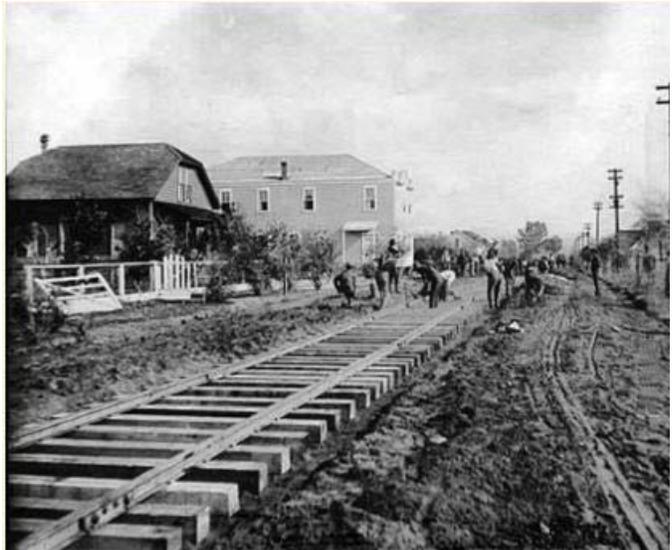


# City of Oroville



## Sewer System Management Plan

Final – October 30, 2009    Adopted – November 17, 2009

# Document Version Control

This Sewer System Management Plan (SSMP) is a living document that is anticipated change over time. This version control sheet is intended to support the City’s efforts to keep the copies of the SSMP that have been assigned to City Staff current. Please contact the Public Works Department prior to making copies for use by others, initiating changes, or for information regarding the current version of this document.

SSMP Version No.: 1

SSMP Version Date: October 30, 2009

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Introduction	October 30, 2009	
Goals	October 30, 2009	
Organization	October 30, 2009	
Legal Authority	October 30, 2009	
O&M Program	October 30, 2009	
Design and Performance Provisions	October 30, 2009	
Overflow Emergency Response Plan	October 30, 2009	
FOG Control Plan	October 30, 2009	
System Evaluation and Capacity Assurance Plan	October 30, 2009	
Monitoring, Measurement, and Program Modifications	October 30, 2009	
SSMP Program Audit	October 30, 2009	
Communications Plan	October 30, 2009	

# Table of Contents

- Introduction ..... 1**
- System Description ..... 1
- Organization of SSMP ..... 2
- Definitions, Acronyms, and Abbreviations ..... 2
- Section 1. Goals ..... 1-1**
- 1.1. Introduction ..... 1-1
- 1.2. WDR Requirements for Goals ..... 1-1
- 1.3. SSMP Goals ..... 1-1
- Section 2. Organization ..... 2-1**
- 2.1. Introduction ..... 2-1
- 2.2. WDR Requirements ..... 2-1
- 2.3. Organization ..... 2-1
- 2.4. Authorized Representative ..... 2-1
- 2.5. Responsibility for SSMP Implementation ..... 2-1
- 2.6. SSO Reporting Chain of Communication ..... 2-2
- Appendix 2-A: SSMP Development, Implementation, and Maintenance  
Responsibilities ..... 2-3
- Section 3. Legal Authority ..... 3-1**
- 3.1. Introduction ..... 3-1
- 3.2. WDR Requirements ..... 3-1
- 3.3. Municipal Code ..... 3-1
- Section 4. Operations and Maintenance Program ..... 4-1**
- 4.1. Introduction ..... 4-1
- 4.2. WDR Requirements ..... 4-1
- 4.3. Collection System Maps ..... 4-1
- 4.4. Operation and Maintenance Program ..... 4-2
- 4.5. Rehabilitation and Replacement Plan ..... 4-3
- 4.6. Training Program ..... 4-3
- 4.7. Equipment and Parts Inventory ..... 4-4

Appendix 4-A: Standard Operating Procedure for Sewer Cleaning .....	4-5
Appendix 4-B: Condition-Based Capital Improvement Program .....	4-9
Appendix 4-C: Major Sewer System Equipment Inventory.....	4-10
<b>Section 5. Design and Performance Provisions .....</b>	<b>5-1</b>
5.1. Introduction.....	5-1
5.2. WDR Requirements .....	5-1
5.3. Design Criteria.....	5-1
<b>Section 6. Overflow Emergency Response Plan.....</b>	<b>6-1</b>
6.1. Introduction.....	6-1
6.2. WDR Requirements .....	6-1
6.3. Goals .....	6-2
6.4. SSO Detection.....	6-2
6.5. SSO Response Procedures .....	6-3
6.6. Recovery and Clean Up .....	6-7
6.7. Failure Analysis Investigation .....	6-10
6.8. SSO Categories.....	6-10
6.9. SSO Documentation and Reporting .....	6-10
6.10. Post SSO Event Debriefing .....	6-16
6.11. Equipment .....	6-17
6.12. SSO Response Training.....	6-17
6.13. Contractors Working on City Sewer Facilities.....	6-17
Appendix 6-A: After Hours and Emergency Contact Information .....	6-19
Appendix 6-B: Sewer Report Form .....	6-20
Appendix 6-C: Sample Fax Form for SSO Reporting.....	6-22
Appendix 6-D: Collection System Failure Analysis Form .....	6-23
Appendix 6-E: Private Property Damage Procedures .....	6-24
Appendix 6-F: Methods for Estimating Spill Volume .....	6-26
Appendix 6-G: Manhole Overflow Flowrate Guide .....	6-29
Appendix 6-IH Sample Warning Sign.....	6-30
Appendix 6-I: Emergency Response Equipment.....	6-31
<b>Section 7. FOG Control Program.....</b>	<b>7-1</b>
7.1. Introduction.....	7-1
7.2. WDR Requirements .....	7-1

7.3.	Nature and Extent of FOG Problem.....	7-1
7.4.	FOG Source Control Program .....	7-2
<b>Section 8. System Evaluation and Capacity Assurance Plan .....</b>		<b>8-1</b>
8.1.	Introduction.....	8-1
8.2.	WDR Requirements .....	8-1
8.3.	Evaluation – Sanitary Sewer Master Plan .....	8-2
8.4.	Design Criteria.....	8-2
8.5.	Capacity Enhancement Measures – CIP .....	8-2
Appendix 8-A: Capital Improvement Program - Capacity Deficiencies .....		8-3
<b>Section 9. Monitoring, Measurement, and Program Modifications .....</b>		<b>9-1</b>
9.1.	Introduction.....	9-1
9.2.	WDR Requirements.....	9-1
9.3.	Performance Measures .....	9-1
9.4.	Historical Performance Data.....	9-1
9.5.	Baseline Performance .....	9-1
9.6.	Performance Monitoring and Program Changes .....	9-2
9.7.	SSMP Updates .....	9-2
<b>Section 10. SSMP Program Audits.....</b>		<b>10-1</b>
10.1.	Introduction.....	10-1
10.2.	WDR Requirements for SSMP Program Audits.....	10-1
10.3.	SSMP Audits .....	10-1
Appendix 10-A: SSMP Audit Checklist.....		10-2
<b>Section 11. Communication Program .....</b>		<b>11-1</b>
11.1.	Introduction.....	11-1
11.2.	WDR Requirements for the Communications Program .....	11-1
11.3.	Communication during SSMP Development and Implementation .....	11-1
11.4.	Communicating Sanitary Sewer System Performance .....	11-1
11.5.	Communication with Tributary/Satellite Sanitary Sewer Systems.....	11-2

## List of Figures

Figure 2-1:	Organization Chart.....	2-2
Figure 4-1:	CWEA Publication, “Best Practices Cleaning Results” .....	4-8
Figure 6-1:	SSO Response Procedure Flow Chart .....	6-5
Figure 6-2:	SSO External Reporting Requirement Flow Chart.....	6-14
Figure 6-3:	SSO External Reporting Checklist and Contact Information.....	6-15

## List of Tables

Table 3-1:	Legal Authority.....	3-2
Table 4-1:	Training Resources.....	4-4
Table 4-2:	Criterion for Coding Debris Found During Cleaning.....	4-7
Table 5-1:	Acceptable Pipe Materials for New Gravity Sewers.....	5-5
Table 5-2:	Minimum Manhole Vacuum Test Time in Seconds.....	5-6
Table 7-1:	FOG-Related SSO Events .....	7-2
Table 9-1:	Baseline Performance as of June 30, 2009 covering period of September 2, 2007 through June 30, 2009.....	9-2

# **Introduction**

## **Background**

This Sewer System Management Plan (SSMP) has been prepared in compliance with the State Water Resources Control Board (SWRCB) Order 2006-0003, Statewide General Waste Discharge Requirements (WDR's) for Sanitary Sewer Systems, as adopted by the SWRCB on May 2, 2006. The WDR's prohibit sanitary sewer overflows (SSOs) and requires the reporting of SSO's using the statewide electronic reporting system. This initial SSMP has been prepared by the City of Oroville (City) with assistance from Larson Consulting.

## **System Description**

The City of Oroville owns and operates a sanitary sewer collection system for the benefit of residents and businesses in the Oroville city limits. The sanitary sewer crew maintains approximately 66 miles of sanitary sewer gravity mains with approximately 1,350 manholes and over 2,300 feet of force main. The City also maintains seven sewer lift stations, and two flow meters.

The Sewerage Commission-Oroville Region (SC-OR) provides wastewater treatment and disposal for the Oroville Region through the operation of a treatment plant located on South 5<sup>th</sup> Avenue, south of downtown Oroville. Average dry weather wastewater flows (DWF's) conveyed through the City's collection system are 1.9 MGD and are expected to grow to approximately 8.2 MGD through build out of the collection system. The Engineering Division of Oroville's Community Development and Public Works Department is responsible for managing the maintenance of the City's system.

The City has had a program of sewer upgrades and rehabilitation. Some of the recommended repairs and upgrades listed in the 1995 Master Plan have been completed. There are no plans to expand the collection system significantly at this time. Upgrades required due to capacity are typically driven by larger developments as the City requires significant developments to submit plans and may require them to provide detailed sewer capacity studies during the permitting process. These developments are typically required to upgrade the existing collection system downstream if additional capacity is required.

## Organization of SSMP

The structure of this document follows the section numbering and nomenclature specified in the General Waste Discharge Requirements (GWDR). The Sewer System Management Plan (SSMP) includes eleven 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 (FOG) Control Program
8. System Evaluation and Capacity Assurance Plan
9. Monitoring, Measurement, and Program Modifications
10. SSMP Audits
11. Communication Program

## Definitions, Acronyms, and Abbreviations

**Best Management Practices (BMP's)** - 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.

**Building Sewer** - Refers to the piping that conveys sewage within a building or residence.

**Butte County Department of Public Health (County Health)**

**Calendar Year (CY)**

**California Integrated Water Quality System (CIWQS)** - 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 (CIP)** - Refers to the document that identifies planned capital improvements to the City's sanitary sewer system.

**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** - Refers to the City of Oroville.

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

**Collection System** – See Sewer System.

**Computerized Maintenance Management System (CMMS)** - 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.

**Dry Weather Flows (DWF's)** – Refers to the average daily volume of wastewater conveyed through the collection system during periods of dry weather (non-rainy season flows)

**Environmental Protection Agency (EPA)** - Refers to the United States Environmental Protection Agency.

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

**Field Report** - Refers to the Sanitary Sewer Problem Report Form.

**Fiscal Year (FY)**

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

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

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

**Gallons per Day (gpd)**

**Gallons per Minute (gpm)**

**General Waste Discharge Requirements (GWDR)** - 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 February 20, 2008.

**Geographic Information System (GIS)** - Refers to the City's system that it uses to capture, store, analyze, and manage geospatial data associated with the City's sanitary sewer system assets.

**Global Positioning System (GPS)** - Refers to the handheld unit used to determine the longitude and latitude of sanitary sewer overflows for use in meeting the Online SSO Reporting System reporting requirements.

**Grease Removal Device (GRD)** - Refers to grease traps or grease interceptors that are installed to remove FOG from the wastewater flow at food service establishments.

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

**Infiltration/Inflow (I/I)** - Refers to water that enters the sanitary sewer system from stormwater 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).

**Lateral** - See sewer service lateral.

**Legally Responsible Official (LRO)** - Refers to the individual who has the authority to certify reports and other actions that are submitted through the Online SSO Reporting System.

**Manhole (MH)** - Refers to an engineered structure that is intended to provide access to a sanitary sewer for maintenance and inspection.

**Monitoring, Measurement, and Program Modifications (MMPM)**

**National Pollution Discharge Elimination System (NPDES)**

**Not Applicable (NA)**

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

**Office of Emergency Services (OES)** - Refers to the California Governor's Office of Emergency Services.

**Online SSO Reporting System** - Refers to the California Integrated Water Quality System (CIWQS).

**Operations and Maintenance (O&M)**

**Overflow Emergency Response Plan (OERP)**

**Personal Protective Equipment (PPE)**

**Preventative Maintenance (PM)** - Refers to maintenance activities intended to prevent failures of the 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.

**Property Damage Overflow** - Property damage overflow refers to a sewer overflow or backup that damages private property.

**Regional Water Quality Control Board (RWQCB)** - Refers to the Regional Water Quality Control Board for Region 5R – Central Valley-Redding.

**Sanitary Sewer Overflow (SSO)** - 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.

**Sanitary Sewer System** – Refers to the portion of the sanitary sewer facilities that are owned and operated by the City of Oroville.

**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.).

**Sewer Service Lateral** - Refers to the piping that conveys sewage from the building to the City's sanitary sewer main.

**Sewer System** – See sanitary sewer system.

**Sewer System Management Plan (SSMP)**

**Square Feet (sf)**

**Standard Operating Procedures (SOP)** - Refers to written procedures that pertain to specific activities employed in the operation and maintenance of the sanitary sewer system.

**State Water Resources Control Board (SWRCB)** - Refers to the California Environmental Protection Agency (EPA) State Water Resources Control Board and staff responsible for protecting the State's water resources.

**Surface Waters** - See waters of the State.

**System Evaluation and Capacity Assurance Plan (SECAP)**

**Vitrified Clay Pipe (VCP)**

**Volume Captured** - 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.

**Wastewater Collection System** – See sewer system.

**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 water, surface or underground, 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.

**Work Order (WO)** - Refers to a document (paper or electronic) that is used to assign work and to record the results of the completed work.

## 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.

**Monitoring and Reporting Program 2006-0003 Statewide General Waste Discharge Requirements for Sanitary Sewer Systems**, State Water Resources Control Board,,May 2, 2006

**State Water Resources Control Board Monitoring and Reporting Program No. 2006-0003-DWQ** (as revised by Order No. WQ 2008-0002.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, California State Water Resources Control Board, February 20, 2008.

## **Section 1. Goals**

### **1.1. Introduction**

This section of the SSMP formally states the City's goals for its SSMP.

### **1.2. WDR Requirements**

The WDR requirements for the Goals section of the SSMP are:

The collection system agency must develop goals to properly manage, operate, and maintain all parts of its wastewater collection system in order to reduce and prevent SSOs, as well as to mitigate any SSOs that occur.

### **1.3. SSMP Goals**

The City's goals are:

1. To properly manage, operate, and maintain all parts of the City's sanitary sewer system.
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 design 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.

## **Section 2. Organization**

### **2.1. Introduction**

This section of the SSMP identifies City staff responsible for implementing this SSMP, responding to SSO events, and meeting the SSO reporting requirements.

### **2.2. WDR Requirements**

The requirements for the Organization element of the SSMP are summarized below. The SSMP must identify:

1. The name of the responsible or authorized representative;
2. The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program. The lines of authority as shown in an organization chart or similar document with a narrative explanation are to be included; and
3. 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 City's sanitary sewer system is shown on Figure 2-1.

### **2.4. Authorized Representative**

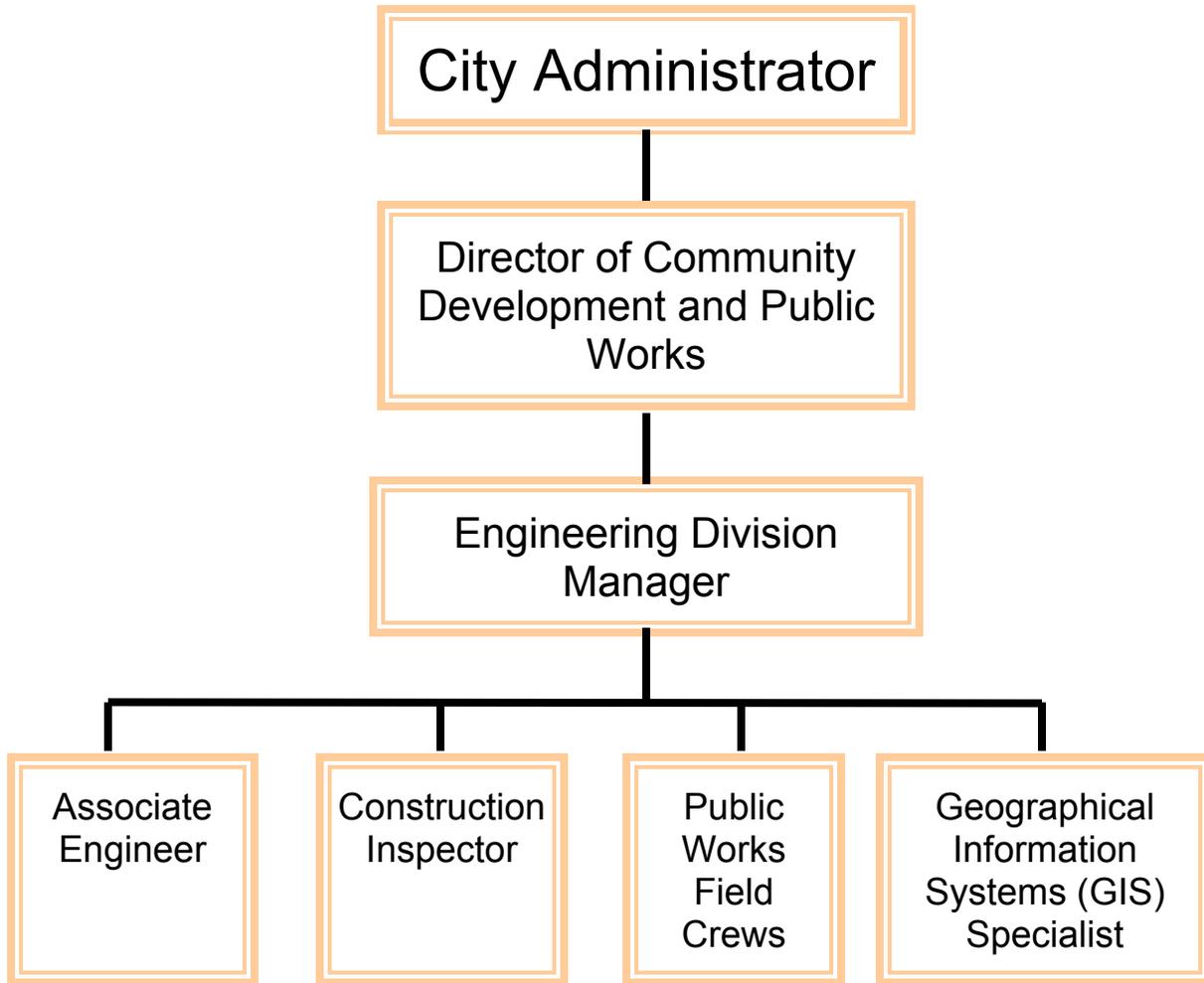
The City's Authorized Representative in all sewer system matters is the Engineering Division Manager. The Engineering manager is authorized to submit verbal, electronic, and written spill reports to the RWQCB, SWRCB, County Health Agency, and OES. The Engineering Manager is authorized to certify electronic spill reports submitted to the SWRCB.

The Associate Engineer who reports to the Engineering Manager is authorized to act in the Engineering Managers' absence. The Associate Engineer is authorized to submit verbal, electronic, and written spill reports to the RWQCB, SWRCB, County Health Agency, and OES. The Associate Engineer is authorized to certify electronic spill reports submitted to the SWRCB.

### **2.5. Responsibility for SSMP Implementation**

The Engineering Manager is responsible for developing, implementing, and maintaining all elements of the City's SSMP (Appendix 2-A).

**Figure 2-1: Organization Chart**



## **2.6. SSO Reporting Chain of Communication**

The SSO Reporting Chain of Command follows the Organization Chart shown on Figure 2-1. The SSO Reporting process and responsibilities are described in detail in Section 6 - Overflow Emergency Response Plan.

**Appendix 2-A: SSMP Development, Implementation, and Maintenance Responsibilities**

<b>Name</b>	<b>Job Title</b>	<b>Phone Number</b>	<b>SSMP Responsibility</b>
Richard Walls, P.E.	Sr. Civil Engineer Interim City Engineer	(530) 538-2507	All Sections

## Section 3. Legal Authority

### 3.1. Introduction

This section of the SSMP presents the City's legal authority to comply with the SSMP requirements, as provided in its Municipal Code and agreements with other agencies.

### 3.2. WDR Requirements

The summarized requirements for the Legal Authority element of the SSMP are:

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

- a) Prevent illicit discharges into its wastewater collection 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 City;
- d) Limit the discharge of fats, oils, and grease and other debris that may cause blockages;
- e) Enforce any violation of its sewer ordinances;
- f) Authority to inspect grease producing dischargers; and
- g) Authority to enforce sewer-related ordinances.

### 3.3. Municipal Code

The Oroville Municipal Code describes the City's current legal authorities for the collection system. The legal authorities provided in the Municipal Code that address the specific requirements for this SSMP are summarized on Table 3-1.

There are two areas where the City's legal authority does not meet the requirements of the GWDR. The City's intended action regarding those areas are:

- **Clearly define City responsibility for laterals.** The City Code (20-8) states that installation, connection, and maintenance of the building sewer are the responsibility of the applicant. The City Code should specify that the property owner is responsible for the building sewer. The responsibility for the connection to the public sewer should be specified. The City will amend the Municipal Code to state the City is not responsible for building sewers and their connection to the public sewer.
- **Requirements to install grease removal devices (such as traps or interceptors), design standards for the grease removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements.** The City Code (20-25) refers to responsibility for preliminary treatment but does not specify the City's authority to require the installation of grease removal equipment.

The City will act to amend its Municipal Code to provide the required legal authorities by December 31, 2011.

**Table 3-1: Legal Authority**

<b>Requirement</b>	<b>Municipal Code Reference</b>	<b>Meets GWDR Requirements?</b>
<b>General</b>		
Prevent illicit discharges into the sanitary sewer system	20-27	Yes
Limit the discharge of fats, oils, and grease and other debris that may cause blockages	20-27	Yes
Require that sewers and connections be properly designed and constructed	20-7	Yes
Require proper installation, testing, and inspection of new and rehabilitated sewers	20-7	Yes
<b>Laterals</b>		
Clearly define City responsibility	20-8	Partial
Ensure access for maintenance, inspection, or repairs for portions of the service lateral owned or maintained by the City	NA	NA
Control infiltration and inflow (I/I) from private service laterals	20-11	Yes
<b>FOG Source Control</b>		
Requirements to install grease removal devices (such as traps or interceptors), design standards for the grease removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements	20-25	Partial
Authority to inspect grease producing facilities	20-20	Yes
<b>Enforcement</b>		
Enforce any violation of its sewer ordinances	20-18	Yes

## **Section 4. Operations and Maintenance Program**

### **4.1. Introduction**

This section of the SSMP provides an overview of the City's operations and maintenance program.

### **4.2. WDR Requirements**

The summarized requirements for the Operations and Maintenance (O&M) Program are:

- (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;
- (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 City maintains its collection system maps using a Geographic Information System (GIS). The maps include all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable storm water conveyance facilities. The field crews use hard copy maps that are produced from GIS. The hard copy maps are updated on an as-needed basis. Corrections that are identified by the field crews are forwarded to Engineering Division for action. High priority corrections will be completed as soon as possible. High priority corrections refer to mapping information that could

cause the field crews to act in a manner that could cause an SSO. Low priority corrections will be completed once a year.

#### **4.4. Operation and Maintenance Program**

The elements of the City's sewer system O&M program include:

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

The details of the City's O&M programs are:

##### **4.4.1. Gravity Sewers**

The City proactively cleans all sewers 12 inches in diameter and smaller every three years, and it preventively cleans sewers with a history of problems every 1, 3, or 6 months. One part-time sewer cleaning crew is assigned to these activities. The City's standard operating procedure for sewer cleaning is included as Appendix 4-A.

Gravity sewer cleaning is currently scheduled using paper work orders. The city intends to transition to a computer-based maintenance management system to initiate work orders, record completed work, and compile a maintenance history for each individual sewer system asset. The City intends to complete the implementation by December 31, 2009.

The City will visually inspect the condition of its larger sewers every three years and provide cleaning if needed. The City uses CCTV to determine the cause of its gravity sewer blockages and SSOs.

The City completes repairs using its field crews and it uses underground contractors to complete the more difficult repairs. Repairs are completed in priority order.

The City intends to complete the first round of inspection using CCTV by December 31, 2012 and it intends to continue inspecting its gravity sewers thereafter on a five-year cycle. One part-time CCTV inspection crew is assigned to this activity. The inspection data is reviewed by the Engineering Division to determine whether repairs or rehabilitation/replacement are warranted.

The public works field crews maintain a list of known structural problems for use in providing input to the Public Works Engineering Division on the Capital Improvement Program.

##### **4.4.2. Lift Stations**

The City's lift station O&M program consists of operational inspections, preventive maintenance, and corrective maintenance activities.

The operation of the lift stations is inspected weekly. Facility or equipment problems observed during the operational inspections are noted on logs maintained at the lift stations and on reports for follow-up action. Emergency generators are exercised quarterly.

The City intends to implement a computer-based maintenance management system to initiate work orders, record completed work, and compile a maintenance history for each individual sewer system asset. The City intends to complete the implementation by December 31, 2010.

The City formally inspects the condition of its lift stations annually. This inspection is used to identify major maintenance and rehabilitation needs. The facility inspection is completed by a team that includes collection system field staff and if warranted, Engineering Division staff. Repairs and major maintenance are completed by City staff. Specialty repairs, maintenance, or rehabilitation/replacement are completed by contract.

#### **4.4.3. Force Mains**

The City's force main O&M program consists of periodic inspections, preventive maintenance, and corrective maintenance activities.

The City is a member of Underground Service Alert and marks the location of its force mains to prevent damage by others during underground construction.

The force main right-of-ways are inspected quarterly to identify leakage and potential incursions associated with nearby construction. Air relief valves are inspected and maintained annually. Force mains are cleaned when conditions warrant.

#### **4.4.4. 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 troubles, lift station malfunction, unexpected sewer odor, etc. Sewer complaints are investigated and appropriate actions are taken to resolve the source of the problem.

### **4.5. Rehabilitation and Replacement Plan**

The City has a Capital Improvement Program that includes the rehabilitation and replacement of its collection system assets where conditions warrant.

The sewer system projects that are included in the City's Capital Improvement Program are shown in Appendix 4-B.

### **4.6. Training Program**

The City currently uses a combination of on-the-job training and conferences, seminars, and other opportunities to train its collection system staff. A partial list of available training resources is shown on Table 4-1.

**Table 4-1: Training Resources**

<b>Sponsor</b>	<b>Event</b>	<b>Timeframe</b>	<b>References</b>
California Water Environment Association	State Conference	April	www.cwea.org
	Northern Regional Training Conference	September	
	Northern Regional Safety Conference	May	
	Northern Sacramento Valley Section	Periodic	
	Sacramento Area Section Collection Systems Committee	Quarterly	
Central Valley Clean Water Association	Collection System Committee	Periodic	http://www.cvcwa.org
Tri-State Conference	Annual Conference	September	www.tristateseminar.com
California State University, Sacramento	Videos, manuals, home study courses	Continuous	www.owp.csus.edu
USEPA	On-line courses	Continuous	www.epacampus.com

The City's contract language requires contractors working in the collection system to provide training for their employees in collection system operations and response to collection system blockages/overflows.

#### **4.7. Equipment and Parts Inventory**

The list of the major equipment that the City uses in the operation and maintenance of its sewer system is included in Appendix 4-C. The City has one spare pump control module which is considered a critical replacement part.

## **Appendix 4-A: Standard Operating Procedure for Sewer Cleaning**

### **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 work product. 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**

1. Personal protective equipment (hardhat, steel toe boots, gloves, eye/face protection, hearing protection)
2. Calibrated gas detector
3. Proper safety cones, barricades, flagging, signs or other traffic control devices
4. Confined space equipment (tripod, harness, and ventilation blower)
5. Sanitary sewer system map book
6. Combo sewer cleaner
7. Warthog sewer cleaning nozzle
8. Six-wire skid ("proofer") in sizes that will be encountered during the day
9. Root saw
10. Debris traps in the sizes that will be encountered during the day
11. Manhole hook or pick-axe
12. Measuring wheel
13. Disinfectant

## **Procedures for Sewer Cleaning Crew**

### **Prior to Leaving the Yard**

1. Plan the work so that it starts in the upstream portion of the area and moves downstream.
2. Wherever possible, plan to clean sewers from the downstream manhole.
3. Inspect the sewer cleaning nozzles for wear. Replace nozzles that are excessively worn.
4. 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**

1. Wear proper personnel protective equipment (PPE).
2. Fill the water tank at or near the first jobsite.
3. Determine and confirm location of upstream and downstream manholes (use street addresses, if possible).
4. Look for any overhead utilities that may come into contact with the vacuum boom during the cleaning operation.
5. Set up proper traffic control by placing traffic signs, flags, cones and other traffic control devices.
6. Move the cleaning unit into the traffic control so that the hose reel is positioned over the manhole.
7. Open the manhole and use the gas detector to determine if it is safe to proceed with the cleaning operation.
8. Install the Warthog nozzle on the hose.

### **Cleaning Operation**

1. Insert the debris trap.
2. Start the auxiliary engine.
3. Lower the hose, with a guide or roller to protect the hose, into the manhole and direct it into the sewer to be cleaned.
4. Start the high pressure pump and set the engine speed to provide adequate pressure for the sewer cleaning operation.
5. Open the water valve and allow the hose to proceed up the sewer. The hose speed should not exceed 3 feet per minute.
6. Allow the hose to proceed 25% of the length of the sewer and pull the hose back.
7. Observe the nature and the quantity of debris pulled back to the manhole.

8. If there is little or no debris, allow the hose to proceed to the upstream manhole.
9. 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.
10. Open the upstream manhole and verify that the nozzle is at or past the manhole.
11. 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.
12. Determine the nature and quantity of the debris removed during the cleaning operation. Use the codes in Table 4-1 to report the nature and quantity of debris. Figure 4-1 is an excerpt from the CWEA “Best Practices Cleaning Results” publication and sets guidelines for coding debris found during field work.

**Table 4-2: Criterion for Coding Debris Found During Cleaning**

Type of Debris	Clear (no debris)	Light	Moderate	Heavy
Sand, grit, rock	CLR	DL	DM	DH
Grease	CLR	GL	GM	GH
Roots	CLR	RL	RM	RH
Other (specify)	CLR	OL	OM	OH

13. Remove the debris from the manhole using the vacuum unit.
14. Rewind the hose on the reel.
15. Remove the debris trap.
16. Clean the mating surface and close the manhole. Ensure that the manhole is properly seated.
17. Enter the results on the Work Order.
18. Move the cleaning unit, break down and stow the traffic controls.
19. Proceed to the next cleaning jobsite.

***At the End of the Day***

1. Inspect the equipment and tools for problems.
2. Report any problems with equipment, tools, or sewers that were cleaned during the day.
3. Turn in all completed Cleaning Work Orders at end of shift.

**Figure 4-1: Excerpt from CWEA publication, “Best Practices Cleaning Results”**

<b>Standard Measures of Observed Results</b>			
<p>Next to cleaning the sewer line, effective observation of results is the most important work product of the crew. This information is the basis for defining future maintenance activities. Consistency is important. The standards for “results” for six- and eight-inch diameter sewers are:</p>			
	<b>Clear</b>	<b>Moderate</b>	<b>Heavy</b>
Grit	No observable grit	Less than 5 gallons 15-20 minutes to clean 1-2 passes required Requires cleaning twice or less per year Only fine grit	More than 5 gallons More than 30 minutes to clean More than 4 passes required Requires cleaning four times per year
Grease	No observable grease	Small chunks/no “logs” 15-20 minutes to clean 1-2 passes required Requires cleaning twice or less per year	Big chunks/“logs” Operator concern for downstream plugging More than 30 minutes to clean More than 4 passes required
Liquefied grease		Vacuuming not required	Vacuuming not required
Roots	No observable roots	Thin/stringy roots present; no large clumps 15-20 minutes to clean 1-2 passes required	Thick roots present Large “clumps” More than 30 minutes to clean More than 4 passes
Other condition observations: - Pipe material fragments - Soil/dirt - Rock (pipe bedding) - Lost nozzle			

## Appendix 4–B: Condition-Based Capital Improvement Program

Project Number	Project Title	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13
1	Boynton SS Replacement	✓				
2	Rehab MM Line		✓			
3	Chemical Root Treatment		✓	✓	✓	✓
Additional CIP projects will be added as televising, condition assessment and flow monitoring (I&I investigation) of the collection system progresses						

## Appendix 4–C: Major Sewer System Equipment Inventory

Equipment Number	Major Equipment Type	Year Purchased
1	Vactor	2001
2	Flex Rodder	1990
3	Myers Jet Rodder	1989
5	Service Truck – Ford F250	1992
5	QUES Closed Circuit Televising Van	2009

## **Section 5. Design and Performance Provisions**

### **5.1. Introduction**

Design standards are used by the City's Public Works Department for the design of new and rehabilitated collection system facilities.

### **5.2. WDR Requirements**

The summarized requirements for the Design and Construction Standards element of the SSMP are:

The Agency must have design and construction standards and specifications for the installation of new sewer systems and for the rehabilitation and repair of existing sewer systems.

The Agency must also have procedures and standards for inspecting and testing the installation of new sewers, pump stations, and other appurtenances; and for rehabilitation and repair projects.

### **5.3. Design Criteria**

The City's Sanitary Sewer System Design Criteria are:

#### **5.3.1. General**

1. Any situation that varies from the standard conditions will require additional or specialized design features to ensure reliability, access for maintenance, and economical operation and maintenance. Design conditions that differ from these standards require approval from the Public Works Director.
2. Sewer lift stations require telemetry equipment to be incorporated into the design of the facility. The Public Works Department will provide specific design requirements when improvement plans are submitted for plan check.

#### **5.3.2. Mains**

1. Minimum size shall be eight inches.
2. The maximum depth of flow during peak dry weather flow shall not exceed 3/4 of the diameter for new pipes.
3. No vertical or horizontal curves shall be permitted, unless otherwise approved by the Public Works Department.
4. The deflection between any two successive joints will not exceed 80% of the maximum deflection recommended in writing by the pipe manufacturer. The minimum pipe length used to construct short radius curves will be two feet.
5. Sewer main locations shall be located in the center of the street or easement. A minimum ten foot horizontal separation outside-of-pipe to outside-of-pipe from waterlines shall be maintained.

6. Minimum cover for sewer pipe shall be 36 inches below the finished grade, unless otherwise approved by the Public Works Department.

7. Minimum Grade: A minimum velocity shall be two feet per second (fps) at peak daily dry weather flow. The minimum grade shall be:

<u>Pipe Diameter</u>	<u>Minimum Grade</u>
8"	1.0%
10" and larger	0.5%

8. Wastewater Flow Projection Criteria shall be:

<b>Category</b>	<b>Unit</b>	<b>Flowrate - GPD<sup>(1)</sup></b>
Auditorium/Assembly Hall	Seat	5
Bowling Alley	Per Lane	200
Carwash - Coin Operated	Stall	200
Commercial	1,000 GSF	100
Department Store	Toilet Room	550
Department Store	Employee	10
Hospital Bed	Bed	250
Hospital Employee	Employee	10
Hotels & Motels	Room	150
Laundry - Self Service	Machine	500
Medical Building	1,000 GSF <sup>(2)</sup>	300
Office Building	1,000 GSF	200
Prison Employee	Employee	10
Prison Inmate	Inmate	120
Residential - 1 Bedroom Apartment	Dwelling Unit	150
Residential - 2 Bedroom Apartment	Dwelling Unit	200
Residential - Mobile Home	Dwelling Unit	200
Residential - Single Family Dwelling	Dwelling Unit	260
Rest Home	Bed	100
Restaurant	Fixed Seat	50
School w/cafeteria only	Student	15
School w/cafeteria, gym & showers	Student	25
School w/o cafeteria, gym & showers	Student	10
Shopping Center	Parking Space	2
Shopping Center	Employee	10
(1) Flowrate = Average dry weather flow gallons per day		
(2) GSF = Gross square feet		

9. Peak daily flows for new residential developments shall be based on a ratio of peak to average flow of 2.5.
10. All sewer mains not located within the public right-of-way shall be provided with a minimum 15-foot wide sewer easement. In some special cases a wider easement may be required; easement width shall be determined by the Public Works Director. All easements shall be easily accessible to City's maintenance equipment.
11. Where water and sewer mains are located within the same easement, the minimum easement width shall be 20 feet. All easements shall be easily accessible to the City for maintenance.
12. The standards for rehabilitation shall be:
  - a. All sewer main replacements in easements should be constructed using trenchless construction methods where feasible and/or acceptable. The materials shall be SDR-35 PVC. Creek, railroad, and freeway crossings shall be SDR-35 HDPE or C900 PVC and the sewer main shall be installed in a steel casing with appropriate corrosion protection.
  - b. All sewer main replacements in streets and other paved areas shall be constructed using open cut or trenchless construction methods. Mains with less than 3.5 feet of cover shall be constructed using open trench construction methods. The materials shall be SDR-35. Protection from surface loads shall be approved by the Public Works Department.
  - c. All sags deeper than 1.5 inches shall be eliminated using spot repairs prior to proceeding with the rehabilitation method.
  - d. All connecting manholes, lamp holes, and clean outs shall be replaced or rehabilitated at the time the sewer main is rehabilitated or replaced.
  - e. All laterals shall be reconnected to the main at a 45 degree angle.

### **5.3.3. Manholes**

1. Minimum drop through manholes shall be 0.20 feet.
2. Manholes shall be required:
  - a. At all changes of slope.
  - b. At all changes in size or material.
  - c. At all changes of direction.
  - d. At all intersections of with other mains.
  - e. At all ends of lines and beginning of all mains.
3. All manholes shall be numbered on the plans.
4. Manhole spacing shall be 300 feet maximum or as approved by the Public Works Department.

5. For all industrial users, an inspection manhole shall be provided immediately behind the property line.
6. For all residential uses, a cleanout shall be provided within two feet of the property line.
7. Match soffit elevation at all locations where sewers of different size are connected in a manhole.

#### **5.3.4. Laterals**

1. Each parcel or lot shall have only one connection to public sewer main.
2. Minimum size shall be four inches. Six-inch laterals shall be provided for properties with five or more connected units and all commercial connections.
3. Sewer laterals six inches and larger, shall be connected to an existing manhole or a new manhole shall be constructed.
4. Minimum slope shall be 1/4 inch per foot.
5. An inspection manhole shall be provided at the property line for industrial projects where the flow will exceed 5,000 gallons per day.
6. All laterals are to be shown on improvement plans by stationing or a lateral table. On "As-Built" plans all laterals shall be shown in plan view to scale and dimensioned from the nearest sewer manhole.
7. Location:
  - a. Perpendicular to the sewer main.
  - b. Standard is from the center of lot to five feet above downstream lot line (shown on "As-Built" plans).
  - c. Services shall not be located in the driveway.
8. An "S" shall be stamped on the curb face at the lateral location.
9. Separation between sewer and water laterals shall be per City Standard Details and State regulations.
10. Minimum cover shall be three (3) feet minimum at the property line.
11. Any lot with a finished pad elevation lower than the top of the finished street grade where the sewer main is located that serves this lot, must install a sewer back flow prevention valve on private property. The valve must be installed in a valve box for easy access and be visible from the public right-of-way. The property owner shall be responsible for the installation and maintenance of the sewer backflow prevention valve. The backflow prevention valve shall be shown on the precise grading and improvement plans.
  - a. The backflow certification shall be completed by the developer in accordance with City standards.

- b. The property owner is responsible for maintaining the backflow prevention valve in proper operating condition at all times.

**5.3.5. Lift Station**

Lift stations shall not be employed unless deemed essential by the Public Works Department. Design criteria to be provided by the Public Works Department.

**5.3.6. City Sanitary Sewer System – Authorized Materials**

The authorized materials for the City’s sewer system are shown on Table 5-1.

**Table 5-1: Acceptable Pipe Materials for New Gravity Sewers**

Material	Designation	Standard
Polyvinylchloride Pipe (PVC)	SDR-35 C900	ASTM D3033 or D3034 AWWA C900

**5.3.7. Private Sewer Systems**

1. All private sewer systems serving more than one building shall be governed by and permitted through the Building Department. A manhole shall be set at the property line and at the mainline, if required.
2. The sewer system upstream of the manhole at the property line shall be considered private.
3. In the event that a private sewer system is proposed to be converted to a public system, the entire system must be upgraded to meet the public standards as presented in this section.
4. Acceptable pipe materials for buried main and trunk sewers 24 inches in diameter and smaller are shown in Table 5-1. Materials for other applications require the approval of the Public Works Department.

**5.3.8. Inspection and Testing Criteria**

The City’s Sanitary Sewer System Inspection and Testing Criteria are based on the City’s Engineering Standards. The City’s inspection and testing criteria are:

New Gravity Sewers

**Inspection during construction** – All new gravity sewers will be periodically inspected during construction to ensure that the sewer is constructed using the specified materials and methods. Specific approvals will be required by the inspector prior to backfilling the trench, prior to paving, and prior to acceptance by the City. The contractor will be required to provide survey controls so that the inspector can verify line and grade (slope). Unusual conditions and special features will be recorded for future reference.

**Leakage** – All new gravity sewers will be tested to verify that they have been properly constructed. Sewers will be tested using a low air pressure test in accordance with City standards. Gravity sewers that fail the test shall be repaired and retested.

**Deflection** – All flexible pipe will be tested for deflection following backfill and prior to paving in accordance with City standards. Gravity sewers that fail the test shall be repaired and retested. “Re-rounding” is not allowed.

**CCTV inspection** – All new gravity sewers will be inspected using a closed circuit television to verify that the pipe is free from defects/damage, that the joints have been correctly constructed, and that the sewer is free from sags that will cause future operational problems. Gravity sewers shall be cleaned prior to inspection and shall be flushed with water so that sags can be identified and recorded.

**Warranty inspection** – All new gravity sewers will be inspected using CCTV prior to the end of the warranty period to ensure that there are no latent defects. Repairs shall be completed in a timely manner at the Contractor’s expense.

New Manholes

**Inspection during construction** - All new manholes will be periodically inspected during construction to ensure that the sewer is constructed using the specified materials and methods. Unusual conditions and special features will be recorded for future reference.

**Leakage** – All new manholes will be vacuum tested to verify that the joints, connections, and frame/cover are tight. The vacuum test will follow ASTM C1244. The test will be conducted at a 10 inch Hg vacuum. The vacuum loss shall be less than one inch Hg for the time shown on Table 5-2.

**Table 5-2: Minimum Manhole Vacuum Test Time in Seconds**

Depth / Diameter	4 foot diameter	5 foot diameter	6 foot diameter
Depth = 15 feet or less	60	75	90

Manholes that fail the vacuum test shall be repaired using materials and methods approved by the Public Works Department and retested.

New and Rehabilitated Lift Stations

**Inspection during construction** – All new and rehabilitated lift stations will be periodically inspected during construction to ensure that they are constructed using the specified materials and methods. Unusual conditions and special features will be recorded for future reference.

**Functional test** – All systems in new and rehabilitated lift stations will be tested to ensure they function as intended.

**Performance test** – All new and rehabilitated lift stations will be required to pass an extended performance test to ensure that they are capable of reliably meeting

the design performance for a period of at least 120 hours of continuous operation without failure or alarms. The results of these performance tests will be recorded for use as a basis for evaluating future performance evaluations.

## **Section 6. Overflow Emergency Response Plan**

### **6.1. Introduction**

The purpose of this Overflow Emergency Response Plan (OERP) is to support an orderly and effective response to SSOs.

### **6.2. WDR Requirements**

The collection system agency 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:

- (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. Goals**

The City's goals with respect to responding to SSOs are:

- Respond quickly to minimize the volume of the SSO;
- Eliminate the cause of the SSO;
- Contain the spilled wastewater to the extent feasible;
- Minimize public contact with the spilled wastewater;
- Mitigate the impact of the SSO;
- Meet the regulatory reporting requirements; and
- Notify the public when a threat to public health exists.

### **6.4. SSO Detection**

The processes that are employed to notify the City of the occurrence of an SSO include: observation by the public, receipt of an alarm, or observation by City staff during the normal course of their work.

#### **6.4.1. Public Observation**

Public observation is the most common way that the City is notified of blockages and spills. Contact information for reporting sewer spills and backups are in the phone book and on the City's website: <http://www.cityoforoville.org>. The working hours telephone number for reporting sewer problems is (530) 538-2401. The after hours telephone number is (530) 538-2448 (Police Dispatch).

##### **6.4.1.1. Normal Work Hours**

The City's regular working hours for the sewer crew is Monday through Friday from 7:00 a.m. to 3:30 p.m. except holidays. When a report of a sewer spill or backup is made, City Staff receives the call, takes the information from the caller, fills out the first section of the Sewer Report Form, and communicates it to the Field Crew who responds to the site.

##### **6.4.1.2. After Hours**

The Police Dispatcher receives the call, takes the information from the caller, and communicates it to the Public Works Standby Person.

#### **6.4.2. Receipt of Alarm**

The Police Dispatcher monitors alarm conditions. If a lift station alarm is received, the appropriate City Staff is notified of the lift station alarms.

#### **6.4.3. City Staff Observation**

City Staff conduct periodic inspections of the sewer system facilities as part of their routine activities. Any problems noted with the sewer system facilities are reported to appropriate City personnel who, in turn, respond to emergency situations.

#### **6.5. SSO Response Procedures**

Sewer service calls and lift station alarms are considered high priority events that demand a prompt response. The notification and response procedure flow chart is shown on Figure 6-1. Emergency contact information is included in Appendix 6-A.

##### **6.5.1. First Responder's Role**

- To protect public health, environment and property from sewage spill events and restore area back to normal as soon as possible.
- To establish perimeters and control zones with traffic cones, barricades, vehicles or terrain.
- To promptly identify major SSO events and/or the need for additional resources (e.g. people, equipment, etc.).
- To contain and control the sewage discharged to the maximum extent possible. Every effort must be made to prevent the discharge of sewage into waterways above and below ground.

##### **6.5.2. First Responder Priorities**

The first responder's priorities are to:

- Follow safe work practices.
- Respond promptly with the appropriate equipment.
- Contain the spill whenever feasible.
- Restore the flow as soon as practicable.
- Minimize public access to and/or contact with the spilled sewage.
- Promptly notify Public Works Operations Manager in event of major SSO.
- Return the spilled sewage to the sewer system.
- Restore the area to its original condition (or as close as possible).

##### **6.5.3. Safety**

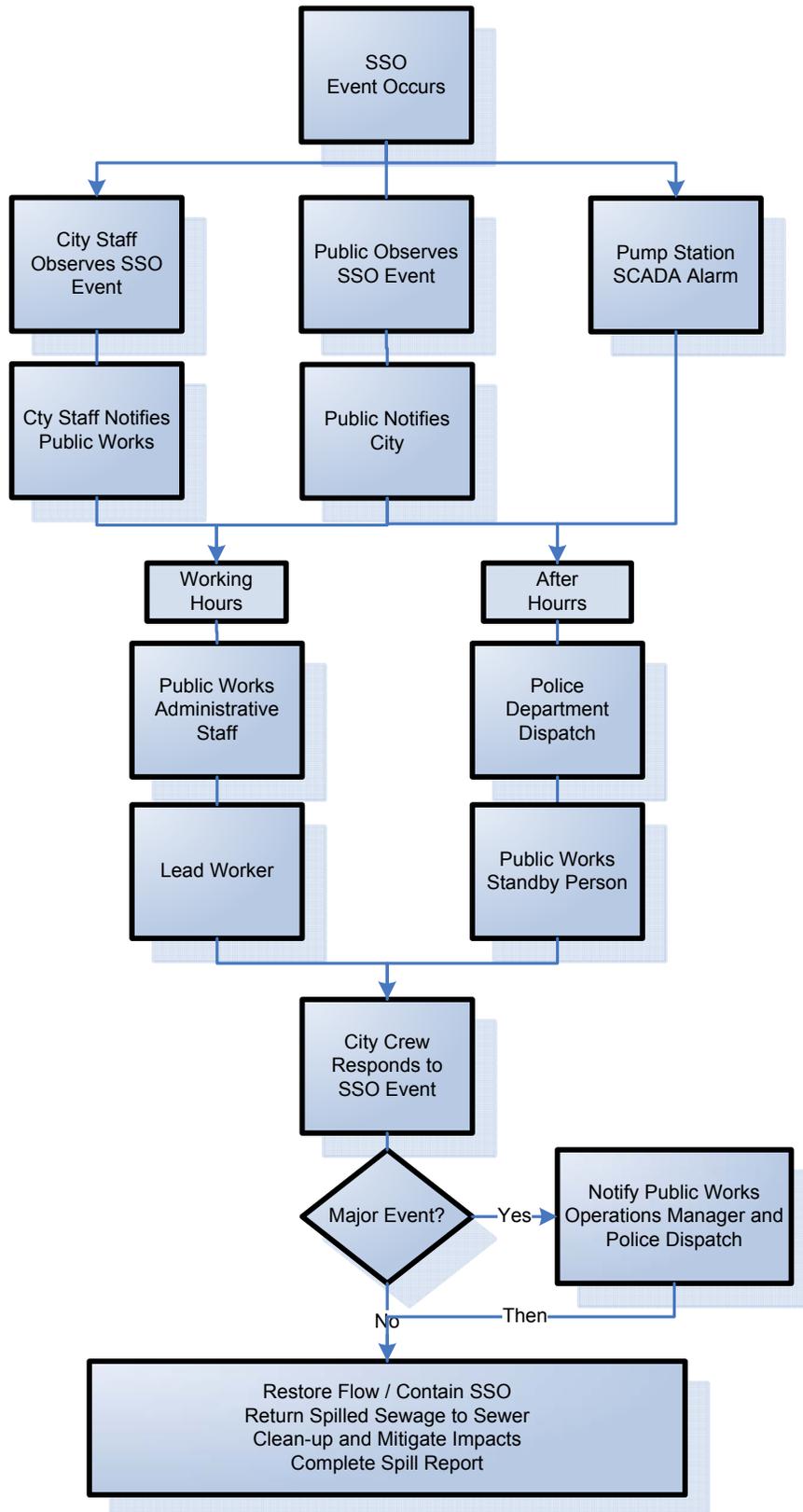
The first responder is responsible for following safety procedures at all times. Special safety precautions must be observed when performing sewer system work.

There may be times when City personnel responding to a sewer system event are not familiar with potential safety hazards peculiar to sewer system work. In such cases it is appropriate to take the time to discuss safety issues, consider the order of work, and check safety equipment before starting the job.

#### **6.5.4. Initial Response**

All sewer system calls require a response to the reported location of the event in an attempt to minimize or eliminate an overflow. The first responder must respond to the reporting party, lift station, or site of the problem immediately and visually check for potential sewer stoppages or overflows.

**Figure 6-1: SSO Response Procedure Flow Chart**



The first responder should:

- Get a brief description of the nature of the problem from the caller. Determine appropriate response measures based on the circumstances and information provided by the caller (e.g. weather and traffic conditions, small back up vs. sewage flowing on the ground, etc.).
- If the situation requires, call the Public Works Operations Manager (working hours) or the Police Dispatcher (after hours) to call other Public Works employees to assist in the SSO response. See Appendix 6-A for After Hours and Emergency Contact Information.
- Note arrival time, document conditions with photographs, contact caller if time permits.
- Verify the existence of a sewer system spill or backup.
- Regardless of whether the spill/backup is caused by a private lateral or other agency sewer system, the responding crew should always contain/mitigate the spilled sewage to the extent feasible and standby until representatives of the responsible party arrive and are fully operational.

#### **6.5.5. Restore Flow**

Relieve the stoppage or restore the lift station operation as soon as possible by use of the appropriate equipment.

If addressing a stoppage, set up downstream of the blockage and hydro clean or rod upstream from a clear manhole. Attempt to remove the blockage from the system and observe the flows to ensure that the blockage does not recur downstream.

If the blockage cannot be cleared within a reasonable time (15 minutes), or the sewer requires construction repairs to restore flow, or if the lift station operation cannot be restored within the wet well holding time, then initiate containment and/or bypass pumping. If assistance is required, immediately contact the Public Works Operations Manager (working hours) or the Police Dispatch (after hours) or call other employees directly.

#### **6.5.6. Initiate Spill Containment Measures**

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

- When a spill, leak, and/or overflow occurs, keep sewage from entering the storm drain system to the maximum extent practicable by covering or blocking storm drain inlets and catch basins, or by containing and diverting the sewage away from open channels and other storm drain facilities (using sandbags, inflatable dams, plastic mats, etc.).
- Determine the immediate destination of the overflowing sewage.
- Review sewer maps for possible temporary upstream flow diversion by passing.

- Pump around the blockage/pipe failure/lift station.
- Dike/dam (or sandbag) the spill by building a temporary berm to collect the spilled sewage.
- If overflowing sewage has made contact with the storm drainage system, attempt to contain the spilled sewage by plugging downstream storm drainage facilities.
- Modify these methods as needed to accommodate wet weather conditions where the feasibility of containment may be impacted by the quantity of stormwater runoff.

## **6.6. Recovery and Clean Up**

The recovery and clean up phase begins when the flow has been restored and the spilled sewage has been contained to the extent possible. The SSO recovery and clean up procedures are:

### **6.6.1. Water Quality Sampling and Testing**

Water quality sampling and testing is required whenever 1,000 gallons or more of spilled sewage enters a surface water to determine the extent and impact of the SSO. The water quality sampling procedures are:

- The first responder should collect samples. Samples should be collected as soon as possible after the discovery of the SSO event.
- For discharges into flowing water (e.g. rivers, creeks), the water quality samples should be collected from 100 feet upstream of the spill, from the spill area, and for 1,000 feet downstream of the spill at 100-foot intervals.
- For discharges into stationary water (e.g. lakes, ponds), the water quality samples should be collected from the spill area, and for 1,000 feet on either side of the spill at 100-foot intervals.
- A laboratory will analyze the results to determine the nature and impact of the discharge. Additional samples will be taken to determine when posting of warning signs can be discontinued. The basic analyses should include total coliform, fecal coliform, biochemical oxygen demand (BOD), dissolved oxygen, and ammonia nitrogen.

### **6.6.2. Public Notification**

The public that may be at risk should be warned to avoid contact with sewage or sewage-contaminated water from an SSO may cause illness. The notification methods are described below.

Local agencies and individuals may need to be contacted as soon as possible, depending on the situation, including:

- Police Department to control traffic;

- Public Works to close the areas such as parks and to mitigate impact on surface waters; and
- Local residents who may be impacted by the sewage spill.

#### 6.6.2.1. Sign Posting and Barricading

Post warning signs and block the contaminated areas with “Yellow Caution Tape” and barricades to keep vehicles and pedestrians away from contact with spilled sewage. Do not remove these until results of the lab tests show that the area is safe for human contact. A sample warning sign is included as Appendix 6-I.

Property, creeks, rivers, or 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 background levels. The warning signs, once posted, should be checked every day to ensure that they are still in place.

#### 6.6.2.2. Notification of Media

Major spills may warrant broader public notice. The Director of Community Development and Public Works will contact local media when significant areas may have been contaminated by sewage. The Director of Community Development and Public Works will maintain contact information for local media.

### 6.6.3. Estimate the Volume of Spilled Sewage

Use the methods outlined in Appendix 6-G 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.

### 6.6.4. Recovery of Spilled Sewage

Vacuum up or pump the spilled sewage and discharge it back into the sanitary sewer system.

### 6.6.5. Clean up and Disinfection

When disinfecting a sewage-contaminated area, take every effort to ensure that the disinfectant or sewage treated with the disinfectant is not discharged to the storm drain system or surface waters. Methods may include blocking storm drain inlets, containing and diverting disinfectant and sewage away from open channels and other storm drain fixtures, and removing the material with vacuum equipment.

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. Where clean up is beyond the capabilities of City staff, a cleanup contractor will be used.

#### 6.6.5.1. Hard Surface Areas

- Collect all signs of sewage solids and sewage-related material either by hand or with the use of rakes, brooms and shovels.
- Wash down the affected area with clean water until the water runs clear. Take reasonable steps to contain and vacuum up the wastewater.
- Disinfect all areas that were contaminated from the overflow using the disinfectant solution of household bleach diluted 10:1 with water. Apply minimal amounts of the disinfectant solution using a hand sprayer. Document the volume and application method of disinfectant that was employed.
- Allow the area to dry. Repeat the process if additional cleaning is required.
- Do not apply disinfectant solution during wet weather conditions.

#### 6.6.5.2. Landscaped and Unimproved Natural Vegetation

- Collect all signs of sewage solids and sewage-related material either by hand or with the use of rakes, brooms, and shovels.
- Wash down the affected area with clean water until the water runs clear. The flushing volume should be approximately three times the estimated volume of the spill.
- Either contain or vacuum up the wash water so that none is released.
- Allow the area to dry. Repeat the process if additional cleaning is required.
- Do not apply disinfectant solution to landscaped areas or unimproved natural vegetation.

#### 6.6.5.3. Natural Waterways

The Department of Fish and Game should be notified in the event an SSO impacts any natural waterways. Fish and Game 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. Any water that is used in the cleanup process should be de-chlorinated prior to use.

#### 6.6.5.4. Wet Weather Modifications

Omit flushing during heavy storm events with heavy runoff where flushing is not required.

### **6.6.6. Follow-Up Activities**

If sewage has reached the storm drain system, the Combination Cleaning Unit 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 first thing the following day. The operator should look for any signs of sewage solids and sewage-related material that may warrant additional cleanup activities.

## **6.7. Failure Analysis Investigation**

The objective of a 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). The investigation should include:

- Reviewing and completing the Sewer Report Form;
- Reviewing past maintenance records;
- Reviewing available photographs;
- Conducting a CCTV inspection to determine the condition of the line segment immediately following the SSO and reviewing the video and logs; and
- Interviewing staff who responded to the spill.

The product of the failure analysis investigation should be the determination of the root cause and the identification of the corrective actions. The Collection System SSO Analysis Form (Appendix 6-D) should be used to document the investigation.

## **6.8. SSO Categories**

The SWRCB has established guidelines for classifying and reporting SSOs. Reporting and documentation requirements vary based on the type of SSO. There are three categories of SSOs as defined by the SWRCB:

- Category 1 - All discharges of sewage that:
  - A. Have a volume of 1,000 gallons or more; or
  - B. Result in a discharge to a drainage channel and/or surface water; or
  - C. Discharge to a storm drain pipe that was not fully captured and returned to the sanitary sewer system.
- Category 2 - All other discharges of sewage
- Private Lateral Sewage Discharges - Sewage discharges that are caused by blockages or other problems within a privately owned lateral.

## **6.9. SSO Documentation and Reporting**

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

### **6.9.1. Internal SSO Reporting Procedures**

#### **6.9.1.1. Category 1 SSOs**

The first responder will immediately notify the Public Works Operations Manager (working hours) or Police Dispatch (after hours) who will notify the Public Works Operations Manager.

The Public Works Operations Manager or his/her designee will meet with field crew(s) at the site of the SSO event to assess the situation and to document the conditions with photos.

The first responder will fill out the Sewer Report Form and turn it in to the Public Works Operations Manager. The Public Works Operations Manager will review the form for completeness and accuracy and will forward it in to the Legally Responsible Official (LRO).

In the event of a large overflow or an overflow in a sensitive area, Public Works Operations Manager will notify the Director of Community Development and Public Works. The Director of Community Development and Public Works may notify the City Manager and City Council.

#### 6.9.1.2. Category 2 SSOs

The first responder will fill out the Sewer Report Form and turn it in to the Public Works Operations Manager. The Public Works Operations Manager will review the form for completeness and accuracy and will forward it in to the LRO.

### 6.9.2. External SSO Reporting Procedures

The California Integrated Water Quality System (CIWQS) electronic reporting system will be used for reporting SSO information to the SWRCB whenever possible. A flow chart is included as Figure 6-2 showing the external reporting response requirements based on the type of SSO. An external reporting response checklist with contact information is included as Figure 6-3.

#### 6.9.2.1. Category 1 SSOs that reach Waters of the State

If a Category 1 SSO results in a discharge to waters of the State (a drainage channel or surface water, if not fully recovered), the following reporting requirements apply:

- **Within two hours** of being notified of the spill event, the Public Works Operations Manager or his/her designee will:
  - Notify OES (and obtain spill number for use in other reports),
  - Notify the Butte County Department of Health (County Health), and
  - Notify the RWQCB.
- **Within 24 hours** of being notified of the spill event, the Public Works Operations Manager or his/her designee will certify to the RWQCB that OES and County Health were notified of the SSO event.
- **Within 3 business days** of being notified of the spill event, the LRO or his/her designee will certify the initial report using CIWQS.
- **Within 15 calendar days** of the conclusion of SSO response and remediation, the LRO or his/her designee will certify the final report using CIWQS.

- The LRO or his/her designee will update the certified report as new or changed information becomes available. The updates can be submitted at any time and must be certified.

#### 6.9.2.2. Category 2 SSOs

**Within 30 calendar days** after the end of the calendar month in which the SSO occurs, the Public Works Operations Manager or his/her designee will submit an electronic report using CIWQS and the LRO will certify the report. The report will include the information to meet the GWDR requirements.

#### 6.9.2.3. Private Lateral Sewage Discharges

The Public Works Operations Manager or his/her designee may report private lateral SSOs using CIWQS, specifying that the sewage discharge occurred and was caused by a private lateral and identifying the responsible party (other than the City), if known.

#### 6.9.2.4. No Spill Certification (Monthly)

If there are no SSOs during the calendar month, the Public Works Operations Manager or his/her designee will submit an electronic report and the LRO will certify the report that the City did not have any SSOs within 30 calendar days after the end of each calendar month.

#### 6.9.2.5. CIWQS Not Available

In the event that CIWQS is not available, the Public Works Operations Manager or his/her designee will fax all required information to the RWQCB office in accordance with the time schedules identified above. In such event, the City will submit the appropriate reports using CIWQS as soon as practical. The RWQCB fax number for Region 5R is (530) 224-4857. A sample form with required information is included as Appendix 6-C.

### **6.9.3. Internal SSO Documentation**

#### 6.9.3.1. Category 1 and 2 SSOs

The first responder will complete a work order and the Sewer Report Form (Appendix 6-B) and provide copies to the Public Works Operations Manager.

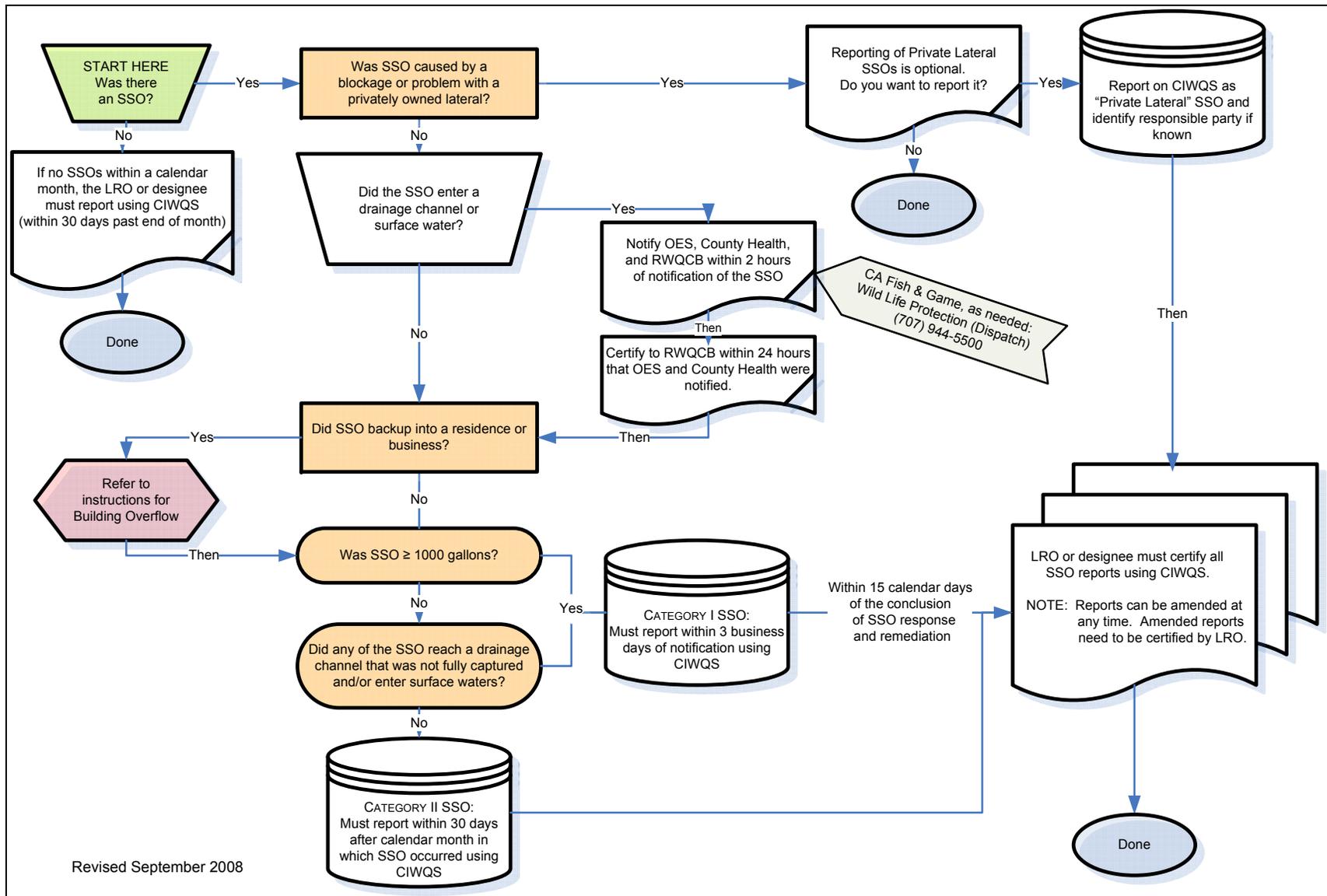
The Public Works Operations Manager will prepare a file for each individual SSO. The file should include the following information:

- Initial service call information
- Sewer Report Form
- Copies of the CIWQS report forms
- Volume estimate
- Failure analysis investigation results

The following are optional for Category 2 SSOs:

- Appropriate maps showing the spill location
- Photographs of spill location
- Water quality sampling and test results, if applicable

**Figure 6-2: SSO External Reporting Requirement Flow Chart**





#### **6.9.4. External SSO Record Keeping Requirements**

The GWDR requires that individual SSO records be maintained by the City for a minimum of five years from the date of the SSO. This period may be extended when requested by the RWQCB Executive Officer. All records shall be made available for review upon SWRCB or RWQCB staff's request. Records shall be retained for all SSOs, including but not limited to the following when applicable:

- Copy of Certified CIWQS report;
- All original recordings for continuous monitoring instrumentation;
- Service call records and complaint logs of calls received by the City;
- 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 monitoring is conducted by the City 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.

#### **6.10. Post SSO Event Debriefing**

Every SSO event is an opportunity to evaluate the response and reporting procedures. Each overflow 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, from the person who received the call to the last person to leave the site, 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 to ensure the action items are completed.

## **6.11. Equipment**

This section provides a list of specialized equipment that is required to support this Overflow Emergency Response Plan.

**Closed Circuit Television (CCTV) Inspection Unit** – A CCTV Inspection Unit is required to determine the root cause for all SSOs from gravity sewers.

**Camera** – A digital or disposable camera is required to record the conditions upon arrival, during clean up, and upon departure.

**Emergency Response Truck** – A utility body pickup truck is required to store and transport the equipment needed to effectively respond to sewer emergencies. The equipment and tools should include containment and clean up materials.

**GPS Unit (Global Positioning System)** – A hand held GPS unit is required to determine the coordinates of spills for use in meeting SWRCB SSO reporting requirements.

**Combination Sewer Cleaning Truck** – A combination high velocity sewer cleaning truck with vacuum tank is required to clear blockages in gravity sewers, vacuum spilled sewage, and wash-down the impacted area following an SSO event.

**Portable Generators, Portable Pumps, Piping, and Hoses** – The list of portable equipment that is required to support this plan is included as Appendix 6-J.

## **6.12. SSO Response Training**

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

### **6.12.1. Initial and Annual Refresher Training**

All City 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.

### **6.12.2. 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 should include date, time, place, content, name of trainer(s), and names of attendees.

## **6.13. Contractors Working on City Sewer Facilities**

All contractors working on City sewer facilities will be contractually required to develop a project-specific Overflow Response Plan. All contractor personnel will be required to receive training in the contractor's Overflow Response Plan and to follow it in the event that they cause or observe an SSO.



## Appendix 6-A: After Hours/Emergency Contact Info

### City Personnel

Name	Role/Title	Phone Number
Dispatch	After Hours Emergency Notification	(530) 538-2448
Cody Nissan	Responder/Operator 3	(530) 693-0594
William Cantrell	Responder/Operator 1	(530) 693-0762
Michael Giese	Responder/City Electrician	(530) 693-0596
Richard Walls	Sr. Civil Engineer/Management	(530) 693-0590
Sharon Atteberry	City Administrator/Management	(530) 370-8255

# Appendix 6-B: Sewer Report Form

SEWER REPORT FORM – PAGE 1	
<b>INITIAL INFORMATION</b>	
DATE: _____	CALL RECEIVED: _____ AM/PM
RECEIVED BY: _____	CALLER'S NAME: _____
CALLER'S PHONE #: _____	CALLER'S ADDRESS: _____
LOCATION OF OVERFLOW: _____	CROSS STREET: _____
TIME AND NAMES OF CREW MEMBERS CONTACTED: _____	
DESCRIPTION OF COMPLAINT: _____	
<b>FIELD REPORT: FOR RESPONSE CREW'S USE</b>	
TIME ARRIVED AT SITE: _____ AM/PM	CREW NAMES: _____
ASSET #: _____	U/S ASSET#: _____ D/S ASSET#: _____
SIZE OF LINE: _____	LENGTH OF LINE: _____ EASEMENT: YES <input type="checkbox"/> NO <input type="checkbox"/>
GPS COORDINATES: LATITUDE: <u>34.</u> _____	LONGITUDE: <u>-118.</u> _____
COMMENTS: _____	
<b>COMPLETE REMAINDER OF FORM IF AN OVERFLOW HAS OCCURRED</b>	
TIME SSO STARTED: _____	TIME SSO STOPPED: _____ DURATION OF SSO: _____ (DAYS/HOURS)
EST. TOTAL VOLUME: _____ (GALLONS)	RETURNED TO SEWER SYSTEM: _____ (GALLONS)
DID SSO REACH SURFACE WATERS? YES <input type="checkbox"/> NO <input type="checkbox"/>	
VOLUME TO WATERS (INCLUDING STORM DRAIN) THAT WAS NOT RECOVERED: _____ (GALLONS)	
SURFACE/RECEIVING WATER LOCATION: _____	
DESCRIBE HOW OVERFLOW QUANTITY WAS CALCULATED: EYEBALL ESTIMATE <input type="checkbox"/> DURATION/FLOWRATE <input type="checkbox"/>	
MEASURED VOLUME <input type="checkbox"/> OTHER _____	
WEATHER: SUNNY <input type="checkbox"/> CLOUDY <input type="checkbox"/> RAINY <input type="checkbox"/> RAIN FOR SEVERAL DAYS _____	
PRIMARY CAUSE: ROOTS <input type="checkbox"/> GREASE <input type="checkbox"/> DEBRIS <input type="checkbox"/> VANDALISM <input type="checkbox"/> CONSTRUCTION DAMAGE <input type="checkbox"/> PIPE FAILURE <input type="checkbox"/>	
PUMP STATION FAILURE <input type="checkbox"/> POWER FAILURE <input type="checkbox"/> CAPACITY (HEAVY RAIN) <input type="checkbox"/> OTHER _____	
SOURCE OF SSO: MANHOLE <input type="checkbox"/> GRAVITY MAIN <input type="checkbox"/> FORCE MAIN <input type="checkbox"/> CLEAN OUT <input type="checkbox"/> PRIVATE LATERAL <input type="checkbox"/>	
PUMP STATION <input type="checkbox"/> _____ (NAME) OTHER _____	
FINAL SSO DESTINATION: STORM DRAIN <input type="checkbox"/> CAPTURED FROM STORM DRAIN (100%) <input type="checkbox"/> BUILDING <input type="checkbox"/>	
YARD/LAND <input type="checkbox"/> SURFACE WATERS <input type="checkbox"/> NO SURFACE WATERS INVOLVED <input type="checkbox"/> OTHER _____	
ADDITIONAL INFORMATION: _____	

## SEWER REPORT FORM – PAGE 2

SPILL MAGNITUDE:    SSO REACHED DRAINAGE CHANNEL AND WAS NOT FULLY RECOVERED      
                              MORE THAN 1,000 GALLONS, BUT FULLY RECOVERED AND RETURNED TO SEWER      
                              BACKED UP INTO A RESIDENCE OR BUSINESS      
                              LESS THAN 1,000 GALLONS AND DID NOT REACH DRAINAGE CHANNEL   

TIME CLEANUP BEGAN: \_\_\_\_\_ TIME CLEANUP COMPLETE: \_\_\_\_\_

DESCRIBE CLEANUP METHOD/ACTIONS TAKEN: \_\_\_\_\_

DISINFECTION: No  IF YES, DISINFECTION AMOUNT/TYPE: \_\_\_\_\_

SIGNS POSTED: YES  NO       BARRICADED: YES  NO       NEIGHBORS NOTIFIED: YES  NO

LIST ALL PERSONNEL RESPONDING TO SPILL: \_\_\_\_\_

PICTURES/VIDEO TAKEN: No  YES / BY: \_\_\_\_\_ SAVED LOCATION: \_\_\_\_\_

SAMPLES TAKEN BY: \_\_\_\_\_ LOCATION OF SAMPLES: \_\_\_\_\_

CALLER/CUSTOMER NOTIFIED RE: STATUS: YES  NO  IF NOT, REASON: \_\_\_\_\_

REGULATORY AGENCIES NOTIFIED: YES  NO  OES SPILL #: \_\_\_\_\_

	NAME OF CONTACT	DATE/TIME
OES:	_____	_____
COUNTY HEALTH:	_____	_____
RWQCB (2-HR/24-HR):	_____	_____
CIWQS (SWRCB):	_____	_____
FISH/GAME:	_____	_____
OTHER:	_____	_____
NAME OF PERSON MAKING NOTIFICATIONS: _____		

IF ASSET WAS MANHOLE, PIPE, OR CLEAN OUT, COMPLETE THE FOLLOWING:

OVERFLOWING MANHOLE: # \_\_\_\_\_ LONGITUDE/LATITUDE: \_\_\_\_\_

UPSTREAM MANHOLE: # \_\_\_\_\_ LONGITUDE/LATITUDE: \_\_\_\_\_

DOWNSTREAM MANHOLE: # \_\_\_\_\_ LONGITUDE/LATITUDE: \_\_\_\_\_

CLEAN OUT: # \_\_\_\_\_ LONGITUDE/LATITUDE: \_\_\_\_\_

SEWER MAIN: # \_\_\_\_\_ SIZE: \_\_\_\_\_ (INCHES) MATERIAL: \_\_\_\_\_

**SKETCH AREA:** INCLUDE MANHOLES, INTERSECTIONS, LOCATION OF STOPPAGE, ETC.

REPORT COMPLETED BY: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ DATE SUBMITTED: \_\_\_\_/\_\_\_\_/\_\_\_\_

SUBMIT REPORT TO PUBLIC WORKS SUPERINTENDENT AS SOON AS POSSIBLE.

## Appendix 6-C: Sample Fax Form for SSO Reporting

FAX FORM FOR SSO REPORTING	
THIS FORM IS BEING SUBMITTED TO REPORT AN SSO TO SATISFY THE CALIFORNIA SWRCB 2-HOUR/24-HOUR REPORTING REQUIREMENT OR BECAUSE THE CIWQS WEBSITE IS UNAVAILABLE.	
<b>TO: RWQCB, REGION 5R – CENTRAL VALLEY-REDDING</b>	<b>FAX NUMBER: (530) 224-4857</b>
<b>REPORTING AGENCY: CITY OF OROVILLE</b>	<b>WDID: 5SSO10799</b>
COUNTY WHERE SSO OCCURRED: <b>BUTTE</b>	ONGOING INVESTIGATION: YES <input type="checkbox"/> NO / COMPLETE <input type="checkbox"/>
FAX SENT AT: ___/___/___ AT ___:___ (24-HOUR)	VOICE MESSAGE: ___/___/___ AT ___:___
OES CONTROL NUMBER: _____	COUNTY HEALTH CALLED: ___/___/___ AT ___:___
OVERFLOW LOCATION: LATITUDE: <u>34.</u> _____	LONGITUDE: <u>-118.</u> _____
STREET ADDRESS: _____	
CROSS STREET: _____	
CITY: _____	ZIPCODE: _____
DATE/TIME CITY WAS NOTIFIED OF SSO: ___/___/___ AT ___:___	
CITY STAFF ARRIVED: ___/___/___ AT ___:___ SSO ENDED: ___/___/___ AT ___:___	
WAS A PRIVATE LATERAL THE CAUSE OF THE SSO?	YES <input type="checkbox"/> NO <input type="checkbox"/>
DID SSO ENTER DRAINAGE CHANNEL OR SURFACE WATERS?	YES <input type="checkbox"/> NO <input type="checkbox"/>
WAS 100% OF THE SSO RECOVERED AND RETURNED TO SEWER?	YES <input type="checkbox"/> NO <input type="checkbox"/>
WERE BEACHES IMPACTED?	YES <input type="checkbox"/> NO <input type="checkbox"/>
WAS SSO POSTED?	YES <input type="checkbox"/> NO <input type="checkbox"/>
ESTIMATED SSO VOLUME TOTAL: _____(GALLONS)	VOLUME RECOVERED: _____(GALLONS)
ESTIMATED SPILLED SEWAGE VOLUME THAT REACHED SURFACE WATERS: _____(GALLONS)	
SSO SOURCE: MANHOLE <input type="checkbox"/> GRAVITY MAIN <input type="checkbox"/> FORCE MAIN <input type="checkbox"/> CLEAN OUT <input type="checkbox"/> PRIVATE LATERAL <input type="checkbox"/> PUMP STATION <input type="checkbox"/> OTHER _____	
SSO DESTINATION: STORM DRAIN <input type="checkbox"/> CAPTURED FROM STORM DRAIN (100%) <input type="checkbox"/> BUILDING <input type="checkbox"/> YARD/LAND <input type="checkbox"/> SURFACE WATERS <input type="checkbox"/> NO SURFACE WATERS INVOLVED <input type="checkbox"/> OTHER _____	
SSO CAUSE: ROOTS <input type="checkbox"/> GREASE <input type="checkbox"/> DEBRIS <input type="checkbox"/> VANDALISM <input type="checkbox"/> CONSTRUCTION DAMAGE <input type="checkbox"/> PIPE FAILURE <input type="checkbox"/> PUMP STATION FAILURE <input type="checkbox"/> POWER FAILURE <input type="checkbox"/> CAPACITY (HEAVY RAIN) <input type="checkbox"/> OTHER _____	
DESCRIBE RESPONSE AND CORRECTIVE ACTION TAKEN: _____ _____	
WERE SAMPLES TAKEN? NO <input type="checkbox"/> YES: _____ (AGENCY/LABORATORY)	
IF YES, TESTING FOR: TOTAL COLIFORM <input type="checkbox"/> FECAL COLIFORM <input type="checkbox"/> BOD <input type="checkbox"/> DISSOLVED OXYGEN <input type="checkbox"/> AMMONIA <input type="checkbox"/>	
REPORTING PERSON NAME: _____	PHONE NUMBER: _____
LRO'S NAME: _____	LRO'S PHONE NUMBER: _____

Revised September 2008

# Appendix 6-D: Collection System SSO Analysis Form

COLLECTION SYSTEM FAILURE ANALYSIS FORM			
INCIDENT REPORT #: _____		PREPARED BY: _____	
ADDRESS/LOCATION OF SSO: _____			
TOTAL SSO VOLUME: _____ (GALLONS)		VOLUME RECOVERED: _____ (GALLONS)	
CAUSE: ROOTS <input type="checkbox"/> GREASE <input type="checkbox"/> DEBRIS <input type="checkbox"/> VANDALISM <input type="checkbox"/> CONSTRUCTION DAMAGE <input type="checkbox"/> PIPE FAILURE <input type="checkbox"/> PUMP STATION FAILURE <input type="checkbox"/> POWER FAILURE <input type="checkbox"/> CAPACITY (HEAVY RAIN) <input type="checkbox"/> OTHER _____			
SUMMARY OF HISTORICAL SSOS, BACKUPS, SERVICE CALLS, OTHER PROBLEMS			
RECORDS REVIEWED BY: _____		RECORD REVIEW DATE: _____	
EVENT DATE	CAUSE/PROBLEM	DATE PREVIOUSLY CLEANED	CREW RESPONDING TO CALL
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
SUMMARY OF CCTV INFORMATION			
CCTV INSPECTION DATE: _____		TAPE NAME/NUMBER: _____	
CCTV TAPE REVIEWED BY: _____		CCTV REVIEW DATE: _____	
CCTV OBSERVATIONS: _____			
_____			
RECOMMENDATIONS			
<input type="checkbox"/> NO CHANGES OR REPAIRS REQUIRED			
<input type="checkbox"/> MAINTENANCE EQUIPMENT _____			
<input type="checkbox"/> MAINTENANCE FREQUENCY _____			
<input type="checkbox"/> REPAIR (LOCATION AND TYPE) _____			
<input type="checkbox"/> ADD TO CAPITAL IMPROVEMENT REHABILITATION/REPLACEMENT LIST _____			
ADDITIONAL INFORMATION: _____			
_____			
_____			
PUBLIC WORKS SUPERINTENDENT		REVIEW DATE: ____/____/____	

## **Appendix 6-E: Private Property Damage Procedures**

### **Customer Relations Guidelines**

It is important for employees to communicate effectively with the City's customers, especially in a sewage backup situation. How we communicate – on the phone, in writing, or in person – is how we are perceived. Good communication with the homeowner results in greater confidence in our ability to address the problem satisfactorily, less time to resolve the claim, and less damage done to the property.

As a representative of the City, you will occasionally have to deal with an irate homeowner. A backup is a stressful event and even a reasonable homeowner can become irate should he/she perceive us as being indifferent, uncaring, unresponsive, or incompetent.

Although sometimes difficult, effective management of a sewage backup situation is critical. If it is not managed well, the situation can end up in a costly, prolonged process with the homeowner. We want the homeowner to feel assured that we are responsive and the homeowner's best interest is a top priority.

### **Communication Tips**

- Give the homeowner ample time to explain the situation or to vent. Show interest in what the homeowner has to say, no matter how many times you have heard it before, or how well you understand the problem.
- As soon as possible, let the customer know that you will determine if the source of the sewer backup is in the sewer main and, if it is, will have it corrected as quickly as you can.
- Acknowledge the homeowner's concerns. For example, if the homeowner seems angry or worried about property damage, say something like, "I understand you're concerned about the possible damage to your property, but a professional cleanup crew can restore the area, and if it is determined that the City is at fault, the property owner has the right to file a claim for any reasonable repairs or losses resulting from this incident".
- Express regret for any inconveniences caused by the incident, but do not admit fault.
- As much as possible, keep the homeowner informed on what is being done and will be done to correct the problem.
- Keep focused on getting the job done in a very professional manner. Don't wander from the problem with too much unnecessary small talk with the homeowner.
- Don't find fault or lay blame on anyone.
- Make sure someone follows up with a telephone call to ensure everything is being handled as it should be.

Before you leave, make sure the homeowner has the name and telephone number of someone at the City to call if he/she has questions or wants information. The customer information letter contains this information and you should take the time to review this with the homeowner.

## Appendix 6-F: Methods for Estimating Spill Volume

A variety of approaches exist for estimating the volume of a sanitary sewer spill. This appendix documents the three 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.

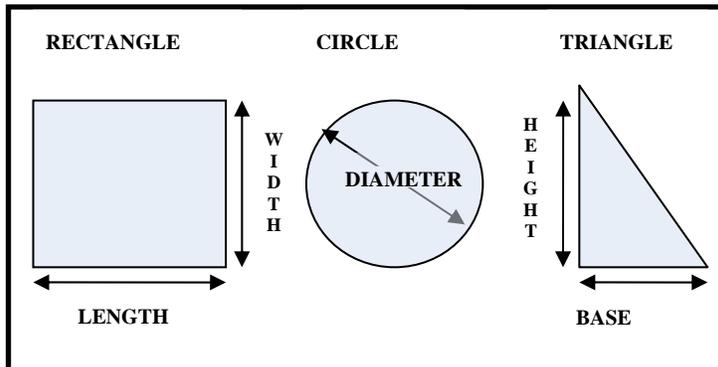
### Method 1 Eyeball Estimate

The volume of small spills can be estimated using an “eyeball estimate”. To use this method imagine the amount of water that would spill from a bucket or a barrel. A bucket contains 5 gallons and a barrel contains 50 gallons. If the spill is larger than 50 gallons, try to break the standing water into barrels and then multiply by 50 gallons. This method is useful for contained spills up to approximately 200 gallons.

### Method 2 Measured Volume

The volume of most small spills that have been contained can be estimated using this method. The shape, dimensions, and the depth of the contained wastewater are needed. The shape and dimensions are used to calculate the area of the spills and the depth is used to calculate the volume.

#### Common Shapes and Dimensions



- Step 1 Sketch the shape of the contained sewage (see figure above).
- Step 2 Measure or pace off the dimensions.
- Step 3 Measure the depth at several locations and select an average.
- Step 4 Convert the dimensions, including depth, to feet.
- Step 5 Calculate the area in square feet using the following formulas:  
Rectangle:  $\text{Area} = \text{length (feet)} \times \text{width (feet)}$   
Circle:  $\text{Area} = \text{diameter (feet)} \times \text{diameter (feet)} \times 0.785$   
Triangle:  $\text{Area} = \text{base (feet)} \times \text{height (feet)} \times 0.5$
- Step 6 Multiply the area (square feet) times the depth (in feet) to obtain the volume in cubic feet.
- Step 7 Multiply the volume in cubic feet by 7.5 to convert it to gallons.

### Method 3 Duration and Flowrate

Calculating the volume of larger spills, where it is difficult or impossible to measure the area and depth, requires a different approach. In this method, separate estimates are made of the duration of the spill and the flowrate. The methods of estimating duration and flowrate are:

**Duration:** The duration is the elapsed time from the time the spill started to the time that the flow was restored.

**Start time:** The start time is sometimes difficult to establish. Here are some approaches:

- Local residents can be used to establish start time. Inquire as to their observations. Spills that occur in rights-of-way are usually observed and reported promptly. Spills that occur out of the public view can go on longer. Sometimes observations like odors or sounds (e.g. water running in a normally dry creek bed) can be used to estimate the start time.
- Changes in flow on a downstream flowmeter can be used to establish the start time. Typically the daily flow peaks are “cut off” or flattened by the loss of flow. This can be identified by comparing hourly flow data during the spill event with flow data from prior days.
- Conditions at the spill site change over time. Initially there will be limited deposits of toilet paper and other sewage solids. After a few days to a week, the sewage solids form a light-colored residue. After a few weeks to a month, the sewage solids turn dark. The quantity of toilet paper and other materials of sewage origin increase over time. These observations can be used to estimate the start time in the absence of other information. Taking photographs to document the observations can be helpful if questions arise later in the process.
- It is important to remember that spills may not be continuous. Blockages are not usually complete (some flow continues). In this case the spill would occur during the peak flow periods (typically 10:00 to 12:00 and 13:00 to 16:00 each day). Spills that occur due to peak flows in excess of capacity will occur only during, and for a short period after, heavy rainfall.

**End time:** The end time is usually much easier to establish. Field crews on-site observe the “blow down” that occurs when the blockage has been removed. The “blow down” can also be observed in downstream flowmeters.

**Flow Rate:** The flowrate is the average flow that left the sewer system during the time of the spill.

There are three common ways to estimate the flowrate:

- The San Diego Manhole Flowrate Chart: This chart, included as Appendix 6-H, shows sewage flowing from manhole covers at a variety of flowrates. The observations of the field crew can be used to select the appropriate flowrate from the chart. If possible, photographs are useful in documenting basis for the flowrate estimate.

- Flowmeter: Changes in flows in downstream flowmeters can be used to estimate the flowrate during the spill.
- Counting Connections: Once the location of the spill is known, the number of upstream connections can be determined from the sewer maps. Multiply the number of connections by 200 to 250 gallons per day per connection or 8 to 10 gallons per hour per connection.

For example: 22 upstream connections x 9 gallons per hour per connection  
= 198 gallons per hour / 60 minutes per hour  
= 3.3 gallons per minute

**Spill Volume:** Once duration and flowrate have been estimated, the volume of the spill is the product of the duration in hours or days and the flowrate in gallons per hour or gallons per day.

For example:

Spill start time = 11:00

Spill end time = 14:00

Spill duration = 3 hours

3.3 gallons per minute x 3 hours x 60 minutes/hour = 594 gallons

# Appendix 6-G: Manhole Overflow Flowrate Guide



City of San Diego  
Metropolitan Wastewater Department

Reference Sheet for Estimating Sewer Spills  
from Overflowing Sewer Manholes  
*All estimates are calculated in gallons per minute (gpm)*

Wastewater Collection Division  
(619) 654-4160



5 gpm



25 gpm



50 gpm



100 gpm



150 gpm



200 gpm



225 gpm



250 gpm



275 gpm

All photos were taken during a demonstration using metered water from a hydrant in cooperation with the City of San Diego's Water Department.

rev. 4/99

Appendix 6-H: Sample Warning Sign

**DANGER!**  
**CONTAMINATED WATER**  
**KEEP OUT**



**AGUA CONTAMINADA**  
**ALEJESE**  
**PELIGRO!**

City of Oroville  
(530) 638-2415

## Appendix 6-I: Emergency Response Equipment

Items	No.	Quantity	Comments
Vactor		1	
Flex Rodder		1	
Jet Rodder		1	
Service Truck		1	
Trash Pump		1	

## **Section 7. FOG Control Program**

### **7.1. Introduction**

This section of the SSMP presents the City's approach to preventing FOG-related SSOs.

### **7.2. GWDR Requirements**

The summarized requirements for the FOG Control element of the SSMP are:

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

- (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, BMP requirements, record keeping and reporting requirements;
- (e) Authority to inspect grease producing facilities, enforcement authorities, and a determination of whether the Agency 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. Nature and Extent of FOG Problem**

The City has identified 54 commercial and 88 non-commercial FOG dischargers (schools, fraternal organizations, churches, etc.).

The City experienced two FOG-related SSOs in the 22 months (September 2, 2007 through June 30, 2009) since it began reporting SSO events in CIWQS. These SSO events represent 20% of the City's reported SSO events. The two SSO events are shown in Table 7-1.

**Table 7-1: FOG-Related SSO Events**

<b>Date</b>	<b>CIWQS SSO Event ID</b>	<b>Location</b>	<b>Volume to Surface Waters, gallons</b>	<b>Character of Nearby Service Area</b>
7/30/08	725111	Oroville Dam Blvd., East	0	Commercial
10/28/08	728841	2150 Gray Street	0	Residential
<b>Total</b>			<b>0</b>	

The City does not have a FOG source Control program; however, it has indentified sewers with a history of FOG-related issues and it currently employs scheduled sewer cleaning events to minimize the number and severity of FOG-related SSO events.

The City requires new and remodeled FOG sources to install grease removal equipment as a condition of the building permit.

#### **7.4. FOG Source Control Program**

The performance of the City's chosen approach to preventing FOG-related SSOs has been effective and it will continue to follow this approach. The City will continue to require new and remodeled commercial FOG sources to install grease removal equipment. It will collect data to support a more comprehensive evaluation of the nature and extent of its FOG-related blockages and SSOs. The City will revisit the need for a commercial FOG Control Program at the first update of the SSMP.

## **Section 8. System Evaluation and Capacity Assurance Plan**

### **8.1. Introduction**

This section of the SSMP presents the City's programs and activities to provide adequate capacity.

### **8.2. GWDR Requirements**

The summarized requirements for the System Evaluation and Capacity Assurance Plan (SECAP) element of the SSMP are:

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

- (a) Evaluation: Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events.
- (b) Design Criteria: Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria.
- (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, inflow and infiltration (I/I) reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.
- (d) Schedule: The Agency shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a)-(c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D. 14 (of the GWDR).

### **8.3. Evaluation – Sanitary Sewer Master Plan**

The City completed a Sanitary Sewer Master Plan Update (Master Plan) in 2009. The master planning effort included flow monitoring and the development of a hydraulic model.

The flows were estimated for gravity sewers 10 inches in diameter and larger (some 8 inch sewers were included in the model) and a 10-year/24-hour return interval design storm. Gravity pipes flowing at greater than 75% DWF were judged to be deficient. The PWWF criteria (or surcharge criteria), established by the City allows the hydraulic grade line to surcharge up to 3 feet below the manhole rim elevation.

The Master Plan identified 8 locations where capacity deficiencies exist for the PWWF design storm. These projects will be funded through debt financing to be paid for by existing users. The details of these projects are shown in Appendix 8-A.

The Master Plan will be updated every five years, or more frequently as needed to address changes in the General Plan or Development Papers. The Capital Improvement Program (CIP) will be reviewed and updated annually.

### **8.4. Design Criteria**

The capacity-related design criteria, including base wastewater flow and peaking factors, are included in Section 5 of the SSMP, Design and Performance Provisions.

### **8.5. Capacity Enhancement Measures – CIP**

The City's Capital Improvement Program for sewer main capacity improvements is shown in Appendix 8-A.

**Appendix 8-A: Capital Improvement Program – Capacity Deficiencies**

<b>CIP Project No.</b>	<b>Project Name</b>	<b>Description</b>	<b>Quantity (LF)</b>	<b>Cost Estimate (Million Dollars)</b>	<b>Project Status/Comments</b>
1A	Oro Dam Relief Sewer	Upsize existing 15" pipe to 18" and 21"	10,108	\$3.26	Financing being evaluated. Estimated completion 2013 - 2014
1B	Stanford Avenue Sewer	Upsize existing 6" and 10" pipe to 12" and 15"	1,315	\$0.36	Financing being evaluated. Estimated completion 2013 - 2014
1C	Grace Baptist Church	Upsize existing 6" pipe to 10"	192	\$0.045	Financing being evaluated. Estimated completion 2013 - 2014
1D	Montgomery Street Sewer	Upsize existing 10" pipe to 15" and 18"	2,154	\$0.645	Financing being evaluated. Estimated completion 2013 - 2014
1E	Table Mountain Boulevard Sewer I	Upsize existing 6" pipe to 10" pipe	238	\$0.058	Financing being evaluated. Estimated completion 2013 - 2014
1F	Table Mountain Boulevard Sewer II	Upsize existing 6" and 10" pipe to 12" and 15"	2,916	\$0.84	Financing being evaluated. Estimated completion 2013 - 2014
1G	TWSD East Interceptor	Upsize existing 10" and 12" pipe to 12" and 15"	11,867	\$2.5 <sup>(1)</sup>	Financing being evaluated. Estimated completion date 2014 - 2015
1H	Ruddy Creek Pump Station Upgrade I	Upsize existing pump station to a firm capacity of 1,239 GPM	1	\$0.58	Financing being evaluated. Estimated completion date 2014 – 2015

(1) City's estimated cost share with the Thermalito Water and Sewer District for this project

## **Section 9. Monitoring, Measurement, and Program Modifications**

### **9.1. Introduction**

This section presents the City's approach to Monitoring, Measurement, and Program Modifications.

### **9.2. GWDR Requirements**

The requirements for the Monitoring, Measurement, and Program Modifications (MMPM) section of the SSMP are:

The Enrollee shall:

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

### **9.3. Performance Measures**

The indicators that the City will use to measure the performance of its sanitary sewer system and the effectiveness of its SSMP are:

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

### **9.4. Historical Performance Data**

The City has limited historical performance data at this time. The City has been reporting SSOs through CIWQS since September 2, 2007.

### **9.5. Baseline Performance**

The baseline performance, which shows the performance of the City's sanitary sewer system prior to implementation of the SSMP, is shown on Table 9-1.

Geospatial and trend analysis is not meaningful at this time due to the limited quantity of data available (less than one year). Further analysis will be conducted in future years as additional data becomes available.

**Table 9-1: Baseline Performance as of June 30, 2009 covering period of September 2, 2007 through June 30, 2009**

Performance Measure		Value
Number of SSOs		10
SSO Rate, SSOs/100 miles/year		7.1
Median SSO Volume, gallons		100
Portion of SSOs ≤ 100 gallons		44%
SSO Causes	Roots	60%
	Grease	20%
	Debris	10%
	Pipe Failure	0%
	Lift Station Failure	0%
	Vandalism	10%
Portion of Spilled Sewage Contained/Recovered		20%
Portion of Spilled Sewage Entering Storm Drains and/or Surface Waters		20%
Data Source: CIWQS		

## 9.6. Performance Monitoring and Program Changes

The City will evaluate the performance of its sanitary sewer system annually using the performance measures identified in Section 9.3, Performance Measures (above) using the baseline performance to determine the trends. The City may use other performance measures in its evaluation.

## 9.7. SSMP Updates

The City will update its SSMP at least every five years. The first update will be completed on or before November 1, 2014.

The City will determine the need to update its SSMP more frequently based on the results of the semi-annual audit and the performance of its sanitary sewer system.

In the event that the City decides that an update is warranted, the process to complete the update will be identified at that time. The City will complete the update within one year following identification of the need for the update.

City Staff will seek approval from the City Council for any significant changes to the SSMP. The authority for approval of minor changes such as employee names, contact information, or minor procedural changes is delegated to the Community Development and Public Works Director.

## **Section 10. SSMP Program Audits**

### **10.1. Introduction**

This section of the SSMP presents the process that the City will follow to audit its SSMP program.

### **10.2. GWDR Requirements**

The summarized regulatory requirements for the SSMP are:

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

### **10.3. SSMP Audits**

The City will audit its SSMP every two years. The audit will determine whether the SSMP meets the current requirements of the GWDR, whether the SSMP reflects the City's current practices, and whether the City is following the SSMP. The first audit will be completed by November 1, 2011 and will cover FY 2009 and FY 2010.

The audit will be conducted by a team consisting of City Staff. The City may choose to include representatives from nearby agencies and/or contractors on the audit team.

The scope of the audit will cover each of the sections of the SSMP. The SSMP Audit Checklist based on the requirements in the GWDR, is included in Appendix 10-A.

The results of the audit will be included in the SSMP Audit Report. The SSMP Audit Report will focus on the effectiveness of the SSMP program, compliance with the GWDR requirements, 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 – Monitoring, Measurement, and Program Modifications will be used in preparing the audit. Tables and figures or charts will be used to summarize information about performance indicators.

The City will certify that it has completed the semi-annual audit using CIWQS. Copies of the semi-annual Audit Reports will be retained by the City for five years.

## Appendix 10-A: SSMP Audit Checklist

Element 1 - Goals		Yes	No
A	Are the goals stated in the SSMP still appropriate and accurate?	<input type="checkbox"/>	<input type="checkbox"/>

Element 2 - Organization		Yes	No
A	Is the Contact Information in Appendix 2-A current?	<input type="checkbox"/>	<input type="checkbox"/>
B	Is Organization Chart in Figure 2-1 of the SSMP current?	<input type="checkbox"/>	<input type="checkbox"/>
C	Is the chain of communication for reporting and responding to SSOs accurate and up-to-date?	<input type="checkbox"/>	<input type="checkbox"/>

Element 3 - Legal Authority		Yes	No
Does the SSMP contain excerpts from the current Oroville Municipal Code documenting the City's legal authority to:			
A	Prevent illicit discharges?	<input type="checkbox"/>	<input type="checkbox"/>
B	Require proper design and construction of sewers and connections?	<input type="checkbox"/>	<input type="checkbox"/>
C	Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the City?	<input type="checkbox"/>	<input type="checkbox"/>
D	Limit discharges of fats, oil and grease?	<input type="checkbox"/>	<input type="checkbox"/>
E	Enforce any violation of its sewer ordinances?	<input type="checkbox"/>	<input type="checkbox"/>

Element 4 - Operations and Maintenance		Yes	No
<b>Collection System Maps</b>			
A	Does the SSMP reference the current process and procedures for maintaining the City's sanitary sewer system maps?		
B	Are the City's sanitary sewer system maps complete, current, and sufficiently detailed?		
<b>Resources and Budget</b>			
C	Does the City allocate sufficient funds for the effective operation, maintenance, and repair of the sewer system and is the current budget structure documented in the SSMP?		
<b>Prioritized Preventive Maintenance</b>			
D	Does the SSMP describe current preventive maintenance activities and the system for prioritizing the cleaning of sewer lines?		
E	Based upon the SSO information in CIWQS, are the City's preventive maintenance activities sufficient and effective in minimizing SSOs and blockages?		
<b>Scheduled Inspections and Condition Assessments</b>			
F	Is there an ongoing condition assessment program sufficient to develop a capital improvement program addressing the proper management and protection of infrastructure assets? Are the current components of this program documented in the SSMP?		
<b>Contingency Equipment and Replacement Inventory</b>			
G	Does the SSMP list the major equipment currently used in the operation and maintenance of the sewer system and document the procedures for inventory management?		
H	Are contingency equipment and replacement parts sufficient to respond to emergencies and properly conduct regular maintenance?		
<b>Training</b>			
I	Are the training records current?		
J	Does the SSMP document current training expectations and programs within the City's Public Works Department?		

<b>Element 5 - Design and Performance Standards</b>		<b>Yes</b>	<b>No</b>
A	Does the SSMP contain current design and construction standards for the installation of new sanitary sewer systems, lift 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?		

<b>Element 6 - Overflow and Emergency Response Plan</b>		<b>Yes</b>	<b>No</b>
A	Does the City's Overflow Emergency Response Plan establish procedures for the emergency response, notification, and reporting of sanitary sewer overflows (SSOs)?		
B	Are Public Works staff and contractor personnel appropriately trained on the procedures of the Overflow Emergency Response Plan?		
C	Is the SSO Response Procedure Flow Chart (Figure 6-1) accurate?		
D	Are the SSO External Reporting Requirements and Contact Information (Figures 6-2 and 6-3) current?		
E	Is the After Hours and Emergency Contact Information in Appendix 6-A current and complete?		
F	Is the Overflow Emergency Response Plan effective in handling SSOs in order to protect public health and the environment?		

<b>Element 7 - Fats, Oils, and Grease (FOG) Control Program</b>		<b>Yes</b>	<b>No</b>
A	Does the Fats, Oils, and Grease (FOG) Control Program include efforts to educate the public on the proper handling and disposal of FOG?		
B	Does the City's FOG Control Program identify sections of the 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 management practices (BMP), record keeping, and reporting established in the City's FOG Control Program?		

<b>Element 7 - Fats, Oils, and Grease (FOG) Control Program</b>		<b>Yes</b>	<b>No</b>
D	Is the current FOG Control Program effective in minimizing blockages of sewer lines resulting from discharges of FOG to the system?		

<b>Element 8 - System Evaluation and Capacity Assurance Plan</b>		<b>Yes</b>	<b>No</b>
A	Does the City of Oroville Sanitary Sewer Master Plan evaluate hydraulic deficiencies in the system, establish sufficient design criteria and recommend both short-term and long-term capacity enhancement and improvement projects?		
B	Does the City's capital improvement program (CIP) 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 accomplishment?		

<b>Element 9 - Monitoring, Measurement, and Program Modifications</b>		<b>Yes</b>	<b>No</b>
A	Does the SSMP accurately portray the methods of tracking and reporting selected performance indicators?		
B	Is the City able to sufficiently evaluate the effectiveness of SSMP elements based on relevant information?		

<b>Element 10 - SSMP Audits</b>		<b>Yes</b>	<b>No</b>
A	Were the results of prior SSMP Audits recorded in a written report?		
B	Were the actions recommended in the SSMP Audit report(s) implemented?		

<b>Element 11 - Communication Program</b>		<b>Yes</b>	<b>No</b>
A	Does the City effectively communicate with the public and other agencies about the development and implementation of the SSMP and continue to address any feedback?		

## **Section 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. GWDR Requirements**

The requirements for the Communication Program section of the SSMP are:

The Agency shall:

- (a) Communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the Agency as the program is developed and implemented.
- (b) Create a plan of communication with systems that are tributary and/or satellite to the Agency's sanitary sewer system.

### **11.3. Communication during SSMP Development and Implementation**

The City will post a notice on its website to inform interested members of the public it is developing an SSMP. The notice is:

The City of Oroville is developing and implementing a Sewer System Management Plan (SSMP) pursuant to State Water Resources Control Board Order 2006-0003, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. The goal of the SSMP is to minimize the frequency and severity of sanitary sewer overflows. The SSMP will cover the management, planning, design, and operation and maintenance of the City's sanitary sewer system. The development process began in October 2007 and a public draft SSMP was completed in October 2009. Interested parties can contact Richard Walls at (530) 538-2507 or [wallsr@cityoforoville.org](mailto:wallsr@cityoforoville.org) for additional information regarding the SSMP.

### **11.4. Communicating Sanitary Sewer System Performance**

The City reports SSOs electronically to the California Integrated Water Quality System (CIWQS). The electronic SSO data, as well as information regarding regulatory actions, is available at:

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

The City will place a notice on its website that the sanitary sewer performance information is available at the CIWQS public access website.

## **11.5. Communication w/Tributary/Satellite SS Systems**

There are no satellite sewer systems.