SEWER SYSTEM MANAGEMENT PLAN

City of Placerville

Holmes International

June 6, 2012

LIMITATIONS

This document was prepared solely for the City of Placerville in accordance with professional standards at the time the services were performed and in accordance with the contract between the City of Placerville and Holmes International dated April 18, 2011.

We have relied on information or instructions provided by the City of Placerville and other parties and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.

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ACRONYMS

AB	Assembly Bill
BMP	Best Management Practice
CIP	Capital Improvement Plan or Program and/or Project
CWEA	California Water Environment Association
CVCWA	Central Valley Clean Water Association
EPA	Environmental Protection Agency
FOG	Fats, Oils, and Grease
FSE	Food Service Establishments
GIS	Geographical Information System
GPS	Global Positioning System
GWDR	General Waste Discharge Requirements also referred to as Waste Discharge Requirements (WDR)
HCWRF	Hangtown Creek Water Reclamation Facility
I/I	Inflow / Infiltration
LRO	Legally Responsible Official
MGD	million gallons per day
MRP	Monitoring and Reporting Program
MSDS	Material Safety Data Sheets
NPDES	National Pollution Discharge Elimination System
O&M	Operation and Maintenance
OERP	Overflow Emergency Response Plan
Order	SWRCB Order No. 2006-0003-DWQ adopted May 2, 2006
PM	Preventive Maintenance
RWQCB	Regional Water Quality Control Board
SOP	Standard Operating Procedure
SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow
SWRCB	State Water Resources Control Board
WDR	Waste Discharge Requirements also referred to as General Waste Discharge Requirements (GWDR)

TERMS

Authorized Representative – The person designated, for a municipality, state, federal or other public agency, as either a principal executive officer of ranking elected official, or a duly authorized representative of that person.

Blockage – A partial or complete obstruction of wastewater from flowing through a sewer pipeline. A blockage can be caused by debris in the sewer, grease buildup, root intrusion, or a partial or full collapse of the pipeline. If not caught in time, a blockage may cause an SSO. This is also called a stoppage.

California Water Environment Association (CWEA) – CWEA is an association of 8,000-plus professionals in the wastewater industry. CWEA is committed to keeping California's water clean. CWEA trains and certifies wastewater professionals, disseminates technical information, and promotes sound policies to benefit society through protection and enhancement of the water environment. CWEA offers services at the state level and locally through 17 geographical local sections. Through their on-line bookstore, CWEA offers technical references for sewer system operation and maintenance.

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

Central Valley Regional Water Quality Control Board – Also known as the Regional Water Board or RWQCB. The mission of this state regulatory agency is to: preserve, enhance and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations.

Website: http://www.waterboards.ca.gov/centralvalley/

Enrollee – The legal public entity that owns a sanitary sewer system, as defined by the General Waste Discharge Requirements, which has submitted a complete and approved application for coverage under the GWDR. This is also called a sewer system agency or wastewater collection system agency.

Fats, Oils and Grease (FOG) - Fats, oils, and grease that are discharged into the sanitary sewer collection system by Food Service Establishments (FSE), homes, apartments and other sources. FOG is a major cause of blockages leading to increased maintenance and sometimes SSOs.

FOG Control Program – To be implemented at the Enrollee's discretion. May include public education program; plan and schedule for the disposal of FOG; legal authority to prohibit FOG related discharges; requirement to install grease removal devices; authority to inspect grease producing facilities; identification of sanitary sewer system sections subject to FOG blockages and the establishment of a cleaning schedule for each section; development and implementation of source control measures for all sources of FOG.

Geographical Information System (GIS) – A database linked with mapping, which includes various layers of geographically referenced information. Examples of information found on a

GIS can include a sewer map; sewer features such as pipe location, diameter, material, condition, last date cleaned or repaired. The GIS also typically contains base information such as streets and parcels.

Governing Board – This is the governing board of the sewer entity developing the SSMP. Examples include a Board of Directors, City Council, or County Board of Supervisors. In Placerville, the City Council is its Governing Board.

GWDR – General Waste Discharge Requirements – A GWDR is an authorization to discharge waste with certain conditions, which can be issued on an individual basis or to a group of dischargers. The Statewide General WDR for Sanitary Sewer Systems was adopted by the SWCRB and will be implemented by the Regional Water Boards and SWRCB.

Infiltration – The entry of groundwater into a sewer system, including service connections. Infiltration occurs through defects in the piping network including defective or cracked pipes, pipe joints, and through defects in manhole walls and joints.

Inflow – Stormwater runoff entry into a sewer system from such sources as roof leaders, cellars, yard and area drains, foundation drains, cooling water discharges, drains from springs and swampy areas, around manhole covers that are not properly sealed to the top of manholes or through holes in the covers, and cross connections from storm sewer systems and catch basins. Inflow differs from infiltration in that it is a direct discharge into the sewer rather than seepage of groundwater into the sewer.

Lateral – The sewer service line that connects the waste plumbing from a home or business with the sewer main pipeline in the street. Also defined as the Building Sewer (§204.0 California Plumbing Code). Laterals are not part of the public sewer collection system.

> ***Upper Lateral***: Portion of lateral from building to property line (or easement line).
>
> ***Lower Lateral***: Portion of lateral from property line (or easement line) to sewer mainline in the street or easement.

Overflow Emergency Response Plan – Identifies measures to protect public health and the environment with a program that ensures all reasonable steps are taken to contain and prevent discharges. A plan must include the following: notification procedure, appropriate response plan, regulatory notification procedures, employee training plan, and procedures to address emergency operations.

Preventive Maintenance (PM) – Regularly scheduled servicing of machinery, infrastructure or other equipment using appropriate tools, tests, and lubricants. This type of maintenance can prolong the useful life of equipment, infrastructure, and machinery and increase its efficiency by detecting and correcting problems before they cause a breakdown of the equipment, or failure of the infrastructure.

Rainfall Dependent Infiltration and Inflow – Infiltration and inflow that is attributed directly to rainfall.

Regional Water Board – Is a short name for any of the nine regional boards including the Central Valley Regional Water Quality Control Board.

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

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

Sanitary Sewer Overflow Categories

- ***Category 1*** – All discharges of sewage resulting from a failure in the Enrollee's sanitary sewer system that equals or exceeds 1000 gallons; or result in a discharge to a drainage channel and/or surface water; or discharge to a storm drainpipe that was not fully captured and returned to the sanitary sewer system.
- ***Category 2*** – All other discharges of sewage resulting from a failure in the Enrollee's sanitary sewer system
- Private Lateral Sewage Discharges – Sewage discharges that are caused by blockages or other problems within a privately owned lateral

Sanitary Sewer System – Any system of gravity sewer pipelines, pump stations, force mains, or other facilities upstream of a wastewater treatment plant headworks used to collect and convey wastewater to the publicly owned treatment facility.

Satellite Collection System – The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility to which the sanitary sewer system is tributary.

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

Stakeholder – A person or organization that has a vested interest in the development and outcome of the SWRCB Order No. 2006-0003 Statewide General Waste Discharge Requirements for Sanitary Sewer Systems.

State Water Resources Control Board – Also called the State Board. This is the State agency that developed and passed the GWDR for collection systems and the agency that maintains the SSO reporting web site.

Stoppage – See "Blockage."

System Evaluation and Capacity Assurance Plan – A required component of an agency's SSMP, and an important part of any agency's overall Capital Improvement Plan that provides hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event.

Wastewater Collection System – See "Sanitary Sewer System."

BACKGROUND AND INTRODUCTION

Waste Discharge Requirements for Sewer Collection Systems

The California State Water Resources Control Board (SWRCB) adopted a Statewide General Waste Discharge Requirement (WDR) order No. 2006-0003 May 2, 2006 (Order). This Order dictates each publicly owned sanitary sewer system (termed "Enrollee"), develop, document, and implement a Sewer System Management Plan (SSMP) to ensure proper management of sewer collection systems.

SSMPs are state-mandated requirements for California public collection system agencies that own or operate sanitary sewer systems greater than one (1) mile in length. The goal for these plans is to reduce sanitary sewer overflows (SSOs), protect the public health and the environment, and improve the overall maintenance and management of sewer collection systems including pumping stations which are also sometimes called lift stations. SSMPs do not address sewer treatment facilities which are regulated separately.

Management and Operations Overview

The City of Placerville (City) operates under the council-manager form of municipal government. The City Council enacts laws and establishes administrative policy for the City. The City Manager is responsible for implementing City Council policy and the overall administration of day-to-day operations for the City of Placerville. The City Attorney receives policy direction from the City Council and acts as legal advisor and counsel to the City Council, City Manager, and City Departments.

The Engineering Division of the Community Development and Engineering Department is responsible for the design, construction, and regulatory compliance of the City's wastewater collection system. The Community Services Department is responsible for the operation and maintenance of the system. This system includes the gravity sewer pipelines, connecting manholes, pumping stations, and pressure system force mains which are an integral part of the collection system.

The Public Works Superintendent is responsible for the management, operation, and maintenance of the City sanitary sewer collection system. This includes inspecting, cleaning, repairing, monitoring the wastewater collection system. It also includes reporting of spill data to the California Integrated Water Quality System (CIWQS). The City Engineer is the Legally Responsible Official who certifies the spill reports within CIWQS.

Service Area and Relevant Statistics

The City of Placerville wastewater collection system serves slightly less than 10,000 people in a service area encompassing approximately 3,750 acres. The sphere of influence includes an additional area of approximately 2,550 acres for a total future service area of about 6,300 acres. Figure B-1 shows the City boundaries and the sphere of influence for the City. The system is composed gravity flow pipelines, manholes, pumping stations, and pressure force mains. The City currently has approximately 2,709 residential and 532 commercial sewer connections to the wastewater collection.

Figure B-1
City Limits and Sphere of Influence

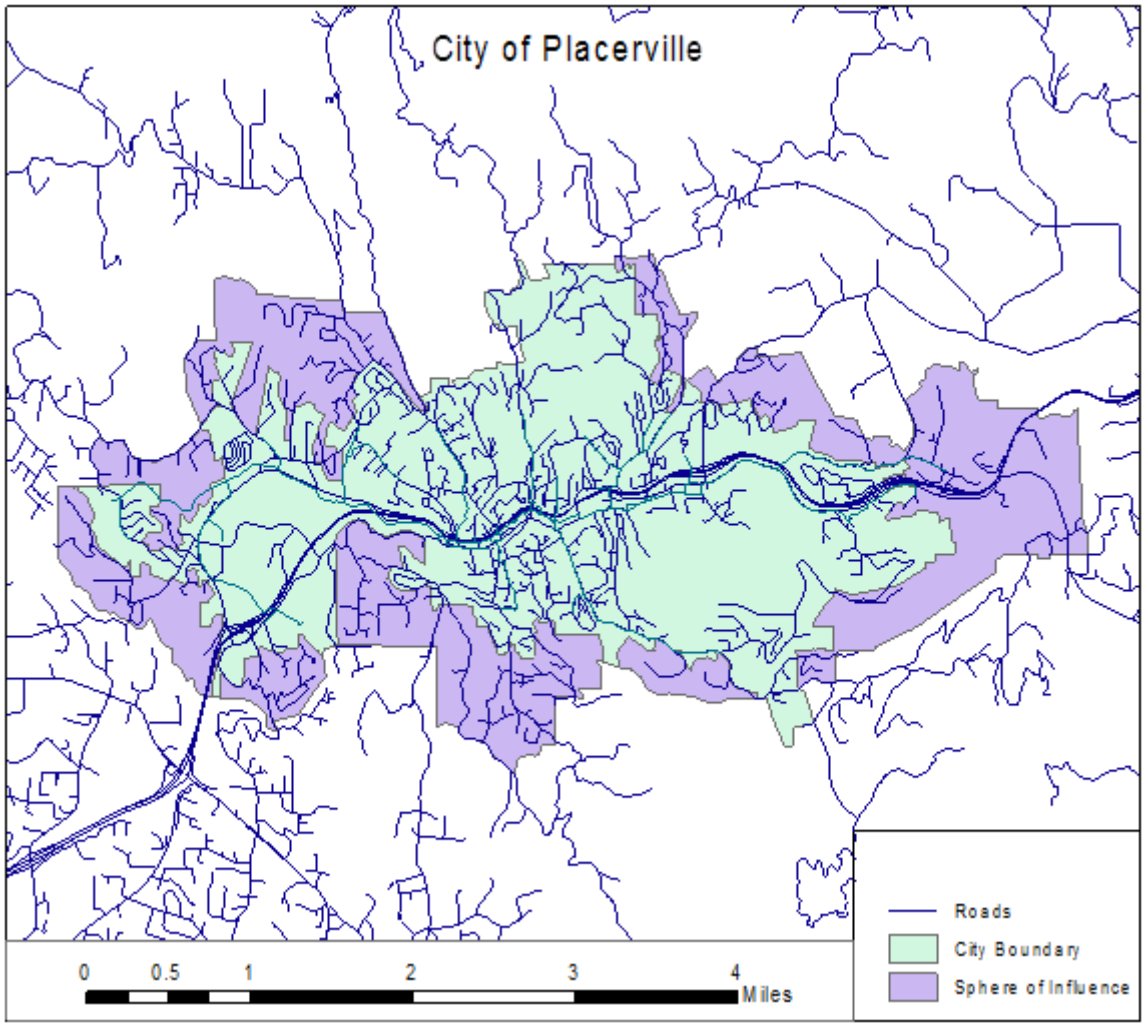


Table B-1 presents the approximate pipeline size distribution developed from an inventory of the wastewater collection system performed in 2003. The minimum pipe size for the collection system is 4-inch diameter with a maximum pipe diameter of 24 inches.

Table B-1: Size Distribution of Pipelines

Pipe Size	Length	Percent	Cumulative Percent
4	47,359	18%	18%
6	139,256	54%	73%
8	30,444	12%	85%
10	8,340	3%	88%
12	12,995	5%	93%
15	72	0%	93%
16	3,390	1%	94%
18	2,578	1%	95%
20	7,740	3%	98%
24	4,300	2%	100%
Total	256,474	100%	

Table B-1 shows that like most other sewer agencies, most of the sewer system is small diameter pipe which is 8-inches in diameter or less. Approximately 93 percent of the system is small or moderate sized (12-inch or smaller). The entire system is composed of pipe with a diameter of 24-inches orless.

Manholes are placed in the collection system at each junction of two or more pipes. The manholes provide access for corrective and preventive maintenance of the collection system pipes.

Sanitary sewer laterals are mostly 4-inch diameter PVC pipe. Property owners are responsible for the maintenance of the sewer laterals to the connection with the sewer mainline.

SSMP Purpose and Objectives

The purpose of this SSMP is to describe the activities used to manage the City's wastewater collection system to eliminate preventable SSOs, minimize those SSOs that do occur, and protect both public health and the environment. The SSMP Objectives are:

A. To establish goals that align the management, operation and maintenance and capacity assurance activities in a manner that will focus staff efforts to achieve the intended purpose of this SSMP.

B. To describe how the City complies with each element of the Order addressing the following:

- Provide an introductory summary of the General Waste Discharge Requirement, the project scope and an overview of the City's size, complexity and SSMP responsibility;
- Present the City's organizational structure, identifying SSMP responsibilities, job classifications, contact information, and location of SSMP documents;
- Provide a narrative describing how the City complies with each requirement;
- Present the WDR requirements for each element of the SSMP;
- Identify the policies, procedures, and programs the City has in place or will have in place to achieve compliance with the SWRCB WDR;
- Provide City's internet website addresses and physical locations for support and associated SSMP documents.

SSMP Requirements

The following paragraphs summarize the key elements of an SSMP and the implementation requirements for Enrollees. The due dates for various elements of specific relevance to the City of Placerville are then summarized in a tabular form.

Table B-2 identifies each required SSMP element and the requirements that must be addressed to achieve compliance with each respective/corresponding element.

Table B-2
Sewer System Management Plan (SSMP) Requirements

SSMP Elements	Requirements
Goals	• Properly manage, operate and maintain all parts of the collection system • Provide capacity to convey base and peak flows • Minimize the frequency and severity of sanitary sewer overflows (SSOs) • Mitigate the impact of SSOs
Organization	• Identify agency staff responsible for the SSMP • Identify chain of communication for responding to and reporting SSOs
Legal Authority	• Control infiltration and inflow (I/I) from the collection system and laterals • Require proper design and construction of sewers and connections • Require proper sewer installation, testing and inspection • Ability to impose source control requirements

Table B-2 , Continued
Sewer System Management Plan (SSMP) Requirements

SSMP Elements	Requirements
Operation and Maintenance Program	• Maintain up-to-date maps • Allocate adequate resources for system operation and maintenance • Prioritize preventive maintenance activities • Identify structural equipment to minimize equipment/facility downtime • Provide staff training on a regular basis
Design and Construction Standards	• Identify minimum design and construction standards and specifications • Identify procedures and standards for inspecting and testing
Overflow Emergency Response Plan	• Provide SSO notification procedures • Develop and implement a plan to respond to SSOs • Develop procedures to report and notify SSOs • Develop procedures to prevent overflows from reaching surface waters, and to minimize or correct any adverse impact from SSOs
Fats, Oil and Grease (FOG) Control Program	• Develop a Fats, Oil and Grease (FOG) control plan, if needed
System Evaluation and Capacity Assurance	• Establish a process to access the current and future capacity requirements • Implement a capital improvement plan to provide hydraulic capacity
Monitoring, Measurement and Program Modifications	• Measure the effectiveness of each SSMP element • Monitor each SSMP element and make updates as necessary
SSMP Audits	• Conduct an annual audit that includes identifying deficiencies and steps to correct them
Communication Program	• Communicate with public (Customers) on SSMP development, implementation and performance and create a plan for communication with tributary/satellite sewer systems

What is the City required to do?

Section D, Provisions, Paragraphs 1 through 15 of the Order describe the requirements for compliance and consequences for non-compliance. These are listed below:

1. The Enrollee must comply with all conditions of the Order. Any noncompliance with this Order constitutes a violation of the California Water Code and is grounds for enforcement action.

2. It is the intent of the State Water Board that sanitary sewer systems be regulated in a manner consistent with the general WDR. Nothing in the general WDR shall be:

   (i) Interpreted or applied in a manner inconsistent with the Federal Clean Water Act, or supersede a more specific or more stringent state or federal requirement in an existing permit, regulation, or administrative/judicial order or Consent Decree;

   (ii) Interpreted or applied to authorize an SSO that is illegal under either the Clean Water Act, an applicable Basin Plan prohibition or water quality standard, or the California Water Code;

   (iii) Interpreted or applied to prohibit a Regional Water Board from issuing an individual NPDES permit or WDR, superseding this general WDR, for a sanitary sewer system, authorized under the Clean Water Act or California Water Code; or

   (iv) Interpreted or applied to supersede any more specific or more stringent WDRs or enforcement order issued by a Regional Water Board.

3. The Enrollee shall take all feasible steps to eliminate SSOs. In the event that an SSO does occur, the Enrollee shall take all feasible steps to contain and mitigate the impacts of an SSO.

4. In the event of an SSO, the Enrollee shall take all feasible steps to prevent untreated or partially treated wastewater from discharging from storm drains into flood control channels or waters of the United States by blocking the storm drainage system and by removing the wastewater from the storm drains.

5. All SSOs must be reported in accordance with Section G of the general WDR.

6. In any enforcement action, the State and/or Regional Water Boards will consider the appropriate factors under the duly adopted State Water Board Enforcement Policy. And, consistent with the Enforcement Policy, the State and/or Regional Water Boards must consider the Enrollee's efforts to contain, control, and mitigate SSOs when considering the California Water Code Section 13327 factors. In assessing these factors, the State and/or Regional Water Boards will also consider whether:

(i) The Enrollee has complied with the requirements of this Order, including requirements for reporting and developing and implementing a SSMP;

(ii) The Enrollee can identify the cause or likely cause of the discharge event;

(iii) There were no feasible alternatives to the discharge, such as temporary storage or retention of untreated wastewater, reduction of inflow and infiltration, use of adequate backup equipment, collecting and hauling of untreated wastewater to a treatment facility, or an increase in the capacity of the system as necessary to contain the design storm event identified in the SSMP. It is inappropriate to consider the lack of feasible alternatives, if the Enrollee does not implement a periodic or continuing process to identify and correct problems.

(iv) The discharge was exceptional, unintentional, temporary, and caused by factors beyond the reasonable control of the Enrollee;

(v) The discharge could have been prevented by the exercise of reasonable control described in a certified SSMP for:

- Proper management, operation and maintenance (O&M);
- Adequate treatment facilities, sanitary sewer system facilities, and/or components with an appropriate design capacity, to reasonably prevent SSOs (e.g., adequately enlarging treatment or collection facilities to accommodate growth, infiltration and inflow (I/I), etc.);
- Preventive maintenance (including cleaning and fats, oils, and grease (FOG) control);
- Installation of adequate backup equipment; and
- Inflow and Infiltration prevention and control to the extent practicable.

(vi) The sanitary sewer system design capacity is appropriate to reasonably prevent SSOs.

(vii) The Enrollee took all reasonable steps to stop and mitigate the impact of the discharge as soon as possible.

7. When a SSO occurs, the Enrollee shall take all feasible steps and necessary remedial actions to: 1) control or limit the volume of untreated or partially treated wastewater discharged, 2) terminate the discharge, and 3) recover as much of the wastewater discharged as possible for proper disposal, including any wash down water.

The Enrollee shall implement all remedial actions to the extent they may be applicable to the discharge and not inconsistent with an emergency response plan, including the following:

(i) Interception and rerouting of untreated or partially treated wastewater flows around the wastewater line failure;

(ii) Vacuum truck recovery of SSOs and wash down water;

(iii) Cleanup of debris at the overflow site;

(iv) System modifications to prevent another SSO at the same location;

(v) Adequate sampling to determine the nature and impact of the release; and

(vi) Adequate public notification to protect the public from exposure to the SSO.

8. The Enrollee shall properly, manage, operate, and maintain all parts of the sanitary sewer system owned or operated by the Enrollee, and shall ensure that the system operators (including employees, contractors, or other agents) are adequately trained and possess adequate knowledge, skills, and abilities.

9. The Enrollee shall allocate adequate resources for the operation, maintenance, and repair of its sanitary sewer system, by establishing a proper rate structure, accounting mechanisms, and auditing procedures to ensure an adequate measure of revenues and expenditures. These procedures must be in compliance with applicable laws and regulations and comply with generally acceptable accounting practices.

10. The Enrollee shall provide adequate capacity to convey base flows and peak flows, including flows related to wet weather events. Capacity shall meet or exceed the design criteria as defined in the Enrollee's System Evaluation and Capacity Assurance Plan for all parts of the sanitary sewer system owned or operated by the Enrollee.

11. The Enrollee shall develop and implement a written SSMP and make it available to the State and/or RWQCB upon request. A copy of this document must be publicly available at the Enrollee's office and/or available on the Internet. This SSMP must be approved by the Enrollee's governing board at a public meeting.

12. In accordance with the California Business and Professions Code sections 6735, 7835, and 7835.1, all engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. Specific elements of the SSMP that require professional evaluation and judgments shall be prepared by or under the direction of appropriately qualified professionals, and shall bear the professional(s)' signature and stamp.

13. The mandatory elements of the SSMP and their requirements are listed in Table B-2 above. However, if the Enrollee believes that any element of this section is not appropriate or applicable to the Enrollee's sanitary sewer system, the SSMP program does not need to address that element. The Enrollee must justify why that element is not applicable.

14. Both the SSMP and the Enrollee's program to implement the SSMP must be certified by the Enrollee to be in compliance with the requirements set forth above and must be presented to the Enrollee's governing board for approval at a public meeting. The Enrollee shall certify that the SSMP, and subparts thereof, are in compliance with the general WDRs within the time frames identified in the time schedule listed below in Table B-3.

In order to complete this certification, the Enrollee's authorized representative must complete the certification portion in the Online SSO Database Questionnaire by checking the appropriate milestone box, printing and signing the automated form, and sending the form to:

State Water Resources Control Board
Division of Water Quality
Attn: SSO Program Manager
P.O. Box 100
Sacramento, CA 95812

The SSMP must be updated every five (5) years, and must include any significant program changes. Re-certification by the governing board of the Enrollee (Placerville City Council) is required when significant updates to the SSMP are made. To complete the re-certification process, the Enrollee shall enter the data in the Online SSO Database and mail the form to the State Water Board, as described above.

SECTION 1 — GOALS

The City has established the following goals to guide the development, implementation and success of The City's SSMP. These goals are designed to facilitate and target the management, operation and maintenance of the sanitary sewer collection system in a manner that will sustain the infrastructure, protect public health and the environment, and achieve compliance with State Water Resources Control Board's General Waste Discharge Requirement (WDR) for Sanitary Sewer Systems.

1. Properly manage, operate, and maintain all portions of the City's wastewater collection system.
2. Provide adequate capacity to convey peak wastewater flows.
3. Reduce Inflow and Infiltration (I/I) from the collection system.
4. Minimize the frequency of SSOs.
5. Mitigate the impacts that are associated with all SSOs that may occur.

SECTION 2 — ORGANIZATION

Organization Requirements

The WDR SSMP organization requirement specifies that each SSMP identify the following:

1. The name of the agency's 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 SSMP must identify lines of authority through an organization chart or similar document with a narrative explanation; 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 State Emergency Management Agency [Cal EMA]).

A. Responsible or Authorized Representative

The City's Legally Responsible Official is the City Engineer. Current staff names and phone numbers are contained within the Spill Response Plan which is on file and available for review in the office of the City Engineer.

B. SSMP Responsibility Organization Chart

General Position Description – SSMP Responsibilities

- **City Council:** The City of Placerville operates under the Council-Manager form of municipal government. Councilmembers are elected at large for four-year terms of office. Two and three Councilmembers will be elected alternately at the general municipal election in November of even-numbered years. The Council elects the Mayor, who serves a one-year term. As the policy making body, it has the ultimate responsibility to the people of Placerville for the implementation of all programs and City services. It approves all ordinances, resolutions, and major contracts, modifies and approves the budget, and has the responsibility of employing a City Manager and City Attorney.

  All major changes in direction or emphasis and organizational changes must be approved by the City Council. The City Council sets the policy and adopts the City budget. The City Manager and staff enforce the laws and implement the programs and policies which

are established by the City Council. The City Council has the responsibility and authority for funding and final approval of this SSMP. All major changes in direction or emphasis and organizational changes must be approved by the City Council.

- **City Manager:** The City Manager is appointed by and serves at the pleasure of the City Council. The City Manager acts as the administrative head of City government and is responsible for ensuring that the policy directions and priorities set forth by the City Council are carried out. The City Manager appoints the City's department heads and directs the activities of the various City departments.

  The City Manager's office oversees the human resources functions of the City, prepares administrative policies that all departments follow, coordinates and monitors the City budget, directs community and economic development activities and oversees the City's risk management program. The office is comprised of Manager, Administration, City Clerk, Human Resources, and Information Technology.

- **City Attorney:** The City Attorney is the City's general legal counsel and is responsible for advising the City Council and Staff in all legal matters pertaining to the City. The City Attorney prepares and/or reviews ordinances, resolutions, contracts and other documents, advises on personnel matters, advises the City Council and Staff on new or proposed legislation affecting the operation City Government and oversees outside special counsel.

- **Community Services Director:** The Community Services Director is responsible and has the authority to plan, organize, direct, and review the activities and operations of the Public Works maintenance personnel. The Community Services Department manages the general operations and maintenance of the City's streets, parking lots, water acquisition and delivery system, wastewater collection system, and storm drainage system in a manner consistent with sound practices and legal requirements and that are applicable to the long-term and current needs and interests of the City.

  Note: *The Public Works Director position was eliminated as part of the City reorganization approved by City Council on January 10, 2012. Responsibilities were divided between the Community Services Director and City Engineer.*

- **City Engineer:** The City Engineer reports to the Community Development and Engineering Director and is responsible for the operation of the Engineering Division and oversight of the wastewater treatment plant (Hangtown Creek Water Reclamation Facility). The Engineering Division provides technical and general administration services to the Public Works Division including streets and roads, parking lots, water and wastewater lines, wastewater collections system, and storm drain system. The Engineering Division also provides engineering and inspection services for residential and commercial development within the City limits, including ensuring that sewer installation and hook-ups meet California building codes. Engineering services include

permits, parcel map and subdivision map review. In addition, the Engineering Division administers the majority of the City's Capital Improvement Program (CIP) projects.

The City Engineer is responsible for the operation and maintenance of the wastewater collection system and is the Legally Responsible Official (LRO) for reporting and certifying SSOs. The City Engineer is responsible for the preparation of the City's Sewer System Management Plan and for all audits that are required under the SWRCB's WDR.

- **Public Works Superintendent**: The Public Works Superintendent manages, supervises and participates in a wide range of maintenance and repair related projects involving the City's wastewater collection system. The Public Works Superintendent is also is a data submitter for monitoring, reporting and certification under the SWRCB's WDR.

    - **Lead Maintenance Worker:** The Lead Maintenance Worker receives general supervision from the Services Manager, performs a variety of semi-skilled and/or skilled tasks in wastewater operations, maintenance, repair and/or construction work including providing lead worker assistance to supervisory and/or management staff as appropriate to the Department. The Lead Maintenance Worker is responsible for day to day operation of the collection system and the Overflow emergency response plan under the SWRCB's WDR.

    - **Public Services Maintenance Worker II:** The Public Services Maintenance Worker II receives general level supervision from higher level staff such as Maintenance Services Manager. Duties include performing a variety of semi-skilled and skilled tasks in maintenance work, and operating equipment in the construction, operation, repair, maintenance, and replacement of the City's wastewater collection and conveyance facilities and systems. The Public Services Maintenance Worker IIs are also responsible to respond to and mitigate SSOs.

    - **Public Services Maintenance Worker I:** The Public Services Maintenance Worker I receives immediate supervision from higher level staff such as Maintenance Services Manager progressing to general supervision over time with training and demonstrated work performance. This is the entry level - journey level class in the Public Services Maintenance Worker series. Positions in this class usually perform most of the duties required of Maintenance Worker II's but are not expected to function at the same skill level and usually exercise less independent direction and judgment on matters related to work procedures and methods.

- **Wastewater Treatment Plant Supervisor:** The Wastewater Treatment Plant Supervisor manages the operation and maintenance of the Hangtown Creek Water Reclamation Facility (HCWRF). In this position, he supervises the operators, plant mechanics, and the laboratory manager.

- **Wastewater Treatment Plant Operator:** The Wastewater Treatment Plant Operator works under supervision of the Wastewater Treatment Plant Supervisor and performs skilled, technical plant wastewater treatment activities in the operation and maintenance of a wastewater treatment plant, including monitoring for proper and safe functioning; performs a variety of laboratory tests in the operation of a wastewater treatment plant; performs routine maintenance such as lubricating equipment and changing belts; and maintains a variety of records related to area of assignment.

- **Environmental Laboratory Manager:** The Environmental Laboratory Manager supervises and performs water quality testing needed for regulatory compliance with a variety of regulations including the WDR.

- **Maintenance Mechanic:** The Maintenance Mechanic performs a variety of routine to complex preventive and corrective maintenance on a wide variety of pumps, engines, and other equipment related to the wastewater treatment facility, sewer lift stations, and water pumping stations.

The Organization Chart for the City is illustrated in Figure 2-1. Names and telephone numbers follow for management, administrative, and maintenance staff responsible for implementing specific measures in the SSMP program.

City Manager
M. Cleve Morris—(530) 642-5200

City Engineer
Nathan Stong—(530) 642-5250

City Attorney
John Driscoll—(530) 642-5200

Public Works Superintendent
Allen Hopkins—(530) 919-0453

Community Services Director
Steve Youel—(530) 642-5232

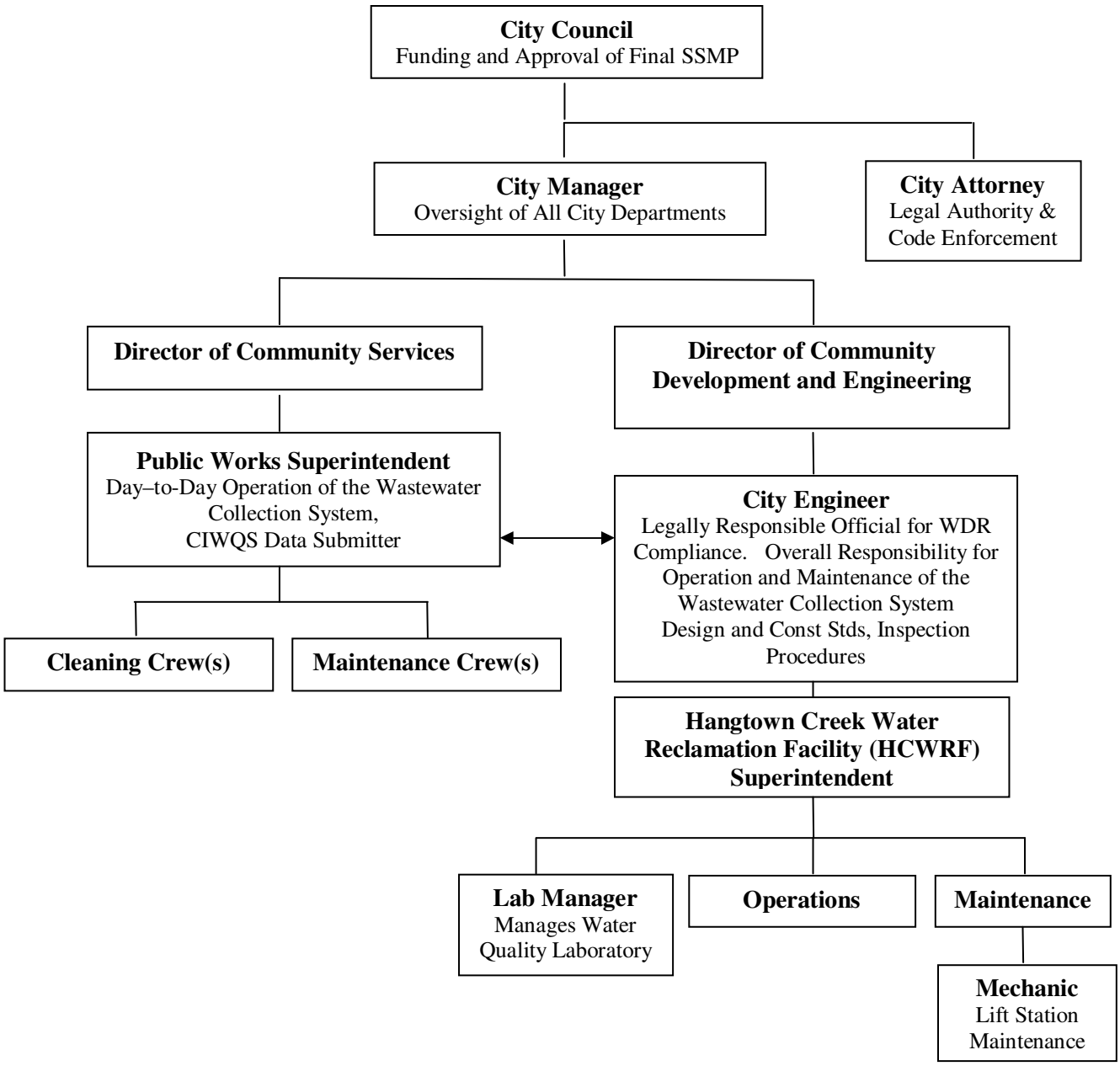
Wastewater Treatment Plant Supervisor
Wylie Henderson—(530) 642-5244

Director of Community Development & Engineering
Mike Webb—(530) 642-5252

After Hours
Maintenance workers are available on a standby basis nights, weekends and holidays to respond to customer service requests for sewer problems. The standby crew can be reached after normal working hours by calling Placerville Police Dispatch at (530) 642-5298.

Figure 2-1
SSMP Responsibility Organization Chart

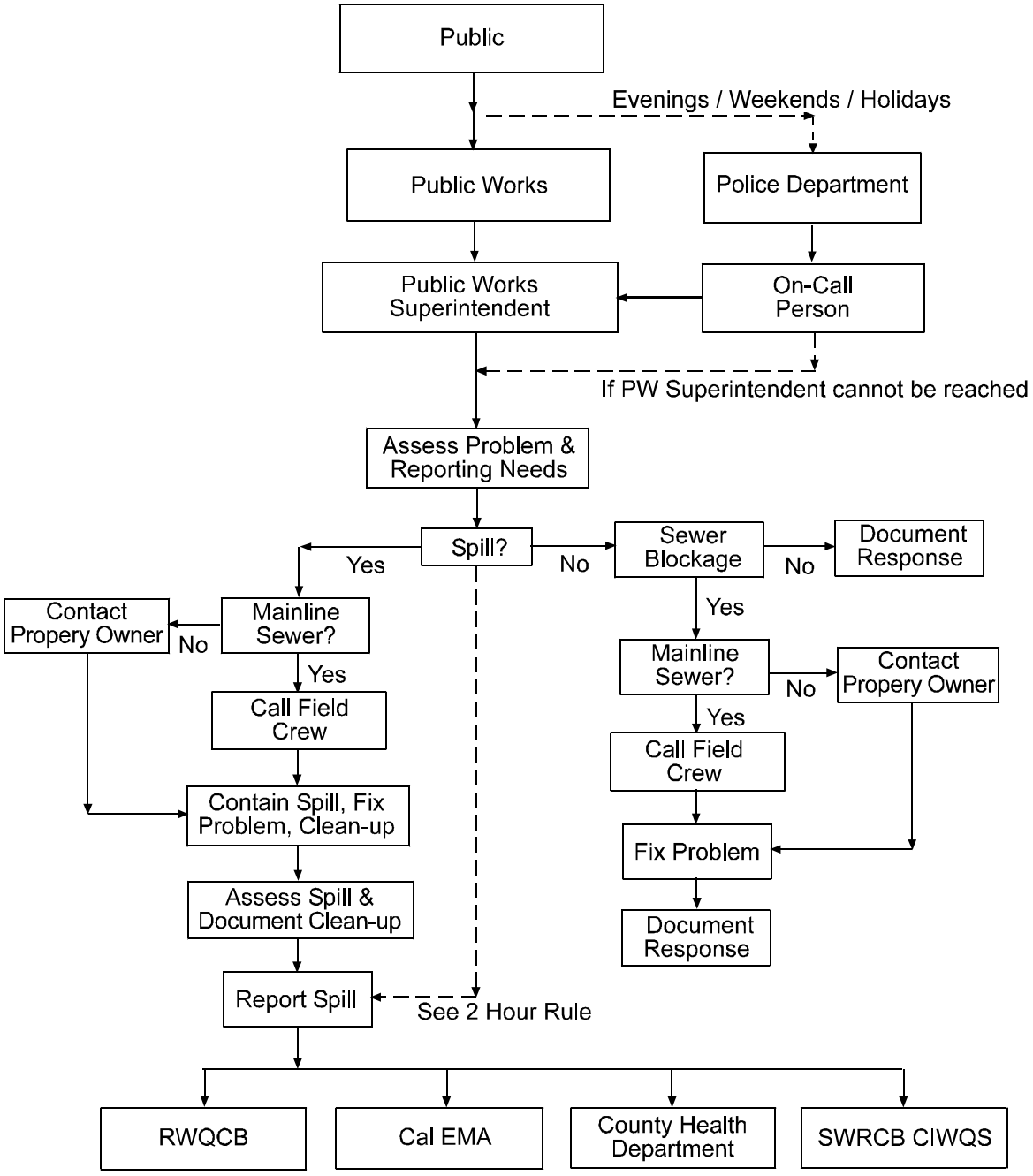
City of Placerville



C. Chain of Communication for Reporting SSOs

The chain of communication for reporting SSOs is illustrated in Figure 2-2.

Figure 2-2
Chain of Communication for Reporting SSOs



SECTION 3 — LEGAL AUTHORITY

Legal Authority Requirements

The WDR SSMP Legal Authority requirement specifies that each Enrollee must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:

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

A. City of Placerville Legal Authority

The City of Placerville's sewer regulations are codified under Chapters 4 and 5 of Placerville City Code Title 7, Health and Sanitation. Key objectives and authorities of the ordinances include controlling discharges into and out of the system, regulation of proper system design and construction, and administrative oversight of sewer access rights and code enforcement.

1. Prevent Illicit discharges

Section 7-4-18 of the City Code presents the regulations and controls of wastewater discharges.

2. Require Proper Design and Construction of Sewers and Connections

Section 7-4-14 of the City Code presents the required design and construction standards for new or rehabilitated sewers or connections to the sewers.

3. Sewer Access Authority

Section 7-4-19 of Chapter 4, Sewer Regulations of the Placerville City Code stipulates that a public sewer easement shall be granted to the City when a public sewer is constructed by a property owner and offered to the City for maintenance and operation and said public sewer is not within a public right of way.

4. Fats, Oils and Grease (FOG) Control

Title 7, Chapter 5, Discharges of Fats, Oils and Grease, of the Placerville City Code provides a complete FOG control ordinance.

5. Enforcement Authority

Section 7-4-20 of the City Code stipulates actions and penalties for violating the City Code.

SECTION 4 — OPERATION AND MAINTENANCE PROGRAM

Operation and Maintenance Program Requirements

The WDR SSMP Operation and Maintenance Program requirement specifies that each SSMP must include those elements listed below that are appropriate and applicable to the Enrollee's system:

1. 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;

2. 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 Preventive Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders;

3. 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 television 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;

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

5. Provide equipment and replacement part inventories, including identification of critical replacement parts.

A. Operation & Maintenance Program

The following section describes how the City of Placerville meets the requirements of the GWDR.

1. Sewer System Map

The City of Placerville maintains a hard copy set of maps of the sewer collection system, which is updated by hand as changes take place or discrepancies between the maps and sewer system are identified. A set of the maps is kept in each service truck.

As part of the first phase of the wastewater collection system master plan, a Geographic Information System (GIS) layer of the trunk sewer system was created. The remainder of the sewer system mapping will be created in a digital format time as funding allows. Applicable storm water conveyance facilities will be also be added to the GIS maps in a digital format as funding allows.

2. Preventive Maintenance Program

Overview

The City of Placerville owns and operates a wastewater collection system with about 50 miles of pipelines and five (5) pumping stations. Three (3) of the pumping stations have fixed backup power generators installed at the stations. The other two serve parks and can be without power for limited times without creating problems or allowing sanitary sewer overflows (SSOs).

The City maintains the sewer pipelines and the pumping stations. The City does not own or maintain the service lateral piping, (def. Building Sewer §204.0, California Plumbing Code (CPC)) or combined private sewer lines, (def. Private Sewer §218.0, CPC), which are the responsibility of property owners and require repair permits from and inspections by the City Building Division.

The City does not accept wastewater from other areas; there are no satellite sewer systems.

All of the day to day operations are under the general direction of the Community Services Director. The Public Works Superintendent manages the Public Works Operations staff. The City's Public Works field crew is responsible for the operation and maintenance of the wastewater collection system pipelines. The Water Reclamation Facility operations staff is responsible for the operation and maintenance of the pumping stations. While the personnel from both groups assist each other as needed, the field crew is the normal first responder to any pipeline sanitary sewer overflows (SSOs). The Water Reclamation Facility staff members working under the direction of the Wastewater Treatment Plant Supervisor would be the first responders to pump station emergencies.

The Wastewater Treatment Plant Supervisor manages the mechanical, electrical, instrumentation, and laboratory technicians located at the wastewater treatment plant. This includes the Senior Maintenance mechanic who maintains the lift pumping stations.

The Laboratory Director at the Water Reclamation Facility is responsible for the routine water quality testing that is performed in the water quality laboratory and for inputting data for the NPDES compliance reporting. Water quality testing would also be required if there was an SSO to a stream or water body.

The City owns and maintains trucks and other equipment used for a variety of City functions. Included in the vehicles and equipment are pickup trucks assigned to the field crew and the wastewater treatment plant staff. The Public Works field crew also has access to a variety of construction equipment such as backhoes, dump trucks concrete saws, etc, when pipe must be excavated and replaced.

Pipeline Maintenance

The City uses a preventive maintenance (PM) approach to operating and maintaining the wastewater collection system. The pipeline PM program consists of the routine flushing of the entire collection system as well as the more frequent cleaning of approximately 40 pipelines segments on the City's Hot Spot List, maintained by the Public Works Superintendent. The Hot Spot List is reviewed quarterly with the City Engineer to develop capital improvement projects or other remedies for the problem areas.

For the normal sewer cleaning operations, a two person crew is assigned unless the pipelines to be cleaned are located in heavy traffic zones, in which case a three person crew is used.

Sewer cleaning or flushing is performed using the high velocity jet cleaner truck. Sewer cleaning is accomplished using a truck mounted machine that pressurizes water contained on the truck. The water is conveyed into the sewer pipeline through a high pressure hose where the water is released through one of several nozzles that can be attached to the end of the hose. The nozzles direct the water to be released into the sewer in a conical pattern behind the nozzle, creating a high pressure cone of water that is reeled back though the pipeline using a winch on the truck. This sprays the interior of the pipeline with the high pressure water and will clean off collected sediment and scum from the pipeline walls. This operation is called "jetting," flushing," or "hydro-flushing." Depending upon the pressure used, the high pressure spray can also cut off some small roots that may have intruded into the pipeline.

Hydro-flushing is performed starting at the upstream manhole and pulling the hose and nozzle downstream so that the water and debris can wash out of the pipeline being cleaned. Where a lot of debris is anticipated based on previous sewer cleaning work, the bigger combination high velocity cleaner / vacuum truck is used. For these locations, the vacuum tubing included with combination truck is placed in the downstream manhole to remove debris and roots as they are being flushed from above.

Equipment Used

a) Truck mounted flusher - 3T 250 gallon unit on a Massey Ferguson 550 truck frame – Purchased in 2000 – 11 years old

b) Vactor combination flushing/vacuum truck – Model 2100 – 2,000 to 4,000 psi – Purchased in 2003 – 3 years old

c) Hand rods

d) Skid mounted closed circuit television camera – portable on a reel

e) 2 Model 500 series Case loader/backhoes

f) 5 dump trucks

Pumping (Lift) Station Maintenance

The City operates and maintains five (5) wastewater pumping stations, also called lift stations. Pumping stations are called lift stations since the pumps "lift" and discharge the water into a nearby gravity pipeline at a higher elevation only a short distance away from the pumping station.

Summary information on the lift stations is shown in Table 4-3 below. All of the lift stations are equipped with constant speed pumps. The majority of these lift stations are wet pit / dry pit type pumping stations. Wet pit / dry pit type pumping stations have a separate wet well from the "dry pit" where the pumps, motors, and electrical controls are located. Connecting pipes allow the pumps to pump the wastewater from the wet pit through gate valves into the pumps and then discharge the wastewater to the discharge piping through a set of check and gate valves. The check valve protects the pump from back pressure on the discharge line when the pump is not running. Two gate valves are installed on either side of the pumps piping to allow the pump to be removed from service for maintenance or replacement.

Table 4-3
Pumping (Lift) Station Data

	Pump Station Name	Pump Manufacturer	No. Pumps	Capacity, Each (gpm)	Wet Well Holding time at ADWF (min)	Inspection Frequency	SCADA or Telemetry	Backup Power	Flow Meter
1	Madrone	Barnes	2	260	360	Weekly	Yes	Yes	No
2	Giovanni	Wilo EMU	2	285	240	Weekly	Yes	Yes	No
3	Cribbs	Barnes	2	200	150	Weekly	Yes	Yes	No
4	Gold Bug Park	E/One	2	15	Unknown	Weekly	No	No	No
5	Lions Park	E/One	2	15	Unknown	Weekly	No	No	No

The City's Preventive Maintenance (PM) program includes inspecting and maintaining the pumping stations once per week. During these inspections the stations are checked for any signs of vandalism. For the Madrone, Giovanni, and Cribbs lift stations, the floats are tested and the station is tested to make sure that the station will operate in the manual mode. The standby generator is checked for oil and the fuel level is checked to make sure that the generator is ready to be used if needed. The generator is also started and run to make sure that it is working correctly. At the smaller Gold Bug and Lions Park stations, the stations are checked to be sure the site is secure and the stations are checked for any signs of vandalism or if alarms are operating. On a monthly basis, the valves are operated at all five lift pumping stations. Annually, the electrical systems are checked and the oil is changed in each pump. During the annual inspections any needed repairs are made to fix any leaks in the manholes or tank structures.

During these checks, notations are made on the Lift Station Inspection Sheets that are kept for each of the lift stations. These notations are used to ensure that all of the required checks and duties have been performed, including assuring that the pumping station and the grounds have been cleaned.

Customer Service

The City responds to all customer complaints or requests for information. When a customer complaint is received at city hall, a work order is generated. It is then faxed to the City Corporation Yard for attention. After the field crew has investigated and fixed any needed problem, the completed work order is faxed back to City Hall. Monthly the work orders are logged into an Excel spreadsheet.

Scheduling and Management Information System

Work is scheduled daily based on current needs. The field crew's work is tracked in a log book of lines cleaned. City crews also maintain a field map showing pipeline sections cleaned and the locations of SSOs. Sewer replacement work accomplished by the field crew is also tracked in the log book. Lift station data is summarized on spreadsheets.

Operating Budget

The Fiscal Year 2010/2011 Annual Operating Budget for the Water and Sewer Lines Division is $913,760. The budget for the Sewer Lines category is $504,171. The Water Reclamation Facility has a separate budget for Fiscal Year 2010/2011 of $2,229,093. The Fiscal Year 2010/2011 budget for the Sewer Lines includes a maintenance staff of 6 people with some of their time split to other City functions. The Fiscal Year 2010/2011 budget for the Water Reclamation Facility includes 9.5 people including the Water Reclamation Facility Supervisor. Nine of these positions are full time needed to operate

and maintain the facility and the lift stations. The half time position is for an Operator 3. The budget is available to the public online at: http://www.cityofplacerville.org/dept/finance

3. Rehabilitation and Replacement Program

The City has identified areas of recurrent problems and developed an informal priority list fix them as soon as the economy turns around. The 2010/2011 Adopted Capital Improvement Program Budget includes two projects related to the sewer system. One project was designated to prepare the required Sewer System Management Plan. The other is for a pipe rehabilitation project on Main Street.

4. Training

The City has Standard Operating Procedures for SSO response and mitigation, sewer cleaning (Vactor) equipment, main-line repair, cell phone/two way radio use and locating and marking USA (Underground Service Alert). Current safety and other occupational training provided to the field crew includes:

Employee safety:

- Hold weekly safety tailgate meetings and maintain sign-in log.
- Present safe practice reminder at all meetings.
- Hold monthly wastewater safety committee meetings.
- Maintain compliance of OSHA safety rules.
- Confined space - all vehicles are stocked with a gas detector.
- Review Material Safety Data sheets (MSDS) for new chemicals before use.

Employee certifications and training:

- Employees receive and renew job specific certifications for DMV, CPR, and First Aid, as required.
- Employees are trained in the following environmental and safety programs:
  - CPR/First Aid (8 CCR 1512, 8 CCR 3400)
  - Confined Space Procedures (8 CCR 5157)
  - Control of Hazardous Energy (Lockout/Tagout) (8 CCR 3314)
  - Respiratory Protection (8 CCR 5144)
  - HAZWOPER (8 CCR 5192)

  - Trenching/Shoring/Excavation (Competent Person) (8 CCR 1540-1541)
  - Fall Protection (8 CCR 3210-3214, 8 CCR 3276, 8 CCR 1669-1671.2)
  - Bloodborne Pathogen / Infection Control (8 CCR 3400)
  - Hearing Conservation (8 CCR 5099)
  - Personal Protective Equipment (8 CCR 5144)
- Employees are required to be knowledgeable of and re-trained in Confined Space Safety annually.
- Employees are required to be knowledgeable of and re-trained in the Gas Detector Policy and equipment use annually.

5. Critical Replacement Parts

The City maintains an inventory of various sized pipe segments and fittings at the City Corporation Yard for use in making sewer repairs. With dual pumps at each of the lift stations and emergency power for the three bigger stations, the City does not need a large inventory of replacement pumps in the event of a mechanical or electrical failure.

SECTION 5 — DESIGN AND PERFORMANCE PROVISIONS

Design and Performance Provisions Requirements

The WDR SSMP Design and Performance Provision requirement specifies that each Enrollee have the following:

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

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

A. Sanitary Sewer Design and Specifications

Placerville City Code requires compliance with the El Dorado Irrigation District (EID) Sewer Design Standards, Standard Detail Drawings and Technical Specifications, except as specified within the City of Placerville Standard Plans and Specifications. The EID standards are comprehensive and require compliance with accepted current engineering practices.

B. Sanitary Sewer Construction and Performance Provisions

As stated above for the Sanitary Sewer Design and Specifications, the City's adoption of EID's standards and construction requirements fulfills the requirements of procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

SECTION 6 — OVERFLOW EMERGENCY RESPONSE PLAN

Overflow Emergency Response Plan Requirements

The WDR SSMP requirements specify that each Enrollee shall develop and implement an Overflow Emergency Response Plan (OERP) that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

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

2 A program to ensure an appropriate response to all overflows.

3 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 WDRs or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification.

4 Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained.

5 Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities.

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

A. Overflow Emergency Response Plan

The City developed and uses the Spill Response Plan which is on file and available for review in the office of the City Engineer. A complete copy of the Spill Response Plan is located in each truck that is assigned to a first responder. The plan covers all of the requirements of the WDR SSMP requirements.

SECTION 7 — FOG CONTROL PROGRAM

FOG Control Program Requirements

The WDR SSMP Fats, Oils and Grease (FOG) Control Program requirement specifies that each Enrollee shall evaluate its service area to determine whether a FOG control program is needed. If an Enrollee determines that a FOG program is not needed, the Enrollee must provide justification for why it is not needed. If FOG is found to be a problem, the Enrollee must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. This plan shall include the following as appropriate:

1. An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;
2. 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;
3. The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;
4. Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, Best Management Practice (BMP) requirements, record keeping and reporting requirements;
5. Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance;
6. An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section; and
7. Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in A.6 above.

A. FOG Control Program

1. Public Education Outreach Program Implementation Plan

The Engineering Division is initiating an outreach program to the residential and commercial community on the proper disposal of FOG. This program will include direct mailings, handouts,

flyers and site visits to food service establishments, as well as non-printed media such as posts on the City's website and Facebook page.

The residential campaign will present Best Management Practices (BMPs) for FOG disposal and the restaurant campaign will provide specific FOG reduction information and requirements needed to comply with WDR.

The Engineering Division webpage will provide the target audience with the most current FOG reduction information.

2. FOG Disposal Plan

All commercial and industrial FOG producing facilities shall be required to keep all manifests, receipts and invoices of all cleaning, maintenance, grease removal of/from the grease control device, disposal carrier and disposal site location for no less than three years.

3. Legal Authority to Prohibit FOG Discharges

7-5-4: FOG discharge limitation

No FSE shall discharge FOG, or cause FOG to be discharged into the public or private sewer or lateral that causes an SSO or that may accumulate and/or cause or contribute to blockages in the public or private sewer or lateral which connects the FSE to the public sewer.

7-5-23: Failure to comply with FOG regulations—Suspension and/or termination of wastewater service

A. In accordance with the procedures and limitations provided in Placerville City code subsection B of Section 7-5-22, the Director may suspend and/or terminate wastewater service to an FSE and property owner when the Director determines that the FSE has failed to comply with the requirements of this chapter.

4. BMP, Grease Removal Devices, Recordkeeping, and Reporting Requirements

City Code Sections 7-5-8 through 7-5-12 defines the requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, Best Management Practices (BMP) and record keeping and reporting requirements.

5. Inspection and Enforcement Authority – FOG Producers

City Code Section 7-5-16 provides the authority to inspect grease producing facilities and enforcement authority for staff to inspect and enforce the FOG control requirements.

7-5-16: Inspections and sampling conditions.

A. The Director may inspect and sample or order the inspection and sampling of the wastewater discharges of any FSE to ascertain whether the intent of these regulations is being met and the FSE is complying with all requirements. The FSE shall allow access to the FSE premises, during normal business hours, for purposes of inspecting the FSE's grease control devices or interceptor, reviewing the manifests, receipts and invoices relating to the cleaning, maintenance and inspection of the grease control devices or interceptor.

B. The Director shall have the right to place or order the placement on the FSE's property, or other locations as determined by the Director, such devices as are necessary to conduct sampling or metering operations. Where an FSE or property owner has security measures in force, the FSE or property owner shall make necessary arrangements so that the Director and/or an inspector shall be permitted to enter without delay for the purpose of performing their specific responsibilities.

C. In order for the Director to determine the wastewater characteristics of the FSE for purposes of determining compliance with this chapter, the FSE shall make available for inspection and copying by the Director, an inspector, an enforcement officer and/or service personnel, all notices, monitoring reports, waste manifests, and records including, but not limited to, those related to wastewater generation and wastewater disposal. All such records shall be kept by the FSE a minimum of three (3) years.

6. FOG Characterization Assessment and Hot Spot Cleaning Schedule

The following FOG characterization assessment and data form identifies all types of commercial and industrial FOG dischargers within the City of Placerville jurisdictional boundaries.

FOG hot spot location data is maintained by the Public Works Superintendent and sewer maintenance work orders are issued and completed to ensure that hot spot lines do not have grease blockages/SSOs between cleaning schedules.

Table 7-1
Fats, Oils, and Grease (FOG) Dischargers Summary

Agency Name: City of Placerville

Agency Address: _____

Contact Person: _____

Telephone: _____ Fax: _____

Data provided for latest year: _____

Group Description	Description	Total
Bakeries	Bakery	
Catering	Catering (Direct Sell)	
Grocery	Grocery with Bakery or Deli	
	Grocery with Meat Market	
	Grocery with Chinese Food	
	Grocery Subtotal	
Hotels	Hotels with Restaurant	
Meat Markets	Market – Meat	
	Market – Meat & Fish	
	Meat Markets Subtotal	
Restaurants	Eating – Fast Food	
	Eating – Sit Down Dining	
	Restaurants Subtotal	
Strip Malls	Strip Mall with Multiple Impact	
	Strip Mall with Restaurant	
	Strip Malls Subtotal	
Grand Total		

7. FOG Source Control Measures

7-5-9: Commercial and institutional properties

Any owner, or official designee, of a commercial and/or institutional property where one (1) or more FSEs are located shall be responsible for the installation and maintenance of the grease interceptor(s) serving the FSEs that are located on that property, as required by this chapter.

SECTION 8 — SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

System Evaluation and Capacity Assurance Plan Requirements

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

1. **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;

2. **Design Criteria:** Where design criteria do not exist or are deficient, undertake the evaluation identified in (1) above to establish appropriate design criteria; and

3. **Capacity Enhancement Measures:** The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.

4. **Schedule:** The Enrollee shall develop a schedule of completion dates for all portions of the CIP developed in (1) through (3) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D.14 of the WDR.

A. Compliance Summary

1. Evaluation

A hydraulic evaluation of the City's trunk sewer system entitled "Sewer System Master Plan" was completed by Holmes International with assistance by CXS Consulting in 2006. The Master Plan determined that:

- There are only two segments of the existing trunk sewer system that should surcharge during a 20-year return interval storm for current conditions (2005). Surcharging is the condition where the water rises above the top of the pipe and, depending upon conditions, may begin to rise in the connecting manholes where the pipe is surcharged.

- For the existing service area under buildout conditions, there are nine locations where the water will surcharge. The modeling indicates two locations where there may be a sanitary sewer overflow for a 10-year recurrence interval event and three locations where there will be a sanitary sewer overflows for a 20-year recurrence interval event. Sewer system overflows are prohibited by the new General Waste Discharge Requirement adopted by the State Water Resources Control Board on May 2, 2006. The analysis indicates that about 2,500 feet of the trunk sewer system will need to be upsized or wet weather infiltration and inflow will need to be reduced to prevent sewer system overflow.

- When, according to the future plan, the sewer system's service expands to the City's sphere of influence boundary (also referred to as the buildout service area), extensive surcharging and sanitary sewer overflows are expected under buildout design flow conditions. Modeling indicates three locations where there will be a sanitary sewer overflow for a 5-year recurrence interval event, 13 locations where there will be a sanitary sewer overflow for a 10-year recurrence interval event, and 41 locations where there will be a sanitary sewer overflow for a 20-year recurrence interval event. Analysis indicates that about 16,000 feet of the trunk sewer system will need to be upsized or rehabilitation and/or replacement work will be needed to reduce the entry of infiltration and inflow to prevent sewer system overflow.

The hydraulic evaluation concluded that the existing sewer system has sufficient capacity to serve the existing land use even under the 20-year design storm flow conditions. However, additional flows from growth in the system's service area will start to create surcharging with potential sanitary sewer overflows under extreme flow conditions, unless the trunk sewer pipeline system is enlarged or an aggressive infiltration and inflow reduction program is implemented. As the community continues to grow and the sewer system's service area expands, the risk and extent of sewer system overflows increase. One of the more significantly conveyance restricted areas is the main trunk sewer system between the Wastewater Treatment Plant and Canal Street, downstream from the new sewer recently installed as part of the CalTrans Highway 50 Ops project.

2. Capacity Enhancement Measures

The trunk sewer master plan identified needed improvements for the existing service area at buildout and for the entire urban service area (buildout service area) at buildout conditions. The improvements are conditioned on development projects which would require the additional capacity.

SECTION 9 — MONITORING, MEASUREMENT AND PROGRAM MODIFICATIONS

Monitoring, Measurement, and Program Modification Requirements

The WDR SSMP Monitoring, Measurement, and Program Modification requirement specifies that each Enrollee shall do the following:

1. Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities;
2. Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP;
3. Assess the success of the preventive maintenance program;
4. Update program elements, as appropriate, based on monitoring or performance evaluations; and
5. Identify and illustrate SSO trends, including: frequency, location, and volume.

A. Compliance Summary

1. Metrics to Prioritize SSMP Activities

The City has established three categories of metrics to monitor and measure the effectiveness of the various elements of this SSMP and its success in terms of meeting its goals. Those metrics include the following categories of metric information:

- System Information
- Sewer Maintenance Activities
- Performance Measures

2. System Information

Changes to the wastewater collection system are mapped and logged as they occur.

3. Metrics to Assess Sewer Maintenance

TABLE 9-1
Metrics to Assess Sewer Maintenance

Total miles cleaned per year	Feet/Miles
Total miles camera inspected per year	Feet/Miles
Total miles of sewer	Update annually
Average high velocity cleaning per crew per day	Feet
Number of planned work orders completed	Per year
Number of unplanned work orders completed	Per year

4. Metrics to Assess SSMP Performance

The following metrics are used to assess spill frequency, location, and volume trends.

TABLE 9-2
Metrics to Assess SSMP Performance

Total number of spills per year (all spills)		Number of Spills		
Total volume of spills per year (all spills)		Total Gallons		
SSO Cause	Fats, Oil and Grease (FOG)	Number	%	Gallons
	Roots	Number	%	Gallons
	Debris	Number	%	Gallons
	Capacity (Wet weather)	Number	%	Gallons
	Vandalism	Number	%	Gallons
	Pipe Failure	Number	%	Gallons
	Lift Station Failure	Number	%	Gallons
	Other	Number	%	Gallons
	Total	Number	%	Gallons

SECTION 10 — SSMP PROGRAM AUDITS

SSMP Program Audits Requirements

The WDR SSMP Program Audits requirements specify that each 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 WDR subsection D.13, including identification of any deficiencies in the SSMP and steps to correct them.

A. SSMP Program Audits

1. Audit Procedures, Roles and Responsibilities

The City Engineer will perform periodic internal audits to determine the effectiveness of each element of the SSMP. Forms for conducting the audit follow at the end of this section.

The City Engineer will generate the following information and system metrics on monthly and annual bases for the purpose of tracking, monitoring and adjusting the performance of the SSMP activities.

- System Information
- Sewer Maintenance
- Performance Measures

The primary focus in the evaluation of system metrics will be the elimination of preventable SSO and reduction of the impact of those SSOs that do occur.

The City's audit schedule is as follows:

- Annually for the first two years following the adoption and approval of this SSMP.
- Every two years thereafter the adoption and approval of this SSMP.
- This SSMP will be updated every five years from the date of adoption and approval and will include all significant program changes that have occurred following the last City Council certification/approval.

SSMP Program Modification/Update Process

The City Engineer will monitor and review sewer performance metrics on a monthly basis and the status of each element of the SSMP on an annual basis for the first two years following the adoption of this SSMP. Formal SSMP audits will be conducted every two years following the

adoption of this SSMP. The City Engineer will initiate/direct corrective action to be taken when and if SSMP deficiencies are identified between/during periodic internal audits.

When significant changes are made to the SSMP that require re-certification, the Legally Responsible Official (LRO) or his or her designee will enter the data in the online SSO database and the LRO will certify the information in the online SSO database and mail the form to the State Water Board.

B. SSMP Audit Checklist

TABLE 10-1: SSMP Audit Checklist

Audit Date: _____ Audit Team Members: _____

Sect	Title	Requirement	Improvement Needed Yes / No	Narrative of Description of Improvement Needed	Scheduled Improvement Date	Responsible Person
1	Goals	The goal of the SSMP is to provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system.				
2	Organization	The SSMP must identify:				
	(a)	The name of the responsible or authorized representative				
	(b)	The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program. The SSMP must identify lines of authority through an organization chart or similar document with a narrative explanation				
	(c)	The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable				
3	Legal Authority	Each Enrollee must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:				

Sect	Title	Requirement	Improvement Needed Yes / No	Narrative of Description of Improvement Needed	Scheduled Improvement Date	Responsible Person
	(a)	Prevent illicit discharges into its sanitary sewer system				
	(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 Public Agency				
	(d)	Limit the discharge of fats, oils, and grease and other debris that may cause blockages				
	(e)	Enforce any violation of its sewer ordinances				
4	O&M Program	The SSMP must include those elements listed below that are appropriate and applicable to the Enrollee's system:				
	(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 stormwater 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 Preventive Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders				

Sect	Title	Requirement	Improvement Needed Yes / No	Narrative of Description of Improvement Needed	Scheduled Improvement Date	Responsible Person
	(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				
	(e)	Provide equipment and replacement part inventories, including identification of critical replacement parts				
5	Design and Performance Provisions					
	(a)	Design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems				

Sect	Title	Requirement	Improvement Needed Yes / No	Narrative of Description of Improvement Needed	Scheduled Improvement Date	Responsible Person
	(b)	Procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects				
6	Overflow Emergency Response Plan (OERP)	Each Enrollee shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:				
	(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 an 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 MRP. All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDRs or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification				
	(d)	Procedure to ensure Agency staff are aware of, are trained, and follow OERP				

Sect	Title	Requirement	Improvement Needed Yes / No	Narrative of Description of Improvement Needed	Scheduled Improvement Date	Responsible Person
	(e)	Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained				
	(f)	Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities				
	(g)	A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters of the United States and to minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge				
7	FOG Control Program	Each Enrollee shall evaluate its service area to determine whether a FOG control program is needed. If an Enrollee determines that a FOG program is not needed, the Enrollee must provide justification for why it is not needed. If FOG is found to be a problem, the Enrollee must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. This plan shall include the following as appropriate:				
	(a)	An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG				

Sect	Title	Requirement	Improvement Needed Yes / No	Narrative of Description of Improvement Needed	Scheduled Improvement Date	Responsible Person
	(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 removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements				
	(e)	Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance				
	(f)	An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section				
	(g)	Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (f) above				

Sect	Title	Requirement	Improvement Needed Yes / No	Narrative of Description of Improvement Needed	Scheduled Improvement Date	Responsible Person
8	System Evaluation and Capacity Assurance Plan	The Enrollee shall prepare and implement a capital improvement plan (CIP) that will provide hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event. At a minimum, the plan must include:				
	(a)	Evaluation: Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events				
	(b)	Design Criteria: Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria				
	(c)	Capacity Enhancement Measures: The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.				

Sect	Title	Requirement	Improvement Needed Yes / No	Narrative of Description of Improvement Needed	Scheduled Improvement Date	Responsible Person
	(d)	Schedule: The Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a)-(c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D. 14.				
9	Monitoring, Measurement, and Program Modifications	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 preventive 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				

Sect	Title	Requirement	Improvement Needed Yes / No	Narrative of Description of Improvement Needed	Scheduled Improvement Date	Responsible Person
10	SSMP Program Audits	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 including identification of any deficiencies in the SSMP and steps to correct them				
11	Communications Program					
		The Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented				
		The Enrollee shall also create a plan of communication with systems that are tributary and/or satellite to the Enrollee's sanitary sewer system				

SECTION 11 — COMMUNICATION PROGRAM

Communication Program Requirements

The WDR SSMP Communication Program requirement specifies that each Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented.

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

This element requires that the City establish a program to communicate with the public and tributary/satellite systems on the development, implementation and performance of this SSMP. The program must provide a means for public input and feedback regarding the status of the City's SSMP. As part of the communication program the final SSMP must be approved by the City Council at a public meeting.

A. Communication Program

1. Internal Communication – Staff, City Council and Stakeholders

The Engineering Division has created a PowerPoint presentation to introduce the SWRCB WDR/SSMP requirements and the City of Placerville's responsibility to comply with the Statewide WDR order No. 2006-0003. The power point presentation is an overview of the WDR Sanitary Sewer Systems Regulations.

2. Stakeholder Communication – Internal and External

The Engineering Division will communicate to stakeholders key messages about the City's Sewer System Management Plan (SSMP). The stakeholders include:

- City Council
- Internal staff
- Sewer Committees
- City's rate payers and Non Governmental Organizations (NGOs)
- Regulatory agencies and County Health Department when applicable.

Communications goal:

- Develop a systematic approach for communicating SSMP requirements, progress, and performance.

Communication Objectives:

- To provide a channel for public input as the SSMP is developed and implemented.
- To communicate with enough frequency and information so that the SSMP is supported by the City Council, internal staff, the ratepayers, and other agencies.
- To inform internal and external stakeholders of the SSMP requirements and strategies to reduce sanitary sewer overflows (SSOs).
- To inform the City Council and the ratepayers of the SSMP successes.
- To provide outreach to the community to inform them of the work the City is doing to reduce SSOs.

Key Messages

- Purpose of SSMP, requirements and status of City's program
- Protection of public health.
- Protection of the environment and the water quality.
- Status of City's SSOs.
- Channel for public input.
- Best Management Practices (BMPs) for residential and commercial customers.
- Wastewater collection system improvements such as replacement of existing pipeline and pumping station infrastructure and construction of new infrastructure.
- Maintenance and operation activities that lead to reductions in the number and volume of SSO's and prevent the interruption of commercial and residential sewer service.
- Potential rate impacts

Communications Strategy for Stakeholders

1. **City Council**
    - Purpose of SSMP
    - Status of City's overall program.
    - Progress of the Operations and Maintenance staff on meeting performance metrics related to the SSMP requirements and reduction of SSOs.
    - FOG control measures in terms of residential and commercial BMPs and source control.

- Customer service in terms of: 1) response time to mitigate SSOs, 2) reduction in the number and quantity of SSO spills, and 3) improved customer satisfaction.
- Capital improvement projects.
- Proposed rate increases.

2. Internal Staff

- Overall understanding WDR purpose.
- Specific understanding of each of the eleven SSMP elements.
- Roles and responsibilities for SSMP elements addressed in their work classification/assignments.
- Periodic reports on the progress in reducing SSOs

3. Ratepayers

- Purpose of SSMP
- Status of Agency's overall program.
- FOG control measures in terms of residential and commercial BMPs and source control.
- Capital improvement projects (CIP).
- Possible rate impacts and any proposed rate increases.