



**CITY OF VISTA & BUENA SANITATION DISTRICT**

**SEWER SYSTEM MANAGEMENT PLAN**

**JUNE 2009**



# AGENDA REPORT

- CITY COUNCIL
- COMMUNITY DEVELOPMENT COMMISSION
- BUENA SANITATION DISTRICT
- JOINT POWERS FINANCING AUTHORITY

Department: Engineering

Item No: \_\_\_\_\_

Prepared By: Ligeia Heagy, Management Analyst

Meeting Date: June 23, 2009

Lawrence Pierce, Director

Approved By: Rita L. Geldert, City Manager

Agenda Location: Consent Calendar

## SUBJECT: SEWER SYSTEM MANAGEMENT PLAN

### RECOMMENDATION:

1. Receive by the City Council a combined City of Vista and Buena Sanitation District Sewer System Management Plan and direct staff to file; and
2. Receive by the Buena Sanitation District a combined City of Vista and Buena Sanitation District Sewer System Management Plan and direct staff to file.

**PRIOR ACTION:** On April 14, 2009, adopted City Council Ordinance No. 2009-10, repealing Chapter 13.04 and amending and readopting in its entirety Title 14 of the Vista Municipal Code Relating to Sewers and Sewer Systems, and adopted Buena Sanitation District Ordinance No. 2009-1, amending and readopting in its entirety Chapters 1 through 16 of the Buena Sanitation District Sewer Code of Regulations (Votes: 5-0).

On October 30, 2007, adopted City Council Resolution No. 2007-183, approving the Development Plan for the Sanitary Sewer Management Plan, and adopted Buena Sanitation District Resolution No. 2007-13, approving the Development Plan for the Sanitary Sewer Management Plan (Vote: 4-0, Campbell absent).

**STATEMENT ON THE SUBJECT:** On May 2, 2006, the State Water Resources Control Board (SWRCB) adopted Order Number 2006-0003-DWQ that established the Waste Discharge Requirements (WDR) for all publicly owned or operated sanitary sewer collection systems having one or more miles of collection pipelines. The WDR required that each agency under the Order create and implement a Sewer System Management Plan (SSMP) to facilitate the proper funding, management, operation and maintenance of their sanitary sewer collection system. The SSMP is comprised of the following key elements required to be completed by August 2, 2009:

1. Goals
2. Organization
3. Legal Authority
4. Operations and Maintenance
5. Design and Performance Provisions
6. Overflow Emergency Response Plan
7. Fats, Oils, and Grease (FOG) Control Program
8. System Evaluation and Capacity Assurance Plan
9. Monitoring, Measurement, and Program Modifications

### ACTION:

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*Clerk/Secretary*

**SUBJECT: SEWER SYSTEM MANAGEMENT PLAN**

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- 10. Program Audits
- 11. Communications

Since combined staff resources are used to administer, design and maintain both the City of Vista and Buena Sanitation District sewer systems, the SSMP has been developed as a combined SSMP to assure that each required element of the SSMP is addressed for each agency.

Several City programs required for compliance with the WDR were already in place and only needed to be documented or adapted to the SSMP format, or enhanced; other programs needed to be added. Additions to existing City programs include: enhanced coordination between programs; expanded documentation, auditing, reporting on each element; and, more frequent and comprehensive system analyses.

One significant requirement is execution of the Fats, Oils, and Grease (FOG) control program. The FOG control program will include inspections, enforcement, private plumbing improvements, education, and outreach with feedback mechanisms to prioritize maintenance and schedules in areas that may have FOG problems.

The receive and file action meets the requirements of the General Waste Discharge Requirements (WDR). A receive and file action is recommended in lieu of adoption with a resolution to allow staff the ability to audit, modify and improve the SSMP on a regular basis to remain in compliance with the WDR. At a minimum, program audits to the SSMP will occur every two years, with revisions to the SSMP as necessary to comply with the WDR.

The SSMP that has been prepared is designed to meet the WDR compliance requirements.

**FISCAL IMPACT:** There is no fiscal impact associated with the staff recommendation.

**EXHIBITS:**

- 1. City of Vista and Buena Sanitation District Sewer System Management Plan



**CITY OF VISTA AND BUENA SANITATION DISTRICT  
CONSOLIDATED  
SEWER SYSTEM MANAGEMENT PLAN (SSMP)**

CITY OF VISTA SANITATION DISTRICT  
AND  
BUENA SANITATION DISTRICT  
600 Eucalyptus Avenue  
Vista, California 92084

Pursuant to the provisions of the  
CALIFORNIA STATE WATER RESOURCES CONTROL BOARD  
ORDER NO. 2006.0003-DWQ  
STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS (WDR)  
FOR SANITARY SEWER SYSTEMS

June 23, 2009

*Rev 5-6/1/2009*

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## ABBREVIATIONS / ACRONYMS

AB	Assembly Bill
BAT	Best Available Technology
BMP	Best Management Practice
BSD	Buena Sanitary District
CCTV	Closed-Circuit Television
CFR	Code of Federal Regulations
CIP	Capital Improvement Program
CIWQS	California Integrated Water Quality System
CM	Corrective Maintenance
CMMS	Computerized Maintenance Management System
CWEA	California Water Environment Association
City	City of Vista (aka Vista Sanitation District)
District	Buena Sanitary District
ERP	Emergency Response Plan
EWA	Encina Wastewater Authority
FOG	Fats, Oils, and Grease
GPS	Global Positioning System
GWDR	General Waste Discharge Requirements also referred to as the Waste Discharge Requirements (WDR)
I/I	Inflow / Infiltration
IERP	Integrated Emergency Response Plan
LRO	Legally Responsible Official
MRP	Monitoring and Reporting Program
O&M	Operation and Maintenance
OES	Office of Emergency Services
Order	SWRCB Order No. 2006-0003-DWQ adopted May 2, 2006
Pd	Predictive Maintenance
PM	Preventative Maintenance
PMP	Preventative Maintenance Program
POTW	Publicly Owned Treatment Works
R&R	Rehabilitation and Replacement
RCDEH	Riverside County Department of Environmental Health
RWQCB	Regional Water Quality Control Board
SOP	Standard Operating Procedure <u>or</u> Standard Maintenance Procedure
SSO	Sanitary Sewer Overflow and any sewer spill or overflow of sewage
SSMP	Sewer System Management Plan
SWRCB	State Water Resources Control Board
WDR	Waste Discharge Requirements also referred to as the General Waste Discharge Requirements (GWDR)
WWTP	Wastewater Treatment Plant

## INTRODUCTION

On May 2, 2006 the SWRCB adopted Order Number 2006-0003-DWQ that requires all publicly owned sewage collection systems having more than one mile of pipeline develop, implement and fund a Sewer System Management Plan (SSMP) which establishes the minimum requirements under which a public collection system must be operated and maintained. The purpose of the Order is to prevent SSOs, and to provide a plan and schedule for measures to be implemented to prevent SSOs, as well as measures to effectively clean up and report the spills. Subsequently, the San Diego Regional Water Quality Control Board amended the Order with R9WQCB Order 2006-0013 that mandatorily requires the reporting of private property spills.

The City of Vista operates and maintains both its own sanitary collection system and the Buena Sanitation District's sanitary collection system. Each sewer collection system is a distinct legal entity and both convey sewage for treatment at the Encina Wastewater Authority (EWA). Both are gravity systems, although there are four lift stations shared between the City of Vista and the Buena Sanitation District. These are:

- Raceway Pump Station located at 2685 South Melrose Drive
- Buena Creek Pump Station located at 2080 South Melrose Drive
- Buena Vista Pump Station located at Buena Vista Lagoon at Jefferson
- Agua Hedionda Pump Station located at Agua Hedionda Lagoon northeast of SDG&E power plant

All lift stations are operated by the Encina Wastewater Agency under various MOUs and agreements and are covered under the EWA SSMP. The Buena Vista and Agua Hedionda Pump Stations are under shared ownership with the City of Carlsbad as the lead agency.

The City of Vista's sanitary collection system consists of approximately 215 miles of public pipelines, serving approximately 16,000 parcels, and conveys an annual average flow of 6.53 million gallons per day. The Cities of Vista and Carlsbad share ownership of the outfall interceptor sewer, which routes sewage approximately 7.5 miles through two pump stations and force mains to the EWA treatment facility. The Buena Sanitation District sanitary collection system consists of approximately 101 miles of public mains and trunk sewers, serving approximately 5,360 parcels, and conveys an annual average flow of 2.04 million gallons per day. The Buena Outfall routes sewage approximately 5.5 miles through one lift station to the EWA treatment facility.

Since the City of Vista administers the Buena Sanitary District, this SSMP has been developed to cover both the City and the District. The City performs the management, operation, and maintenance for both collection systems as one system. In preparation for this SSMP the City (and on behalf of the District) has undertaken several major projects to ensure the sustained reliability of the combined sanitary collection systems. A comprehensive Sewer System Master Plan Update was completed in January 2008 that included flow studies for capacity and initial system condition assessments use to

recommend projects for the CIP. In March 2009 the City completed a comprehensive CCTV inspection of the combined collection systems. Data collected from this inspection is being used to enhance the City's GIS and provide an up-to-date accurate condition assessment for the City's CIP Program. To accomplish this, the City has contracted for the services of an outside consultant to provide program management for the CIP as well as three design engineering firms to prepare plans and specifications, and two environmental consulting firms for environmental permitting. The City has developed a comprehensive sewer system specifications manual for the collection systems to ensure proper installation, rehabilitation, repair, and inspection for future construction projects. The Wastewater Division has revised its maintenance program to include an Annual Work Plan that prioritizes and addresses the specific operational and maintenance needs within the collection systems. To facilitate line cleaning, the City has divided the combined service area into three maintenance areas each consisting of approximately 100 miles of gravity pipelines. A vactor truck and crew has been assigned to each area allowing the City to clean the entire combined collection system every 6 to 8 months.

This SSMP reflects the ongoing day-to-day activities of the City of Vista for the management, operation, maintenance, and funding of the City's sanitary collection system and the sanitary collection system of the Buena Sanitation District. As so, this SSMP becomes a living document subject to constant review and revision as conditions and needs of the collection systems change. This SSMP relies on numerous supporting documents, also subject to change, that form the basis for how the City conducts its collection system operation for both the City and the District. The most current version, although it may be subject to update at anytime, will be found at the City of Vista's Engineering and Public Services offices.

## DEFINITIONS

1. **Sanitary sewer overflow (SSO)** - Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs include:
  - (i) Overflows or releases of untreated or partially treated wastewater that reach waters of the United States;
  - (ii) Overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and
  - (iii) Wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system.
2. **Sanitary sewer system** – Any system of pipes, pump stations, sewer lines, or other conveyances, upstream of a wastewater treatment plant headworks used to collect and convey wastewater to the publicly owned treatment facility. Temporary storage and conveyance facilities (such as vaults, temporary piping, construction trenches, wet wells, impoundments, tanks, etc.) are considered to be part of the sanitary sewer system, and discharges into these temporary storage facilities are not considered to be SSOs.

For purposes of this Order, sanitary sewer systems include only those systems owned by public agencies that are comprised of more than one mile of pipes or sewer lines.
3. **Enrollee** - A federal or state agency, municipality, county, City, and other public entity that owns or operates a sanitary sewer system, as defined in the general WDRs, and that has submitted a complete and approved application for coverage under this Order. The City of Vista and Buena Sanitation District are Enrollees.
4. **SSO Reporting System** – Online spill reporting system that is hosted, controlled, and maintained by the State Water Board. The web address for this site is <http://ciwqs.waterboards.ca.gov>. This online database is maintained on a secure site and is controlled by unique usernames and passwords.
5. **Untreated or partially treated wastewater** – Any volume of waste discharged from the sanitary sewer system upstream of a wastewater treatment plant headworks.
6. **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.

7. **Nuisance** - California Water Code section 13050, subdivision (m), defines nuisance as anything which meets all of the following requirements:
  - a. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
  - b. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
  - c. Occurs during, or as a result of, the treatment or disposal of wastes.
8. **WDR** – State Water Resources Control Board (SWRCB) Order No. 2006.0003-DWQ, known as the WASTE DISCHARGE REQUIREMENTS (WDR), which was adopted May 2, 2006.

## CHAPTER 1 – PROHIBITIONS AND PROVISIONS

This chapter describes the sewage discharge prohibitions and thirteen provisions prescribed in the Order.

### 1.1 Prohibitions

To meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, the discharger is required to comply with the following prohibitions:

- Any SSO that results in a discharge of untreated or partially treated wastewater to waters of the United States is prohibited.
- Any SSO that results in a discharge of untreated or partially treated wastewater that creates a nuisance as defined in California Water Code Section 13050(m) is prohibited.

### 1.2 Provisions

The discharger must meet the following thirteen provisions:

1. The Enrollee must comply with all conditions of this 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 WDRs. Nothing in the general WDRs 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;
3. 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;
  - (ii) 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
  - (iii) 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 WDRs.
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;
    - 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 sanitary sewer overflow 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:

- Interception and rerouting of untreated or partially treated wastewater flows around the wastewater line failure;
- Vacuum truck recovery of sanitary sewer overflows and wash down water;
- Cleanup of debris at the overflow site;
- System modifications to prevent another SSO at the same location;
- Adequate sampling to determine the nature and impact of the release; and
- 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 Sewer System Management Plan (SSMP) and make it available to the State and/or Regional Water Board 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 are specified below. 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. The SSMP must be approved by the deadlines listed in the SSMP Time Schedule below.

## **CHAPTER 2 – GOALS**

This chapter describes the goals of the Sewer System Management Plan (SSMP). The goal of the SSMP is to provide a documented plan that describes all collection system activities and programs employed by an Enrollee to ensure proper management of all collection system assets. Implementing an SSMP will ensure proper management, operation, and maintenance of all parts of the sanitary sewer system, ultimately helping to reduce and prevent SSOs, as well as mitigate any SSOs that do occur including meeting all applicable regulatory notification and reporting requirements. Commitment to continual improvement will also ensure that the SSMP is both a living and sustainable document that is continually updated, revised, and tailored towards the City and District's needs. The City of Vista and the Buena Sanitation District are required to comply with the "State Water Resources Control Board (SWRCB), Order No. 2006-0030 DWQ" (Order) on General Waste Discharge Requirements (WDR) for publicly owned sewage collection agencies having more than one mile of collection pipelines.

### **2.1 Purpose**

This element describes the City of Vista and the Buena Sanitation District's stated goals of the joint SSMP and is intended to clarify the City's and District's desired level of service being provided to their customers. The purpose of the Order is to prevent sanitary sewer overflows (SSOs). The City and District are required to prepare and maintain an SSMP to support this purpose.

### **2.2 Goals – City of Vista**

The City of Vista's SSMP outlines the City's plan to achieve the goal of properly managing, operating, and maintaining the sanitary sewer system to prevent and reduce SSOs, and to mitigate any SSOs that may occur. More specifically, the goals of Vista's SSMP are:

1. To properly manage, operate, and maintain all portions of the wastewater collection system.
2. To provide adequate capacity to convey the peak wastewater flows
3. To control Inflow and Infiltration to minimize peak wastewater flows.
4. To minimize the frequency of SSOs.
5. To mitigate the impacts associated with any SSOs that may occur.
6. To meet all applicable regulatory notification and reporting requirements.

As required by the Order, a copy of the SSMP is maintained at the City of Vista and is available to the public, state, and RWQCB upon request (as discussed in, Section D, Provisions, Item 11) and is available to the sanitary collection system operating and maintenance personnel at all times.

The City will also comply with the SSO Monitoring and Reporting Program (MRP) component of Order No. 2006-0030 DWQ, R9WQCB Order 2006-0013 and all future revisions, included by reference in the Order.

### **2.3 Goals – Buena Sanitation District**

The City of Vista and the Buena Sanitation District's sanitary collection systems are managed, operated, and maintained as a single sanitary collection system by the City of Vista. Unless otherwise specified, the goals of the Buena Sanitation District are identical to those of the City of Vista. The goals of the Buena Sanitation District are:

1. To properly manage, operate, and maintain all portions of the wastewater collection system.
2. To provide adequate capacity to convey the peak wastewater flows
3. To control Inflow and Infiltration to minimize peak wastewater flows.
4. To minimize the frequency of SSOs.
5. To mitigate the impacts associated with any SSOs that may occur.
6. To meet all applicable regulatory notification and reporting requirements.

As required by the Order, a copy of the City of Vista/Buena Sanitation District SSMP is maintained at the City of Vista and is available to the public, state and RWQCB upon request (as discussed in, Section D, Provisions, Item 11) and is available to sanitary sewer system operating and maintenance personnel at all times.

The District will also comply with the SSO Monitoring and Reporting Program (MRP) component of Order No. 2006-0030 DWQ, R9WQCB Order 2006-0013 and all future revisions, included by reference in the Order. Compliance with the SSO Monitoring and Reporting Program is conducted by the City of Vista staff on behalf of the District.

### **2.4 About This Document**

The City, and on behalf of the District, has prepared this SSMP to ensure compliance with the Order. As the City of Vista and the Buena Sanitation District's sanitary collection systems are operated as one system by the City of Vista, this SSMP pertains to the management, operation, and maintenance of both collection systems. This was done to facilitate document management and to provide a program that is easier to understand for the general public and for City staff. This SSMP document is divided into chapters with each chapter dedicated to a specific element of the WDR. Within each chapter the compliance efforts of the City are listed separately from the compliance efforts of the District. Each chapter contains the requirement taken from the WDR and the plan the City utilizes to comply with that requirement. The Compliance Summary of each chapter summarizes the program or activities the City utilizes for compliance. The Compliance Documents section lists the supporting documents, and their location, that the City has developed as part of its SSMP. Roles and

Responsibilities (located only in Chapter 3 – Organization) contain the title and description of duties for the City staff positions responsible for developing and/or implementing the elements of the SSMP. Actual contact information for the listed job titles is maintained as a separate file available at the City of Vista. This is done to facilitate staff changes and protect staff privacy.

## **CHAPTER 3 – ORGANIZATION**

This chapter describes the City's organization and chain of communication. The Order requires the following:

- (a) The name of the responsible or authorized representative as described in Section J of this Order (WDR).
- (b) The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program. The SSMP must identify lines of authority through an organization chart or similar document with a narrative explanation; and
- (c) The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable (such as County Health Officer, County Environmental Health Agency, Regional Water Board, and/or State Office of Emergency Services (OES)).

### **3.1 Name of Responsible or Authorized Representative - City of Vista**

The Vista City Manager is the Legally Responsible Official (LRO) listed on the Notice of Intent (NOI) and is responsible for the certification of SSO reports.

### **3.2 Name of Responsible or Authorized Representative – Buena Sanitation District**

The Vista City Manager is the Legally Responsible Official (LRO) for the Buena Sanitation District and is listed on the Notice of Intent (NOI) and is responsible for the certification of SSO reports.

### **3.3 Administrative and Maintenance Positions**

The Order requires 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. The Roles and Responsibilities section of this chapter outlines the various positions responsible for the development and implementation of the SSMP for the City of Vista and the Buena Sanitation District. The included organizational chart lists the titles of the positions responsible for the development and implementation of the SSMP in a hierarchal format. Current names and contact information for all positions is available at the City of Vista.

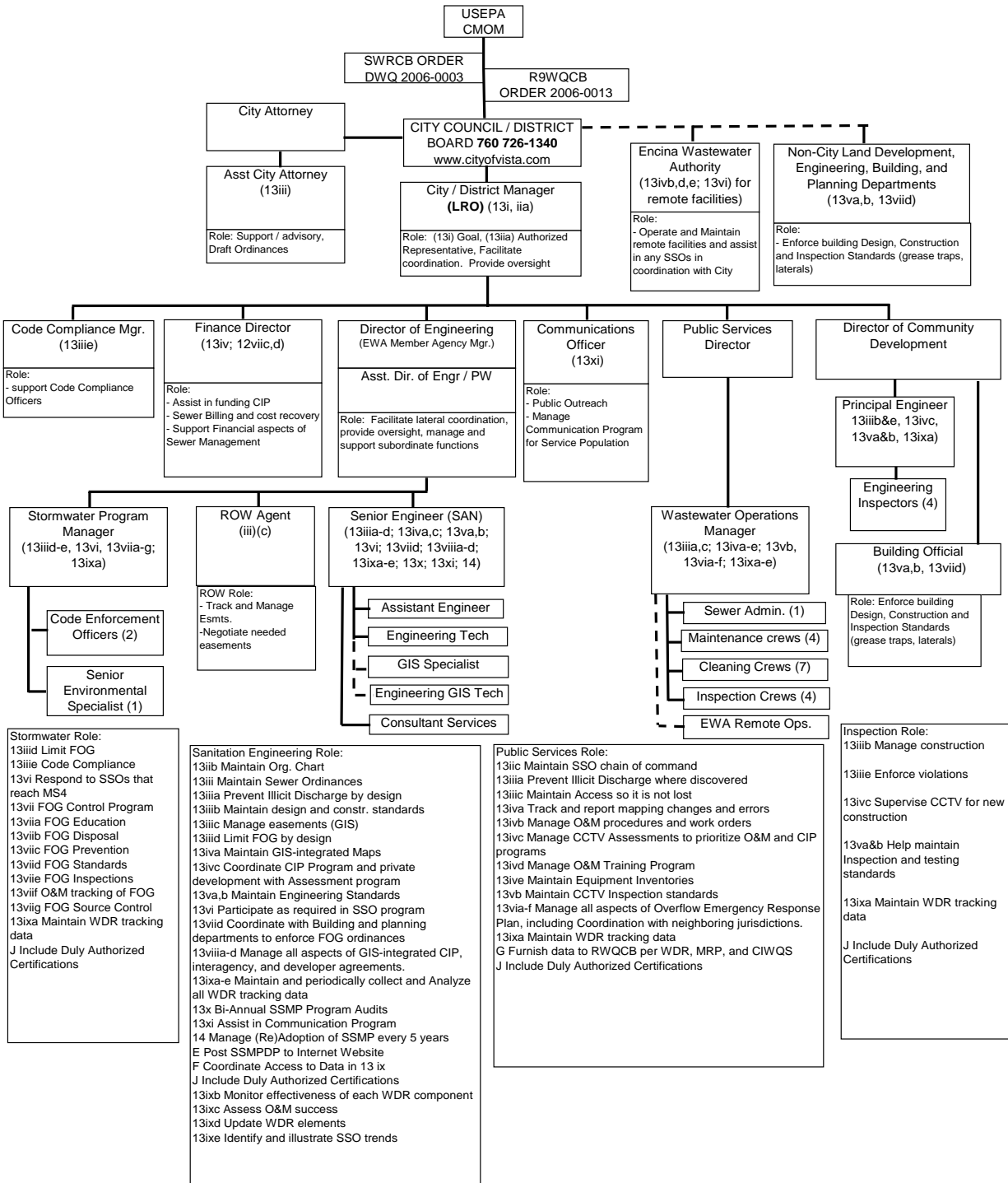
### **3.3.1 Compliance Summary – City of Vista**

The Organization Chart includes the titles of all responsible officials in hierarchal format. Included is the role that each position is responsible for in the development and implementation of the SSMP. The City’s organization is revised as necessary to meet changing conditions. Organizational charts are periodically modified to reflect changes in the organization with updated organizational charts being available at the City of Vista. Names and contact information for all City of Vista staff is available at the City of Vista. A narrative description of each positions involvement in the development and implementation of the SSMP is included in the Roles and Responsibilities section of this chapter.

### **3.3.2 Compliance Summary – Buena Sanitation District**

As the City of Vista is responsible for the management, operation and maintenance of the Buena Sanitation District’s sanitary collection system the included organizational chart and the narrative of each positions responsibility in the development and implementation of the SSMP applies to both the City and the District. As the City’s organization is revised from time to time, updated organizational charts are maintained at the City of Vista.

**WDR ORGANIZATION CHART**



**WDR Organizational Chart for the City of Vista and Buena Sanitation District**

### 3.3.3 Compliance Documents – City of Vista

The following lists and organizational charts detail the filled positions of the City's organizational structure.

- Updated organizational charts – located at the City of Vista.
- Updated listing of staff positions – located at the City of Vista.
- Updated staff contact information – located at the City of Vista.

### 3.3.4 Compliance Documents – Buena Sanitation District

The following lists and organizational charts detail the filled positions of the City's organizational structure.

- Updated organizational charts – located at the City of Vista.
- Updated listing of staff positions – located at the City of Vista.
- Updated staff contact information – located at the City of Vista.

### 3.3.5 Roles and Responsibilities – City of Vista

- The **USEPA** is authorized under the Clean Water Act to enforce the Capacity Management, Operations, and Maintenance (**CMOM**) requirements on the states. In response, the SWRCB and R9WRCB have adopted various orders. Relevant to this SSMP Development Plan are the **SWRCB Order DWQ 2006-0003** and **R9WQCB Order 2006-0013**.
- The **City Council**, who also sits as the **BSD District Board** of Directors, is responsible for adopting each article of compliance with orders issued by the State Water Resources Control Board and the Region 9 Water Quality Control Board.
- The **Encina Wastewater Authority** operates and manages the POTW processing waste for the member agencies, including the City of Vista and the Buena Sanitation District. Certain agreements provide for EWA to manage remote facilities on behalf of its member agencies. Under these agreements EWA staff manage all pump stations. Part of managing these pump stations includes keeping current Emergency response plans, maintenance schedules, equipment inventories, and other duties as may be required. These will be incorporated in the relevant sections of the SSMP.
- Outside the City of Vista jurisdictional area **NON-City Land Development, Engineering, Building, and Planning Departments** are responsible for Land Development Engineering, Building and Planning approvals. These include work over and around the sewer facilities, grease trap, and lateral connection standards that affect the public system. Sanitation Engineering Staff do the day to day administration of the relevant agreements. Any changes are submitted for approval by governing bodies. A listing of these agreements is part of the Sewer Master Plan Updates.

- The **State and Regional Board** are responsible to provide direction, support, and enforcement of their respective orders which are based on the Clean Water Act, Porter-Cologne Act, and other specific regulations. They work to coordinating orders to eliminate redundancy and enforcement of their orders.
- The **City Attorney** is appointed by the City Council and Board of Directors and is responsible for legal services for the City and District. Most aspects of his role are delegated to the Assistant City Attorney under his direction.
- Currently, one **Assistant City Attorney** is assigned to the WDR compliance program for review of all orders, regulations, and statutes; development of local ordinances for implementation of WDR orders; handling of code compliance cases requiring legal assistance; as well as coordinating with the City Manager and staff to ensure enforcement of all local ordinances to reduce and eliminate SSO's. Most of the day to day authorities are delegated to the Assistant City Attorney to pursue fairly independently.
- The **City Manager** is the LRO, responsible for interdepartmental authorization and coordination, delegation of responsibility, and general oversight.
- The **Code Compliance Department Head** has a minor role in supporting the Engineering Code Enforcement Officers with proper training, badging, handling citations and appeals, and other requirements.
- The **Finance Director** is responsible for managing the budgeting and funding processes required to support the WDR program. These include preparation of the Operating Budget, Capital Improvement Program Budget, any adjustments and modifications, as well as, managing any bond programs that may be required to fund needed improvements, all in coordination with and support of the relevant departments. The Sewer Billings are also managed under the direction of this director.
- The **Director and Assistant Director of Engineering** are responsible for providing overall direction, delegating authority, and facilitating coordination between the departmental divisions of Stormwater, Inspection, ROW, and Sanitation Engineering, as well as other City departments. They also support lateral coordination between other City Departments and other jurisdictions involved in WDR compliance activities.
- The **Communications Officer** helps with the required outreach and education components, including, but not limited to, publications, press releases, and workshops. Additionally, this person will be in charge of developing the Communication Program to communicate interactively with the service population.
- The **Public Services Director** is responsible for providing overall direction, delegating authority, and providing other needed resources to the Wastewater Operations Division. This position also supports lateral coordination between other City Divisions and other jurisdictions involved in WDR compliance activities. The **Public Services Operations Manager** is responsible for supporting the overall Public Services operations including those of the wastewater operations division.

- The **Director of Community Development** provides overall direction and interdepartmental and interagency coordination in the setting of project conditions of approval for projects within the City of Vista. Additionally, this position oversees the private land development Engineering, Inspection and Building plan review processes.
- The **Building Official** is responsible for reviewing any building plans for conformance to current building codes. Specifically, this position will be requiring that any grease interceptors, backflow preventers, or other onsite private sewer systems be designed and built according to the currently adopted building department requirements.
- Due to the similarity with the stormwater quality program, the **Stormwater Program Manager** will be responsible for developing and managing the FOG components of the WDR compliance program. Parallel inspections and code compliance activities are anticipated to be pursued in parallel as much as possible to eliminate redundancy and increase efficiency. Several **Code Enforcement Officers** will be authorized to enforce storm water and WDR codes. A **Senior Environmental Specialist** position is anticipated to assist in storm water and WDR compliance activities.
- The **Principal Engineer** manages the engineering inspectors. Together they are responsible for construction management activities including CIP contract management, measurement and payment, construction inspection and testing, enforcing ordinances, keeping inspection and testing standards current, and supervising televised inspections of new construction. These services cover both CIP and private development construction projects.
- The **ROW Agent** is responsible for researching and tracking easements, including sewer. Where easements are determined to be deficient or needed for a certain project, this person researches and negotiates the needed right of way. If negotiations fail and condemnation is required, this person works with the City Attorney's office and contract legal counsel to pursue the matter.
- The **Senior Engineer** in the Sanitation Engineering division is responsible for all aspects of sanitation engineering, including private development review, standards, planning, designing, and construction engineering for CIP projects, budgeting, interagency coordination, and maintaining flow agreements. This person will periodically collect and analyze all WDR tracking data in preparing bi-annual program audits and 5-year reauthorizations of the SSMP. Additionally, this person is responsible for creation of and maintenance of the sewer and storm water GISs and for communicating routinely with satellite systems.
- The **Wastewater Operations Manager** is responsible for all aspects of sewer systems operations and maintenance, divided into Maintenance, Cleaning, CCTV Pipeline Assessment (Inspection), and Administration. This person is responsible for managing all maintenance and pipeline condition assessment work orders, along with all required monitoring, measurement, and program modifications that may be required to keep the program efficient.

- All divisions will maintain relevant tracking data as required to assist with the Monitoring, Measurement, and Performance Program.

### **3.3.6 Roles and Responsibilities – Buena Sanitation District**

The City of Vista staff that is responsible for the development and implementation of the City's SSMP and is additionally responsible for the development and implementation of the Buena Sanitation District's SSMP.

## **3.4 Chain of Communication**

The Order requires 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.

### **3.4.1 Compliance Summary – City of Vista**

The SSO Chain of Communications flow chart shows the chain of communication for reporting SSOs. This flowchart, along with the reporting guidelines, was developed to manage the reporting process. The Reporting Guidelines explains the thresholds for SSO reporting, the agencies that must be notified, and the reporting timeframes. The detailed procedures utilized by the City for SSO reporting is in the City of Vista Sewer Overflow Response Plan. This plan is kept updated by the Wastewater Division under the direction of the Wastewater Supervisor, Public Services Director, and Director of Engineering and is executed and signed by the LRO.

### **3.4.2 Compliance Summary – Buena Sanitation District**

All SSOs that occur within the District are responded to and reported by the City of Vista staff. The included flow chart and Reporting Guidelines are applicable to both the City and the District.

### **3.4.3 Compliance Documents – City of Vista**

The following documents and charts describe the City of Vista's SSO reporting.

- SSO Chain of Communications flowchart – included in this SSMP.
- SSO Reporting Guidelines – included in this SSMP.
- City of Vista SSO Sewer Overflow Response Plan – located at the Wastewater Operations Division.

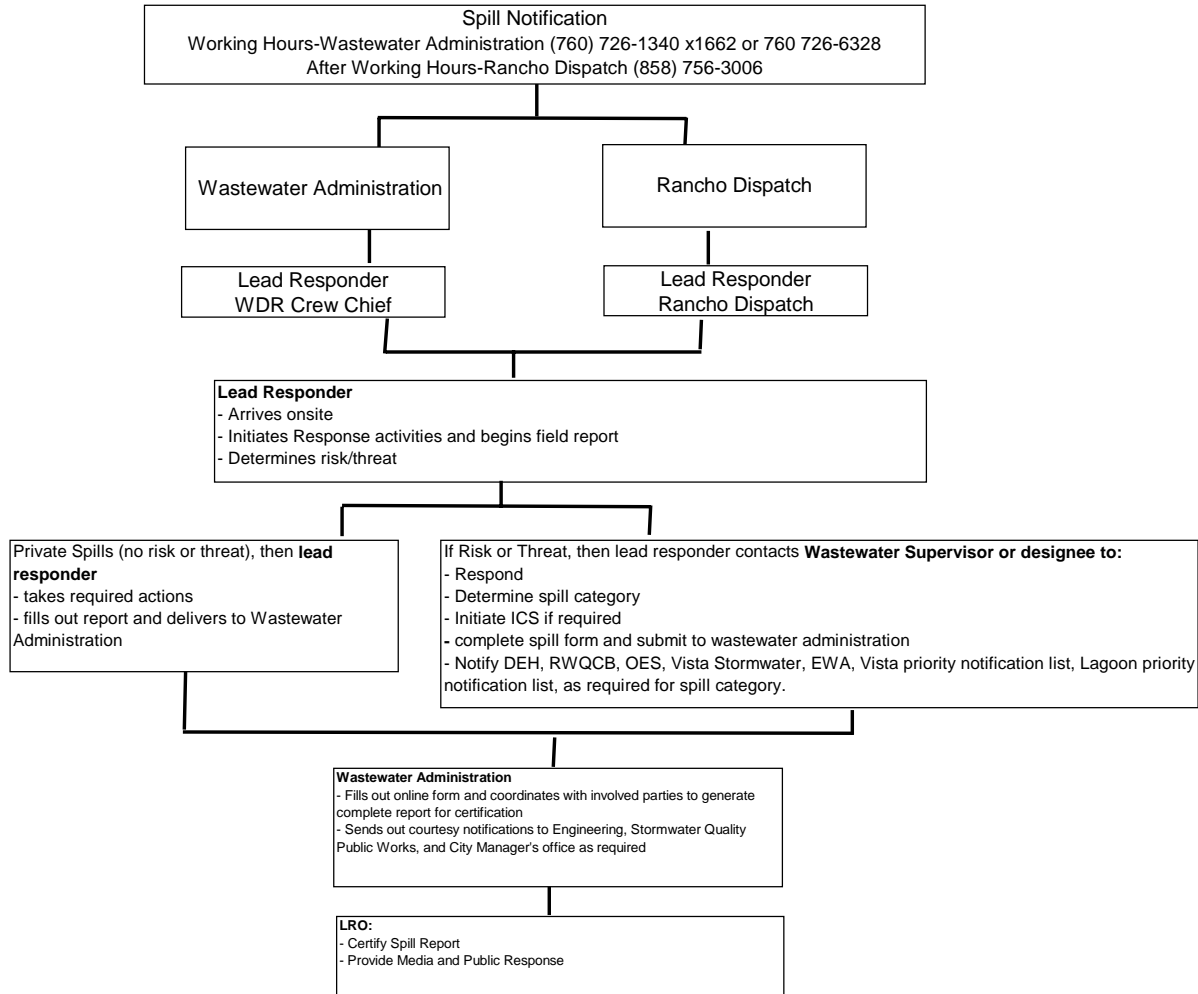
### **3.4.4 Compliance Documents – Buena Sanitation District**

The following documents and charts describe the Buena Sanitation District's SSO reporting.

- SSO Chain of Communications flowchart – included in this SSMP.

- SSO Reporting Guidelines – included in this SSMP.
- City of Vista SSO Sewer Overflow Response Plan – located at the Wastewater Operations Division.

### SSO CHAIN OF COMMUNICATION



### SSO Reporting Guidelines

Type of Spill	*Agency(s) to notify	Notification Timeframe	Report Timeframe
Category 1 – all discharges of sewage resulting from a failure in the Enrollee’s sanitary sewer system that: A. Greater than 1000 gallons; or B. Result in a discharge to a drainage channel and/or surface water; or C. Discharge to a storm drainpipe that was not fully captured and returned to the sanitary sewer system.	OES (Greater than 1,000 gallons). RWQCB per staff request. SDCDEH per staff request.	Immediate but no later than 2 hours.  Additionally, certify to RWQCB that OES and SDCDEH were notified within 24 hours.	Must report on CIWQS within <b>3</b> business days.  Submit final certified report within <b>15</b> calendar days of the SSO conclusion.
Category 2 – all other discharges of sewage resulting from a failure in the Enrollee’s sanitary sewer system.	RWQCB per staff request. SDCDEH per staff request.	Immediate	Must report and certify on CIWQS within 30 days after the end of the calendar month in which the SSO occurred.
Private lateral sewage discharges that are caused by blockages or other problems within a privately owned lateral.	Governing city/county. RWQCB per staff request. SDCDEH per staff request.	Immediate	Private lateral sewage discharges must be reported to the Online SSO Database based upon the SDRWQCB order. The Enrollee must identify the sewage discharge as occurring and caused by a private lateral, and a responsible party should be identified, if known.

#### 3.4.5 Roles and Responsibilities – City of Vista

The City’s SSO response is conducted in accordance with the City of Vista’s Sewer Overflow Response Plan. The roles and responsibilities of each position in the line of communications flowchart are described below:

Wastewater Administration

During normal working hours receives call of SSO and dispatches a Crew Chief (lead responder) to respond to the reported SSO. After the SSO remediation, the Wastewater Administration completes necessary spill reporting to the CIWQS online database and SDCEHD compliant with the MRP.



## Organization

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Rancho Dispatch

Receives SSO calls after normal working hours and dispatches the Lead Responder (standby person) to the scene.

Lead Responder

Evaluates the reported SSO and requests additional resources if needed to remediate the condition.

Wastewater Supervisor (or designee)

Oversees the remediation efforts, gathers field data for spill reporting, and notifies necessary authorities compliant with the MRP.

LRO

Certifies spill reports to CIWQS online SSO database.

### **3.4.6 Roles and Responsibilities – Buena Sanitation District**

All SSO response, notification, and reporting is the responsibility of the City of Vista staff for all SSOs, public and private, that occur within the District.

## **CHAPTER 4 – LEGAL AUTHORITY**

This chapter describes the legal authority to implement the SSMP plans and procedures.

The SSMP must include the legal authority, through sewer use ordinances, service agreements, or other legally binding procedures, to:

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

### **4.1 Compliance Summary – City of Vista**

The primary statute governing the authority of the City of Vista to operate and maintain a sewer system is in California Government Code Section 38900. The City has adopted local ordinances governing all aspects of the use and operation of its sewer systems.

In addition to the ordinances adopted by the City, use of the sewerage system is also regulated by the Encina Waste Water Authority (EWA). Wastewater generated by users within the jurisdiction of the City ultimately flows to the EWA treatment plant for treatment prior to discharge into the ocean outfall. EWA has adopted pre-treatment ordinances which apply to all industrial users and EWA has assumed the lead in enforcing its ordinance through the issuance of Industrial Waste Discharge Permits. The City cooperates with EWA in the enforcement process. Additionally, the City may prosecute violations of its Municipal Code by criminal complaint, and such violations constitute a misdemeanor under Chapter 13.08 of the Vista Municipal Code.

The City, EWA, and County have a number of legal tools to prevent illegal discharges; to ensure that sewers and connections meet required construction standards; ensure access to sewer lines; limit FOG discharge; and to enforce violations of their respective sewer ordinances.

To be in full compliance with the WDR, the City has revised and adopted Title 14, Sewers and Sewer Systems of the City's Municipal Code. These revisions have clarified and strengthened the City's Municipal Code providing the required legal authority to efficiently manage, operate, maintain and fund its sanitary sewer system. Additionally, the City has adopted the current version of the California Plumbing Code (CPC).

Codified ordinances include:

*Prevent illicit discharges*

Title 14, Chapter 14.02, General Sewer Regulations, Section 14.02.090, Restrictions Relating to Use of Public Sewers of the City's Municipal Code specifically prohibit illicit discharges into the City's sanitary sewer system.

Additionally, EWA has also enacted ordinances regulating the discharges to the sewerage system. Businesses are required to obtain an Industrial Waste Discharge Permit and comply with all EWA regulations.

*Require that sewers and connections be properly designed and constructed*

Chapter 16.32 of the City of Vista Development Code is the adoption of the California Plumbing Code that establishes specifications for the design and construction of sewer facilities. Chapter 16.04 – Standards for Public Works Construction (Greenbook) requires new sewer construction to meet State and local standards. Design standards are enforced during the review of sewer construction drawings based on standard sewer notes, conditions of approval, and other locally published design standards.

Title 14, Chapter 14.14 prescribes how private sewer laterals are to be designed, constructed, and connected to the public collection system. Completed private sewer laterals and privately constructed sewer mains for public use are required to be inspected prior to final permit approval. Chapter 14.14 also establishes standards for maintenance of private laterals. Failure to maintain a private sewer lateral may constitute a public nuisance and may be enforced as set forth in Chapter 14.14.

Title 14, Chapter 14.08 Extension and Enlargement of Sewer Mains, Section 14.08.040 requires that sewer mains shall be designed and constructed to public standards according to the current version of the City of Vista Sewer Design Manual.

*Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency*

Private laterals are the responsibility of the private property owner to the point of connection (including the connection) to the public sewer main per City ordinances. Therefore, public access to these laterals is not necessary. The City maintains only those sewer laterals connecting City facilities or buildings. Such facilities are located on publicly owned land or within publicly owned easements and are thereby legally accessible. In the rare case where a private property owner fails to repair a damaged sewer lateral and the damage poses a danger to the community, the City has enforcement power authority granted to them under the state constitution to enter the property and take such actions to protect the community.

Since approximately 1980, the City has required all-weather, 24-hour, drivable access to all public manholes and cleanouts in the system for new and existing systems as part

of all new construction as a condition of project approval. Most of the City's sewer mains are located in the public right-of-way or in private roads encumbered with a clear public utility easement allowing access for inspection and maintenance.

There are some older public sewer mains located on private property which were constructed in public sewer easements following a natural drainage swale to take advantage of the topography. Over time, some private property owners have encroached into the public sewer easements with fences and landscaping and obstructing the City access to the sewer mains. When such problems are discovered, the City has been proactive in working with property owners to reopen public access and prevent further encroachments.

The City is working on an inventory to plot all available easements in the GIS from record maps, drawings, and recorded easements. Easement deficiencies are identified and corrected as part of each CIP project. A process is in place for field personnel to report access restrictions to the Engineering department for inventory and easement expansion.

Ultimately, the City has the necessary legal authority under the law of easements to remove any encroachment from a public sewer easement by civil action if the property owner is uncooperative.

*Limit the discharge of fats, oils, and grease and other debris that may cause blockages*

Title 14, Chapter 14.12 Control and Regulation of Fats, Oils and Grease establishes the legal authority for the City's Fats, Oils and Grease (FOG) Control Program. FOG discharges that cause or contribute to a blockage are prohibited (Section 14.12.030). Food service establishments (FSEs) are required to control their FOG discharge through the use of grease removal devices and best management practices. Section 14.12.090 Grease Interceptor Design Requirements establishes the requirements for gravity grease interceptors with Section 14.12.100 establishing grease interceptor maintenance requirements. Compliance is enforced through Section 14.12.130 utilizing onsite inspections and sampling with Section 14.12.170 providing penalties for violations.

*Enforce any violation of its sewer ordinances*

Title 14, Chapter 14.01, General Provisions provides the City with the legal authority to enforce the regulations for its sanitary sewer system. Section 14.01.040, Administration; Enforcement grants the City Engineer the responsibility to administer, implement and enforce the provisions of Title 14. Additionally, the Code Enforcement Manager shall have the authority to enforce the provisions of Title 14. Section 14.01.110, Penalties for Violation; Reimbursement of City Costs discusses the penalties for violations including termination of service, Administrative Citations, and criminal prosecution.

## **4.2 Compliance Documents – City of Vista**

City ordinances have been codified into Title 14 of the Municipal Code and Title 16 of the Development Code to provide the City with the legal authority to manage, operate, maintain, and fund its sanitary sewer system. These Titles and other Ordinances adopted to amend existing ordinances may be reviewed at the City of Vista located at 600 Eucalyptus Avenue Vista, California 92084 or on the internet at the City's website <http://www.cityofvista.com/>.

### Title 14 – Sewers and Sewer Systems

Chapter 14.01 – General Provisions

Chapter 14.02 – General Sewer Regulations

Chapter 14.04 – Municipal Sewer Service Charges and Rates

Chapter 14.08 – Extension and Enlargement of Sewer Mains

Chapter 14.10 – Discharge of Industrial Waste

Chapter 14.12 – Control and Regulation of Fats, Grease and Oils

Chapter 14.14 – Private Sewer Laterals

### Title 16 – Buildings and Construction

Chapter 16.04 – Standards for Public Works Construction

Chapter 16.32 – California Plumbing Code

## **4.3 Compliance Summary – Buena Sanitary District**

The Buena Sanitation District is organized and operated under the authority of the County Sanitation District Act, being Chapter 3 of Part 3, Division 5 of the California Health and Safety Code, commencing with Section 4700. The District has adopted local ordinances governing all aspects of the use and operation of its sewer systems.

In addition to the ordinances adopted by the District, use of the sewerage system is also regulated by the Encina Waste Water Authority (EWA). Wastewater generated by users within the jurisdiction of the District ultimately flows to the EWA treatment plant for treatment prior to discharge into the ocean outfall. EWA has adopted pre-treatment ordinances which apply to all industrial users and EWA has assumed the lead in enforcing its ordinance through the issuance of Industrial Waste Discharge Permits. The District cooperates with EWA in the enforcement process. Additionally, the District may prosecute violations of its Sewer Code of Regulations by criminal complaint.

The District, EWA, and County have a number of legal tools to prevent illegal discharges; to ensure that sewer and connections meet required construction standards; ensure access to sewer lines; limit FOG discharge; and to enforce violations of their respective sewer ordinances.

To be in full compliance with the WDR, the District has revised and adopted Chapters 1 through 16 of the Buena Sanitation District Sewer Code of Regulations. These

revisions have clarified and strengthened the District's Sewer Code of Regulations providing the required legal authority to efficiently manage, operate, maintain and fund its sanitary sewer system.

**Sewer Code of Regulations include:**

*Prevent illicit discharges*

Chapter 2, General Sewer Regulations, Section 2.090, Restrictions Relating to Use of Public Sewers of the District's Sewer Code of Regulations specifically prohibits illicit discharges into the District's sanitary sewer system.

Additionally, EWA has also enacted ordinances regulating the discharges to the sewerage system. Businesses are required to obtain an Industrial Waste Discharge Permit and comply with all EWA regulations.

*Require that sewers and connections be properly designed and constructed*

Sewers and connections within the District are designed and constructed under the oversight of the City of Vista. The District utilizes the Standards for Public Works Construction (Greenbook) that requires new sewer construction to meet State and local standards. Design standards are enforced during the review of sewer construction drawings based on standard sewer notes, conditions of approval, and other locally published design standards.

Chapter 8, Extension and Enlargement of Sewer Mains, Section 8.040 requires that sewer mains shall be designed and constructed to public standards according to the current version of the City of Vista Sewer Design Manual.

Chapter 14 prescribes how private sewer laterals are to be designed, constructed and connected to the public collection system. Completed private sewer laterals and privately constructed sewer mains for public use are required to be inspected prior to final permit approval. Chapter 14 also establishes standards for maintenance of private laterals. Failure to maintain a private sewer lateral may constitute a public nuisance and may be enforced as set forth in Chapter 14.

*Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency*

Private laterals are the responsibility of the private property owner to the point of connection (including the connection) to the public sewer main per the District's Sewer Code of Regulations. Therefore, public access to these laterals is not necessary. The District maintains only those sewer laterals connecting District facilities or buildings. Such facilities are located on publicly owned land or within publicly owned easements and are thereby legally accessible. In the rare case where a private property owner fails to repair a damaged sewer lateral and the damage poses a danger to the community,

the District may enact enforcement as provided in Chapter 14, Section 14.080 of the Sewer Code of Regulations to protect the community.

The District requires all-weather, 24-hour, drivable access to all public manholes and cleanouts in the system for new and existing systems as part of all new construction and as a condition of project approval. Most of the District's sewer mains are located in the public right-of-way or in private roads encumbered with a clear public utility easement allowing access for inspection and maintenance.

There are some older public sewer mains located on private property which were constructed in public sewer easements following a natural drainage swale to take advantage of the topography. Over time, some private property owners have encroached into the public sewer easements with fences and landscaping and obstructing the District access to the sewer mains. When such problems are discovered, the District has been proactive in working with property owners to reopen public access and prevent further encroachments.

The District is working on an inventory to plot all available easements in the GIS from record maps, drawings, and recorded easements. Easement deficiencies are identified and corrected as part of each CIP project. A process is in place for field personnel to report access restrictions to the City of Vista Engineering Department for inventory and easement expansion.

Ultimately, the District has the necessary legal authority under the law of easements to remove any encroachment from a public sewer easement by civil action if the property owner is uncooperative.

*Limit the discharge of fats, oils, and grease and other debris that may cause blockages*

Chapter 12, Control and Regulation of Fats, Oils and Grease establishes the legal authority for the City's Fats, Oils and Grease (FOG) Control Program. FOG discharges that cause or contribute to a blockage are prohibited (Section 12.030). Food service establishments (FSEs) are required to control their FOG discharge through the use of grease removal devices and best management practices. Section 12.090 Grease Interceptor Design Requirements establishes the requirements for gravity grease interceptors with Section 12.100 establishing grease interceptor maintenance requirements. Compliance is enforced through Section 12.130 utilizing onsite inspections and sampling with Section 12.170 providing penalties for violations.

*Enforce any violation of its sewer ordinances*

Chapter 1, General Provisions, provides the City with the legal authority to enforce the regulations for its sanitary sewer system. Section 01.040, Administration; Enforcement grants the District Engineer the responsibility to administer, implement and enforce the provisions of the Sewer Code of Regulations. Section 01.110, Penalties for Violation; Reimbursement of District Costs, discusses the penalties for violations including termination of service and criminal prosecution.

#### **4.4 Compliance Documents – Buena Sanitary District**

The Buena Sanitation District Sewer Code of Regulations has been revised and adopted to provide the District with the legal authority to manage, operate, maintain and fund its sanitary sewer system. The Sewer Code of Regulations and other ordinances adopted to amend existing ordinances may be reviewed at the City of Vista located at 600 Eucalyptus Avenue Vista, California 92084.

Buena Sanitation District Sewer Code of Regulations

Chapter 1 – General Provisions

Chapter 2 – General Sewer Regulations

Chapter 4 – Municipal Sewer Service Charges and Rates

Chapter 8 – Extension and Enlargement of Sewer Mains

Chapter 10 – Discharge of Industrial Waste

Chapter 12 – Control and Regulation of Fats, Grease and Oils

Chapter 14 – Private Sewer Laterals

## CHAPTER 5 – OPERATIONS AND MAINTENANCE

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.

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 Preventative Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders;
- (C) Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;
- (D) Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained; and
- (E) Provide equipment and replacement part inventories, including identification of critical replacement parts.

### 5.1 Mapping

The requirement for this section is to maintain an up-to-date map of the collection system showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and stormwater conveyance facilities.

### **5.1.1 Compliance Summary – City of Vista**

City staff maintains up-to-date maps and atlases of sewer facilities. Hard copies of these materials are updated quarterly and posted at Wastewater Operations and in the Engineering Departments. The GIS based sewer atlas and other documents are available online through the City's website. Updated GIS maps are included in all of the City's sewer response vehicles. A procedure is in place to update the GIS continuously with system modifications.

The wastewater division will be collecting and tracking data on where the greatest access restrictions lie in order to prioritize which access is the most important for any new acquisitions that may be needed. Once prioritized, Engineering will use the access needs condition assessments, and SSO data from Public Services to prioritize the easement acquisitions as part of the CIP updates. Every year the Engineering Division will be updating priorities for improvements and ROW acquisitions timed with the CIP budget cycles. Future developments include linking the Public Services Accela Asset Management System to the Citywide Sewer GIS to track SSO trends and condition assessments.

### **5.1.2 Compliance Documents – City of Vista**

The documents supporting compliance with the requirements for mapping are as follows:

- Public Services Accela Asset Management System - located at the Wastewater Operations Division.
- Sanitation Engineering Division Sewer GIS.
- Storm Water GIS.

### **5.1.3 Compliance Summary – Buena Sanitation District**

The City of Vista maintains the sewer system maps and atlases for the Buena Sanitation District as part of the City's GIS system. Like the City's sewer atlas maps, the atlas maps for the District are available on the internet as well as in hard copy. Storm water maps for the unincorporated areas of the District are obtained from the County of San Diego, where as storm water maps for cities that are within the jurisdiction of the District are obtained from that city.

### **5.1.4 Compliance Documents – Buena Sanitation District**

The documents supporting compliance with the requirements for mapping are as follows:

- Public Services Accela Asset Management System - located at the Wastewater Operations Division.
- Sanitation Engineering Division Sewer GIS.
- Storm Water GIS.

- Storm Water maps provided by County of San Diego - located at the Wastewater Operations Division.

## 5.2 Preventive Maintenance Program

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

### 5.2.1 Compliance Summary – City of Vista

The Public Services Wastewater Division manages the cleaning and inspection program and responds to and reports all SSOs. Combined, the City of Vista and the Buena Sanitation District operate and maintain 316 miles of sanitary collection system pipelines. To provide cleaning and maintenance for this system, the City utilizes three vector trucks and crews. A fourth vector truck is used for miscellaneous maintenance support roles and is rotated into the routine cleaning and maintenance schedule when one of the other vector trucks is out for service. To facilitate the cleaning effort, the combined City and District collection systems have been divided into three sections of approximately 100 miles of pipe per section. Each of the three vector truck crews is assigned to one section. Under this system, the City cleans all of the collection system every 6 to 8 months. Enhanced Maintenance Areas are cleaned quarterly or more frequently if required.

To properly manage the maintenance of the collection system, the Wastewater Operations Supervisor develops an Annual Work Plan. The Annual Work Plan sets the maintenance and operational goals and objectives for the fiscal year and serves as a planning document to ensure the maintenance needs of the collection system are met. The plan pinpoints which maintenance activity, district, basin, and month that the maintenance activity will occur. For each maintenance activity, a description page describes the work to be completed. From the yearly work plans, monthly work plans are developed that reflect the personnel required to accomplish the goals and objectives. The monthly work plan also outlines the equipment assigned to the maintenance activity, and the tasks to be completed. The monthly work plan reflects any specialized training requirements and administrative objectives. Data from past maintenance logs and current needs assessments are used to develop the Annual Work Plan and a 10% contingency is incorporated for unforeseen emergencies or repairs.

The Accela Asset Management System (AMS) is used by the Public Services Wastewater Division to manage and document all work orders for cleaning, maintenance, and inspection. A separate Enhanced Maintenance Area Program is in place for more frequent maintenance of sewers prone to blockage due to FOG or root

intrusion. Currently the Enhanced Maintenance Area Program is maintained in a log book and is planned for inclusion into the AMS for tracking and generation of work orders.

The Public Services Department is working to integrate the SSO and condition assessment databases with the maintenance management system to prioritize cleaning and maintenance operations. The Public Services Department will integrate their databases with the Citywide GIS so that Engineering can use the condition assessments to prioritize CIP Projects on those elements in the worst condition.

The Public Services Wastewater Division will track restricted access locations to identify focal areas for the Engineering Division and ROW Agent to work on easement acquisitions or pipeline realignments. The Engineering Department is researching and inputting all known sewer easements in the GIS.

Per agreements with the City and District, EWA maintains the City and District's remote facilities including pump stations and the out-of-service water reclamation facility. The City has developed a good working relationship with EWA staff to ensure that the documentation for Routine Preventative Operation and Maintenance Management activities is incorporated by reference.

### **5.2.2 Compliance Documents – City of Vista**

Documents which support compliance of this section include the following:

- City of Vista Annual Work Plan - located at the Wastewater Operations Division.
- Accela Asset Management System (AMS) - located at the Wastewater Operations Division.
- Enhanced Maintenance Area Log - located at the Wastewater Operations Division.
- GIS - located at the Wastewater Operations Division.

### **5.2.3 Compliance Summary – Buena Sanitation District**

All maintenance of the Buena Sanitation District's collection system is conducted by crews from the City of Vista Wastewater Division. Maintenance needs, goals and objectives are included in the City of Vista's Annual Work Plan. The City's AMS is used to create work orders and document all maintenance and inspections of the District's collection system. The District's Enhanced Maintenance Areas are incorporated into the City's program and the City's GIS includes the District.

### **5.2.4 Compliance Documents – Buena Sanitation District**

Documents which support compliance of this section include the following:

- City of Vista Annual Work Plan - located at the Wastewater Operations Division.

- Accela Asset Management System (AMS) - located at the Wastewater Operations Division.
- Enhanced Maintenance Area Log - located at the Wastewater Operations Division.
- GIS - located at the Wastewater Operations Division.

### **5.3 Rehabilitation and Replacement Plan**

Every Enrollee must 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. The rehabilitation and replacement plan should include a capital improvement plan (CIP) 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

#### **5.3.1 Compliance Summary – City of Vista**

A rehabilitation and replacement plan (the currently approved CIP) was prepared in response to the Sewer Master Plan Update prepared in July 2001 with a minor update in March 2003. Projects were prioritized based on the CCTV condition assessments, as well as the hotspot maintenance program and SSO records. To provide a current and complete assessment of the City and District's collection system a new Sewer Master Plan was completed in January 2008 and was adopted by the City Council in August 2008. A program level Environmental Impact Report for the Sewer Master Plan was also adopted by City Council in August 2008. The 2008 Sewer Master Plan includes a prioritized listing of capital improvement projects. The prioritization takes into account the age of the facilities, construction materials used, current use, capacity, and known condition. Additional CCTV inspections were recommended in the master plan to provide additional inspection data for areas where current video data was unavailable. In response, the City made the decision to retain the services of an outside contractor to assist the City with conducting a comprehensive CCTV inspection and evaluation of the combined City and District's sewer collection system pipelines and manholes. This data is being integrated into the City's GIS program including condition assessment, repair/replacement recommendations, and program level construction cost estimates. The City has contracted for the services of an outside consultant to provide program management for the CIP as well as three design engineering firms to prepare plans and specifications, and two environmental consulting firms for environmental permitting.

To fund the management, operation and maintenance of the collection system the City has established several funds. Revenue is provided through a system of sewer use charges and fees. A Sewer Revenue Fund has been established to provide for the operation, maintenance and replacement costs, including debt service expense and

retirement, of the sewer system. The Sewer Revenue Fund includes a treatment and discharge Rate Stabilization Reserve. The Capital Repairs and Replacement Fund has been established to provide for repairs and replacement of existing capital facilities, equipment and appurtenances of the sewer system, as they depreciate, wear out or breakdown. Within the Capital Repairs and Replacement Fund is the Emergency Capital Replacement Reserve Account to provide funding to finance the cost of repairs and replacements to the existing capital facilities, equipment, and appurtenances required in any given year in the event of a shortfall or lag in revenues of the system, or unexpected requirements for repairs or replacements. The Capital Expansion Fund has been established to provide for the enlargement and expansion of the sewer system as needed for the growth and expansion of the community. The proceeding funds are codified in the City of Vista Municipal Code, Title 14, Chapter 14.01, Sections 14.01.050, 14.01.060 and 14.01.070. The City is planning on issuing bonds to fund the initial phases of the sewer CIP.

### CCTV Assessments

The City first put a CCTV inspection truck in service in 1982. The current truck uses the Pipelogix Flexidata System. CCTV inspection work orders have been for QA/QC of maintenance operations, to investigate problems and overflows, to investigate proposed CIP projects, to investigate complaints, and for routine inspections. The “pay per view” system is used to inspect pre- and post- construction conditions of existing lines connected with new private developments, and new construction.

Systematic condition assessments have been performed by Sanitation engineering staff starting in 2001 based on minor revisions to the Water Environment Federation (WEF) standards at that time. For each inspection, the date is noted. Four Manhole defect types (Access, Condition, I&I, and Channel) were rated on a scale of 0-100 along with the material type (Concrete, Brick, PVC, VCP, Lined). Five categories of manhole defects were rated on a scale of 0-100 (Structural, Roots, I&I, Grade/Sags, Joint). Based on staff time, this program was not fully implemented. Sometimes pipes were rated only as “Good” or “Bad”. Approximately 28 miles (10 percent) of the system has some kind of CCTV based condition rating.

To meet full compliance with the WDR and provide the City with an accurate assessment of its sewer infrastructure, the City has contracted with an outside contractor to conduct a comprehensive CCTV video inspection and assessment of the combined City of Vista and Buena Sanitation District’s sewer collection system. Included are the gravity sewer lines and manholes that have not been CCTV inspected and evaluated. As part of this effort, the City’s CCTV inspection software and hardware has been upgraded. Data from this inspection is being integrated into the City’s GIS program for easy access by the City’s Engineering Department and Wastewater Division. The City has also initiated a Snap Shot Video Program where video snap shots are taken of each defect, joint, and lateral within the system. Video snap shots provide the maintenance staff with a quick and easy reference to problem or potential problem areas within the collection system. The re-inspection goal of the City’s CCTV inspection program is for 20% or approximately 197,600 feet per year.

### **5.3.2 Compliance Documents – City of Vista**

The documents supporting compliance with the rehabilitation and replacement plan requirements are as follows:

- CCTV Videos and assessments – located at the City of Vista.
- GIS – located at the Wastewater Division.
- Snap Shot Video Program - located at Wastewater Division.
- City of Vista Capital Improvement Plan – located at the City of Vista and on the City’s website.
- City of Vista Municipal Code, Chapter 14 – located at the City of Vista and on the City’s website.
- 2008 Sewer Master Plan Update – located at the City of Vista and on the City’s website.
- City of Vista Annual Work Plan - located at the Wastewater Operations Division.
- City of Vista Standard Specifications and Procedures for Privately Constructed Wastewater Facilities - located at the City of Vista.

### **5.3.3 Compliance Summary – Buena Sanitation District**

The Buena Sanitation District’s rehabilitation and replacement plan is part of the City of Vista’s CIP. All rehabilitation or replacement projects necessary to maintain the District’s sewage collection system are included in the CIP. The 2008 Sewer Master Plan Update includes facilities within the District. The video inspection and assessment program, including work performed by outside contractors and consultants utilized by the City includes the facilities within the District.

To fund the management, operation, and maintenance of the collection system the District has established several funds. Revenue is provided through a system of sewer use charges and fees. A Sewer Revenue Fund has been established to provide for the operation, maintenance and replacement costs, including debt service expense and retirement, of the sewer system. The Sewer Revenue Fund includes a treatment and discharge Rate Stabilization Reserve. The Capital Repairs and Replacement Fund has been established to provide for repairs and replacement of existing capital facilities, equipment and appurtenances of the sewer system, as they depreciate, wear out or breakdown. Within the Capital Repairs and Replacement Fund is the Emergency Capital Replacement Reserve Account to provide funding to finance the cost of repairs and replacements to the existing capital facilities, equipment, and appurtenances required in any given year in the event of a shortfall or lag in revenues of the system, or unexpected requirements for repairs or replacements. The Capital Expansion Fund has been established to provide for the enlargement and expansion of the sewer system as needed for the growth and expansion of the community. The proceeding funds are codified in the Buena Sanitation District Code of Regulations, Chapter 1, Sections 1.01.050, 1.01.060 and 1.01.070.

### **5.3.4 Compliance Documents – Buena Sanitation District**

The documents supporting compliance with the rehabilitation and replacement plan requirements are as follows:

- CCTV Videos and assessments – located at the City of Vista.
- GIS – located at the Wastewater Division.
- Snap Shot Video Program - located at Wastewater Division.
- City of Vista Capital Improvement Plan – located at the City of Vista.
- Buena Sanitation District Code of Regulations, Chapter 14 – located at the City of Vista.
- 2008 Sewer Master Plan Update – located at the City of Vista.
- City of Vista Annual Work Plan - located at the Wastewater Operations Division.
- City of Vista Standard Specifications and Procedures for Privately Constructed Wastewater Facilities - located at the City of Vista.

## **5.4 Training Program**

The City is required to provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and to require contractors to be appropriately trained.

### **5.4.1 Compliance Summary – City of Vista**

A comprehensive training program is in place for all wastewater employees. The Wastewater Operations Division maintains a training matrix that provides each division employee with twelve training sessions per year. Training areas include emergency response, safety and general work practices. Annual spill response training is conducted with EWA and the City of Carlsbad. EWA separately maintains a similar program for remote facilities operators assigned to work on the City of Vista system. Although voluntary, the City endorses the CWEA Operator Certification Program

Training is part of various City programs and includes formal classroom and informal on-the-job and hands-on training. Qualified City staff and outside training workshops are utilized. Internal functional and safety training is generally provided through in house programs supplemented by the City's Human Resources Department. Training courses are added or existing courses revised to comply with new requirements or to incorporate changing technologies, including computer aided or online training programs. Certified in house trainers are used to conduct monthly general safety meetings.

Crew chiefs and crewmembers are cross-trained so crucial tasks can be accomplished without interruption even as crewmembers change. Each employee is required to maintain a specified level of proficiency for their job classification. Maintaining job

proficiency is a requirement for promotion. The City maintains accurate training records and has developed the Training Information Spread Sheet (TISS) to schedule and monitor completed training.

Crews are initially trained in the proper operation and maintenance of all new mobile equipment by the contractor/manufacturer. Written operation and maintenance manuals are used as resource material for initial start-up training as well as new staff training. The Wastewater Operations Division supervisory team is responsible for providing operational training on sewer cleaning equipment.

#### **5.4.2 Compliance Documents – City of Vista**

The following documents demonstrate the type of training provided to staff and what training requirements are required of contractors:

- Employee Training Records – located at the Wastewater Operations Division.
- Employee Training Matrix - located at the Wastewater Operations Division.
- Training Information Spreadsheet - located at the Wastewater Operations Division.
- Operations and Maintenance Training Program and Equipment Inventories - located at the Wastewater Operations Division.

#### **5.4.3 Compliance Summary – Buena Sanitation District**

Employees from the City of Vista’s Wastewater Operations Division maintain the sewer facilities within the Buena Sanitation District and receive training from the City of Vista.

#### **5.4.4 Compliance Documents – Buena Sanitation District**

The following documents demonstrate they type of training provided to staff and what training requirements are required of contractors:

- Employee Training Records – located at the Wastewater Operations Division.
- Employee Training Matrix - located at the Wastewater Operations Division.
- Training Information Spreadsheet - located at the Wastewater Operations Division.
- Operations and Maintenance Training Program and Equipment Inventories - located at the Wastewater Operations Division.

### **5.5 Equipment and Parts Inventories**

Each Enrollee is required to provide equipment and replacement part inventories, including identification of critical replacement parts for the operation and maintenance of its sewer collection system.

### **5.5.1 Compliance Summary – City of Vista**

The City of Vista and the Buena Sanitation District is comprised of various standard sized gravity pipelines and does not contain any pumping or other unique facilities that the City is responsible for. The Vista Wastewater Operations Department maintains an electronic inventory of mobile equipment necessary for day-to-day operations and emergency response. This up to date inventory of equipment and replacement parts is maintained in an area easily accessible to all crews and is on hand for their specific duties. Replacement parts and supplies are maintained at the City's Corporation Yard. Parts that are needed for preventive maintenance are identified and secured ahead of time for each specific maintenance task. EWA separately maintains equipment inventories for the remote systems they manage on behalf of the City / District. A summary of the inventories is found in the Operations and Maintenance Training Program and Equipment Inventories document.

### **5.5.2 Compliance Documents – City of Vista**

The documents supporting compliance with the requirement to maintain an inventory of equipment and parts including identification of critical parts are as follows:

- Operations and Maintenance Training Program and Equipment Inventories - located at the Wastewater Operations Division.

### **5.5.3 Compliance Summary – Buena Sanitation District**

The City of Vista maintains and provides all equipment and parts necessary for the operation and maintenance of the District's sewage collection system.

### **5.5.4 Compliance Documents – Buena Sanitation District**

The documents supporting compliance with the requirement to maintain an inventory of equipment and parts including identification of critical parts are as follows:

- Operations and Maintenance Training Program and Equipment Inventories - located at the Wastewater Operations Division.

## CHAPTER 6 – DESIGN AND PERFORMANCE PROVISIONS

This chapter references the design and construction standards & specifications for new sewer systems, pump stations, and other appurtenances, and for the rehabilitation and repair of existing sewer systems. Also included are the procedures and standards for the inspection and testing of these facilities. The Order requires the following:

- (a) Design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems; and
- (b) Procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

### 6.1 Compliance Summary – City of Vista

To ensure consistency in the design and construction of collection system facilities within the City of Vista and the Buena Sanitation District, the City has developed the City of Vista Standard Specifications and Procedures for Privately Constructed Wastewater Facilities. Referred to as the Vista Standard Spec, this document is based upon and is in reference to the latest edition of the Standard Specification for Public Works Construction (Greenbook), as prepared and published by Public Works Standards, Inc. The Vista Standard Spec provides a supplement to the Greenbook adopted by the City, and provides the specifications to be used to establish standards of work, material and construction procedures for improvements to the sanitary collection system within jurisdiction of the City of Vista and the Buena Sanitation District. All construction and repair or rehabilitation projects must be completed in accordance to the Vista Standard Spec prior to dedication or acceptance by the City. Detailed instructions and methodologies for the inspection of construction, repair and rehabilitation projects are provided in the Vista Standard Spec

All design work for City must be done by a professional California registered engineer and all contractors must be licensed and insured.

### 6.2 Compliance Documents – City of Vista

The documents used for design and performance evaluations include the following:

- City of Vista Standard Specifications and Procedures for Privately Constructed Wastewater Facilities – located at the City of Vista.
- Standard Specification for Public Works Construction (Greenbook) – located at the City of Vista.

### **6.3 Compliance Summary – Buena Sanitation District**

All construction, repair and rehabilitation work performed for the Buena Sanitation District must be in strict compliance with the City of Vista Standard Specifications and Procedures for Privately Constructed Wastewater Facilities and the Greenbook. Construction and repair or rehabilitation work performed for the District is conducted under the oversight of the City of Vista.

All design work for the District must be done by a professional California registered engineer and all contractors must be licensed and insured.

### **6.4 Compliance Documents – Buena Sanitation District**

The documents used for design and performance evaluations include the following:

- City of Vista Standard Specifications and Procedures for Privately Constructed Wastewater Facilities – located at the City of Vista.
- Standard Specification for Public Works Construction (Greenbook) – located at the City of Vista.

## **CHAPTER 7 – OVERFLOW EMERGENCY RESPONSE PLAN**

Under the Order, 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) Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;
- (e) Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and
- (f) A program to ensure that all reasonable steps are taken to contain 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.

### **7.1 Compliance Summary – City of Vista**

The City of Vista responds to and reports all public SSOs from the City's sanitary sewer system and all private property spills that the City becomes aware of.

The City's Sewer Overflow Response Plan (SORP) works in conjunction with the City's Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS) programs. When responding to an SSO the first crewperson on scene assumes the responsibility of Incident Commander, evaluates the situation and communicates with the supervisor (Incident Coordinator) to ensure ample resources are dispatched. The City can dispatch up to three jet-vacuum trucks to remediate the SSO. As additional crews arrive on scene, the Incident Commander will assign them to remediating the cause of the SSO, spill recovery or clean up. This approach is designed to provide the most efficient use of available resources to quickly remediate the SSO and its impact on the environment. When applicable, spill areas are

cordoned off to prevent public contact and local law enforcement is available for additional traffic or crowd control.

The City's SORP provides detailed procedures for City employees responding to SSOs during or after normal working hours. Contact information is included for all agencies and personnel that require notification in the event of a sewage spill. Posting of warning signs and sampling procedures are covered. Notification and reporting are an important aspect of the City's response procedures. Compliant with the State Water Resources Control Board's Order No. WQ 2008-0002-Exec., the City notifies the Office of Emergency Services, San Diego County Department of Environmental Health and the San Diego Regional Water Quality Control Board of any spills that discharge to a drainage channel or surface waters within two hours of becoming aware of the spill. The City certifies within twenty four hours to the San Diego Regional Water Quality Control Board that the appropriate notifications have been completed. The City of Vista reports all SSOs, public and private, as per the MRP and SDRWQCB order R9-2007-0005, to the CIWQS on line SSO database. All spills are reported to the San Diego County Department of Environmental Health.

City staff periodically reviews the SORP to ensure procedures are adequate to quickly and efficiently respond to public and private SSOs. Any necessary revisions are incorporated into the plan.

The City has developed a special training facility that simulates an SSO. This facility utilizes potable water and is a closed system and not part of the sanitary sewer system. A controlled rate of flow is used to overflow a mock manhole that will overflow into a mock storm drain. This facility is utilized to train City employees in flow estimation, spill recovery, and clean up. The City provides training on spill response twice per year, consisting of classroom and field activities. Additionally, the City participates in annual spill drills with both the City of Carlsbad and Encina Wastewater Authority (EWA). These spill drills focus on training for spills that might occur at lift stations or force mains that are owned or joint owned by the City of Vista but maintained by EWA or Carlsbad. The City of Vista's role is supportive as, depending upon where the spill occurred, EWA or Carlsbad would be the first responder.

A copy of the SORP is provided to each crew person and a copy is located in each of the response vehicles. A CIWQS Incident Report Log is used to document initial spill data and is provided in each response vehicle. An SSO Response Quick Reference Guide has been developed that highlights the key issues of the SORP for easy reference by response crews.

## **7.2 Compliance Documents – City of Vista**

The compliance documents that detail the City of Vista's Sewer Overflow Response Plan are as follows:

- Sewer Overflow Response Plan – located at the Wastewater Operations Division and the City of Vista.

- CIWQS Incident Report Log – located at the Wastewater Operations Division.
- SSO Response Quick Reference Guide - located at the Wastewater Operations Division.
- Training Records – located at the Wastewater Operations Division.

### **7.3 Compliance Summary – Buena Sanitation District**

The SORP is a joint document and covers the City of Vista and the Buena Sanitation District. Spills occurring in the Buena Sanitation District are responded to and reported by crews from the City of Vista.

### **7.4 Compliance Documents – Buena Sanitation District**

The compliance documents that detail the City of Vista’s Sewer Overflow Response Plan are as follows:

- Sewer Overflow Response Plan – located at the Wastewater Operations Division and the City of Vista.
- CIWQS Incident Report Log – located at the Wastewater Operations Division.
- SSO Response Quick Reference Guide - located at the Wastewater Operations Division.
- Training Records – located at the Wastewater Operations Division.

## CHAPTER 8 – FATS, OILS, AND GREASE CONTROL PROGRAM

Under the Order, each Enrollee is required to evaluate its service area to determine whether a FOG control program is needed. If the 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;
- (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; and
- (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.

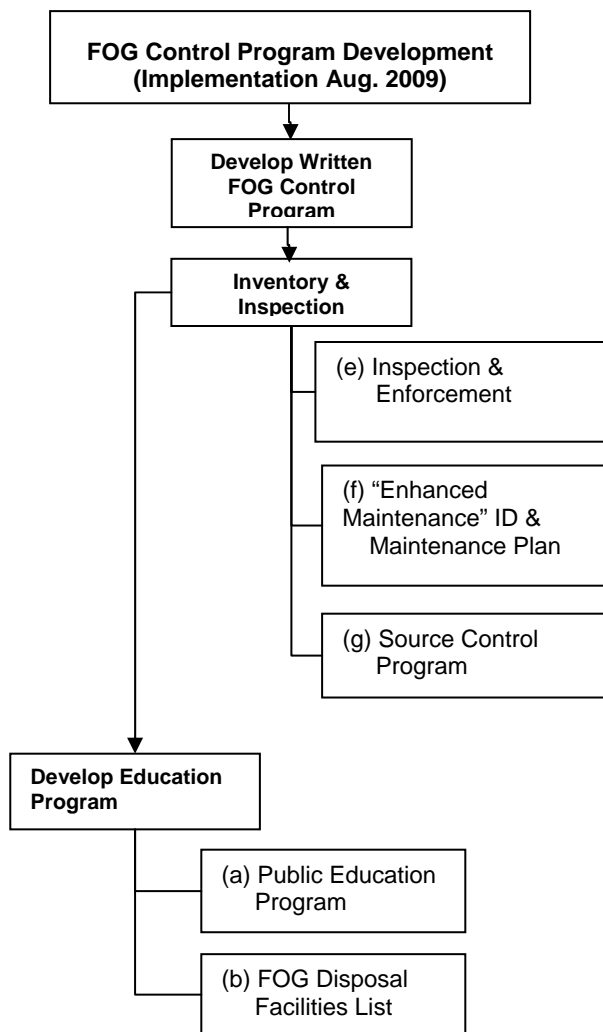
### 8.1 Compliance Summary – City of Vista

To comply with the WDR and establish a sound legal authority for the control of FOG generated within the City, the City has completely revised and adopted Title 14, Sewers and Sewer Systems of the City's Municipal Code. Chapter 14.12 Control and Regulation of Fats, Oils and Grease establishes the legal authority for the City's Fats, Oils and Grease (FOG) Control Program. This change to the City's Municipal Code occurred in April 2009.

The new ordinance requires new food service establishments (FSEs) to install grease removal devices, implement kitchen best management practices, and provides for inspections and enforcement. The City of Vista is in the process of completing a formal FOG control program. The City's FOG Control Program is being designed in accordance with Chapter 14.12 of the City's Municipal Code and will be implemented

under the direction of the City’s Stormwater Program Manager. The Stormwater Program Manager will work closely with the Wastewater Supervisor to coordinate FOG related maintenance activities. Currently, the Wastewater Division is cleaning all of the combined collection system pipelines every six to eight months with enhanced maintenance areas being cleaned every three months. The City is currently working with a contractor to provide on-site FOG inspections of FSEs. Inspections are being conducted in conjunction with the City’s Stormwater Program which has its own FOG component as part of the City’s Stormwater National Pollution Elimination Discharge System (NPDES) permit. All FSEs have been identified and included on a GIS layer.

Figure 1 is an overview of the remaining FOG Program implementation schedule.



**Figure 1 – Fog Program Development Overview**

Public Outreach and Education

An education and outreach program will be developed and implemented as part of the FOG control program. Target audiences will include applicable City and District staff,

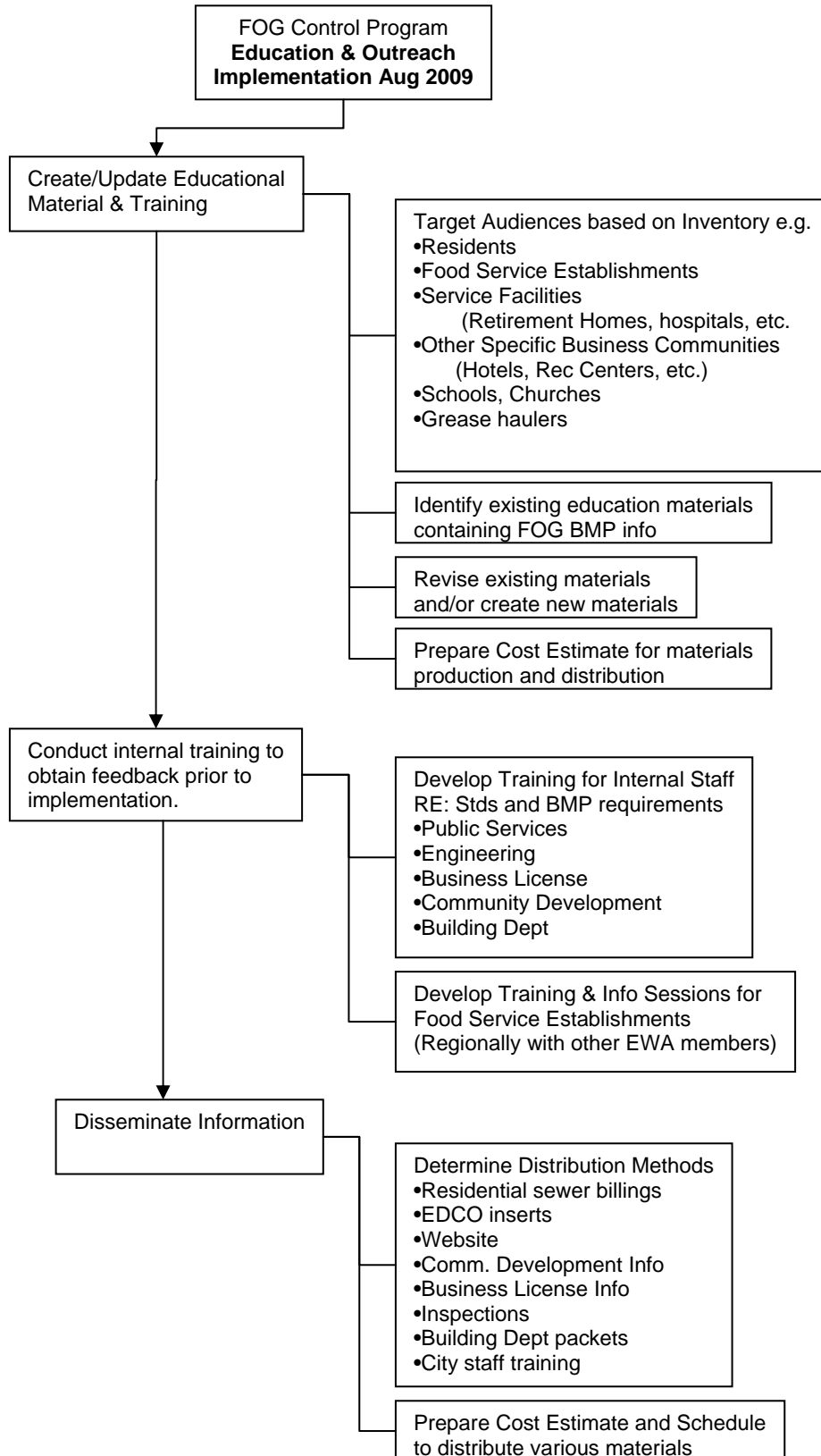
FOG generating businesses and facilities, and residents. Educational materials and presentations may contain information on the State regulations, revised City ordinance and compliance requirements, sanitary sewer system overview, FOG impacts to the system, business and residential BMPs, disposal options, and source control measures. Materials will be developed in English and Spanish as needed. Many of the City's existing educational materials contain BMP information and may be updated to include specific FOG control BMPs. Additionally, the City will compile a list of potential FOG hauling and disposal companies to assist businesses and residents in contracting these services.

The City will use various methods to disseminate program information. Printed materials may be distributed via sewer billings, direct mail, newsletters, inspections, at local community events, FOG business forums (e.g. Restaurant Association), and posted on the City website. Information on specific design standards will be provided to project proponents at the planning and submittal phases of their projects, as well as being posted on the website. All public information will be coordinated with the City's Communications Officer.

The City may develop or provide training sessions and materials for various City Departments including the information that is specific to their role in the FOG Program implementation.

Facility inspections are often the best opportunity for education as they allow one-on-one interactions and deal directly with specific requirements and practices for the business. The City will ensure that its inspectors are proficiently trained to educate its business and residential communities and distribute the appropriate materials.

Additional educational opportunities exist through the City's website, press releases and City Council sessions (e.g. State of City address, ordinance readings, etc.). These will be coordinated with the City Communications Officer.



**Figure 2 – Education and Outreach Schedule**

### FOG Disposal

The City does not intend to provide FOG disposal services for private businesses and property owners. It is the responsibility of the private business and property owner to hire a licensed grease hauler as needed. However, the City will keep a list of licensed grease haulers and will provide this information to FSEs and residents as needed during inspections and site visits.

All companies doing business in California that transport inedible kitchen grease must obtain a registration sticker for each of their trucks from the Department of Food and Agricultural pursuant to provisions of the Food and Agriculture Code as well as the vehicle code. Those companies doing business within Vista must also obtain a business license from the City.

The Encina Wastewater Authority (EWA) does not currently accept hauled waste for disposal at the Publically Owned Treatment Works (POTW). They are considering the possibility of accepting hauled grease into their digester, but this is still in the early stages of planning and may or may not be implemented.

### Legal Authority

Title 14, Chapter 14.12 Control and Regulation of Fats, Oils and Grease establishes the legal authority for the City's Fats, Oils and Grease (FOG) Control Program. FOG discharges that cause or contribute to a blockage are prohibited (Section 14.12.030). Food service establishments (FSEs) are required to control their FOG discharge through the use of grease removal devices and best management practices. Section 14.12.090 Grease Interceptor Design Requirements establishes the requirements for gravity grease interceptors with Section 14.12.100 establishing grease interceptor maintenance requirements. Compliance is enforced through Section 14.12.130 utilizing onsite inspections and sampling with Section 14.12.170 providing penalties for violations.

### Design and BMP Standards

Section 14.12.090 Gravity Grease Interceptor Design Requirements of the City of Vista Municipal Code specifically sets forth the design standards for grease interceptors installed within the City. All grease interceptors must be certified by the International Association of Plumbing and Mechanical Officers (IAPMO), or another listing agency approved by the director, and plumbed according to the California Plumbing Code. Interceptors for food service establishments shall be sized and designed in compliance with the California Plumbing Code and must be adequately maintained at the owners expense. A maintenance log indicating each pumping of an interceptor for the previous twelve months and any other pertinent information shall be maintained by each establishment. This log shall include, but not be limited to, date, time, amount pumped, hauler, and disposal site, and the log shall be kept in a conspicuous location for inspection by the City Engineer or an authorized inspector during normal business hours.

Section 14.12.090 Gravity Grease Interceptor Design Requirements of the City of Vista Municipal Code also establishes kitchen best management practices (BMPs) that FSEs are required to implement. BMPs include installation of drain screens on all drains, recycling of waste cooking oil, disposal of food waste in the trash and not in the sewer, and mandatory employee training. Employees are to be trained in FOG reduction practices such as dry wiping pots, pans and utensils, grease spill clean up, disposal of food waste, and the proper disposal of cooking oils and grease. Employee training is to be documented and available for inspection. BMPs are to be conspicuously posted in the food preparation and dishwashing areas at all times.

#### Inspection and Enforcement Plan

Title 14, Chapter 12 Section 12.12.130 of the City of Vista Municipal Code provides the City with the legal authority to inspect grease control devices, reviewing the manifests, receipts and invoices relating to the cleaning, maintenance and inspection of the grease control devices. Title 14, Chapter 12 Section 12.12.140 provides that food service establishments shall be open and available for inspection by an authorized inspector at all times during normal business hours to ensure that the operation and maintenance of the food service establishment complies with the requirements of this chapter. FSEs are required to maintain all appropriate records of their FOG related activities including the maintenance of their grease control devices for a minimum of four years.

To assist with FSE inspections and other FOG related activities, the City contracts with an outside contractor to assist City staff. To aid in inspections all FSEs have been added as a GIS layer to the City's GIS program. Inspections are conducted in coordination with the City's Stormwater NPDES inspections for FOG control. Enforcement of the City's FOG regulations is provided by Chapter 12 Section 12.12.170 which includes administrative citations, misdemeanor complaint or discontinuance of service.

#### FOG Enhanced Maintenance Areas

FOG enhanced maintenance areas are included in the Wastewater Division's Enhanced Maintenance Area Program. Enhanced maintenance areas are areas of the collection system that require maintenance above the normal scheduled maintenance. The City maintains this program in a log book that tracks when maintenance is required. The reason the area or facility is part of the enhanced maintenance program (i.e. FOG, roots, etc.) is also noted. The Enhanced Maintenance Area Program is planned for inclusion into the AMS for tracking and generation of work orders. Enhanced maintenance areas are cleaned every three months or more frequently if required.

#### FOG Source Control Program

The City is aware, and has plotted on a GIS layer, the location of all FSEs and FOG generators within the combined districts. The relationship between FOG related enhanced maintenance areas and FOG generators has been established. The City now has the legal authority to conduct inspections of FSEs who are generating or are

suspected of generating FOG. These inspections are conducted by City staff or an outside contractor and are done in conjunction with the City’s Stormwater Program. During the inspections, inspectors instruct FSE staff on the use of grease removal devices and BMPs designed to reduce FOG generation. Inspectors will also review the FSEs FOG reduction practices including review of records, manifests or invoices for grease disposal, and maintenance on any installed grease removal devices.

All FSEs are required to implement BMPs designed to minimize the generation of FOG during the food preparation and cleanup process. FSE employees are required to receive documented training twice per year on the implementation of the BMPs from their employers. New or remodeled FSEs are required to install and properly maintain an approved grease removal device.

In the event of a FOG related SSO occurring within an enhanced maintenance area (or anywhere within the sewer collection system) and the subsequent investigation shows evidence that a discharger caused or contributed to the SSO, the City may request repayment of all associated costs, issue an administrative or misdemeanor complaint, or discontinue service.

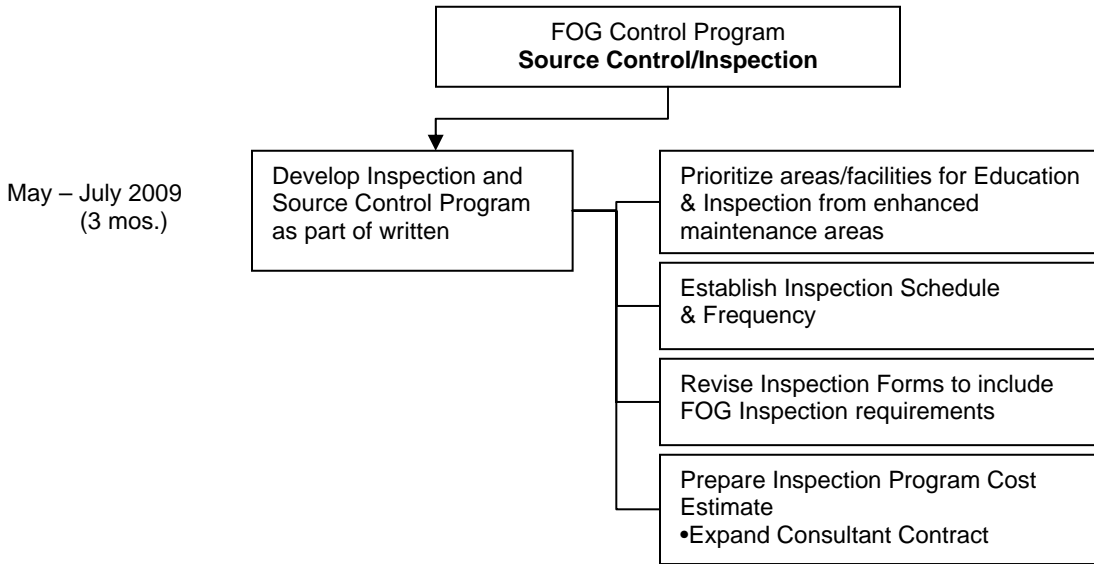


Figure 3 – Fog Source Control and Inspection

## 8.2 Compliance Documents – City of Vista

The FOG control program activities are documented under the following ordinances, reports, and studies:

- Chapter 14.12, Control and Regulation of Fats, Oils and Grease, City of Vista Municipal Code.

- City of Vista Standard Specifications and Procedures for Privately Constructed Wastewater Facilities - located at the City of Vista.

### **8.3 Compliance Summary – Buena Sanitation District**

To comply with the WDR and establish a sound legal authority for the control of FOG generated within the District, the District has completely revised and adopted the Buena Sanitation District Code of Regulations. Chapter 12 Control and Regulation of Fats, Oils and Grease establishes the legal authority for the District's Fats, Oils and Grease (FOG) Control Program. This change to the District's Code of Regulations occurred in April 2009.

The new ordinance requires new food service establishments (FSEs) to install grease removal devices, implement kitchen best management practices, and provides for inspections and enforcement. The Buena Sanitary District is in the process of completing a formal FOG control program. The District's FOG Control Program is being designed in accordance with Chapter 12 of the District's Code of Regulations and will be implemented under the direction of the City of Vista's Stormwater Program Manager. The Stormwater Program Manager will work closely with the City of Vista Wastewater Supervisor to coordinate FOG related maintenance activities. The City of Vista is currently working with a contractor to provide on-site FOG inspections of FSEs.

The Buena Sanitation District's FOG Control Program is being developed concurrent with the City of Vista's FOG Control Program and will be implemented and administered by the City of Vista's Stormwater Program staff. FOG related maintenance is performed by the City of Vista's Wastewater Division.

#### Public Outreach and Education

Public outreach and education will be conducted by the City of Vista within the District's jurisdiction.

#### FOG Disposal

The District does not intend to provide FOG disposal services for private businesses and property owners. It is the responsibility of the private business and property owner to hire a licensed grease hauler as needed. However, the City of Vista will keep a list of licensed grease haulers and will provide this information to FSEs and residents of the District as needed during inspections and site visits.

#### Legal Authority

Chapter 12 Control and Regulation of Fats, Oils and Grease establishes the legal authority for the District's Fats, Oils and Grease (FOG) Control Program. FOG discharges that cause or contribute to a blockage are prohibited (Section 12.030). Food service establishments (FSEs) are required to control their FOG discharge through the use of grease removal devices and best management practices. Section 12.090

Grease Interceptor Design Requirements establishes the requirements for gravity grease interceptors with Section 12.100 establishing grease interceptor maintenance requirements. Compliance is enforced through Section 12.130 utilizing onsite inspections and sampling with Section 12.170 providing penalties for violations.

#### Design and BMP Standards

Section 12.090 Gravity Grease Interceptor Design Requirements of the Buena Sanitation District Code of Regulations specifically sets forth the design standards for grease interceptors installed within the District. All grease interceptors must be certified by the International Association of Plumbing and Mechanical Officers (IAPMO), or another listing agency approved by the director, and plumbed according to the California Plumbing Code. Interceptors for food service establishments shall be sized and designed in compliance with the California Plumbing Code and must be adequately maintained at the owners expense. A maintenance log indicating each pumping of an interceptor for the previous twelve months and any other pertinent information shall be maintained by each establishment. This log shall include, but not be limited to, date, time, amount pumped, hauler, and disposal site, and the log shall be kept in a conspicuous location for inspection by the District Engineer or an authorized inspector during normal business hours.

Section 12.090 Gravity Grease Interceptor Design Requirements of the Buena Sanitation District Code of Regulations also establishes kitchen best management practices (BMPs) that FSEs are required to implement. BMPs include installation of drain screens on all drains, recycling of waste cooking oil, disposal of food waste in the trash and not in the sewer, and mandatory employee training. Employees are to be trained in FOG reduction practices such as dry wiping pots, pans and utensils, grease spill clean up, disposal of food waste, and the proper disposal of cooking oils and grease. Employee training is to be documented and available for inspection. BMPs are to be conspicuously posted in the in the food preparation and dishwashing areas at all times.

#### Inspection and Enforcement Plan

Chapter 12 Section 12.130 of the Buena Sanitation District Code of Regulations provides the District with the legal authority to inspect grease control devices, reviewing the manifests, receipts and invoices relating to the cleaning, maintenance, and inspection of the grease control devices. Chapter 12 Section 12.140 provides that food service establishments shall be open and available for inspection by an authorized inspector at all times during normal business hours to ensure that the operation and maintenance of the food service establishment complies with the requirements of this chapter. FSEs are required to maintain all appropriate records of their FOG related activities including the maintenance of their grease control devices for a minimum of four years.

To assist with FSE inspections and other FOG related activities, the City of Vista contracts with an outside contractor to assist City staff with FOG inspections within the

District. To aid in inspections all District FSEs have been added as a GIS layer to the City's GIS program. Enforcement of the City's FOG regulations is provided by Chapter 12 Section 12.170 which includes administrative citations, misdemeanor complaint or discontinuance of service.

#### FOG Enhanced Maintenance Areas

FOG enhanced maintenance areas for the District are included in the City of Vista's Wastewater Division's Enhanced Maintenance Area Program. Enhanced maintenance areas are areas of the collection system that require maintenance above the normal scheduled maintenance. The City maintains this program in a log book that tracks when maintenance is required. The reason the area is part of the enhanced maintenance program (i.e. FOG, roots, etc.) is also noted. The Enhanced Maintenance Area Program is planned for inclusion into the AMS for tracking and generation of work orders. Enhanced maintenance areas are cleaned every three months or more frequently if required.

#### FOG Source Control Program

The FOG Source Control Program developed by the City of Vista includes FSEs and FOG enhanced maintenance areas within the Buena Sanitation District.

### **8.4 Compliance Documents – Buena Sanitation District**

The FOG control program activities are documented under the following ordinances, reports, and studies:

- Chapter 12, Control and Regulation of Fats, Oils and Grease, Buena Sanitation District Code of Regulations – located at City of Vista.
- City of Vista Standard Specifications and Procedures for Privately Constructed Wastewater Facilities - located at the City of Vista.

## CHAPTER 9 – SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

The Order 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 storm or wet weather event. At a minimum, the plan must include:

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

### 9.1 Compliance Summary – City of Vista

To ensure that the City's sanitary collection system meets the needs of the population served, the City routinely commissions a Sewer Master Plan to review the operational needs of the collection system. To provide a current and complete assessment of the City and District's collection system a new Sewer Master Plan was completed in January 2008 and adopted by the City Council in August 2008. A program level Environmental Impact Report for the Sewer Master Plan was also adopted by City Council in August 2008. The 2008 Sewer Master Plan includes a prioritized listing of capital improvement projects (CIP). The prioritization takes into account the age of the facilities, construction materials used, current use, capacity, and known condition. Additionally, the City has contracted for the services of an outside consultant to provide program management for the CIP as well as three design engineering firms to prepare

plans and specifications, and two environmental consulting firms for environmental permitting.

Extensive flow monitoring was performed in conjunction with the Sewer Master Plan's development. As the system utilizes permanent flow meters flow histories were also reviewed. This data was used to determine the average dry weather flows (ADWF). Peak dry weather flows (PDWF) were calculated from the ADWF. Data from February 2005, the last year with significant rainfall, was used to determine the average wet weather flows (AWWF) and peak wet weather flows (PWWF). By comparing the dry weather and wet weather flows the level of defect flows or inflow and infiltration (I&I) during rain events was determined. Flow data and data from the City's sewer billing database was used to verify the equivalent dwelling units (EDU) daily flow values. Using information from the City's GIS coupled with the flow measurement data a complete hydraulic model of the Vista sewer system was prepared. This model was expanded over previous models allowing 7,863 pipes to be modeled. The expanded modeling detail allows the City to analyze predicted flow versus measured flow to target inflow and infiltration reduction and analyze EDU distribution and allocation. This additional analysis can be used to more efficiently manage O&M and CIP projects and more equitably assess rates and connection fees.

The InfoSWMM model was selected for the Vista model since its user interface is based on the GIS the City's uses and its analytical engine is based on the Environmental Protection Agency's Storm Water Management Model (SWMM). The SWMM model was originally created in 1975 to model combined sewer overflows that plagued the country. As a result the capabilities of EPA SWMM include the ability to model the hydraulics of sanitary or storm water conveyance systems. As the regulations governing the operation of sanitary and storm sewers increase, this capability will allow the City/District to assess the impacts of various operating strategies. SWMM has recently been updated incorporating over 30 years of user feedback, direct project experience and the latest object oriented programming techniques. The user interface is beneficial to the City since the end-user is already trained and oriented to ESRI's ArcGIS.

### Evaluation:

In addition to the computer modeling of the system and to meet full compliance with the WDR the City needed an accurate assessment of its collection system infrastructure. To accomplish this, the City has contracted with an outside contractor to assist the City in conducting a comprehensive CCTV video inspection and assessment of the combined City of Vista and Buena Sanitation District's sanitary collection system. Gravity sewer lines and manholes that have not been previously CCTV inspected and evaluated were included. As part of this effort the City's CCTV inspection software and hardware has been upgraded. This initial CCTV inspection (completed in March of 2009) forms the baseline assessment of the combined City and District collection system. Data from this inspection is being integrated into the City's GIS program for easy access by the City's Engineering Department and Wastewater Division. This data is being utilized to update the City's CIP program.

The City has also initiated a Snap Shot Video Program where video snap shots are taken of each defect, joint and lateral within the system. Video snap shots provide the maintenance staff with a quick and easy reference to defects or potential problem areas within the collection system. The re-inspection goal of the City's CCTV inspection program is for 20% or approximately 197,600 feet per year.

### Design Criteria:

Comparing the projections from the model with the actual observed flow data proved that the model had excellent calibration and could produce reliable projections. SWMM performs its analysis of flow routing using the St.Venants equation. Hydraulic calculations were performed for every 10 seconds. SWMM's analytical engine is fully dynamic and can accurately predict surcharge, backflow and overflow conditions. Through the use of improved data representing the collection system and flow variations, combined with the SWMM analytical engine, a more complete determination of hydraulic capacity has been performed for all flow scenarios. Based upon the computer analysis a depth/Diameter ratio of 0.80 for Peak Wet Weather Flow was chosen as the design criteria for future pipeline construction or replacement. This is considered to be a more conservative approach to ensuring adequate capacity and will provide additional capacity as future pipeline replacement and rehabilitation reduce the level of I&I.

### Capacity Enhancement Measures:

Capacity restoration may be provided by constructing larger replacement pipes or by reducing extraneous defect flows by pipeline rehabilitation. By estimating the rehabilitation costs associated with inflow and infiltration reduction and the effects on pipeline capacity, the Sewer Master Plan identified a recommended set of CIP projects necessary to address identified capacity restrictions and condition related problems. The comprehensive CCTV inspection program initiated by the City provided additional information on the sources or potential sources of I&I and specific visual information on the actual internal condition of the collection system pipelines. This information allows for the development of a precise CIP program based upon the computer model and an up-to-date pipeline condition assessment. Smoke testing and other methods are used to supplement the CCTV visual inspection and computer analysis to determine defects and sources of I&I.

### Schedule and Funding:

The current CIP program is projected for the next five years with actual construction times estimated to extend to the next six or seven years. This program will be under constant review to ensure the goals of the CIP program are met. To assist in meeting the CIP goals, the City has contracted with an outside consultant to provide program management for the CIP program.

Revenue for the management, operation, and maintenance of the City and District's collection system is provided by a sewer service charge. On January 8, 2008, the Vista

City Council and Buena Sanitation District approved sewer rate increases for the City of Vista (6.5%) and Buena Sanitation District (3%) over five years starting in 2009. The increase allows the City and District to begin work on prioritized CIP sewer projects. Additional CIP funding will be provided through City/District issued bonds and from a series of dedicated funds set up by the City/District. The Sewer Revenue Fund has been established to provide for the operation, maintenance and replacement costs, and debt service expense and retirement, of the sewer system. The Capital Repairs and Replacement Fund has been established to provide for repairs and replacement of existing capital facilities, equipment and appurtenances of the sewer system, as they depreciate, wear out or breakdown. Within the Capital Repairs and Replacement Fund is the Emergency Capital Replacement Reserve Account to provide funding to finance the cost of repairs and replacements to the existing capital facilities, equipment, and appurtenances required in any given year in the event of a shortfall or lag in revenues of the system, or unexpected requirements for repairs or replacements. The Capital Expansion Fund has been established to provide for the enlargement and expansion of the sewer system as needed for the growth and expansion of the community. The proceeding funds are codified in the City of Vista Municipal Code, Title 14, Chapter 14.01, Sections 14.01.050, 14.01.060 and 14.01.070.

## **9.2 Compliance Documents – City of Vista**

The documents used for system evaluation and capacity assurance are as follows:

- Sewer System Master Plan Update 2008 – located at the City of Vista and on the City’s website.
- City of Vista Standard Specifications and Procedures for Privately Constructed Wastewater Facilities – located at the City of Vista.
- City of Vista CIP Program – located at the City of Vista.
- Collection System CCTV Inspection Videos - located at the City of Vista.
- Public Services Accela Asset Management System - located at the Wastewater Operations Division.
- Sanitation Engineering Division Sewer GIS - located at the City of Vista.
- City of Vista annual budget – located at the City of Vista.
- City of Vista Municipal Code, Title 14, Chapter 14.01, Sections 14.01.050, 14.01.060 and 14.01.070 – located at the City of Vista and on the City’s website.

## **9.3 Compliance Summary – Buena Sanitation District**

As the Buena Sanitation District is operated and maintained as an integral part of the City of Vista’s sanitary collection system, the City has included the BSD as part of the joint Sewer Master Plan Update 2008 and the CIP program. Computer modeling and the CCTV inspection and system evaluation for the BSD service area were included as part of the evaluation conducted for the City. Funding for CIP program projects in the

BSD service area is provided through special funds established by the BSD's governing body.

#### **9.4 Compliance Documents – Buena Sanitation District**

The documents used for system evaluation and capacity assurance are as follows:

- Sewer System Master Plan Update 2008 – located at the City of Vista and on the City's website.
- City of Vista Standard Specifications and Procedures for Privately Constructed Wastewater Facilities – located at the City of Vista.
- City of Vista CIP Program – located at the City of Vista.
- Collection System CCTV Inspection Videos - located at the City of Vista.
- Public Services Accela Asset Management System - located at the Wastewater Operations Division.
- Sanitation Engineering Division Sewer GIS - located at the City of Vista.
- Buena Sanitation District annual budget – located at the City of Vista.
- Buena Sanitation District Code of Regulations, Chapter 14, Sections 1.01.050, 1.01.060 and 1.01.070 – located at the City of Vista.

## CHAPTER 10 – MONITORING, MEASUREMENT AND PROGRAM MODIFICATIONS

The Enrollee shall monitor and measure the effectiveness of the SSMP and shall make modifications as necessary to maintain the programs effectiveness. Under the Order, the Enrollee shall:

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

### 10.1 Compliance Summary – City of Vista

The City has a number of tools available to monitor and measure the progress of its SSMP. Most data is housed and tracked in GIS-integrated databases that can be analyzed as needed for ongoing system management. The manager of each component of the SSMP is responsible to identify relevant information to establish and prioritize SSMP activities.

Data from the system wide CCTV inspection completed in March 2009 is integrated into the GIS system and will be used for comparison with future CCTV inspection data.

The Accela Asset Management System (AMS) is used by the Public Services Wastewater Division to manage and document all work orders for cleaning, maintenance, and inspection. A separate Enhanced Maintenance Area Program is in place for more frequent maintenance of sewers prone to blockage due to FOG or root intrusion. Data from these systems is used to develop the Annual Work Plan.

The City reports all public and private property spills. Spill reports are maintained at the City and on the California Integrated Water Quality System's (CIQWS) online SSO database. Spill reports are analyzed by management to determine strategies to prevent future occurrences. Spill response efforts are also analyzed by management to determine their efficiency and effectiveness. Spill data along with on-site inspection data is utilized by the FOG Control Program Manager to monitor the progress of the City's FOG Reduction Program.

The City routinely conducts an update to its Sewer Master Plan. The Sewer Master Plan Update reviews multiple aspects of the City's management, operation, maintenance, funding, and CIP progress for the collection system.

## **10.2 Compliance Documents – City of Vista**

The compliance documents are as follows:

- SSO Reports – located at the Wastewater Operations Division.
- City of Vista Annual Work Plan - located at the Wastewater Operations Division.
- Accela Asset Management System (AMS) - located at the Wastewater Operations Division.
- Enhanced Maintenance Area Log - located at the Wastewater Operations Division.
- Sanitation Engineering Division Sewer GIS - located at the City of Vista.

## **10.3 Compliance Summary – Buena Sanitation District**

As the City of Vista and Buena Sanitation District collection systems are managed, operated and maintained as a single collection system, the monitoring, measurement and program modification efforts of the City extend to the District. The same processes and procedures utilized by the City to measure the effectiveness of their SSMP are used to measure the effectiveness of the District's SSMP.

## **10.4 Compliance Documents – Buena Sanitation District**

The compliance documents are as follows:

- SSO Reports – located at the Wastewater Operations Division.
- City of Vista Annual Work Plan - located at the Wastewater Operations Division.
- Accela Asset Management System (AMS) - located at the Wastewater Operations Division.
- Enhanced Maintenance Area Log - located at the Wastewater Operations Division.
- Sanitation Engineering Division Sewer GIS - located at the City of Vista.

## **CHAPTER 11 – 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 identified in this subsection (D.13), including identification of any deficiencies in the SSMP and steps to correct them.

### **11.1 Compliance Summary – City of Vista**

The City of Vista will audit its SSMP on a two year cycle from the date of initial City Council approval of the SSMP. If conditions change that warrant increased audit frequency, the City will adjust its audit cycle accordingly. Audits will review the City's SSMP activities from the time of the last audit and will summarize the data accumulated through its monitoring, measuring, and program modification efforts. Particular attention will be paid to each program's effectiveness in meeting its goals, objectives, and priorities while ultimately being tied into the budgetary process.

The audit process will include the review of additions or improvements made to the collection system during the current audit period and describe planned additions and improvements for the upcoming audit period. Supporting documents will be reviewed to ensure they are up to date and the most recent documents are available and referenced. This process will also ensure that historical documents are kept for future reference.

Employee training will be reviewed to ensure programs and mechanisms are in place to provide necessary training, and that all staff is up to date with required training. Training includes on the job requirements, safety, required licenses and/or certificates, and professional development.

Completed audits will be retained on file by the City.

### **11.2 Compliance Documents - City of Vista**

The documents used for audit evaluations include the following:

- SSO Reports – located at the Wastewater Operations Division.
- City of Vista Annual Work Plan - located at the Wastewater Operations Division.
- Accela Asset Management System (AMS) - located at the Wastewater Operations Division.
- Enhanced Maintenance Area Log - located at the Wastewater Operations Division.
- Sanitation Engineering Division Sewer GIS - located at the City of Vista.

- Completed audits – located at the City of Vista

### **11.3 Compliance Summary – Buena Sanitation District**

As both the City of Vista and the Buena Sanitation District's collection systems are operated as a single system, audits for the Buena Sanitation District will be conducted in conjunction with the City of Vista's SSMP audits. Completed audits will be maintained at the City of Vista.

### **11.4 Compliance Documents – Buena Sanitation District**

The documents used for audit evaluations include the following:

- SSO Reports – located at the Wastewater Operations Division.
- City of Vista Annual Work Plan - located at the Wastewater Operations Division.
- Accela Asset Management System (AMS) - located at the Wastewater Operations Division.
- Enhanced Maintenance Area Log - located at the Wastewater Operations Division.
- Sanitation Engineering Division Sewer GIS - located at the City of Vista.
- Completed audits – located at the City of Vista.

## **CHAPTER 12 – COMMUNICATIONS**

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.

### **12.1 Compliance Summary – City of Vista**

The Vista City Council encourages public participation in City activities. Time is allowed at each open City Council meeting for public comment. The City maintains a website where information about the collection system is publically available. The City also posts collection system documents, such as the Sewer Master Plan Update 2008, for public review. The City's Municipal and Development codes which provide the legal authority to manage, operate, and maintain the sanitary collection system are also online as is the Sanitation CIP Schedule.

The City utilizes email alerts, newsletters, specialized publications and participation in community events, and local community groups to disseminate information and solicit feedback on its programs. Outside public relations consultants are used, as with the initiation of the FOG Reduction Program, to develop folders, door hangers, logos, catchy phrases, etc. to inform the public of new or ongoing programs. These activities are coordinated through the City's Communications Officer.

The City of Vista has flow transfer agreements with Carlsbad, Oceanside, Vallecitos Water District and the City of San Marcos, as well as with the Buena Sanitation District. Coordination meetings will be held at least annually with each of these communities for the specific purpose of managing these agreements. In addition, there are monthly meetings with the Encina Member Agency Managers, at which the agreements are discussed.

### **12.2 Compliance Documents – City of Vista**

The documents used for the communications program include the following:

- City of Vista website [www.cityofvista.com](http://www.cityofvista.com)

### **12.3 Compliance Summary – Buena Sanitation District**

The City of Vista manages, operates and maintains the Buena Sanitation District collection system and provided oversight for the development of the District's SSMP. Buena Sanitation District's Board meetings are held at the same time as the Vista City Council Meetings with the Board members being comprised of members of the Vista

City Council. Public input is encouraged at these meetings. Communications efforts and interactions with neighboring agencies are conducted by the City on the District's behalf. Although the District has a website, most information or changes affecting the BSD are posted on the City of Vista's website.

## **12.4 Compliance Documents – Buena Sanitation District**

The documents used for the communications program include the following:

- City of Vista website [www.cityofvista.com](http://www.cityofvista.com)

## **CHAPTER 13 – GENERAL COMPLIANCE REQUIREMENTS**

### **SSMP and Program Certification**

Both the SSMP and the City's program to implement the SSMP must be certified by the City to be in compliance with the requirements set forth above and must be presented to the City's governing board for approval at a public meeting. The City shall certify that the SSMP, and subparts thereof, are in compliance with the general WDRs within the time frames identified in the time schedule provided in subsection D.15.

In order to complete this certification, the City'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 City is required in accordance with D.14 when significant updates to the SSMP are made. To complete the re-certification process, the City shall enter the data in the Online SSO Database and mail the form to the State Water Board, as described above.

### **13.1 Compliance Summary – City of Vista**

The SSMP will be presented to the Vista City Council for approval on June 23, 2009. Re-certification of the SSMP will occur every five (5) years from the date of the initial SSMP approval.

### **13.2 Compliance Documents - City of Vista**

The following documents provide the legal basis for the City of Vista approval of the SSMP.

- Vista City Council meeting minutes from June 23, 2009 – located at the City of Vista and online.
- Approved SSMP – located at the City of Vista.
- State Water Resources Control Board Order Number 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems – located at the City of Vista.

### **13.3 Compliance Summary – Buena Sanitation District**

The SSMP will be presented to the Buena Sanitation District's governing body for approval on June 23, 2009. Re-certification of the SSMP will occur every five (5) years from the date of the initial SSMP approval.

### **13.4 Compliance Documents – Buena Sanitation District**

The following documents provide the legal basis for the Buena Sanitation District's approval of the SSMP.

- Buena Sanitation District's governing body meeting minutes from June 23, 2009 – located at the City of Vista and online.
- Approved SSMP – located at the City of Vista.
- State Water Resources Control Board Order Number 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems – located at the City of Vista.