO since May 2017, almost two years. The source of SSOs in 2017 were minor leaks in the Granada force main and a leak in the Montara force main. These were corrected through rehabilitation projects and there have been no recurrences in these locations.

### 9.4 Appendix H – Monitoring, Measurement and Program Modification Documents

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



## ELEMENT 10 - SSMP PROGRAM AUDITS

This element of the SSMP discusses the process that SAM will follow to conduct audits of the SSMP and related programs.

### 10.1 SWRCB Waste Discharge Requirements: SSMP Program Audits

#### SWRCB Waste Discharge Requirements:

As part of the Sewer System Management Plan (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 the Enrollee's compliance with the SSMP requirements identified in this subsection (D.13), including identification of any deficiencies in the SSMP and steps to correct them.

### 10.2 Audit Procedures, Roles and Responsibilities

SAM will prepare a biennial SSMP audit, and will retain all audits on file in accordance with the Statewide WDR requirements. The audit form is included in Appendix I.

### 10.3 SSMP Program Modification/Update Process

If the biennial audit identifies significant changes to be made to the SSMP, then the SSMP will be updated in the same year in which the audit was submitted. However, it is anticipated that the main SSMP document will remain generally unchanged, and that a comprehensive SSMP update will be completed every five years as currently required by the WDR, or at the frequency required by the WDR in the future if that frequency is revised.

Any changes, significant or insignificant, made to the SSMP will be documented in the Change Log located in Appendix I. SSMP Audit results will also be included in Appendix I.

### 10.4 Appendix I – SSMP Program Audit Documents

Appendix I includes the following documents related to this section. The information in these documents will be revised periodically, and the documents in Appendix I may have been superseded. Please contact the General Manager for the most recent updates to the Appendix I documents.

- SSMP Audit Form
- SSMP Change Log
- SSMP Biennial Audits (2016, 2018)

## ELEMENT 11 - COMMUNICATION PLAN

This element of the SSMP discusses SAM's Communication plan with both the public and SAM's satellite systems. The plan's intent is to provide the public the opportunity to provide SSMP input (through regular Board meetings) as well as SAM satellite systems

### 11.1 SWRCB Waste Discharge Requirements: Communication Plan

#### SWRCB Waste Discharge Requirements:

- 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.

### 11.2 Communication Plan

SAM does not currently have a formal communication plan in place for the communication of SSMP elements, performance or updates. SAM communicates with the public through its website and presentation of information at its regular, public Board meetings. Issues related to the SSMP and the SAM IPS are sometimes the subject of items on regular SAM Board meetings, where the public has the opportunity to provide input.

SAM staff has routine communications with the staff from the systems tributary or satellite to SAM's IPS system. The SSMP will be added to the SAM website ("Documents" link at <https://samcleanswater.org> ) after this SSMP update is approved.

### 11.3 Appendix J – Communication Plan Documents

There are no Appendix documents to accompany Section XI. However, this Appendix J is included as a placeholder for future documents.