



# ***City of San Carlos*** **Sanitary Sewer Management Plan**

Prepared by:

***Department of Public Works***

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### **Appendices**

**Appendix A: Element 6 Supporting Documents (Overflow Emergency Response)**

**Appendix B: Element 7 Supporting Documents (FOG Control)**

**Appendix C : Element 11 Supporting Documents (Communications Program)**

### **List of Abbreviations**

|       |                                                            |
|-------|------------------------------------------------------------|
| BACWA | Bay Area Clean Water Agencies                              |
| BAPPG | Bay Area Pollution Prevention Group                        |
| City  | City of San Carlos                                         |
| CSMS  | Collection Systems Maintenance Service                     |
| FOG   | fats, oils, and grease                                     |
| GWDR  | General Waste Discharge Requirements                       |
| OERP  | Overflow Emergency Response Plan                           |
| OES   | Office of Emergency Services                               |
| RWQCB | Regional Water Quality Control Board, San Francisco Region |
| SVCW  | Silicon Valley Clean Water                                 |
| SORP  | Sanitary Sewer Overflow Response Plan                      |
| SSMP  | Sanitary Sewer System Management Plan                      |
| SSO   | Sewer System Overflow                                      |
| SWRCB | State Water Resources Control Board                        |

## Element 0: INTRODUCTION

This introductory section provides background information on the purpose and organization of the Sewer System Management Plan (SSMP), as well as a brief overview of the City's service area and sewer system.

### SSMP Requirement Background

This SSMP has been prepared in compliance with requirements of the San Francisco Bay Regional Water Quality Control Board (RWQCB) pursuant to Section 13267 of the California Water Code, as described in the letter from the RWQCB to the City of San Carlos (City) dated July 7, 2005. The RWQCB letter mandates that the City prepare an SSMP following the guidelines in the SSMP Development Guide prepared by the RWQCB in cooperation with the Bay Area Clean Water Agencies (BACWA). The City must also comply with RWQCB sanitary sewer overflow (SSO) electronic reporting requirements issued in November 2004.

More recently, the State Water Resources Control Board (SWRCB) acted at its meeting on May 2, 2006 to require all public wastewater collection system agencies in California with greater than one mile of sewers to be regulated under General Waste Discharge Requirements (GWDR). The SWRCB action also mandates the development of an SSMP and the reporting of SSOs using an electronic reporting system. The SWRCB SSMP requirements are similar to the RWQCB requirements, but differ in organization and some details.

### Document Organization

This SSMP is intended to meet the requirements of both the RWQCB and the Statewide GWDR. The organization of this document is consistent with the RWQCB guidelines, but the contents address both the RWQCB and SWRCB requirements. The SSMP includes eleven elements, as listed below. Each of these elements forms a section of this document. Parentheses indicate the title of the comparable SWRCB element.

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

Each element section is organized into sub-sections, as follows:

1. Description of both the RWQCB and SWRCB requirement for that element
2. Identification of associated appendix and list of supporting information included in the appendix.

3. Discussion of element. The discussion may be split into multiple sub-sections depending on length and complexity.

Supporting information for each element is included in an appendix associated with that section, as applicable. In general, information expected to require relatively frequent updates (such as names and phone numbers of staff) are included in appendices, as well as other supporting information, such as forms or schedules.

### City Service Area and Sewer System

The City of San Carlos covers a 5.92 square mile area in San Mateo County adjacent to the City of Belmont and the City of Redwood City. The City has a population of approximately 28,000.

The City's sewer system consists of approximately 104 miles of pipe. Pipe diameters range from 5 to 36 inches. The system includes six lift stations owned and maintained by the City (Kelly I, Kelly II, Lower Crestview, Upper Crestview, Tierra Linda, and Associated lift stations) as well as many privately-owned lift stations. Collected sewage is conveyed to the Silicon Valley Clean Water sewer system for treatment.

### Summary of Sewer System Facilities

| Sewer Pipe Size in diameter (in inches)    | Length (miles) |
|--------------------------------------------|----------------|
| 6 and smaller                              | 70.1           |
| 8                                          | 12             |
| 10                                         | 4              |
| 12                                         | 2.5            |
| 15                                         | 2.4            |
| 18                                         | 1.3            |
| 21                                         | 0.5            |
| 24                                         | 0.4            |
| 27                                         | 1.4            |
| 36                                         | 0.3            |
| Unknown (likely 6-inch or 8-inch pipe)     | 8.6            |
| <b>Gravity Sewers</b>                      | 103.5          |
| <b>Force Mains</b>                         | 0.7            |
|                                            |                |
| <b>Total Sewer Manholes/Junction Boxes</b> | <b>2,789</b>   |

~ END OF ELEMENT 0 ~

## Element 1: GOALS

This SSMP element identifies goals the City has set for the management, operation and maintenance of the sewer system and discusses the role of the SSMP in supporting these goals. These goals provide focus for City staff to implement improvements in the management of the City's wastewater collection system. This section fulfills the Goals requirement of both the RWQCB (Element 1) and the SWRCB (Element 1) SSMP requirements.

### 1.1 Regulatory Requirements for Goals Element

The summarized requirements for the Goals element of the SSMP are as follows:

#### **RWQCB Requirement:**

The collection system agency must develop goals to manage, operate, and maintain all parts of its collection system. The goals should address the provision of adequate capacity to convey peak wastewater flows, as well as a reduction in the frequency of sanitary sewer overflows (SSOs) and the mitigation of their impacts.

#### **SWRCB Requirement:**

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

### 1.2 Element 1 Appendix

There is no appendix associated with Element 1.

### 1.3 Goals Discussion

This SSMP contributes to the proper management of the collection system and assists the City in minimizing the frequency and impacts of SSOs through appropriate maintenance and emergency response. Specific goals of the City's SSMP are as follows:

1. To minimize the frequency of SSOs.
2. To mitigate impacts associated with SSOs.
3. To provide adequate capacity to convey peak wastewater flows within the City service area.
4. To plan and provide funding for the appropriate renewal and replacement of wastewater collection system facilities to maintain their long-term structural integrity and reliability.
5. To meet all applicable regulatory notification and reporting requirements.

~ END OF ELEMENT 1 ~

## Element 2: ORGANIZATION

This section of the SSMP describes the organization of City staff and contractors responsible for sewer-related work, including staff responsible for implementing this SSMP, responding to SSO events, and meeting the SSO reporting requirements. This section also includes the designation of the Authorized Representative to meet SWRCB requirements for completing and certifying spill reports. This section fulfills the Organization requirement of both the RWQCB (Element 2) and the SWRCB (Element 2) SSMP requirements.

### 2.1 Regulatory Requirements for Organization Element

The summarized requirements for the Organization element of the SSMP are as follows:

#### **RWQCB Requirement:**

The collection system agency's SSMP must identify staff responsible for implementing measures outlined in the SSMP, including management, administration, and maintenance positions. Identify the chain of communication for reporting and responding to SSOs.

#### **SWRCB Requirement:**

The collection system agency's SSMP must identify:

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

### 2.2 Element 2 Appendix

There is no appendix associated with Element 2.

### 2.3 Organization Discussion

This section discusses the organization and roles of sewer staff, the authorized representative to the SWRCB, and key staff responsible for implementing and maintaining the SSMP.

#### **Department Organization**

**The organization chart for the management, operation, and maintenance of the City's wastewater collection system is shown on the following:**

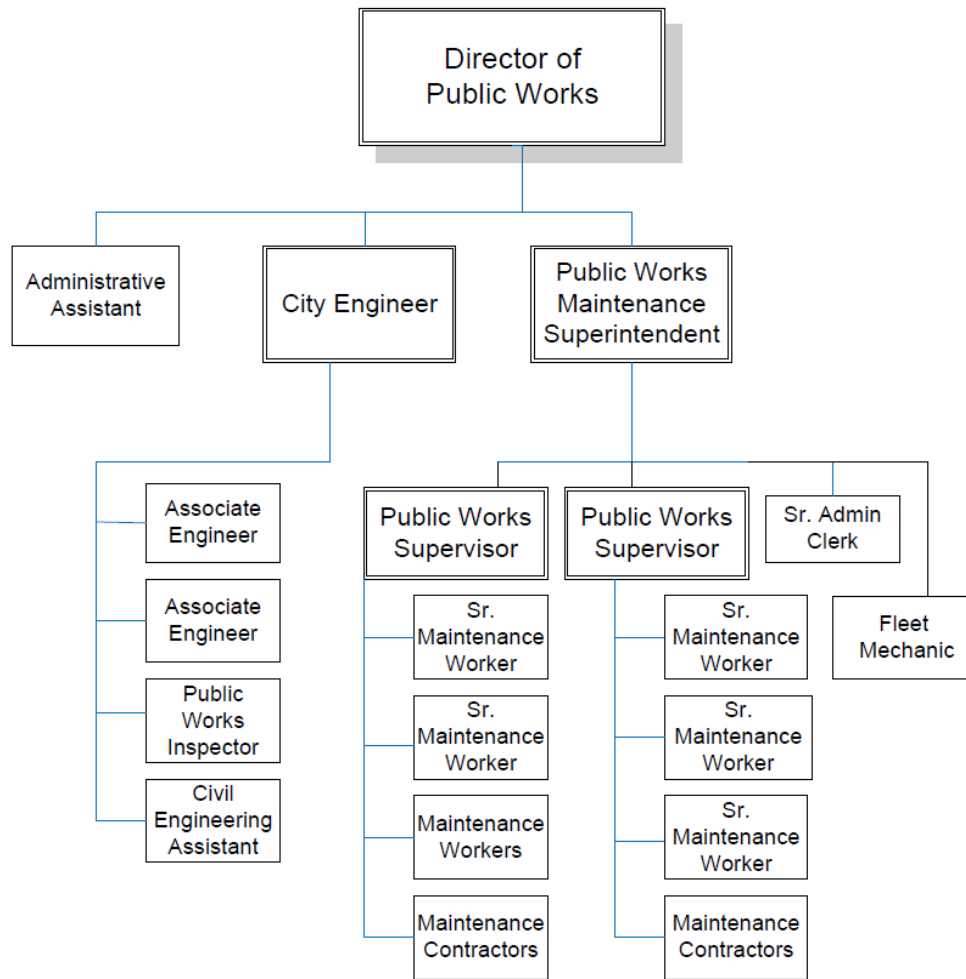


Figure 2-1. Public Works Department

Following are the Director of Public Works and senior staff in charge of putting together this SSMP:

Steven J. Machida, Director of Public Works (650) 802-4203

Grace Le, City Engineer (650) 802-4201

Lou Duran, Public Works Superintendent (650) 802-8143

Vatsal Patel, Senior Engineer (650) 802-4202

Angel Noreiga, Asst. Public Works Work s Superintendent (650) 802-4145

Matthew Quinn, Senior Main tenance Worker (650) 802-4146

### **Authorized Representative**

The City's authorized representative in all wastewater collection system matters is the Public Works Director. The Public Works Director is authorized to certify electronic spill reports submitted to the SWRCB.

The Public Works Superintendent is authorized to submit SSO reports to the appropriate government agencies.

### **Responsibility for SSMP Implementation**

The City's Public Works Director is responsible for the overall implementation and update of this SSMP. The Public Works Director is supported by the Public Works Superintendent and other City staff.

## **2.4 SSO Reporting Chain of Communication**

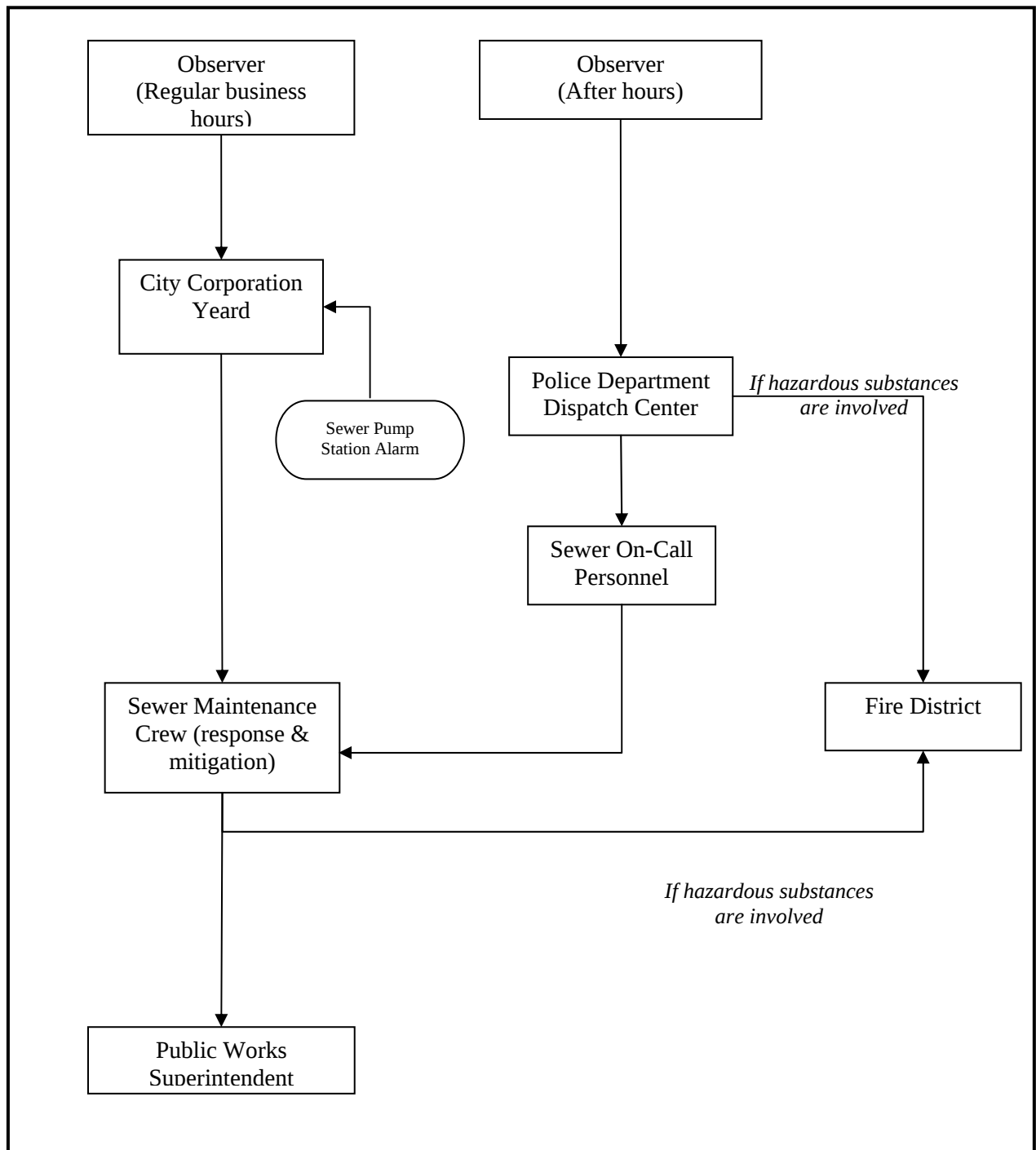
Figure 2.2 contains a flowchart depicting the overall chain of communication for responding to and reporting SSOs, from observation of an SSO to reporting the SSO to the RWQCB. Internal chains of communication for the City's emergency responders are depicted in Figure 2-2. The SSO Reporting process is described in more detail in Element 6: Overflow Emergency Response Plan.

### **Narrative Description of SSO Response Chain of Communication**

A public observer of an SSO would typically call the City's Public Works hotline number. During regular business hours, the Sr. Administrative Clerk forwards the call to the Maintenance Crew. The Public Works Supervisor will assess the SSO and then calls the appropriate agency or staff for response, cleanup, and containment if necessary.

After hours, the City message directs callers to the Police Department Dispatch Center. The Dispatcher attempts to determine the appropriate agency or on-call staff to call for response.

City SSOs are typically small volume (less than 1,000 gallons, with most less than 100 gallons) with little potential for human health impacts or impact to waters of the State. If a serious spill were to occur after hours, the Dispatcher would contact the City's on-call staff, who serve as the after-hours on-call sewer maintenance personnel for all sewer related issues. The on-call staff would then contact the appropriate response staff as well as the Public Works Superintendent who would submit the 24-hour report to the RWQCB.



**Figure 2-2. City of San Carlos Chain of Communication**

~ END OF ELEMENT 2 ~

## Element 3: LEGAL AUTHORITY

This section of the SSMP describes the Legal Authority of the City through Sewer Ordinances to enforce the SSMP elements. This section fulfills the Legal Authority requirements of both the RWQCB (Element 5) and the SWRCB (Element 3) SSMP requirements.

### 3.1 Regulatory Requirements for Legal Authority Element

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

#### **RWQCB Requirement:**

The collection system agency shall describe its legal authority, through sewer use ordinances, services agreements, or other legally binding procedures to control infiltration/inflow (I/I) from satellite wastewater collection systems and laterals; require proper design and construction of new and rehabilitated sewers and connections; and require proper installation, testing, and inspection of new and rehabilitated sewers.

#### **SWRCB Requirement:**

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

- (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.

Applicable ordinances pertinent to sanitary sewer include Sections 13.04.070, 13.05.050-13.05.090, and 13.08.080 of the City Municipal Code that discuss prohibited discharges into the sewer system along with the violation and penalty that the City could impose on the discharges. See below for the particular sections that discuss prohibited discharges and violation and penalty:

#### **13.04.070 Prohibited discharges into sewers.**

No person shall discharge or cause to be discharged any of the following described waste liquids, oils or solids into any public sewer:

- A. Any liquids or vapor having a temperature greater than one hundred and forty degrees Fahrenheit;
- B. Any water containing gasoline, benzene, naphtha, petroleum oils or any volatile, inflammable or explosive gas, liquid or solid;

- C. Any waste which contains more than one hundred parts per million by weight of fat, oil or grease;
- D. Any sand, grit, straw, metal, glass, rags, feathers, tar, plastic, wood, manure, dead animals, offal, or any other solid or viscous substance capable of causing obstruction to the flow in sewers, or which in any way interferes with the proper operation of the sewage system;
- E. Any garbage which has not been properly shredded;
- F. Any waste containing a toxic or poisonous substance in sufficient quantities to constitute a hazard to humans or animals, or to create a hazard in the sewage system and/or the sewage treatment plant, or to injure or interfere with any sewage treatment process;
- G. Any waste containing suspended solids of such character or quantity that unusual attention or expense is required to handle such material at the sewage treatment plant;
- H. Any noxious or malodorous gas or substance capable of or creating a public nuisance;
- I. Any liquid waste having a pH lower than 6.0 or higher than 8.0, or having a corrosive property capable of causing damage or hazard to structures or equipment of the sewage system or the treatment plant;
- J. Any cesspool or septic tank drainage, except as provided for by this section. (Ord. 507 § 1, 1960)

**13.04.080 Violation—Penalty.**

- A. Any person violating any of the provisions or failing to comply with any of the mandatory requirements of the ordinances of the City is guilty of a misdemeanor, unless the violation is made an infraction by ordinance.
- B. Except in cases where a different punishment is prescribed by any ordinance of the City, any person convicted of a misdemeanor for violation of an ordinance of the City is punishable by a fine of not more than one thousand dollars, or by imprisonment not to exceed six months, or by both such fine and imprisonment.
- C. Any person convicted of an infraction for violation of an ordinance of the City is punishable by:
  - 1. A fine not exceeding one hundred dollars for a first violation;

2. A fine not exceeding two hundred dollars for a second violation of the same ordinance within one year; or
  3. A fine not exceeding five hundred dollars for each additional violation of the same ordinance within one year.
- D. Each person is guilty of a separate offense for each and every day during any portion of which any violation of any provision of this chapter is committed, continued or permitted by any such person, and he shall be punishable accordingly.
- E. In addition to the penalties set out in this chapter, any condition caused or permitted to exist in violation of any of the provisions of this chapter shall be deemed a public nuisance and may be, by the City, summarily abated as such, and each day such condition continues shall be regarded as a new and separate offense. (Ord. 978 § 2 (part), 1987)

**13.05.040 General requirements for sewer lateral inspection, repair and/or replacement.**

- A. Administration. The Director is authorized to prepare and publish administrative procedures which shall, among other things, establish the following:
1. Standards for sewer lateral inspection, repair and/or replacement.
  2. Standards for sewer relief valves and sewer backwater valve devices.
  3. Standards for root removal from sewer laterals.
  4. A standard notice to repair and enforcement procedures for sewer lateral repair and/or replacement.
  5. An enforcement response plan related to sewer ordinances.
- B. Applicability.
1. This chapter shall apply to property located within the City or connected to the City's sewer collection system through an outside sewer service agreement.
  2. All sewer laterals connected to the public sewer, including sewer laterals serving residential, multifamily residential, commercial or industrial uses, shall be inspected in accordance with the appropriate provisions of Sections 13.05.050 through 13.05.090 upon

the occurrence of any of the following, unless a valid certificate of sewer lateral compliance is on file with the City:

- a. Application for a new connection to the sewer collection system; or
- b. Application for a building permit for a building improvement; or
- c. In conjunction with a repair or replacement of the sewer main to which the sewer lateral is connected; or
- d. In conjunction with smoke testing of the sewer main; or
- e. Subsequent to a sanitary sewer overflow resulting from blockage in a lower lateral.

C. **Private Sewer Lateral Maintenance Responsibility.** The property owner is responsible for the maintenance, repair, and replacement of their private sewer lateral. The maintenance responsibility for a private pressure lateral to the City sewer main shall always remain with the property owner. The Director of Public Works or his/her designee(s) shall have the sole discretion to determine whether the private gravity lower lateral is acceptable.

D. **Approved Inspection Methods.** Inspection of sewer laterals shall be conducted according to standards adopted by the Director. Inspection shall be conducted by closed circuit television or three-dimensional photography. Inspection shall be performed by a licensed plumber, contractor, or other person who possesses any license required by law, if any, to perform the inspection. The inspection record shall contain a photo or a video of the exterior of the property being inspected. Inspection shall not commence without a valid permit issued by the City, which provides the opportunity for the inspection to be witnessed by the Director. Upon completion of visual inspection, the person conducting the inspection shall provide a copy of the inspection results to the Director. A video inspection shall be valid for a period of six months from the date of video.

E. **Sewer Relief Valve Requirements.** A sewer relief valve shall be installed by the property owner on the sewer cleanout.

F. **Sewer Backwater Valve.** A sewer backwater valve shall be installed by the property owner on the upper lateral where the elevation of any floor of the building is below the invert of the sewer main, where a condition exists where a blockage in the sewer main would cause the sewer to back up to an elevation above the lowest floor level of the building, or where a pump is used to lift sewage to the sewer lateral or sewer main.

G. Requirements for Sewer Lateral Repair and/or Replacement. The Director shall issue a notice to repair when the sewer lateral has conditions which would result in an unacceptable amount of inflow or infiltration to enter the sewer system or which would result in an unacceptable risk of blockages. The Director shall have the sole discretion to determine when repair and/or replacement is required due to unacceptable conditions of a sewer lateral. A sewer lateral shall be considered in compliance with the provisions of this chapter if inspection verifies all of the following conditions to the satisfaction of the Director:

1. The sewer lateral is free of roots, deposits of FOG, and/or other solids which may impede or obstruct the flow of sewage.
2. There are no illicit or illegal connections to the sewer lateral which would cause inflow, such as roof leaders or yard drains.
3. All joints in the sewer lateral are tight and sound to prevent the exfiltration of sewage and/or the infiltration of groundwater.
4. The sewer lateral is free of structural defects, cracks, breaks, or missing portions and the grade is reasonably uniform without major sags or offsets.
5. The sewer lateral is equipped with cleanouts as shown on the City's standard detail.
6. The sewer lateral is constructed of materials with a remaining design life of at least twenty-five years. "Orangeburg pipe," a bituminized fiber pipe made from layers of wood pulp and pitch pressed together, shall be considered to be at the end of its design life.
7. A sewer relief valve is installed.
8. A sewer backwater valve, if required, is installed.

H. Time Limit for Sewer Lateral Repair and/or Replacement. Repair and/or replacement of sewer laterals shall be completed within ninety calendar days after the issuance of a notice to repair.

I. Time Limit for Root Removal. Removal of tree roots from sewer laterals shall be completed within one hundred twenty days after the issuance of a notice to repair.

J. Permits Required for Repair. All repair or replacement work shall be completed by a person properly licensed to perform the work, including a licensed plumber and/or contractor, and shall

be completed under all appropriate permits from the City including, as appropriate, building and encroachment permits.

K. Repair Performed by City and Recovery of Costs.

1. If the sewer lateral repair/replacement and/or sewer lateral root removal are not completed by the property owner within the required time limits, including any extensions granted, the City shall complete the required repair/replacement and/or root removal. The cost in any sum of money expended by the City in making such a repair/replacement shall become a lien upon the property served by the sewer lateral and may be recovered in an action brought thereof in the name of the City; or, in the alternative, such cost and expenditure may be placed upon the County Tax Bill to be collected by San Mateo County for the benefit of the City.

2. Prior to the City causing the lien to be placed on the County Tax Bill, the City Clerk shall notify the property owner of the intent to place the cost of the repair/replacement on the County Tax Bill and shall give the property owner the opportunity to appear before the City Council to show cause for why such sums should not be placed on the County Tax Bill to be collected for the benefit of the City.

3. Any and all sums determined to be due and owing to the City by resolution of the City Council shall accrue interest at the rate set by resolution, but not to exceed ten percent per year.

L. Final Inspection. Upon completion of the repair and/or replacement of the sewer lateral, reinspections shall be conducted until the sewer lateral passes inspection. (Ord. 1491 § 5 (part), 2015; Ord. 1424 § 1 (part), 2010)

**13.05.050 Requirements for sewer lateral inspection, repair and/or replacement as a condition of permits for building improvements.**

A. Responsibility for Sewer Lateral Inspection, Repair and/or Replacement. The applicant for permits for building improvements shall be responsible for performing sewer lateral inspection, repair and/or replacement. A building permit shall be obtained if one has not already been obtained.

B. Occupancy Contingent on Completion of Sewer Lateral Repair and/or Replacement. Occupancy permits for building improvements shall only be issued if the sewer lateral passes inspection. (Ord. 1491 § 5 (part), 2015: Ord. 1424 § 1 (part), 2010)

**13.05.060 Requirements for upper lateral inspection, repair and/or replacement in conjunction with repair and/or replacement of the sewer main.**

A. Responsibility for Inspection of Upper Lateral and Lower Lateral. Upon repair and/or replacement of the sewer main, the City may inspect the upper lateral and/or the lower lateral. In addition to visual inspection, the inspection performed by the City may include smoke testing, dye testing or other methods to assess the condition of the sewer lateral.

B. Responsibility for Repair and/or Replacement of Sewer Lateral. The property owner shall be responsible for repair and/or replacement of the upper lateral in the case where the City is repairing and/or replacing the sewer main and/or the lower lateral. The property owner shall also be responsible for correcting all sources of inflow to the sewer lateral.

C. Notice to Repair and Time Limits. A notice to repair will be issued by the Director when conditions are observed in conjunction with repair and/or replacement of the sewer main which require repair and/or replacement of the sewer lateral. Time limits for repair and/or replacement of the sewer lateral shall be as stated in Section 13.05.040.

D. Repair Performed by City and Recovery of Costs. If the sewer lateral repair/replacement and/or root removal are not completed within the required time limits, including any extensions granted, the City shall complete the required repair/replacement and/or root removal, and the costs thereof shall be recovered in accordance with Section 13.05.040. (Ord. 1491 § 5 (part), 2015: Ord. 1424 § 1 (part), 2010)

**13.05.070 Requirements for sewer lateral inspection, repair and/or replacement upon smoke testing of the sewer main.**

A. Responsibility for Inspection. The City may perform smoke testing of sewer mains to detect sources of inflow. Upon notification by the Director that smoke testing indicates the presence of inflow from private property, it shall be the responsibility of the property owner to perform an inspection of the sewer lateral according to the approved inspection methods described in Section 13.05.040.

B. Responsibility for Repair and/or Replacement of Sewer Lateral. The property owner shall be responsible for repair and/or replacement of the sewer lateral in the case where a notice to repair has been issued as a result of smoke testing.

C. Notice to Repair and Time Limits. A notice to repair will be issued by the Director when conditions are observed in conjunction with smoke testing which require repair and/or replacement of the sewer lateral. Time limits for repair and/or replacement of the sewer lateral shall be as stated in Section 13.05.040.

D. Repair Performed by City and Recovery of Costs. If the sewer lateral repair/replacement and/or root removal are not completed within the required time limits, including any extensions granted, the City shall complete the required repair/replacement and/or root removal, and the costs thereof shall be recovered in accordance with Section 13.05.040. (Ord. 1491 § 5 (part), 2015: Ord. 1424 § 1 (part), 2010)

**13.05.080 Requirements for sewer lateral inspection, repair and/or replacement upon sanitary sewer overflows and/or sewer backups.**

A. Responsibility for Inspection. The City may perform inspection of sewer laterals upon sanitary sewer overflows and/or sewer backups.

B. Responsibility for Repair and/or Replacement of Sewer Lateral. The property owner shall be responsible for repair and/or replacement of the upper lateral in the case where a notice to repair has been issued following a sanitary sewer overflow and/or a sewer backup. The property owner shall also be responsible for correcting all sources of inflow to the sewer lateral.

C. Notice to Repair and Time Limits. A notice to repair will be issued by the Director when conditions are observed in conjunction with sewer overflow and/or a sewer backup which require repair and/or replacement of the sewer lateral. Time limits for repair and/or replacement of the sewer lateral shall be as stated in Section 13.05.040.

D. Repair Performed by City and Recovery of Costs. If the sewer lateral repair/replacement and/or root removal are not completed within the required time limits, including any extensions granted, the City shall complete the required repair/replacement and/or root removal, and the costs thereof shall be recovered in accordance with Section 13.05.040. (Ord. 1491 § 5 (part), 2015: Ord. 1424 § 1 (part), 2010)

**13.05.090 Failure to repair and/or replace sewer lateral a public nuisance.**

The failure of a property owner to repair and/or replace a sewer lateral within the time limits stated in Section 13.05.040:

- A. Shall be deemed a public nuisance.
- B. Shall relieve the City, its officers, employees and agents from any liability, damages, or claims resulting from a sewer backup, regardless of whether the sewer backup occurs from a blockage of a sewer main or a sewer lateral. (Ord. 1491 § 5 (part), 2015; Ord. 1424 § 1 (part), 2010)

**13.08.080 Fats, oils and grease (FOG).**

A. Coordination with Building Codes. The provisions of this chapter are intended to complement, rather than supersede, the provisions of City building codes and regulations applicable to the installation and operation of grease capturing equipment. In the case of a conflict between this chapter and City building codes and regulations, the City building codes and regulations shall govern.

B. FOG Prohibitions.

1. Disposal of FOG or any food waste containing FOG directly into drains leading to sewerage facilities is prohibited, except in accordance with this section and applicable building codes and regulations.
2. Discharge of wastewater with a temperature higher than one hundred forty degrees Fahrenheit to or through a grease removal device is prohibited.
3. Discharge of wastewater from dishwashers to or through a grease removal device is prohibited.
4. Water closets, urinals and other plumbing fixtures conveying human waste shall not drain to or through any grease removal device.
5. The discharge of solvents or additives that emulsify grease into drainage pipes leading to or through a grease removal device is prohibited.
6. The use of biological additives, including but not limited to enzymes, into drainage pipes leading to or through a grease removal device is prohibited.

C. General FOG Requirements. All food service establishments shall properly store and recycle or dispose of FOG diverted from their liquid waste streams in accordance with all laws and regulations applicable to such storage, recycling and disposal.

D. Grease Removal Device Required.

1. Grease Interceptors. The owner of any newly constructed, remodeled commercial, institutional or industrial facility which remodeling is permitted with one or more FOG-generating activities, including food service establishments, shall install, or cause to be installed, a grease removal device for each FOG-generating activity. The grease removal device shall be of a size equal to or greater than the minimum size meeting the sizing criteria for “grease interceptors,” as set forth in the applicable edition of the Uniform Plumbing Code adopted by the International Association of Plumbing and Mechanical Officials and the current California Plumbing Code to which the owner is subject and shall have a sampling access point located downstream of the grease interceptor. Grease interceptors shall have a minimum pumping frequency of three months, or more frequently if necessary to ensure there are no downstream blockages of lines.

2. FOG Blockage. Any owner of a commercial, institutional or industrial generator of FOG, including food service establishments, found to have a FOG blockage, a history of FOG blockage or accelerated line maintenance resulting from FOG disposal shall install, or cause to be installed, upon notification by the City, a grease removal device in accordance with the applicable edition of the current Uniform Plumbing and California Plumbing Codes to which the owner is subject.

3. Remodeled Facilities. The owner of any commercial, institutional or industrial generator of FOG, including food service establishments, that performs a remodel, alteration and/or repairs valued at or greater than twenty-five thousand dollars, shall install or cause to be installed a grease removal device in accordance with the applicable edition of the current California Plumbing Codes to which the owner is subject. The Building Official shall make the final determination when a grease removal device is required.

D. Grease Removal Device Operations and Maintenance.

1. Grease removal devices must be operated and maintained effectively and properly at all times. Food service establishments may be required to keep and/or provide equipment maintenance and service logs or receipts, and to retain such logs on site.

2. Grease removal devices shall be maintained at a frequency such that the combined FOG accumulation and settled solid material does not exceed twenty-five percent of the total hydraulic depth of the equipment.
3. Food service establishments must follow the manufacturer's recommendations and guidelines for appropriate operations and maintenance of grease removal devices. Information on the manufacturer-recommended operations and maintenance of the grease removal devices shall be retained on site by the food service establishment.
4. FOG waste that is removed by any means other than self-cleaning must be removed by a grease hauler certified by the California Department of Food and Agriculture. The maintenance records signed by the certified grease hauler shall be retained on site by the food service establishment for three years.
5. Materials removed from grease removal devices shall not be reinserted into a grease interceptor or allowed to pass into the sewerage facilities. (Ord. 1424 § 1 (part), 2010)

### 3.2 Element 3 Appendix

There is no appendix associated with Element 3.

~ END OF ELEMENT 3 ~

## Element 4: MEASURES AND ACTIVITIES – OPERATIONS & MAINTENANCE

This section of the SSMP discusses the City's Measures & Activities, and Operations & Maintenance Program to provide effective management of the collection system. This section fulfills the measures and activities and operations and maintenance program requirements of both the RWQCB and the SWRCB SSMP requirements.

### 4.1 Regulatory Requirements for Measures & Activities and Operations & Maintenance Element

The summarized requirements for the Measures & Activities and Operations & Maintenance element of the SSMP are as follows:

#### RWQCB Requirement:

The collection system agency shall maintain the following key items:

1. Up-do-date maps of its wastewater collection system facilities. The SSMP should describe the type of maps currently being used by the sewer system agency, along with procedures for updating the maps with new and rehabilitated facilities. Sewer maps should include at least the basic information shown in Table 6-1 below, inclusive of additional attributes which may be useful to the agency are shown in the column to the right of the basic attributes.

Table 6-1. Basic Map Information

| Facility Type        | Basic Map Information                                                                                                                                                                                                        | Additional Map Information                                                                                                                                                                                           |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Manholes</b>      | <ul style="list-style-type: none"><li>- ID number or other unique identifier</li><li>- Location, with reference to streets and proper lines</li><li>- Depth</li></ul>                                                        | <ul style="list-style-type: none"><li>- GPS coordinates</li><li>- Date built</li><li>- Rim elevation</li><li>- Invert elevation</li><li>- Size</li><li>- Material Type</li><li>- Worker safety information</li></ul> |
| <b>Pipes</b>         | <ul style="list-style-type: none"><li>- ID number or other unique identifier</li><li>- Location, with reference to streets and property lines</li><li>- Direction of flow</li><li>- Length</li><li>- Material type</li></ul> | <ul style="list-style-type: none"><li>- Date built</li><li>- Slope</li><li>- Pipe invert elevations</li><li>- Plan or as-built ID number</li></ul>                                                                   |
| <b>Pump Stations</b> | <ul style="list-style-type: none"><li>- ID number</li><li>- Location</li></ul>                                                                                                                                               | <ul style="list-style-type: none"><li>- Additional information would normally be available on drawings, or a GIS if available</li></ul>                                                                              |

2. The collection system agency shall also maintain resources and budget to allocate adequate resources for the operation, maintenance, and repair of its collection system. The SSMP should demonstrate that the resources are adequate for an acceptable delivery of the agency's services to the public, including capital replacement.

3. The collection system agency shall prioritize its preventive maintenance activities and describe the system currently in use for prioritized preventive maintenance, and any plans for improving the system, as needed, to maintain the integrity of the system and reduce the frequency of SSOs. The program should address criteria and results for short-term and long-term prioritization of corrective actions based on structural or other deficiencies identified during preventive maintenance activities.
4. The collection system agency shall identify and prioritize structural deficiencies and implement a program of prioritized short-term and long-term projects to address them. The SSMP should describe the approach currently used for scheduled inspections and condition assessment of the sewer collection system. The approach should address criteria and results for short-term and long-term prioritization of corrective actions based on identified structural or other deficiencies and should also be consistent with the overall goal of maintaining the integrity of the system and reducing the frequency of SSOs.
5. The collection system agency shall provide contingency equipment to handle emergencies, and spare/replacement parts intended to minimize equipment facility downtime. The SSMP should summarize the critical spare parts inventory and list major equipment used for sewer system operation and maintenance. Specific aspects of the replacement parts inventories can also be described (e.g. use of the same model pumps at multiple locations to reduce needed replacements).
6. The collection system agency shall provide training on a regular basis for its staff in collection system operations, maintenance and monitoring. It should also include a description of the agency's training program and whether any changes or improvements are anticipated in the near future.
7. The collection system agency shall implement an outreach program to educate commercial entities involved in sewer construction or maintenance about the proper practices for preventing blockages in private laterals. This requirement can be met by participating in a region-wide outreach program.

#### **SWRCB Requirement:**

The SSMP must include those elements listed below that are appropriate and applicable to the Enrollee's system:

1. Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities;
2. Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders;
3. Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and 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;

4. Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained; and
5. Provide equipment and replacement part inventories, including identification of critical replacement parts.

## **4.2 Element 4 Appendix**

There is no appendix associated with Element 4.

## **4.3 Measures & Activities – Operations & Maintenance Discussion**

### **Operation & Maintenance Program - SWRCB (Measures & Activities - RWQCB)**

- The city is utilizing Lucy software for the data base of all the wastewater collection system in the City. The primary functions of the Lucy software are:
  1. Maintain service request and maintenance history information for each individual collection system asset.
  2. Produce regular update the maintenance schedule based on feedback information from the cleaning operations.
  3. Generate reports that support data analysis and decision-making in the implementation of the sewer Capital Improvement Program,
  4. Provide documentation for use in regulatory compliance reporting.
- The data base also includes the following information:
  1. Manhole identifications
  2. Locations (Street or Easement)
  3. Sewer main size and type (VCP, PVC, HDPE, etc...)
  4. Sewer main length
  5. Rim & invert elevations of the manholes
  6. Sewer mains slopes
  7. Number of sewer laterals on each segment
  8. Dates the sewer mains were replaced and/or rehabilitated
  9. Date of sewer mains TV inspection
  10. Date of sewer mains smoke tested
  11. Sewer mains, lateral and manholes with higher maintenance requirements
- The City has an accurate and up to date GIS mapping system which is tied to the Lucy's software system. The system is updated regularly by the Departments of Information Technology and Public Works and on-call GIS consultant.

- The City has been regularly implementing replacement or rehabilitation of sewer mains, lateral connection sanitary sewer manholes since 1984, with an average construction cost of approximately \$900,000 per year.
- The City implemented a city-wide flow monitoring program in 1988, in which a report was prepared identifying locations of excess infiltration/inflow (I/I) in the sewer system.
- The City implemented a flow monitoring project in 1997 at four manhole locations in Downtown and Industrial locations in which a report was prepared to identify areas of limited capacity.
- Based on the above mentioned I/I report, the City implemented smoke testing in all locations with potential high I/I quantities in 2012.
- After reviewing the above mentioned smoke testing findings, the City implemented TV inspection of the sewer mains with potential defects in 2012.
- Based on reviewing the above mentioned TV inspection results, the City consultant prioritized rehabilitation/replacement of the sewer mains, lateral connections and sewer manholes. The prioritization of the sewer mains to be replaced included sewer mains with inadequate capacity, in addition to the sewer mains with defects.
- The City has implemented the consultant recommendation (prioritization) through annual sewer replacement/rehabilitation projects. The upsizing of several sewer mains has resulted in elimination of a few potential manhole overflows. See Element 8, System Evaluation and Capacity Assurance Plan, for an in-depth look at the City's Capacity Assurance Plan.
- As of this date the City has replaced and/or rehabilitated more than 30% of the total 104 miles of the existing sewer mains in the City, since 1984.
- The City performs regular preventive maintenance activities such as scheduled cleaning of the sewer mains with higher frequency in the areas with a history of grease and fats, and stoppages, and also sanitary sewer manhole over flows.
- All the sewer maintenance activities, especially for those with high occurrences are recorded in the sewer system data base. These maintenance activities are tracked using the Lucity software.
- The City also implements annual TV inspection of the sewer mains with potential defects based on the sewer system maintenance records.
- The city uses the following equipment in the sewer response program:
  - Combination Trucks (hydroflush and vactor)
  - Hydroflusher

- o Mechanical rodder
  - o CCTV Truck
  - o Utility truck
  - o Portable pumps
  - o Portable generator
  - o Dump trucks
  - o Backhoes
  - o Spare pipe & fittings
- The City provides semi-annual maintenance inspections on all pumps.
- Employees are provided with information on wastewater collection certification and training through CWEA. Employees also attend annual training through ABAG on overflows.

~ END OF ELEMENT 4 ~

## **Element 5: DESIGN AND PERFORMANCE STANDARDS**

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This SSMP element discusses the design, construction and performance standards of the city sewer system. This section fulfills the design, construction and performance requirements of both the RWQCB and the SWRCB SSMP requirements.

### **5.1 Regulatory Requirements for Design, Construction & Performance Standards Element**

The summarized requirements for the Design, Construction & Performance Standards element of the SSMP are as follows:

#### **RWQCB Requirement:**

The collection system agency shall identify the following key items:

1. Identify minimum design and construction standards and specifications for the installation of new sewer systems and for the rehabilitation and repair of existing sewer systems. It should also evaluate if the existing design standards are appropriate and up to date. If the agency believes its current standards are appropriate, the agency can refer to the documentation that already exists, and provide a discussion in the SSMP.
2. Identify procedures and standards for inspecting and testing the installation of new sewers, pump stations, and other appurtenances; and for rehabilitation and repair projects. As with the design and construction standards, many communities already have specific standards for inspection and testing in place, and in that case, the SSMP should refer to the documentation that already exists.

#### **SWRCB Requirement:**

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

### **5.2 Element 5 Appendix**

There is no appendix associated with Element 5.

### **5.3 Design, Construction & Performance Standards Discussion**

#### **City's Standard Specifications and Details for Construction**

- The 2014 edition of the City of San Carlos Standard Specifications and Details for Public Works Construction, issued by the Department of Public Works, identify minimum construction standards and specifications for the installation of new sanitary sewer systems and for the rehabilitation and repair of existing sewer systems.

- The complete City of San Carlos Standard Specifications and Details are available at City's internet website in Adobe PDF format.

### **Design Guidelines**

- The City has recently created a design guideline in July 2014 for various applications including earthwork and grading, streets and roadways, concrete, underground utilities, storm and sanitary sewers, street lighting and traffic signals, irrigation systems and improvement plans. This design guideline establishes minimum standards for construction of public sanitary sewers. These guidelines are intended to aid consulting engineers, developers and others doing work in the City on public sanitary sewer projects.
- The guidelines set forth the minimum cover from finished surface to top of pipe; design flow depth and minimum slope; pipe material, minimum spacing/clearance and sizing for laterals mains and manholes; sewer connection; site planning; and sewer cleanout.
- The design guidelines can be downloaded through the City of San Carlos Department of Public Works website.

### **Other Design Standards Used**

- Design and construction of sanitary sewer also adhere to Standard Specifications for Public Works Construction, also called the "Greenbook", American Society for Testing and Materials (ASTM) and appropriate industry standards. Each capital project has its own special provisions that include sections on material, installation of pipes and their appurtenances, inspection, testing and acceptance of work. The City also looks beyond the traditional pipe replacing and rehabilitation method of open trench by seeking a more efficient and environmental friendly trenchless technique to rehabilitate and/or replace sanitary sewers. Some of the trenchless techniques used by the City for rehabilitation are:
  - Cured-in-Place Pipe Lining
  - Direction Drilling
  - Pipe Bursting
  - Micro-Tunneling

### **Inspection Processes**

- Our inspection team has created an inspection checklist to ensure that construction of sanitary sewer is completed according to City's Standard Specification, Details, the Greenbook, ASTM standards and project plans and specifications. The check list includes inspection processes in the following areas:
  - Before construction: plan check, specifications review, pre-job, material submittals

- o Clearing and grubbing checklist
- o Pre-construction meeting
- o General and preliminary dealing with permits, safety, traffic control, etc.
- o Trenching
- o Pipe laying
- o Trench backfill and jetting (or compaction)
- o Manholes and structures
- o Street and surface restoration
- o Miscellaneous and testing

~ END OF ELEMENT 5 ~

## Element 6: OVERFLOW EMERGENCY RESPONSE PLAN

This section of the SSMP discusses the City's overflow emergency response plan, which is included in full in Appendix A. This section fulfills the Overflow Emergency Response Plan requirement of both the RWQCB and the SWRCB SSMP requirements.

### 6.1 Regulatory Requirements for Overflow Emergency Response Plan Element

The summarized requirements for the Overflow Emergency Response Plan element of the SSMP are as follows:

#### RWQCB Requirement:

The collection system agency must develop an overflow emergency response plan (OERP) that provides procedures for SSO notification, response, reporting, and impact mitigation. The response plan should be developed as a stand-alone document and summarized in the SSMP.

#### SWRCB Requirement:

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

- (a) Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;
- (b) A program to ensure appropriate response to all overflows;
- (c) Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, regional water boards, water suppliers, etc...) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the MRP. All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDR 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 untreated wastewater and prevent discharge of untreated wastewater to waters of the United States and minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

### 6.2 Element 3 Appendix

Supporting information for Element 6 is included in Appendix A. This appendix includes the following documents:

1. City Sewer Overflow Emergency Response Plan (OERP)
2. City Standard Operating Procedures for Sewer Pump Station Failure

## 6.3 Emergency Overflow Response Plan Discussion

The City has two separate documents that define procedures or guidelines for responding to sewer overflows or other sewer-related emergencies (e.g., stoppages or pump station failures).

The Sanitary Sewer Overflow Emergency Response Plan (OERP) has been adopted as a general policy of the City's Public Works Department and provides the overarching overflow emergency response procedures from the receipt of a sewer overflow complaint, through response and cleanup, to reporting of the overflow to the appropriate government agencies. This document is relevant to anyone involved in the overflow response process, including the person initially receiving information about SSOs, the response field crew and supervisor, the person responsible for submitting overflow reports, and other emergency responders who could potentially be involved in the process (police and fire departments).

The Standard Operating Procedures for Sewer Pump Station Failure provides brief instructions on who to contact and how to respond in the case of a failure at any of the City's pump stations.

The Overflow Response Plan is summarized in the following subsection. This document and the Standard Operating Procedures for pump station failure are included in Appendix B. These documents provide the procedures and guidelines necessary for fulfilling both the RWQCB and SWRCB emergency response plan requirements.

## 6.4 Summary of Sanitary Sewer Overflow Emergency Response Plan

The City's overflow response plan is divided into seventeen sections and five appendixes as follows:

1. Purpose
2. Policy
3. Definitions as used in this OERP
4. Regulatory Requirements for OERP Element of SSMP
5. Goals
6. Sanitary Sewer Overflow (SSO) Detection and Notification
7. SSO Response Procedures
8. Recovery and Cleanup
9. Water Quality
10. Sewer Backup Into/Onto Private Property Claims Handling Policy
11. Notification, Reporting, Monitoring and Recordkeeping Requirements
12. Post SSO Event Debriefing
13. Failure Analysis Investigation
14. SSO Response Training
15. High Priority Assets
16. Authority
17. References
18. Appendix A: Regulatory Notifications Packet
19. Appendix B: Sanitary Sewer Backup Packet
20. Appendix C: Sanitary Sewer Overflow Packet
21. Appendix D: Field Sampling Kit

The objectives of the City's OERP are to protect public health and the environment, satisfy regulatory agency requirements, and minimize risk of enforcement actions against the City. Additional objectives include providing appropriate customer service and protecting City personnel, the collection system and facilities, and private and public property.

### **1. Purpose**

The purpose of the City of San Carlos's Overflow Emergency Response Plan (OERP) is to support an orderly and effective response to Sanitary Sewer Overflows (SSOs). The OERP provides guidelines for City personnel to follow in responding to, cleaning up, and reporting SSOs that may occur within the City's service area. This OERP satisfies the SWRCB Statewide General Waste Discharge Requirements (GWDR), which require wastewater collection agencies to have an Overflow Emergency Response Plan.

### **2. Policy**

The City's employees are required to report all wastewater overflows found and to take the appropriate action to secure the wastewater overflow area, properly report to the appropriate regulatory agencies, relieve the cause of the overflow, and ensure that the affected area is cleaned as soon as possible to minimize health hazards to the public and protect the environment. The City's goal is to respond to sewer system overflows as soon as possible following notification. The City will follow reporting procedures in regards to sewer spills as set forth by the San Francisco Regional Water Quality Control Board (SFRWQCB) and the California State Water Resources Control Board (SWRCB).

### **3. Definitions Used**

### **4. State Regulatory Requirements for Element 6, Overflow Emergency Response Plan**

### **5. Goals**

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

- Work safely;
- Respond quickly to minimize the volume of the SSO;
- Eliminate the cause of the SSO;
- Prevent sewage system overflows or leaks from entering the storm drain system or receiving waters to the maximum extent practicable;
- Contain the spilled wastewater to the extent feasible;
- Minimize public contact with the spilled wastewater;
- Mitigate the impact of the SSO;

- Meet the regulatory reporting requirements;
- Evaluate the causes of failure related to certain SSOs; and
- Revise response procedures resulting from the debrief and failure analysis of certain SSOs.

## **6. SSO Detection and Notification**

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

The City operates six wastewater lift stations. In the event of any pump failure, the high level sensor activates the SCADA alarm system and the City is contacted. To prevent overflow, wastewater from the wet well can either be pumped into a vacuum truck for disposal to a nearby sanitary sewer manhole, or bypassed around the station into the sanitary sewer system.

## **7. SSO Response Procedures**

### **7.1 Sewer Overflow/Backup Response Summary**

The City will respond to SSOs as soon as feasible following notification of an overflow/backup or unauthorized discharge. The following (Figure 7.1) is an overview of the response activities.

#### **7.1 First Responder Priorities**

The first responder's priorities are:

- To follow safe work practices.
- To respond promptly with the appropriate and necessary equipment.
- To contain the spill wherever feasible.
- To restore the flow as soon as practicable.
- To minimize public access to and/or contact with the spilled sewage.
- To promptly notify the Senior Maintenance Worker in the event of major SSO.
- To return the spilled sewage to the sewer system.
- To restore the area to its original condition (or as close as possible).

#### **7.2 Safety**

The first responder is responsible for following safety procedures at all times. Special safety precautions must be observed when performing sewer work. There may be times when City personnel responding to a sewer system event are not familiar with potential safety hazards peculiar to sewer work. In such cases it is appropriate to take the time to discuss safety issues, consider the order of work, and check safety equipment before starting the job.

### **7.3 Initial Response**

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

The first responder will:

- Note arrival time at the site of the overflow/backup.
- Verify the existence of a public sewer system spill or backup.
- Determine if the overflow or blockage is from a public or private sewer.
- Identify and assess the affected area and extent of spill.
- Contact caller if time permits.
- If the spill is large or in a sensitive area, document conditions upon arrival with photographs. Decide whether to proceed with clearing the blockage to restore the flow or to initiate containment measures. The guidance for this decision is:
  - o Small spills (i.e., spills that are easily contained) – proceed with clearing the blockage.
  - o Moderate or large spill where containment is anticipated to be simple – proceed with the containment measures.
  - o Moderate or large spills where containment is anticipated to be difficult – proceed with clearing the blockage; however, whenever deemed necessary, call for additional assistance and implement containment measures.
- Take steps to contain the SSO. For detailed procedures refer to Appendix B: Sanitary Sewer Backup Procedures, and Appendix C: Sanitary Sewer Overflow Packet.

### **7.4 Initiate Spill Containment Measures**

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

- Determine the immediate destination of the overflowing sewage.
- Plug storm drains using air plugs, sandbags, and/or plastic mats to contain the spill, whenever appropriate. If spilled sewage has made contact with the storm drainage system, attempt to contain the spilled sewage by plugging downstream storm drainage facilities.
- Contain/direct the spilled sewage using dike/dam or sandbags.
- Pump around the blockage/pipe failure.

For detailed procedures refer to Appendix C: Sanitary Sewer Overflow Packet.

### **7.5 Restore Flow**

Using the appropriate cleaning equipment, the first responder will set up downstream of the blockage and hydro-clean upstream from a clear manhole. Attempt to remove the blockage from the system and observe the flows to ensure that

the blockage does not reoccur downstream. If the blockage cannot be cleared within a reasonable time from arrival, or sewer requires construction repairs to restore flow, then initiate containment and/or bypass pumping. If other assistance is required, immediately contact the Senior Maintenance Worker. For detailed procedures refer to Appendix C: Sanitary Sewer Overflow Packet.

## **7.6 Equipment**

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

- *Closed Circuit Television (CCTV) Inspection Unit* – A CCTV Inspection Unit is required to determine the root cause for all SSOs from gravity sewers.
- *Camera* -- A digital or disposable camera is required to record the conditions upon arrival, during clean up, and upon departure.
- *Emergency Response Trucks* -- A utility body pickup truck, or open bed is required to store and transport the equipment needed to effectively respond to sewer emergencies. The equipment and tools will include containment and clean up materials.
- *Portable Generators, Portable Pumps, Piping, and Hoses* – Equipment used to bypass pump, divert, or power equipment to mitigate an SSO.
- *Combination Sewer Cleaning Trucks* -- Combination high velocity sewer cleaning trucks with vacuum tanks are required to clear blockages in gravity sewers, vacuum spilled sewage, and wash down the impacted area following the SSO event.
- *Air plugs, sandbags and plastic mats*
- *SSO Sampling Kits*
- *Portable Lights*

## **8. Recovery and Cleanup**

The recovery and cleanup phase begins immediately after the flow has been restored and the spilled sewage has been contained to the extent possible. The SSO recovery and cleanup procedures are:

### **8.1 Estimate the Volume of Spilled Sewage**

### **8.2 Recovery of Spilled Sewage**

### **8.3 Clean-up and Disinfection**

### **8.4 Public Notification**

## **9. Water Quality**

Elements related to water quality are address in the following sections.

### **9.1 Waters of the State**

### **9.2 Water Quality Sampling and Testing**

### **9.3 Water Quality Monitoring Plan**

### **9.4 SSO Technical Report**

## **10. Sewer Backup Into/Onto Private Property Claims Handling Policy**

It is the policy of the City that a claims form shall be offered to anyone wishing to file a claim. Specific procedures will be observed for all sewer overflows/backups into/onto private property

## **11. Notification, Reporting, Monitoring and Recordkeeping Requirements**

In accordance with the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (SSS GWDRs), the City of San Carlos maintains records for each sanitary sewer overflow. Records include:

- Documentation of response steps and/or remedial actions
- Photographic evidence to document the extent of the SSO, field crew response operations, and site conditions after field crew SSO response operations have been completed. The date, time, location, and direction of photographs taken will be documented.
- Documentation of how any estimations of the volume of discharged and/or recovered volumes were calculated including all assumptions made.

## **12. Post SSO Event Debriefing**

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

As soon as possible after Category 1 and Category 2 SSO events all of the participants, from the person who received the call to the last person to leave the site, will meet to review the procedures used and to discuss what worked and where improvements could be made in preventing or responding to and mitigating future SSO events. The results of the debriefing will be documented and tracked to ensure the action items are completed as scheduled.

## **13. Failure Analysis Investigation**

The objective of the failure analysis investigation is to determine the “root cause” of the SSO and to identify corrective action(s) needed that will reduce or eliminate future potential for the SSO to recur or for other SSOs to occur. The investigation will include reviewing all relevant data to determine appropriate corrective action(s) for the line segment. The product of the failure analysis investigation will be the determination of the root cause and the identification and scheduling of the corrective actions.

#### **14. SSO Response Training**

This section provides information on the training that is required to support this Overflow Emergency Response Plan. Including initial and annual refresher training, SSO response drills, recordkeeping, and contractors working on city facilities.

#### **15. High Priority Assets**

This section includes a list of assets that need to be monitored and inspected prior to, during, and following an extreme weather event or natural disaster: These include Associate, Tierra Linda, Lower Crestview, and Upper Crestview pump stations.

#### **16. Authority**

- Health & Safety Code Sections 5410-5416
- CA Water Code Section 13271
- Fish & Wildlife Code Sections 5650-5656
- State Water Resources Control Board Order No. 2006-0003-DWQ
- State Water Resources Control Board Order 2013-009-DWQ effective September 9, 2013

#### **17. References**

- Sanitary Sewer Overflow and Backup Response Field Guide
- Appendix A: Regulatory Notifications Packet
- Appendix B: Sanitary Sewer Backup Packet
- Appendix C: Sanitary Sewer Overflow Packet
- Appendix E: Contractor Orientation

~ END OF ELEMENT 6 ~

## **Element 7: FATS, OILS, AND GREASE (FOG) CONTROL PROGRAM**

This section of the SSMP discusses the City's FOG control measures, including identification of problem areas, focused cleaning, and source control. This section fulfills the FOG Control requirement for both the RWQCB and the SWRCB SSMP requirements.

### **7.1 Regulatory Requirements for FOG Control Element**

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

#### **RWQCB Requirement:**

The City must evaluate its service area to determine whether a Fats, Oils, and Grease (FOG) control program is needed. If so, a FOG control program shall be developed as part of the SSMP. If the City determines that a FOG program is unnecessary, proper justification must be provided.

#### **SWRCB Requirement:**

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

- (a) An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;
- (b) A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area;
- (c) The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;
- (d) Requirements to install grease removal devices (such as traps or interceptors) design standards for the grease removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements;
- (e) Authority to inspect grease producing facilities, enforcement authorities, and whether the City has sufficient staff to inspect and enforce the FOG ordinance;
- (f) An identification of sewer system sections subject to FOG blockages and establish a cleaning maintenance schedule for each section; and
- (g) Development and implementation of source control measures, for all sources of FOG discharged to the sewer system, for each sewer system section identified in (f) above.

### **7.2 Element 4 Appendix**

Supporting information for Element 7 is included in Appendix B. This appendix includes the following documents:

1. List of food facilities in the City of San Carlos (potential grease dischargers)
2. Residential FOG public outreach brochure.
3. Residential FOG door hanger
4. List of FOG impacted sewers cleaned on a periodic schedule.

## 7.3 FOG Control Discussion

The City has determined that a FOG control program is necessary per SSMP requirements. Over 70 food service facilities are located within City limits and discharge to City sewers. Operations and maintenance staff have also noted the tendency for grease buildup in specific sewer lines. This section discusses measures the City takes to control FOG.

The City's FOG control program consists of focused cleaning and maintenance as well as source control. The following subsections discuss identification and cleaning of grease-prone areas, legal authority to prohibit grease discharge or require a grease removal device, facility inspection, and public outreach.

### Identification and Sewer Cleaning

The core means of FOG control utilized by the City is identification of trouble spots or sewer lines that are likely prone to grease accumulation and targeted cleaning of these areas on a recurring (30, 60, 90 day, etc.) schedules and chemical root control measures to inhibit the growth of roots where grease may accumulate.

- a. Identification of Grease Problem Areas. The City identifies potential grease problem areas by tracking locations and causes of dry weather blockages and SSOs. For instance, in reporting year 2013, four of the City's fifteen SSOs were attributed to grease. Additionally, debris type and severity are noted by maintenance crews during routine focused cleaning. Areas with several restaurants or grease-producing facilities are also considered likely potential grease problem areas.
- b. Focused Cleaning. Approximately 72,000 lf of sewers are included in the focused cleaning program specifically for FOG control, with cleaning on a recurring schedule based on severity. Cleaning frequency depends on the history of stoppages or overflows on a line, as well as areas expected to be prone to grease buildup. The City's Maintenance Division maintains tables of each manhole to manhole reach scheduled for focused cleaning. These tables are also used as cleaning logs, on which maintenance workers note the date and time of flushing, as well as the debris type and severity.

The focused cleaning program also includes additional lines that are cleaned for reasons other than FOG. Additional information on this program, including a figure showing all lines in the program, is included in Element 4: Measures & Activities.

Sewers have a size smaller than 12 inches in diameter that are not included in the focused cleaning program are cleaned on a 5-year cycle.

- c. Root Foaming Program. The City has developed a cyclic root foaming program and covers approximately one-third of the system per year. Since grease tends to accumulate on roots, this program helps prevent grease-related stoppages in areas that are not included in the focused cleaning program.
- d. Blockage Investigation. The City CCTV inspects each sewer following a blockage. If the source of the grease in a lateral can be identified, the City contacts that restaurant or source of grease.

Additional information about cleaning and maintenance is included in Element 4: Measures & Activities.

## **Legal Authority**

Legal measures available to the City to control sources of FOG include the following:

- Authority to prohibit discharges according to Title 13, Public Services, of the San Carlos Municipal Code
- Requirement of grease removal device and cleaning log
- Enforcement measures, as appropriate

### **a. Legal authority to prohibit discharges. The City prohibits grease disposal:**

No person shall dispose of any grease, or cause any grease to be disposed, by discharge into any drainage piping, by discharge into any public or private sanitary sewer, by discharge into any storm drainage system, or by discharge to any land, street, public way, river, stream, or other waterway.

### **b. Requirement of grease removal device. Article 13.08.300 of the City's municipal code requires a grease removal device for every commercial or industrial generator of grease. This article also requires the business to clean out the grease removal device at least every six months and to keep a log of all grease removal cleaning. The log must be available for inspection for a 3-year period. The text of this article is included below:**

1. The owner of every newly constructed, remodeled, or converted commercial or industrial facility with one or more grease generating activities, including food service facilities with new or replacement kitchens shall install or cause to be installed a grease interceptor for each grease generating activity, of a size equal to or greater than the minimum size meeting the definition of "grease removal device," as set forth in Section 108 of the then currently adopted edition of the Uniform Plumbing Code.

2. The owner of every commercial or industrial generator of grease, including food service facilities, serviced by a sewer collection line found to have a grease blockage, a history of grease blockage, or accelerated line maintenance resulting from grease disposal shall install or cause to be installed, upon notification by the superintendent of the plant, a grease removal device.

3. The owner of every commercial or industrial generator of grease, including food service facilities, for which installation of grease removal devices is not required pursuant to subsections (a) or (b) of this section, shall install or cause to be installed a grease removal device for each grease generating activity.

4. All grease removal device(s) shall be installed on the premises where grease is used or generated and shall be sized in conformance with Chapter 7 of the then currently adopted edition of the Uniform Plumbing Code. The contents of all grease removal devices shall be removed periodically as necessary to prevent violations of this chapter. At a minimum, the contents shall be removed every six months. All

grease removal devices shall be kept in good repair, and shall be maintained in continuous operation. A log of all grease removal activities shall be maintained at the facility showing the date of removal, the amount removed and the disposition of the removed contents. The log shall be retained for a period of three years, and shall be available for inspection by city inspectors upon request.

### Facility Inspection

The City has contracted with Silicon Valley Clean Water (SVCW) to inspect grease-producing facilities (restaurants) and grease removal device cleaning logs. Inspections were based on a list of food service facilities with facilities prioritized into three categories. Inspections include approximately 80% of the City's restaurants and cafeterias, and nearly all of the Priority 1 facilities. Following the inspections, restaurants are sent a notice of noncompliance for having no grease trap or warning letters are also sent to several restaurants for having no cleaning log. Reminders are also sent to restaurants that need to increase their grease trap cleaning frequency.

A current list of food service facilities within the City is included in Appendix C. This list also indicates the priority assigned and number of inspections for the quarter.

### Public Outreach

The City produces a brochure entitled "Preventing Sewer Backups." In addition to other means of reducing backups or blockages, this brochure discusses grease and the role of fats, oils, and grease in causing blockages. This brochure is displayed at City Hall and is also available from the City's website (<http://www.cityofsancarlos.org>). Additionally, sewer maintenance staff provides this brochure to residents who are affected by a blockage or backup. A copy of the brochure is included in Appendix C.

The SVCW staff also conducts seasonal outreach to the public prior to and during the November and December holiday season. There is anecdotal evidence of increased use of cooking oil during these holidays, particularly through the use of turkey fryers. Plant staff, along with supporting materials from the Bay Area Pollution Prevention Group (BAPPG), is preparing for point-of-purchase labels that indicate the proper disposal of the grease to be at deep fat fryer sales sites in local hardware stores.

**Table 7-1. Summary Table With Respect to Possible FOG Elements Identified by the State**

| State Element                                                                                                                                                                                                                                          | City                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (a) An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG                                                                                                                                   | Residential FOG not currently identified as a major SSO factor. The RWQCP outreach programs are sufficient at this time. The routine inspection program is sufficient for restaurants. |
| (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 | The nearest facility for restaurant-generated FOG is the RWQCP. Residents may also dispose of grease and cooking oil at the RWQCP during normal business hours.                        |

|                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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                                                                                            | FOG program includes adequate legal authority to prohibit discharges and to identify measures to prevent SSOs and blockages from FOG.                                                                                                                                                          |
| (d) Requirements to install grease removal devices (such as traps or interceptors) design standards for the grease removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements | City has an ordinance that requires grease interceptors for all new or remodeled food service facilities. The ordinance was updated to (1) clarify alternatives in instances where such devices are impractical to install and (2) reflect terminology in the revised Universal Plumbing Code. |
| (e) Authority to inspect grease producing facilities, enforcement authorities, and whether the City has sufficient staff to inspect and enforce the FOG ordinance                                                         | The City contracted with SVCW to implement an improved inspection program and it has been successful.                                                                                                                                                                                          |
| (f) An identification of sewer system sections subject to FOG blockages and establish a cleaning maintenance schedule for each section                                                                                    | The City has identified sewer sections subject to FOG and has an on-going regular maintenance schedule for all of these sections. City will continue to address any newly defined section subject to FOG in the same manner.                                                                   |
| (g) Development and implementation of source control measures, for all sources of FOG discharged to the sewer system, for each sewer system section identified in (f) above                                               | At this time, the cleaning schedule and our enhanced inspection and enforcement of grease generating facilities appears sufficient to prevent FOG overflows.                                                                                                                                   |

~ END OF ELEMENT 7 ~

## **Element 8: CAPACITY MANAGEMENT/SYSTEM EVALUATION**

This section of the SSMP discusses the city's capacity management efforts including system evaluation and capacity assurance plan. This section fulfills the capacity management requirements for both the RWQCB (Element 8) and the SWRCB (Element 8) SSMP requirements.

### **8.1 Regulatory Requirements for Capacity Management/System Evaluation Element**

The summarized requirements for the Capacity Management/System Evaluation element of the SSMP are as follows:

#### **RWQCB Requirement:**

The collection system agency shall establish, prepare and implement the following key items:

1. Establish a process to assess the current and future capacity requirements for the collection system facilities. The SSMP should describe whether a current capacity assessment of the wastewater collection system has been prepared, and if not, provide a schedule of activities for completing such an assessment.
2. Prepare and implement a capital improvement plan to provide hydraulic capacity of key sewer system elements under peak flow conditions. Once the capacity assessment (as described in Paragraph 1 above) has been completed and capacity needs have been identified, a capital improvement program must be implemented to address capacity needs, if there are any. The SSMP should briefly describe the capital improvements anticipated in the next 1-5 years, 5-10 years, and 10-20 years, and be updated as implementation occurs and priorities change. The recommended elements of a capital improvement plan are as follows:
  - a) Evaluation Steps – evaluate portions of the collection system experiencing SSOs due to hydraulic deficiency
  - b) Capacity Enhancement Measures – establish a short and long-term capital improvement program to address identified hydraulic deficiencies
  - c) Plan Updates – update the plan on a regular basis as specified in the SSMP

#### **SWRCB Requirement:**

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

1. Evaluation – actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity)

2. and the major sources that contribute to the peak flows associated with overflow events.
3. Design Criteria – where design criteria do not exist or are deficient, undertake the evaluation identified in (1) above to establish appropriate design criteria.
4. 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.
5. Schedule – the agency shall develop a schedule of completion dates for all portions of the capital improvement program developed in (1) and (3) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D 14 of the SWRCB State General WDR for Wastewater Collection Agencies.

## **8.2 Element 8 Appendix**

There is no appendix associated with Element 8.

## **8.3 Capacity Management/System Evaluation Discussion**

### **System Evaluation and Capacity Assurance Plan – SWRCB & RWQCB**

#### **A. System Evaluation**

- In 1997, the City implemented a flow measurement on four (4) key manholes close to downtown area. This was to verify a need for upsizing the main trunks on Industrial Road and American Street. Subsequent to this flow monitoring process, the City installed new sewer mains and also replaced the existing sewer mains with larger pipe size in vicinity of American Street and Industrial Road.
- In 1989, the City implemented a city-wide flow monitoring process. This was performed by creating a plan which divided the City's sanitary sewer system to nine (9) basins. For each basin a flow monitoring meter was installed in the downstream manhole, and dry weather and wet weather flows were measured for each basin. A report was prepared depicting the sewer mains with insufficient capacity. This was done in conjunction with survey of existing manholes in each basin to determine the invert elevations of the manholes and subsequently slope and capacity of each sewer main.
- On August 25, 2010, the City hired RMC Water and Environment to prepare a comprehensive assessment of the City's sewer collection system in order to identify system capital improvement needs. The capacity of the collection system was assessed using a hydraulic model. The assessment focused on the trunk sewer network, the system of pipes that convey flow generated throughout the area to the San Carlos Pump Station. The modeled network includes all gravity sewers 15 inches in diameter and larger, over

90 percent of the 10- and 12-inch pipes, and about 10 percent of the 6- and 8-inch pipes, totaling about 22 percent of the length of sewers in the collection system, plus three of the system pump stations. The City completed Master Plan is available for download from the San Carlos Department of Public Works website.

- In 2012, the City had inspected over 90% of the sanitary sewer system using closedcircuit-television video (CCTV). The remaining 10% of the sewer system was not completed due to various reasons including obstructions, lack of access for a reverse setup, pipe too steep, missing manhole and pipe not linking in GIS. CCTV data was recorded using the Pipeline Assessment and Certification Program (PACP) guidelines developed by the National Association of Sewer Service Companies (NASSCO), which are considered the current standard of the industry.
- As of 2017, the City had inspected the entire sanitary sewer system using closed circuit-television video (CCTV). CCTV data was recorded using the Pipeline Assessment and Certification Program (PACP) guidelines developed by the National Association of Sewer Service Companies (NASSCO), which are considered the current standard of the industry.

## **B. Capacity Assurance**

- In February 2010, the City Council approved a Consent Decree with San Francisco Baykeeper requiring the City to implement a number of programs to reduce the frequency and impact of sanitary sewer overflows. Under the Consent Decree, the City was required to assess the capacity of its collection system, identify deficiencies and implement improvements to correct those deficiencies. As a result, the City finalized a Capacity Assurance Plan based on the results generated from the aforementioned Sewer Master Plan that identifies and prioritizes necessary capital improvements to the sewer collection system.
- The Capacity Assurance Plan identified eleven capacity improvement projects for nearterm capacity improvement program. These projects include a total of about 14,000 feet of new or replacement (upsized) gravity sewers. Five additional projects were identified as lower priority, but are still needed to alleviate potentially risky surcharge conditions under the Design Storm conditions. Table ES-1 shown below lists all of the identified capacity improvement projects including location, description of proposed improvements, and estimated planning level costs. The top three priority improvements to upsize existing sewer pipelines located at various areas along Brittan and Arroyo Avenues have been completed. The top three priority improvements were completed on budget and on schedule. The next top priority project is the New Industrial Road Parallel Sanitary Sewer project, which is anticipated to start construction in April 2015. The project will improve approximately 4,800 feet of sanitary sewer pipe ranging in diameter from 24inch to 33-inch. The project alignment begins at the Fairfield Inn & Suites at Skyway Road, then crosses under U.S. Highway 101 to East San Carlos Ave. and then proceeds south along Industrial Road to the intersection at Brittan Avenue. The project is designed to improve wastewater conveyance capacity, thereby decreasing sewer system overflows during wet weather.

Table ES- 1: Capacity Improvement Projects

| Project No.                          | Project Name                                    | Description                                                                                                                                                                                                                                                                  | Estimated Construction Cost | Estimated Capital Cost |
|--------------------------------------|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------------|
| 1                                    | San Carlos Avenue/Beverly Drive                 | Upsize 400 ft. of 6" sewer to 8" pipe in San Carlos Ave. north of Beverly Dr.                                                                                                                                                                                                | \$ 138,000                  | \$ 173,000             |
| 2                                    | Cedar Street/Manzanita Avenue                   | Upsize 2,000 ft. of 6" & 8" sewer to 8", 10" & 12" pipe in Cedar St. and Manzanita Ave.; construct 500 ft. of new 12" pipe to divert flows to exist. 18" sewer in Cedar St.                                                                                                  | \$ 722,000                  | \$ 903,000             |
| 3                                    | Brittan Avenue (Hewitt)                         | Upsize 500 ft. of 8" sewer to 10" pipe in Brittan Ave. west of Hewitt Dr.                                                                                                                                                                                                    | \$ 143,000                  | \$ 178,000             |
| 4                                    | Brittan Avenue Diversion                        | Upsize 2,500 ft. of 12" sewer to 15" pipe in Brittan Ave. from Orange Ave. to east of Laurel St; construct new 12" pipe to divert flows from 6" to 15" sewers in Brittan Ave. at Alameda De Las Pulgas.                                                                      | \$ 410,000                  | \$ 513,000             |
| 5                                    | Arroyo Avenue                                   | Upsize 1,100 ft. of 6" sewer to 8" pipe from west of Woodland Ave. to Walnut St.; construct 700 ft. of new 10" sewer between Walnut St. and exist. 12" trunk sewer at El Camino Real.                                                                                        | \$ 378,000                  | \$ 472,000             |
| 6                                    | De Anza/Alameda De Las Pulgas/Edgewood          | Upsize 600 ft. of 6" sewer to 8" pipe in De Anza Ave. from Robin Way to east of Maple Way; upsize 1,100 ft. of 8" sewer to 10" pipe in Alameda De Las Pulgas and Edgewood Dr. east of Wildwood Ave.                                                                          | \$ 504,000                  | \$ 630,000             |
| 7                                    | Orange Avenue Diversion                         | Construct 200 ft. of new 10" sewer in Orange Ave. from easement sewer parallel to Belmont Ave. to exist. 10" sewer in Belmont Ave.                                                                                                                                           | \$ 53,000                   | \$ 66,000              |
| 8                                    | Belmont Avenue                                  | Upsize 1,100 ft. of 12" sewer to 15" pipe in Belmont Ave. from west of Rosewood Ave. to east of Laurel St.                                                                                                                                                                   | \$ 229,000                  | \$ 286,000             |
| 9                                    | Brittan Avenue Parallel to Industrial Road      | Construct 1,200 ft. of new 18" parallel sewer in Brittan Ave. from Old County Rd. to east of Industrial Rd.                                                                                                                                                                  | \$ 341,000                  | \$ 426,000             |
| 10                                   | Industrial Road South                           | Construct 1,600 ft. of new 12" parallel sewer in Industrial Rd. from American St. to Brittan Ave.                                                                                                                                                                            | \$ 338,000                  | \$ 422,000             |
| 11                                   | New Industrial Road Pump Station and Force Main | Construct 400 ft. of new 15" parallel sewer in Industrial Rd. from Brittan Ave. to exist. Booster PS site; construct new 5.3-mgd pump station and 4,400 ft. of 12" force main in Industrial Rd., Bransted Rd., and Skyway Rd. to the exist. San Carlos PS in Monte Vista Rd. | \$3,755,000                 | \$4,733,000            |
| <b>Subtotal – Near-Term Projects</b> |                                                 |                                                                                                                                                                                                                                                                              | <b>\$7,011,000</b>          | <b>\$8,802,000</b>     |

| Project No.                                      | Project Name                        | Description                                                                                                                 | Estimated Construction Cost | Estimated Capital Cost |
|--------------------------------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------------|
| M1                                               | Devonshire Boulevard/ Windsor Drive | Upsize 700 ft. of 8" sewer to 10" pipe in Devonshire Blvd. west of Windsor Dr. and Windsor Dr. south of Devonshire Blvd.    | \$ 183,000                  | \$ 229,000             |
| M2                                               | Pearl Avenue                        | Upsize 1,300 ft. of 12" sewer to 15" pipe in Pearl Ave. from Eaton Ave. to Alberta Ave. and Alberta Ave. west of Pearl Ave. | \$ 216,000                  | \$ 270,000             |
| M3                                               | Alberta Avenue Diversion            | Construct new 12" pipe to divert flows from 8" sewer in easement parallel to Cedar St. to 15" sewer in Alberta Ave.         | \$ 48,000                   | \$ 61,000              |
| M4                                               | Elm Street                          | Upsize 400 ft. of 8" sewer to 10" pipe in Elm St. south of Belmont Ave.                                                     | \$ 99,000                   | \$ 124,000             |
| M5                                               | Tierra Linda Pump Station Upgrade   | Replace two existing pumps with larger (20 HP) pumps. <sup>1</sup>                                                          | \$ 75,000                   | \$ 95,000              |
| <b>Subtotal – Additional Projects</b>            |                                     |                                                                                                                             | <b>\$ 621,000</b>           | <b>\$ 779,000</b>      |
| <b>Total – All Capacity Improvement Projects</b> |                                     |                                                                                                                             | <b>\$7,632,000</b>          | <b>\$9,581,000</b>     |

1. Feasibility of pump replacement would need to be assessed based on analysis of pump curves and size of wet well; generator upgrade might also be required.

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~ END OF ELEMENT 8 ~

## **Element 9: MONITORING, MEASUREMENT & PROGRAM MODIFICATIONS**

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This section of the SSMP discusses the city's monitoring, measurement and program modifications. These efforts provide guidelines for monitoring the effectiveness of the SSMP program. This section fulfills the monitoring, measurement and program modifications requirements of both the RWQCB (Element 9) and the SWRCB (Element 9) SSMP requirements.

### **9.1 Regulatory Requirements for Monitoring, Measurement & Program Modifications Element**

The summarized requirements for the Monitoring, Measurement & Program Modifications element of the SSMP are as follows:

#### **RWQCB Requirement:**

The collection system agency's SSMP shall monitor the effectiveness of each SSMP element and update and modify SSMP elements to keep them current, accurate, and available for audit as appropriate. This section of the SSMP should discuss how your agency monitors implementation of the SSMP elements, and measures the effectiveness of SSMP elements in reducing SSOs. Effectiveness should be measured by developing and tracking performance indicators on a regular basis. Performance indicators should be selected to meet the goals of the wastewater collection system agency.

#### **SWRCB Requirement:**

The collection system agency's SSMP shall do the following:

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

### **9.2 Element 9 Appendix**

There is no appendix associated with Element 9.

### **9.3 Monitoring, Measurement & Program Modifications Discussion**

#### **Monitoring, Measurement, and Program Modifications - SWRCB & RWQCB**

The purpose of this section is to monitor the effectiveness of each SSMP element to keep them current, accurate and available for audit.

- SSMP elements are monitored on a regular basis with a compilation of the data and reported in the annual report.
- Relevant information is maintained to establish and prioritize SSMP activities.
- Effectiveness of program is completed by measuring the following performance indicators:
  1. Number of SSO's over the past 12 months, distinguishing between dry weather overflows and wet weather overflows
  2. Volume distribution of SSO's (e.g. number of SSO's < 100 gallons, 100 to 999 gallons, 1,000 to 9,999 gallons, > 10,000 gallons)
  3. Volume of SSO's that was contained in relation to total volume of SSO's
  4. SSO's by cause (e.g. roots, grease, debris, pipe failure, pump station failure, capacity, other).
  5. Plans developed for, or implementation of, activities to target specific problems identified, such as roots, structural deficiencies, or fats, oil, and grease (FOG).
- The following actions will be undertaken to make sure the SSMP stays current and up to date.
  - o Continue funding to carry out periodic reviews and to participate in related meetings.
  - o Assigned Public Works Superintendent to review the SSMP periodically to check for effectiveness and timeliness, update program elements as appropriate.
  - o Check in with collections system staff periodically to review effectiveness and identify areas in need of improvement.
  - o Solicit peer review by another collection system agency.

The total number of SSOs for the reporting period was **15**. All of the SSOs were associated with gravity sewers. There were **15** SSOs associated with dry weather conditions and **Zero** SSOs associated with wet weather conditions. The sizes of SSOs are summarized as shown on Table 1.

**Table 1. Number of SSOs**

| <b>Size of SSO (gallons)</b>                | <b>Number</b> | <b>Percent of Total by Number</b> |
|---------------------------------------------|---------------|-----------------------------------|
| Greater than or equal to 1,000              | 0             | 0                                 |
| From 100 to 999                             | 1             | 7                                 |
| From 10 to 99                               | 14            | 93                                |
| Less than 10 [can include in line above]    | 0             | 0                                 |
| [Public portion of lateral (if applicable)] | 0             | 0                                 |
| <b>Total</b>                                | <b>15</b>     | <b>100</b>                        |

The volume of spills contained and returned to the sewer system, as well as the volume reaching waters of the State is shown in Table 2.

**Table 2. Volume of SSOs**

|                                                                                   | <b>Volume (gallons)</b> | <b>Percent of Total by Volume</b> |
|-----------------------------------------------------------------------------------|-------------------------|-----------------------------------|
| Total volume contained and returned to sewer system for treatment                 | 580                     | 100                               |
| Total volume reaching waters of the State                                         | 0                       | 0                                 |
| Total volume not contained but not reaching waters of the State (everything else) | 0                       | 0                                 |
| <b>Total</b>                                                                      | <b>580</b>              | <b>100</b>                        |

None of the SSOs exceeded 1000 gallons in volume. This report includes no SSO's that occurred from private sewer service laterals within the City of San Carlos jurisdiction that were caused by conditions in privately-owned laterals or on private property. The property owners are responsible for the condition and the operation of those sewer service laterals.

### **Cause of SSOs**

The predominant causes of SSOs during the period of this report were roots, grease and debris. The distribution of SSOs by cause is shown on Table 3.

**Table 3. Causes of SSOs**

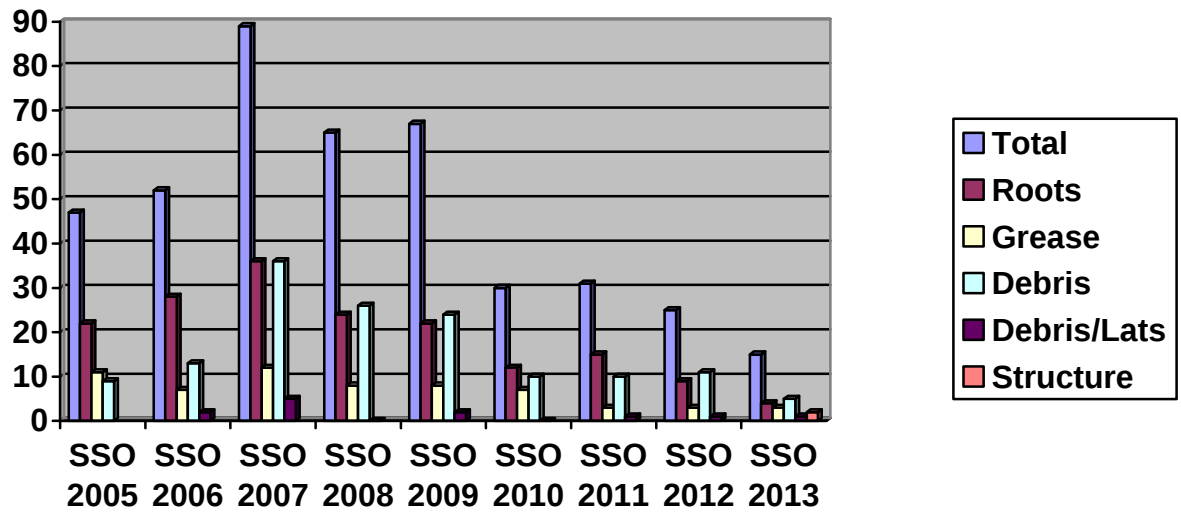
| <b>Cause of SSO</b> | <b>Number</b> | <b>Percent of Total</b> |
|---------------------|---------------|-------------------------|
| Blockage:           |               |                         |

|                              |           |            |
|------------------------------|-----------|------------|
| Roots                        | 4         | 27         |
| Grease                       | 3         | 20         |
| Debris                       | 5         | 33         |
| Debris from Laterals         | 1         | 7          |
| Vandalism                    |           |            |
| Animal Carcass               |           |            |
| Construction Debris          |           |            |
| Multiple Causes              |           |            |
| <b>Subtotal for Blockage</b> | <b>13</b> | <b>87</b>  |
| Infrastructure Failure       | 2         | 13         |
| Inflow & Infiltration        |           |            |
| Electrical Power Failure     |           |            |
| Flow Capacity Deficiency     |           |            |
| Natural Disaster             |           |            |
| Bypass                       |           |            |
| Cause Unknown                |           |            |
| <b>Total</b>                 | <b>15</b> | <b>100</b> |

### **SSO Trends**

The following graph shows a comparison of data for the current reporting period with previous reporting periods. Included are the trends for the number, and cause of SSOs. The City's continued efforts to reduce SSOs continue to show a positive effect. The number of SSOs for 2013 is continuing to drop below previous levels in a large part due to ongoing mainline easement root foaming, FOG inspections and our focused cleaning program.

Figure 1. Total SSOs for 2005 – 2013



~ END OF ELEMENT 9 ~

## Element 10: SSMP AUDITS

This SSMP element identifies city's audit plan, providing guidance for information to be reviewed in the audit. This section fulfills the audit requirement of both the RWQCB (Element 10) and the SWRCB (Element 10) SSMP requirements.

### 10.1 Regulatory Requirements for SSMP Audits Element

The summarized requirements for SSMP Audits element of the SSMP are as follows:

#### **RWQCB Requirement:**

The collection system agency's SSMP shall conduct an annual audit of their SSMP which includes any deficiencies and steps to correct them (if applicable), appropriate to the size of the system and the number of overflows, and submit a report of such audit. The audit should cover the most recent calendar year and be submitted to the Regional Water Board by March 15 of the year following the calendar year for which the analysis applies.

#### **SWRCB Requirement:**

As part of the SSMP, the agency 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 agency's compliance with the SSMP requirements identified in this subsection (D.13) of the SWRCB Statewide General WDR for Wastewater Collection Agencies, including identification of any deficiencies in the SSMP and steps to correct them. The collection system agency's SSMP shall do the following:

### 10.2 Element 10 Appendix

There is no appendix associated with Element 10.

### 10.3 SSMP Audits Discussion

#### **SSMP Program Audits - SWRCB & RWQCB**

The purpose of this section is to conduct internal audits to evaluate the effectiveness of the SSMP to identify any deficiencies and correct them.

An audit of the SSMP will be completed annually covering the previous calendar year.

- Audits of the program will cover the following information:
  1. Successes in implementing the current version of the SSMP
  2. Identify revisions that may be needed for a more effective program.
  3. SSMP development progress
  4. How SSMP elements were implemented during the past year
  5. Effectiveness of SSMP elements implemented.
  6. Accomplishments in improving the sewer system
  7. Planned additions or improvements planned for upcoming year.

~ END OF ELEMENT 10 ~

## Element 11: COMMUNICATIONS PROGRAM

This SSMP element identifies the city's communications program, providing guidance for information to be reviewed in the audit. This section fulfills the audit requirement of both the RWQCB (Element 11) and the SWRCB (Element 11) SSMP requirements.

### 11.1 Regulatory Requirements for Communications Program

The summarized requirements for Communications Program of the SSMP are as follows:

#### **RWQCB Requirement:**

No specific requirements for this element are published by the RWQCB.

#### **SWRCB Requirement:**

The collection system agency 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 collection system agency as the program is developed and implemented. The collection system agency shall also create a plan of communication with systems that are tributary and/or satellite to its sanitary sewer system.

### 11.2 Element 11 Appendix

Supporting information for Element 11 is included in Appendix C. This appendix provides maps of the four satellite sewer districts tributary to the City's collection system.

### 11.3 SSMP Audits Discussion

#### **SSMP Communications Program - SWRCB & RWQCB**

The purpose of this section is to ensure that the public has the opportunity to be involved in the development of the SSMP.

The Public Works Director is responsible for the SSMP Communications Program. The Public Works Department web page on the City's web site will be the key resource for communicating to the public about the SSMP.

The stakeholders who may be interested in development of the SSMP include ratepayers, developers, restaurants, environmental groups, other city departments, regulators, industrial dischargers, labor unions, engineering consultants, contractors, and satellite sewer districts. The satellite sewer districts that are tributary to the City's collection system are as follows:

- Devonshire County Sanitation District, residential
- Emerald Lake Heights Sewer Maintenance District, residential
- Scenic Heights County Sanitation District, residential
- Harbor Industrial Sewer Maintenance District, Commercial/Industrial

The City of San Carlos conducts extensive public outreach and education to residents and businesses related to sanitary sewer overflows, preventing grease blockages and best practice for handling of grease waste. Ways of public outreach include the following:

- Participation in prominent local events such as Hot Harvest Nights Farmers Market where the Public Works Director, Superintendent, Supervisor and operation staff talk to residents and business owners about keeping sewers clog-free. Grease trappers were given away, along with brochures on preventing sewer backups and what to do in case of a sewer spill.
- Silicon Valley Clean Water (SVCW) is authorized to perform inspection and education on Fats, Oils and Grease under contract. 270 visits and inspections were completed for food service establishments. In addition, SVCW has conducted public outreach on the importance of FOG management:
- In the first half of 2013, SVCW made visits to Senior Citizen and Community Centers in San Carlos that served food and distributed Best Management Practices and discussed the FOG Program.
- During the SVCW Sewer Science Program presented to City of San Carlos High School age students at Carlmont HS, the FOG program was discussed. High school students and faculties learned how to prevent sewer blockages and properly dispose of Fats, Oils and Grease. The presentation also discussed why sewer overflows can cause public health problems and that proper disposal of cooking grease in our homes is something each of us can do.
- During public tours of SVCW, staff emphasizes the FOG program in the member agencies that Grease blockages are the main cause for overflows, SVCW emphasizes that an overflow could present health problems.
- The Bay Area Pollution Prevention Group, BAPPG, produces a Spanish HOILDAY FOG Message. This is produced entirely in Spanish, the focus being the proper disposal of FOG during the holiday season which hopefully carries on to the rest of the year. Time slots are paid for on Spanish radio and repeat thru the Thanksgiving and Christmas seasons. The radio message is heard on Spanish Radio in San Mateo County. SVCW is a member of BAPPG and SVCW staff has worked on this project. A formal report produced for BAPPG states that several thousand in the Spanish Speaking Community hear this message.

~ END OF ELEMENT 11 ~

# *City of San Carlos* **Sanitary Sewer Management Plan**

## **APPENDIX A**

### **Element 6: OVERFLOW EMERGENCY RESPONSE PLAN**

**Prepared by:**

***Department of Public Works***



# City of San Carlos

## Overflow Emergency Response Plan



Effective Date: \_\_\_\_\_  
Revised Date: \_\_\_\_\_  
Approved by: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_

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# Sanitary Sewer Overflow Emergency Response Plan

## 1. Purpose

The purpose of the City of San Carlos's Overflow Emergency Response Plan (OERP) is to support an orderly and effective response to Sanitary Sewer Overflows (SSOs). The OERP provides guidelines for City personnel to follow in responding to, cleaning up, and reporting SSOs that may occur within the City's service area. This OERP satisfies the SWRCB Statewide General Waste Discharge Requirements (GWDR), which require wastewater collection agencies to have an Overflow Emergency Response Plan.

## 2. Policy

The City's employees are required to report all wastewater overflows found and to take the appropriate action to secure the wastewater overflow area, properly report to the appropriate regulatory agencies, relieve the cause of the overflow, and ensure that the affected area is cleaned as soon as possible to minimize health hazards to the public and protect the environment. The City's goal is to respond to sewer system overflows as soon as possible following notification. The City will follow reporting procedures in regards to sewer spills as set forth by the San Francisco Regional Water Quality Control Board (SFRWQCB) and the California State Water Resources Control Board (SWRCB).

## 3. Definitions as Used in This OERP

**CALIFORNIA INTEGRATED WATER QUALITY SYSTEM (CIWQS):** Refers to the State Water Resources Control Board online electronic reporting system that is used to report SSOs, certify completion of the SSMP, and provide information on the sanitary sewer system.

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

**LEGALLY RESPONSIBLE OFFICIAL (LRO):** Refers to an individual who has the authority to certify reports and other actions that are submitted through CIWQS.

**MAINLINE SEWER:** Refers to City wastewater collection system piping that is not a private lateral connection to a user.

**MAINTENANCE HOLE OR MANHOLE:** Refers to an engineered structure that is intended to provide access to a sanitary sewer for maintenance and inspection.

**NOTIFICATION OF AN SSO:** Refers to the time at which the City becomes aware of an SSO event through observation or notification by the public or other source.

**NUISANCE** - California Water Code section 13050, subdivision (m), defines nuisance as anything that 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.

**PREVENTIVE MAINTENANCE:** Refers to maintenance activities intended to prevent failures of the wastewater collection system facilities (e.g. cleaning, CCTV, inspection).

**PRIVATE LATERAL SEWAGE DISCHARGES** – Sewage discharges that are caused by blockages or other problems within a privately-owned lateral.

**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.

SSOs that include multiple appearance points resulting from a single cause will be considered one SSO for documentation and reporting purposes in CIWQS.

***NOTE:** Wastewater backups into buildings caused by a blockage or other malfunction of a building lateral that is privately owned are not SSOs.*

#### **SSO Categories:**

- Category 1: Discharges of untreated or partially treated wastewater of **any volume** resulting from an enrollee's sanitary sewer system failure or flow condition that:
- Reach surface water and/or reach a drainage channel tributary to a surface water; or
  - Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).
- Category 2: Discharge of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from a sanitary sewer system failure or flow condition that either:
- Does not reach surface water, a drainage channel, or an MS4, or
  - The entire SSO discharged to the storm drain system was fully recovered and disposed of properly.
- Category 3: All other discharges of untreated or partially treated wastewater resulting from a sanitary sewer system failure or flow condition.

**SANITARY SEWER SYSTEM:** Any publicly-owned 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.

**SENSITIVE AREA:** Refers to areas where an SSO could result in a fish kill or pose an imminent or substantial danger to human health (e.g. parks, aquatic habitats, etc.)

**SEWER SERVICE LATERAL:** Refers to the piping that conveys sewage from the building to the City's wastewater collection system.

**UNTREATED OR PARTIALLY TREATED WASTEWATER:** Any volume of waste discharged from the sanitary sewer system upstream of a wastewater treatment plant headworks.

**WATERS OF THE STATE:** Waters of the State (or waters of the United States) means any surface water, including saline waters, within the boundaries of California. In case of a sewage spill, storm drains are considered to be waters of the State unless the sewage is completely contained and returned to the wastewater collection system and that portion of the storm drain is cleaned.

## **4. State Regulatory Requirements for Element 6, Overflow Emergency Response Plan**

### *GWDR Requirement*

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

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

The Sewer System Management Plan and critical supporting documents are made available to the public by submitting an electronic copy to the State Water Resources Control Board.

## **5. Goals**

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

- Work safely;
- Respond quickly to minimize the volume of the SSO;
- Eliminate the cause of the SSO;
- Prevent sewage system overflows or leaks from entering the storm drain system or receiving waters to the maximum extent practicable;
- Contain the spilled wastewater to the extent feasible;
- Minimize public contact with the spilled wastewater;
- Mitigate the impact of the SSO;

- Meet the regulatory reporting requirements;
- Evaluate the causes of failure related to certain SSOs; and
- Revise response procedures resulting from the debrief and failure analysis of certain SSOs.

## 6. SSO Detection and Notification

*ref. SWRCB Order No. 2006-0003-DWQ D.13vi(a)*

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

The City operates six wastewater lift stations. In the event of any pump failure, the high-level sensor activates the SCADA alarm system and the City is contacted. To prevent overflow, wastewater from the wet well can either be pumped into a vacuum truck for disposal to a nearby sanitary sewer manhole or bypassed around the station into the sanitary sewer system.

### 6.1 PUBLIC OBSERVATION

Public observation is the most common way that the City is notified of blockages and spills. Contact numbers and information for reporting sewer spills and backups are in the phone book and on the City's website: <http://cityofsancarlos.org>. The City's telephone number for reporting sewer problems is (650) 802-4140 during business hours and (650) 802-4321 after hours.

#### Normal Work Hours

When a report of a sewer spill or backup is made during normal work hours, the Senior Administrative Clerk takes the call and dispatches a Wastewater Crew via radio.

#### After Hours

After hours service calls are answered by Sheriff's Dispatch, which will page the On-Call Person. The On-Call Person is required to call Sheriff's Dispatch back to verify receipt of the call.

When calls are received, either during normal work hours or after hours, the individual receiving the call will collect the following information:

- Time and date of call
- Specific location of potential problem
- Nature of call
- In case of SSO, estimated start time of overflow
- Caller's name and telephone number
- Caller's observation (e.g., odor, duration, location on property, known impacts, indication if surface water impacted, appearance at cleanout or manhole)
- Other relevant information

If the overflow/backup is not in the City's service area they provide the customer with the contact information for the responsible agency, and then notify that agency.

If the overflow/backup is in the City's service area, a Wastewater Crew is dispatched and instructed to complete the Sanitary Sewer Overflow/Backup Response Workbook.

The Wastewater Crew completes a work order form. Completed work orders are entered into the city's Computerized Maintenance Management System (CMMS) by the Senior Maintenance Worker. Completed SSO files are stored in the CMMS and a hard copy archive is maintained at the Corp Yard.

## **6.2 CITY STAFF OBSERVATION**

City staff conducts periodic inspections of its sewer system facilities as part of their routine activities. Any problems noted with the sewer system facilities are reported to appropriate City staff that, in turn, responds to emergency situations. Work orders are issued to correct non-emergency conditions.

## **6.3 CONTRACTOR OBSERVATION**

The following procedures are to be followed in the event that a contractor/plumber causes or witnesses a Sanitary Sewer Overflow. If the contractor/plumber causes or witnesses an SSO they should:

1. Immediately notify the City.
2. Protect storm drains.
3. Protect the public.
4. Provide Information to the Wastewater Crew such as start time, appearance point, suspected cause, weather conditions, etc.
5. Direct ALL media and public relations requests to the Assistant to the City Manager.

## **6.4 NO OBSERVATION**

If there are no witnesses or no call was received for an SSO, the City staff will contact nearby residents or business owners in the vicinity of the SSO, in an attempt to obtain information that brackets a given start time that the SSO began. This information will be collected and placed with records for the specific SSO.

# **7. SSO Response Procedures**

*ref. SWRCB Order No. 2006-0003-DWQ D.13vi(b)*

## **7.1 Sewer Overflow/Backup Response Summary**

The City will respond to SSOs as soon as feasible following notification of an overflow/backup or unauthorized discharge.

If it is not possible that the overflow/backup is due to a failure in the City-owned/maintained sewer lines the Wastewater Crew performs the following:

- Follows the instructions in the Sanitary Sewer Overflow/Backup Response Workbook.
- If the customer is not home the Wastewater Crew completes the Door Hanger and leaves it on the customer's door.
- If the customer is home the Wastewater Crew:
  - Explains that the blockage is in the customer's lateral and the City does not have legal authority to maintain or perform work on privately owned laterals.
  - Recommends to the customer that they hire a contractor to clear their line.

- Gives the customer the Sewer Spill Reference Guide pamphlet.

If it is possible that the overflow/backup is due to a failure in the City-owned/maintained sewer lines the Wastewater Crew:

- Follows the instructions in the Sanitary Sewer Overflow/Backup Workbook.
- Notifies Senior Maintenance Worker of the incident.
- Relieves blockage and cleans impacted areas.
- Forwards the completed Sanitary Sewer Overflow Workbook to the Senior Maintenance Worker.

The Senior Maintenance Worker performs required regulatory reporting in accordance with the Sanitary Sewer Overflow/Backup Workbook's Regulatory Reporting section.

If the overflow has impacted private property, the Wastewater Crew:

- Follows the instructions in the Sanitary Sewer Overflow/Backup Workbook.
- Notifies Senior Maintenance Worker of the incident.
- Provides the customer with forms and information as indicated in the Sanitary Sewer Overflow/Backup Workbook.
- Forwards the completed Sanitary Sewer Overflow/Backup Workbook to the Senior Maintenance Worker.

The Senior Maintenance Worker notifies the Senior Management Analyst or designee of incident.

The Senior Management Analyst or designee:

- Reviews incident reports, claim form and other incident information and forwards, as appropriate, to:

Sedgwick  
Attn: PLAN JPA  
180 Grand Ave., Suite 1200  
Oakland, CA 94612  
Tiffany Roduit, Claims Examiner  
Phone: (925) 349-3878  
Email: tiffany.rodut@sedgwick.com

- Communicates with claimant as appropriate.
- Communicates with Sedgwick to adjust and administer the claim to closure.

## **7.2 First Responder Priorities**

The first responder's priorities are:

- To follow safe work practices.
- To respond promptly with the appropriate and necessary equipment.
- To contain the spill wherever feasible.
- To restore the flow as soon as practicable.
- To minimize public access to and/or contact with the spilled sewage.
- To promptly notify the Senior Maintenance Worker in event of major SSO.
- To return the spilled sewage to the sewer system.

- To restore the area to its original condition (or as close as possible).

### **7.3 Safety**

The first responder is responsible for following safety procedures at all times. Special safety precautions must be observed when performing sewer work. There may be times when City personnel responding to a sewer system event are not familiar with potential safety hazards peculiar to sewer work. In such cases it is appropriate to take the time to discuss safety issues, consider the order of work, and check safety equipment before starting the job.

### **7.4 Initial Response**

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

The first responder will:

- Note arrival time at the site of the overflow/backup.
- Verify the existence of a public sewer system spill or backup.
- Take photos of overflowing manhole(s)/cleanout(s).
- Determine if the overflow or blockage is from a public or private sewer.
- Identify and assess the affected area and extent of spill.
- Contact caller if time permits.
- Document conditions upon arrival with photographs. Decide whether to proceed with clearing the blockage to restore the flow or to initiate containment measures. The guidance for this decision is:
  - Small spills (i.e., spills that are easily contained) – proceed with clearing the blockage.
  - Moderate or large spill where containment is anticipated to be simple – proceed with the containment measures.
  - Moderate or large spills where containment is anticipated to be difficult – proceed with clearing the blockage; however, whenever deemed necessary, call for additional assistance and implement containment measures.
- Take steps to contain the SSO. For procedures refer to the Sanitary Sewer Overflow/Backup Response Workbook.

### **7.5 Initiate Spill Containment Measures**

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

- Determine the immediate destination of the overflowing sewage.
- Plug storm drains using air plugs, sandbags, and/or plastic mats to contain the spill, whenever appropriate. If spilled sewage has made contact with the storm drainage system, attempt to contain the spilled sewage by plugging downstream storm drainage facilities.
- Contain/direct the spilled sewage using dike/dam or sandbags.

- Pump around the blockage/pipe failure.

For procedures refer to the Sanitary Sewer Overflow/Backup Response Workbook.

## 7.6 Restore Flow

Using the appropriate cleaning equipment, set up downstream of the blockage and hydro-clean upstream from a clear manhole. Attempt to remove the blockage from the system and observe the flows to ensure that the blockage does not reoccur downstream. If the blockage cannot be cleared within a reasonable time from arrival, or sewer requires construction repairs to restore flow, then initiate containment and/or bypass pumping. If other assistance is required, immediately contact the Senior Maintenance Worker. For procedures refer to the Sanitary Sewer Overflow/Backup Response Workbook.

## 7.7 Equipment

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

- *Closed Circuit Television (CCTV) Inspection Unit* – A CCTV Inspection Unit is required to determine the root cause for all SSOs from gravity sewers.
- *Camera* -- A digital or disposable camera is required to record the conditions upon arrival, during clean up, and upon departure.
- *Emergency Response Trucks* -- A utility body pickup truck, or open bed is required to store and transport the equipment needed to effectively respond to sewer emergencies. The equipment and tools will include containment and clean up materials.
- *Portable Generators, Portable Pumps, Piping, and Hoses* – Equipment used to bypass pump, divert, or power equipment to mitigate an SSO.
- *Combination Sewer Cleaning Trucks* -- Combination high velocity sewer cleaning trucks with vacuum tanks are required to clear blockages in gravity sewers, vacuum spilled sewage, and wash down the impacted area following the SSO event.
- *Air plugs, sandbags and plastic mats*
- *SSO Sampling Kits*
- *Portable Lights*

Standard operating procedures for equipment that may be necessary in the event of a sanitary sewer overflow or backup can be found on the vehicles and at the Corp Yard.

## 7.8 Continued Response Efforts

The City shall, following the initial response and reporting required by the State Water Resources Control Board's Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (SSS WDR), continue response efforts based on the risk posed by the SSO at issue, taking into account: (1) the volume of the SSO; (2) the proximity of the SSO to high risk areas, which shall include sensitive populations, specifically public and private schools, parks, recreational areas, and surface waters, especially during the recreation season from May to September; and (3) the timing and/or seasonality of the SSO event (e.g., an SSO to surface waters during low flow, acid conditions of late summer). The City further agrees to provide training to its response crews regarding implementation of the risk assessment. The City shall augment the SSMP and OERP, as necessary, to document this practice.

## **8. Recovery and Cleanup**

*ref. SWRCB Order No. 2006-0003-DWQ D.13vi(e)*

The recovery and cleanup phase begins immediately after the flow has been restored and the spilled sewage has been contained to the extent possible. The SSO recovery and cleanup procedures are:

### **8.1 Estimate the Flow and Volume of Spilled Sewage**

To estimate the flow rate, crew members will use the SSCSC Manhole Overflow Gauge if the same style of manhole cover is observed overflowing. A variety of approaches exist for estimating the volume of a sanitary sewer spill. Crew members should use the method most appropriate to the sewer overflow in question and reference the Sanitary Sewer Overflow/Backup Response Workbook which provides four (4) methods:

- Eyeball Estimation Method
- Duration and Flow Rate Calculation Method
- Area/Volume Method
- Lower Lateral Estimation Method

Where safe and possible, the City shall take photographs of an SSO event before and during the recovery operation to help aid in establishing and justifying spill volume. Such photographs will preserve data such as the date and time for when City staff took the photograph.

### **8.2 Recovery of Spilled Sewage**

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

### **8.3 Clean-up and Disinfection**

Clean up and disinfection procedures will be implemented to reduce the potential for human health issues and adverse environmental impacts that are associated with an SSO event. The procedures described are for dry weather conditions and will be modified as required for wet weather conditions. Where cleanup is beyond the capabilities of City staff, a cleanup contractor will be used.

#### *Private Property*

City crews are responsible for the cleanup when the property damage is minor in nature and is outside of private building dwellings, such as in front, side and backyards, easements, etc. In all other cases, affected property owners can call a water damage restoration contractor to complete the cleanup and restoration. If the overflow into property is the definite cause of City system failure, the property owner can call out a water damage restoration contractor to complete the cleanup and restoration. In both cases, property owners may pick up City claim forms from the City Clerk's office at City Hall.

#### *Hard Surface Areas*

Collect all signs of sewage solids and sewage-related material either by protected hand or with the use of rakes and brooms. Wash down the affected area with clean water and/or deozyme or similar non-toxic biodegradable surface disinfectant until the water runs clear. The flushing volume will be approximately three times the estimated volume of the spill. Take reasonable

steps to contain and vacuum up the wastewater. Allow area to dry. Repeat the process if additional cleaning is required.

#### *Landscaped and Unimproved Natural Vegetation*

Collect all signs of sewage solids and sewage-related material either by protected hand or with the use of rakes and brooms. Wash down the affected area with clean water until the water runs clear. The flushing volume will be approximately three times the estimated volume of the spill. Either contain or vacuum up the wash water so that none is released. Allow the area to dry. Repeat the process if additional cleaning is required.

#### *Natural Waterways*

The Department of Fish and Wildlife will be notified by CalOES for SSOs greater than or equal to 1,000 gallons.

#### *Wet Weather Modifications*

Omit flushing and sampling during heavy storm events (i.e., sheet of rainwater across paved surfaces) with heavy runoff where flushing is not required and sampling would not provide meaningful results.

### **8.4 Public Notification**

Signs will be posted and barricades put in place to keep vehicles and pedestrians away from contact with spilled sewage. County Environmental Health instructions and directions regarding placement and language of public warnings will be followed. Additionally, the Supervisor will use their best judgment regarding supplemental sign placement in order to protect the public and local environment. Signs will not be removed until directed by County Environmental Health, the Supervisor or designee.

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

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

When contact with the local media is deemed necessary, the Assistant to the City Manager or their designee will provide the media with all relevant information.

## **9. Water Quality**

*ref. SWRCB Order No. 2006-0003-DWQ D.13vi(f)*

### **9.1 Waters of the State**

The Steinberger Slough is in the City of San Carlos's service area. In the event that it is impacted by a sanitary sewer overflow, the City has an Emergency Vendor List of approved vendors.

### **9.2 Water Quality Sampling and Testing**

Water quality sampling and testing is required for Category 1 SSOs of 50,000 gallons or greater to determine the extent and impact of the SSO. It is the City's policy to collect water samples for all SSOs impacting surface water. The water quality sampling procedures must be implemented within 48 hours and include the following:

- The first responders will collect samples as soon as possible after the discovery and mitigation of the SSO event.
- The water quality samples will be collected from upstream of the spill, from the spill area, and downstream of the spill in flowing water (e.g. creeks). The water quality samples will be collected near the point of entry of the spilled sewage.
- The samples shall then be brought to the Silicon Valley Clean Water for analysis.

### **9.3 Water Quality Monitoring Plan**

The City Water Quality Monitoring Plan will be implemented immediately upon discovery of any Category 1 SSO of 50,000 gallons or more in order to assess impacts from SSOs to surface waters. The SSO Water Quality Monitoring Program will:

1. Contain protocols for water quality monitoring.
2. Account for spill travel time in the surface water and scenarios where monitoring may not be possible (e.g. safety, access restrictions, etc.)
3. Require water quality analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory.
4. Require monitoring instruments and devices used to implement the SSO Water Quality Monitoring Program to be properly maintained and calibrated, including any records to document maintenance and calibration, as necessary, to ensure their continued accuracy.
5. Within 48 hours of the City becoming aware of the SSO, require water quality sampling for ammonia and total and fecal coliform.
6. Observe proper chain of custody procedures.

### **9.4 SSO Technical Report**

The City will submit an SSO Technical Report to the CIWQS Online SSO Database within 45 calendar days of the SSO end date for any major SSO spilled to surface waters. The Senior Maintenance Worker will supervise the preparation of this report and will certify this report. This report, which does not preclude the Water Boards from requiring more detailed analyses if requested, shall include at a minimum, the following:

#### Causes and Circumstances of the SSO:

- Complete and detailed explanation of how and when the SSO was discovered.
- Diagram showing the SSO failure point, appearance point(s), and final destination(s).
- Detailed description of the methodology employed and available data used to calculate the volume of the SSO and, if applicable, the SSO volume recovered.
- Detailed description of the cause(s) of the SSO.
- Copies of original field crew records used to document the SSO.
- Historical maintenance records for the failure location.

#### City's Response to SSO:

- Chronological narrative description of all actions taken by the City to terminate the spill.
- Explanation of how the SSMP Overflow Emergency Response Plan was implemented to respond to and mitigate the SSO.
- Final corrective action(s) completed and/or planned to be completed, including a schedule for actions not yet completed.

#### Water Quality Monitoring:

- Description of all water quality sampling activities conducted including analytical results and evaluation of the results.
- Detailed location map illustrating all water quality sampling points.

## **10. Sewer Backup Into/Onto Private Property Claims Handling Policy**

It is the policy of the City that a claims form shall be offered to anyone wishing to file a claim. The following procedures will be observed for all sewer overflows/backups into/onto private property:

- City staff will offer a City claim form irrespective of fault whenever it is possible that the sanitary sewer backup may have resulted from an apparent blockage in the City-owned sewer lines or whenever a City customer requests a claim form. The claim may later be rejected if subsequent investigations into the cause of the loss indicate the City was not at fault.
- It is the responsibility of the Collections Crew to gather information regarding the incident and notify the Senior Maintenance Worker or his/her designee.
- It is the responsibility of the Senior Management Analyst or his/her designee to review all claims and to oversee the adjustment and administration of the claim to closure.

## **11. Notification, Reporting, Monitoring and Recordkeeping Requirements**

*ref. SWRCB Order No. 2006-0003-DWQ D.13vi(c)*

In accordance with the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (SSS GWDRs), the City of Burlingame maintains records for each sanitary sewer overflow. Records include:

- Documentation of response steps and/or remedial actions
- Photographic evidence to document the extent of the SSO, field crew response operations, and site conditions after field crew SSO response operations have been completed. The date, time, location, and direction of photographs taken will be documented.
- Documentation of how any estimations of the volume of discharged and/or recovered volumes were calculated including all assumptions made.
- Regulator required notifications are outlined in Section 11.1 on the following page.

## 11.1 Regulator Required Notifications

| ELEMENT                         | REQUIREMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | METHOD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NOTIFICATION</b>             | Within two hours of becoming aware of any Category 1 SSO greater than or equal to 1,000 gallons discharged to surface water or spilled in a location where it probably will be discharged to surface water, the City will notify the California Office of Emergency Services (CalOES) and obtain a notification control number.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Call Cal OES at:<br><b>(800) 852-7550</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>REPORTING</b>                | <ul style="list-style-type: none"> <li>Category 1 SSO: The City will submit draft report within three business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date.</li> <li>Category 2 SSO: The City will submit draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of the SSO end date.</li> <li>Category 3 SSO: The City will submit certified report within 30 calendar days of the end of month in which SSO the occurred.</li> <li>SSO Technical Report: The City will submit within 45 calendar days after the end date of any Category 1 SSO in which 50,000 gallons or greater are spilled to surface waters.</li> <li>"No Spill" Certification: The City will certify that no SSOs occurred within 30 calendar days of the end of the month or, if reporting quarterly, the quarter in which no SSOs occurred.</li> <li>Collection System Questionnaire: The City will update and certify every 12 months</li> </ul> | <p>Enter data into the CIWQS Online SSO Database<sup>1</sup> (<a href="http://ciwqs.waterboards.ca.gov/">http://ciwqs.waterboards.ca.gov/</a>) certified by the Legally Responsible Official(s) <sup>2</sup>.</p> <p>All information required by CIWQS will be captured in the Sanitary Sewer Overflow Report.</p> <p>Certified SSO reports may be updated by amending the report or adding an attachment to the SSO report within 120 calendar days after the SSO end date. After 120 days, the State SSO Program Manager must be contacted to request to amend an SSO report along with a justification for why the additional information was not available prior to the end of the 120 days.</p> |
| <b>WATER QUALITY MONITORING</b> | The City will conduct water quality sampling within 48 hours after initial SSO notification for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Water quality results will be uploaded into CIWQS for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>RECORD KEEPING</b>           | <p>The City will maintain the following records:</p> <ul style="list-style-type: none"> <li>SSO event records.</li> <li>Records documenting Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to the SSMP.</li> <li>Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters.</li> <li>Collection system telemetry records if relied upon to document and/or estimate SSO Volume.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Self-maintained records shall be available during inspections or upon request.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

<sup>1</sup> In the event that the CIWQS online SSO database is not available, the Senior Maintenance Worker will notify SWRCB by phone and will fax or e-mail all required information to the RWQCB office at (510) 622-2460 in accordance with the time schedules identified above. In such an event, the City will submit the appropriate reports using the CIWQS online SSO database when the database becomes available. A copy of all documents that certify the submittal in fulfillment of this section shall be retained in the SSO file.

<sup>2</sup> The City always has at least one LRO. Any change in the LRO(s) including deactivation or a change to contact information, will be submitted to the SWRCB within 30 days of the change by calling (866) 792-4977 or emailing [help@ciwqs.waterboards.ca.gov](mailto:help@ciwqs.waterboards.ca.gov).

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

## **11.2 Complaint Records**

The City maintains records of all complaints received whether or not they result in sanitary sewer overflows. These complaint records include:

- Date, time, and method of notification
- Date and time the complainant or informant first noticed the SSO or occurrence related to the call
- Narrative description describing the complaint
- A statement from the complainant or informant, if they know, of whether or not the potential SSO may have reached waters of the state
- Name, address, and contact telephone number of the complainant or informant reporting the potential SSO (if not reported anonymously)
- Follow-up return contact information for each complaint received (if not reported anonymously)
- Final resolution of the complaint with the original complainant
- Work service request information used to document all feasible and remedial actions taken

All complaint records will be maintained for a minimum of five years whether or not they result in an SSO. SSO records are kept under the direction and control of the Senior Maintenance Worker.

## **12. Post SSO Event Debriefing**

*ref. SWRCB Order No. 2006-0003-DWQ D.13vi(d)*

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

As soon as possible after Category 1 and Category 2 SSO events all of the participants, from the person who received the call to the last person to leave the site, will meet to review the procedures used and to discuss what worked and where improvements could be made in preventing or responding to and mitigating future SSO events. The results of the debriefing will be documented and tracked to ensure the action items are completed as scheduled.

## **13. Failure Analysis Investigation**

*ref. SWRCB Order No. 2006-0003-DWQ D.13vi(d)*

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

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

- Reviewing and completing the Sanitary Sewer Overflow Report and any other documents related to the incident
- Reviewing the incident timeline and other documentation regarding the incident
- Reviewing communications with the reporting party and witness
- Reviewing volume estimate, volume recovered estimate, volume estimation assumptions and associated drawings
- Reviewing available photographs
- Interviewing staff that responded to the spill
- Reviewing past maintenance records
- Reviewing past CCTV records,
- Conducting a CCTV inspection to determine the condition of all line segments immediately following the SSO and reviewing the video and logs,
- Reviewing any Fats, Oils, Roots and Grease (FROG) related information or results
- Post SSO debrief records
- Interviews with the public at the SSO location

The product of the failure analysis investigation will be the determination of the root cause and the identification and scheduling of the corrective actions. The Collection System Failure Analysis Form (in Sanitary Sewer Overflow/Backup Response Workbook) will be used to document the investigation.

## **14. SSO Response Training**

*ref. SWRCB Order No. 2006-0003-DWQ D.13vi(d)*

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

### **14.1 Initial and Annual Refresher Training**

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

Affected employees will receive annual training on the following topics by knowledgeable trainers:

- The City's Overflow Emergency Response Plan and Sanitary Sewer Management Plan
- Sanitary Sewer Overflow Volume Estimation Techniques
- Researching and documenting Sanitary Sewer Overflow Start Times
- Impacted Surface Waters: Response Procedures
- State Water Resources Control Board Employee Knowledge Expectations
- Employee Core Competency Evaluations on Sanitary Sewer Operations
- Water Quality Sampling Plan

The City will verify that annual safety training requirements are current for each employee, and that employees are competent in the performance of all core competencies. This will be verified through electronic testing, interviews and observations. The City will address, through additional training/instruction, any identified gaps in required core competencies.

Through SWRCB Employee Knowledge Expectations training the employee will be able to answer the following:

1. Please briefly describe your name and job title.

2. Please describe for us approximately when you started in this field and how long you have worked for your agency.
3. Please expand on your current position duties and role in responding in the field to any SSO complaints.
4. Please describe your SOPs used to respond/mitigate SSOs when they occur.
5. Describe any training your agency provides or sends you to for conducting spill volume estimates.
6. We are interested in learning more about how your historical SSO response activities have worked in the field. We understand from discussions with management earlier that you use the OERP from the SSMP. Please elaborate on how you implement and utilize the procedures in the plan.
7. Historically, before any recent changes, can you please walk us through how you would typically receive and respond to any SSO complaints in the field?
8. Can you tell us who is responsible for estimating SSO volumes discharged? If it is you, please describe how you go about estimating the SSO volume that you record on the work order/service request forms?
9. What other information do you collect or record other than what is written on the work order form?
10. Describe if and when you ever talk with people that call in SSOs (either onsite or via telephone) to further check out when the SSO might have occurred based on what they or others know? If you do this, can you tell us where this information is recorded?
11. We understand you may be instructed to take pictures of some sewer spills/backups into structures. Other than these SSOs, when else would you typically take any pictures of an SSO?
12. Please walk us through anything else you'd like to add to help us better understand how your field crews respond and mitigate SSO complaints.

#### **14.2 SSO Response Drills**

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

#### **14.3 SSO Training Record Keeping**

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

#### **14.4 Contractors Working On City Sewer Facilities**

All construction contractors working on City sewer facilities will be required to develop a project-specific OERP, will provide project personnel with training regarding the content of the contractor's OERP and their role in the event of an SSO, and to follow that OERP in the event that they cause or observe an SSO. Emergency response procedures shall be discussed at project pre-construction meetings, regular project meetings and after any contractor involved incidents.

All service contractors will be provided, and required to observe contractor procedures.

## **15. Authority**

- Health & Safety Code Sections 5410-5416
- CA Water Code Section 13271
- Fish & Wildlife Code Sections 5650-5656
- State Water Resources Control Board Order No. 2006-0003-DWQ
- State Water Resources Control Board Order No. WQ 2013-0058-EXEC effective September 9, 2013

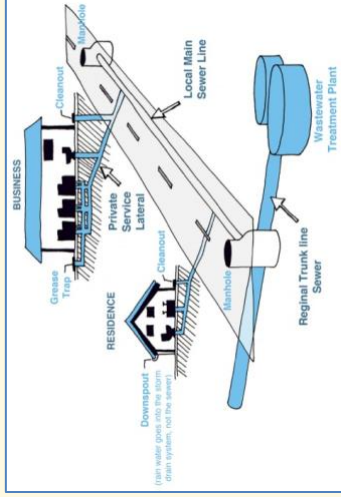
## **16. Appendices**

- Appendix A: Sewer Spill Reference Guide (Pamphlet)
- Appendix B: Door Hanger
- Appendix C: Warning Sign
- Appendix D: Sanitary Sewer Overflow/Backup Response Workbook

APPENDIX A:  
Sewer Spill Reference Guide (Pamphlet)

## How a Sewer System Works

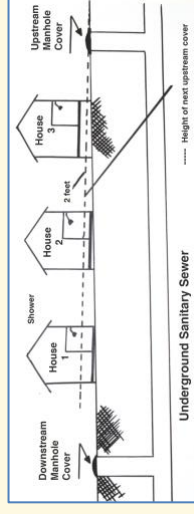
A property owner's sewer pipes are called **service laterals** and are connected to larger local main and regional trunk lines. Service laterals run from the connection at the home to the connection with the public sewer. These laterals are the responsibility of the property owner and must be maintained by the property owner.



## Is my home required to have a backflow prevention device?

Section 710.1 of the Uniform Plumbing Code (U.P.C.) states: "Drainage piping serving fixtures which have flood level rims located below the elevation of the next upstream manhole cover or private sewer serving such drainage piping **shall** be protected from backflow of sewage by installing an approved type of backwater valve." The intent of Section 710.1 is to protect the building interior from mainline sewer overflows or surcharges.

Additionally, U.P.C. 710.6 states: "Backwater valves **shall** be located where they will be accessible for inspection and repair at all times and, unless continuously exposed, shall be enclosed in a masonry pit fitted with an adequately sized removable cover."



If you have a sewage spill from your private sewer line that impacts storm drains, waterways or public property, contact:

City of San Carlos

Business hours: (650) 802-4140

After hours: (650) 802-4321

Discharge of untreated or partially treated sewage is prohibited by law. If you would like more information on this prohibition, please contact any of the following:

San Mateo County Environmental Health

(650) 595-1456

California Health and Safety Code, Sections 5410-5416 requires:

- No person shall discharge raw or treated sewage or other waste in a manner that results in contamination, pollution, or a nuisance.
- Any person who causes or permits a sewage discharge to any state waters:
  - Must immediately notify the local health agency of the discharge.
  - Shall reimburse the local health agency for services that protect the public's health and safety.
  - Who fails to provide the required notice to the local health agency is guilty of a misdemeanor and shall be punished by a fine (between \$500-\$1,000) and/or imprisonment for less than one year.

San Francisco Regional Water Quality Control

Board:

(510) 622-2369

Requires the prevention, mitigation, response to, and reporting of sewage spills.

California Governor's Office of Emergency

Services (CalOES): (800) 852-7550

California Water Code, Article 4, Chapter 4, Sections 13268-13271 & California Code of Regulations, Title 23, Division 3, Chapter 9.2, Article 2, Sections 2250-2260 require:

- Any person who causes or permits sewage in excess of 1,000 gallons to be discharged to state waters shall immediately notify the Office of Emergency Services.
- Any person who fails to provide the notice required by this section is guilty of a misdemeanor and shall be punished by a fine (less than \$20,000) and/or imprisonment for not more than one year.

# Sewer Spill Reference Guide

## Your Responsibilities as a Private Property Owner



Provided to you by:

City of San Carlos

1000 Bransten Road

San Carlos, CA 94070

(650) 802-4140

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### How do sewage spills happen?

Sewage spills occur when the wastewater in underground pipes overflows through a manhole, cleanout, or broken pipe. Most spills are relatively small and can be stopped and cleaned up quickly, but left unattended they can cause health hazards, damage to homes and businesses, and threaten the environment, local waterways, and beaches.

## CAUTION!

**When trying to locate a sewer problem, never open manholes or other public sewer structures. Only our crews are allowed to open & inspect these structures.**

**Call for assistance: (650) 802-4140**

### Common causes of sewage spills

- Grease build-up
- Tree roots
- Broken/cracked pipes
- Missing or broken cleanout caps
- Undersized sewers
- Groundwater/rainwater entering the sewer system through pipe defects and illegal connections

### Prevent most sewage backups with a Backflow Prevention Device

This type of device can help prevent sewage backups into homes and businesses. If you don't already have a Backflow Prevention Device, contact a professional plumber or contractor to install one as soon as possible.

### Protect the environment!

If you let sewage from your property discharge to a gutter or storm drain, you may be subject to penalties and/or out-of-pocket costs for clean-up and enforcement efforts. A property owner may be charged for costs incurred by agencies responding to spills from private properties.

### What to look for:

Sewage spills can be a very noticeable gushing of water from a manhole or a slow water leak that may take time to be noticed. Don't dismiss unaccounted-for wet areas. Look for:

- Drain backups inside the building.
- Wet ground and/or water leaking around manhole lids onto your street.
- Leaking water from cleanouts or outside drains
- Unusual odorous wet areas: sidewalks, external walls, ground/landscape around a building.

The following are indicators of a possible obstruction in your sewer line:

- Water comes up in floor drains, showers or toilets.
- Toilets, showers or floor drains below ground level drain very slowly.

### What to do if there is a spill:

Immediately notify the City of San Carlos. Our crews locate the blockage and determine if it is in the public sewer; if it is the crew removes the blockage and arranges for cleanup. If the backup is in your private internal plumbing or in the private service laterals, **you are required to immediately:**

- Control and minimize the spill by shutting off or not using the water
- Keep sewage out of the storm drain system using sandbags, dirt and/or plastic sheeting
- Call a plumbing professional to clear blockages and make repairs as needed. Look in the yellow pages under "Plumbing Drain & Sewer Cleaning" or "Sewer Contractors."
- Always notify your sewer/public works department or public sewer district of sewage spills.

### Spill cleanup inside the home:

For large clean ups, a professional cleaning firm should be contacted to clean up impacted areas. If you hire a contractor, it is recommended to get estimates from more than one company. Sometimes, homeowner's insurance will pay for the necessary cleaning due to sewer backups. Not all policies have this coverage, so check with your agent.

If you decide to clean up a small spill inside your home, protect yourself from contamination by observing the following safety measures. Those persons whose resistance to infection is compromised should not attempt this type of clean up.

### Other Tips:

- Keep children and pets out of the affected area until cleanup has been completed.
- Turn off heating/air conditioning systems
- Wear rubber boots, rubber gloves, and goggles during cleanup of the affected area.
- Discard items that cannot be washed and disinfected (such as: mattresses, rugs, cosmetics, baby toys, etc.)
- Remove and discard drywall and insulation that has been contaminated with sewage or flood waters.
- Thoroughly clean all hard surfaces (such as flooring, concrete, molding, wood and metal furniture,

countertops, appliances, sinks and other plumbing fixtures) with hot water and laundry or dish detergent.

- Help the drying process with fans, air conditioning units, and dehumidifiers.

- After completing cleanup, wash your hands with soap and water. Use water that has been boiled for 1 minute (allow the water to cool before washing your hands) OR use water that has been disinfected (solution of 1/8 teaspoon of household bleach per 1 gallon of water). Let it stand for 30 min. If water is cloudy, use ¼ teaspoon of household bleach per 1 gallon of water.

- Wash clothes worn during cleanup in hot water and detergent (wash apart from uncontaminated clothes).
- Wash clothes contaminated with sewage in hot water and detergent. Consider using a Laundromat until your onsite wastewater system has been professionally inspected and serviced.
- Seek immediate attention if you become injured or ill.

### Spill cleanup outside the home:

- Keep children and pets out of the affected area until cleanup has been completed.
- Wear rubber boots, rubber gloves, and goggles during cleanup of affected area.
- Clean up sewage solids (fecal material) and place in properly functioning toilet or double bag and place in garbage container.
- On hard surfaces areas such as asphalt or concrete, it is safe to use a 2% bleach solution, or ½ cup of bleach to 5 gallons of water, but don't allow it to reach a storm drain as the bleach can harm the environment.
- After cleanup, wash hands with soap and water. Use water that has been boiled for 1 minute (allow to cool before washing your hands) OR use water that has been disinfected (solution of 1/8 teaspoon of household bleach per 1 gallon of water). Let it stand for 30 min. If water is cloudy, use ¼ teaspoon of household bleach per 1 gallon of water.
- Wash clothes worn during cleanup in hot water and detergent (wash apart from uncontaminated clothes).
- Wash clothes contaminated with sewage in hot water and detergent. Consider using a Laundromat until your onsite wastewater system has been professionally inspected and serviced.
- Seek immediate attention if you become injured/ill.

APPENDIX B:  
Door Hanger

## CITY OF SAN CARLOS

On (date) \_\_\_\_\_, at (location) \_\_\_\_\_

we responded to your request for customer service.

We:

- ☐ Checked the City sanitary sewer main line and a problem was discovered. The problem has been corrected.
- ☐ Checked the City sanitary sewer main line and it is flowing normally. If you are still having a backup problem, the property owner can look in the yellow pages of the phone book under "Sewer Contractors" or "Plumbing Drains & Sewer Cleaning". If you plan to hire a contractor, we recommend getting estimates for more than one company.
- ☐ Found the City portion of the sanitary sewer lateral line to be clear.
- ☐ Cleared the City portion of the sanitary sewer lateral line and found:
  - ☐ Roots
  - ☐ Grease
  - ☐ Paper
  - ☐ Other: \_\_\_\_\_

City of San Carlos Representative Notes: \_\_\_\_\_

City of San Carlos Representative: \_\_\_\_\_

For questions or comments,  
please call the City of San Carlos at  
**650-802-4140**

***For Sewer Emergencies at  
Night & on Weekends, please call  
650-802-4321***

## APPENDIX C

### Warning Sign

Overflow Emergency Response Plan  
Public Posting

# DANGER

**RAW SEWAGE • AVOID CONTACT**



# PELIGRO

**AGUA CONTAMINADA • EVITE TODO CONTACTO**

**City of San Carlos**

**Business Hours: (650) 802-4140**

**After Hours: (650) 802-4321**

APPENDIX D:  
Sanitary Sewer Overflow/Backup Response Workbook

# **City of San Carlos**

## **Overflow Emergency Response Plan**

### **Sanitary Sewer Overflow and Backup Response Workbook**

INSERT TAB:  
Start Here

- ☐ If this is a Category 1 SSO greater than or equal to 1,000 gallons, **immediately contact CalOES at (800) 852-7550 to make the 2-hour notification.**
- ☐ **Refer to the Regulatory Reporting Guide** for additional reporting requirements.
- ☐ **If there is a backup into a residence or business:** Tiffany Roduit, Claims Examiner at Sedgwick/Plan JPA at (925) 349-3878 telephone or (925) 808-5072 cell.
- ☐ **For Water Sample Analysis:** Silicon Valley Clean Water (650) 591-7121
- ☐ **For any media inquiries/requests:**  
Assistant to the City Manager (650) 802-4230



Don't forget to take photos!

#### Wastewater Crew:

- ☐ Follow the instructions on the Overflow/Backup Response Flowchart and complete forms in this workbook as indicated.
- ☐ After all work is done and prior to leaving the site, review all documentation including photos to ensure accuracy, completeness, and legibility of documentation collected.
- ☐ Complete the chain of custody record (to the right) and deliver this workbook to the Operations Manager.

Print Name: \_\_\_\_\_

Initial: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

#### Senior Maintenance Worker or Designee:

- ☐ Review the SSO Event Checklist and the forms in this booklet. Contact the Field Crew for additional information if necessary.
- ☐ Confirm that all required regulatory notifications have been made.
- ☐ If this was a Sewer Backup, complete the Backup Forms Checklist.
- ☐ Complete the Collection System Failure Analysis Form.
- ☐ Enter data into CIWQS.
- ☐ Complete the Chain of Custody record (right) and file this booklet

Print Name: \_\_\_\_\_

Initial: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

**SSO Event Checklist****A-2**

Date of SSO: \_\_\_\_\_ SSO Location/Name: \_\_\_\_\_

CIWQS Event ID #: \_\_\_\_\_ Category? ☐ 1 ☐ 2 ☐ 3 OES#: \_\_\_\_\_Property Damage? ☐ Yes ☐ No Service Request #: \_\_\_\_\_

- ☐ Effort made to contain and return a portion/all to the sanitary sewer
- ☐ Pictures/video taken of overflow
- ☐ Pictures taken of affected/unaffected area
- ☐ If property damage, start that process
- ☐ Pictures taken of containment efforts
- ☐ If Cat 1 > 1000 gals:  
OES Control # \_\_\_\_\_
- ☐ Impacted waters identified?
- ☐ No impacted waters?
- ☐ SSO Report Form Complete (includes fields for all required fields in CIWQS, and a sketch of SSO)
- ☐ Volume Estimation Worksheet(s) done
- ☐ Start Time Determination Form done
- ☐ Initial review of forms is complete (ensure consistency with dates, times, volumes, and other data)
- ☐ Review of photos and videos (label/date)
- ☐ Start Folder for all documentation for this SSO event. Put everything in it (Field Reports, Worksheets/Forms, follow-up work orders, notes, pics, drawings, etc. CIWQS print outs and emails)
- ☐ Failure Analysis
  - ☐ TV to determine cause
  - ☐ Review Asset History
- ☐ Determine next steps to prevent recurrence
- ☐ Document findings and next steps on SSO Report
- ☐ Submit Draft in CIWQS w/in 3 business days (for Categories 1 and 2 only)
- ☐ Print CIWQS Draft hard copy and email
- ☐ Review CIWQS, SSO Report, Worksheets, CMMS, and any other documentation to ensure data is consistent (e.g. dates, times, volumes, cause, follow-up action, etc.)
- ☐ Attach photos, forms etc. to CIWQS
- ☐ Submit Ready to Certify in CIWQS (with sufficient time for LRO review)
- ☐ Print CIWQS Ready to Certify and email
- ☐ Hand folder to LRO
- ☐ LRO review folder and CIWQS verify accurate and consistent data
- ☐ Certify in CIWQS (within 15 calendar days for Categories 1 & 2, 30 days after the month for Category 3)
- ☐ Print Certified CIWQS and email
- ☐ Any changes? Change in CIWQS and hard copies and explain changes, print our current version
- ☐ Move completed folder to SSO Binder
- ☐ For 50, 000 gallons or larger
  - ☐ Follow Water Quality Monitoring and Sampling procedures
  - ☐ Map of where samples were taken
  - ☐ Sampling results
  - ☐ Write Technical Report
  - ☐ Attach to CIWQS
  - ☐ Add to SSO Folder/Binder
- ☐ If any changes are made to SSMP
  - ☐ Update SSMP and link on CIWQS to SSMP
  - ☐ Add change to SSMP Change Log
  - ☐ If change is substantive, re-certify SSMP

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Regulatory Reporting

**Regulatory Reporting Guide**

| Deadline                                                  | Category 1 SSO                                                                                                                                                    | Category 2 SSO                                                                                  | Category 3 SSO                                                                     | Private Lateral Sewage Discharge ≥ 1,000 gallons |
|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------|
| 2 hours after awareness of SSO                            | If the spill is greater than or equal to 1,000 gallons, call CalOES.                                                                                              | -                                                                                               | -                                                                                  |                                                  |
| As soon as possible                                       | If SSO impacts private property that may be a failure of the sewer main and/or if a claim for damages may be submitted against the city, notify Sedgwick/PLAN JPA |                                                                                                 |                                                                                    | Notify CalOES                                    |
| 48 Hours after awareness of SSO                           | If 50,000 gal or more were not recovered, begin water quality sampling.                                                                                           | -                                                                                               | -                                                                                  |                                                  |
| 3 Business Days after awareness of SSO                    | Submit Draft Spill Report in the CIWQS database.                                                                                                                  | Submit Draft Spill Report in the CIWQS database.                                                | -                                                                                  |                                                  |
| 15 Days after response conclusion                         | Certify Spill Report in CIWQS. Update as needed until 120 days after SSO end date.                                                                                | Certify Spill Report in the CIWQS database. Update as needed until 120 days after SSO end time. | -                                                                                  |                                                  |
| 30 Days after end of calendar month in which SSO occurred | -                                                                                                                                                                 | -                                                                                               | Certify Spill Report in CIWQS. Update as needed until 120 days after SSO end date. | Submit Spill Report in CIWQS                     |
| 45 days after SSO end date                                | If 50,000 gal or more were not recovered, submit SSO Technical Report in CIWQS.                                                                                   | -                                                                                               | -                                                                                  |                                                  |

**Note:** For reporting purposes, if one SSO event results in multiple appearance points, complete one SSO report in the CIWQS SSO Online Database, and report the location of the SSO failure point, blockage or location of the flow condition that caused the SSO, including all the discharge points associated with the SSO event.

| Category                                | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1                                       | Discharges of untreated or partially treated wastewater of any volume resulting from an enrollee's sanitary sewer system failure or flow condition that: <ul style="list-style-type: none"> <li>- Reach surface water and/or reach a drainage channel tributary to a surface water; or</li> <li>- Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).</li> </ul> |
| 2                                       | Discharges of untreated or partially treated wastewater of 1,000 gallons or greater resulting from an enrollee's sanitary sewer system failure or flow condition that do not reach surface water, a drainage channel, or a MS4 unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.                                                                                                                                                                                                                                                                                                                                                                                                      |
| 3                                       | All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary sewer system failure or flow condition.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Private Lateral Sewage Discharge (PLSD) | Discharges of untreated or partially treated wastewater resulting from blockages or other problems <b><u>within a privately-owned sewer lateral</u></b> connected to the enrollee's sanitary sewer system or from other private sewer assets. PLSDs that the enrollee becomes aware of may be <b><u>voluntarily</u></b> reported to the California Integrated Water Quality System (CIWQS) Online SSO Database.                                                                                                                                                                                                                                                                                                                             |

**Authorized Personnel:**

The following are authorized to perform regulatory reporting of SSOs:

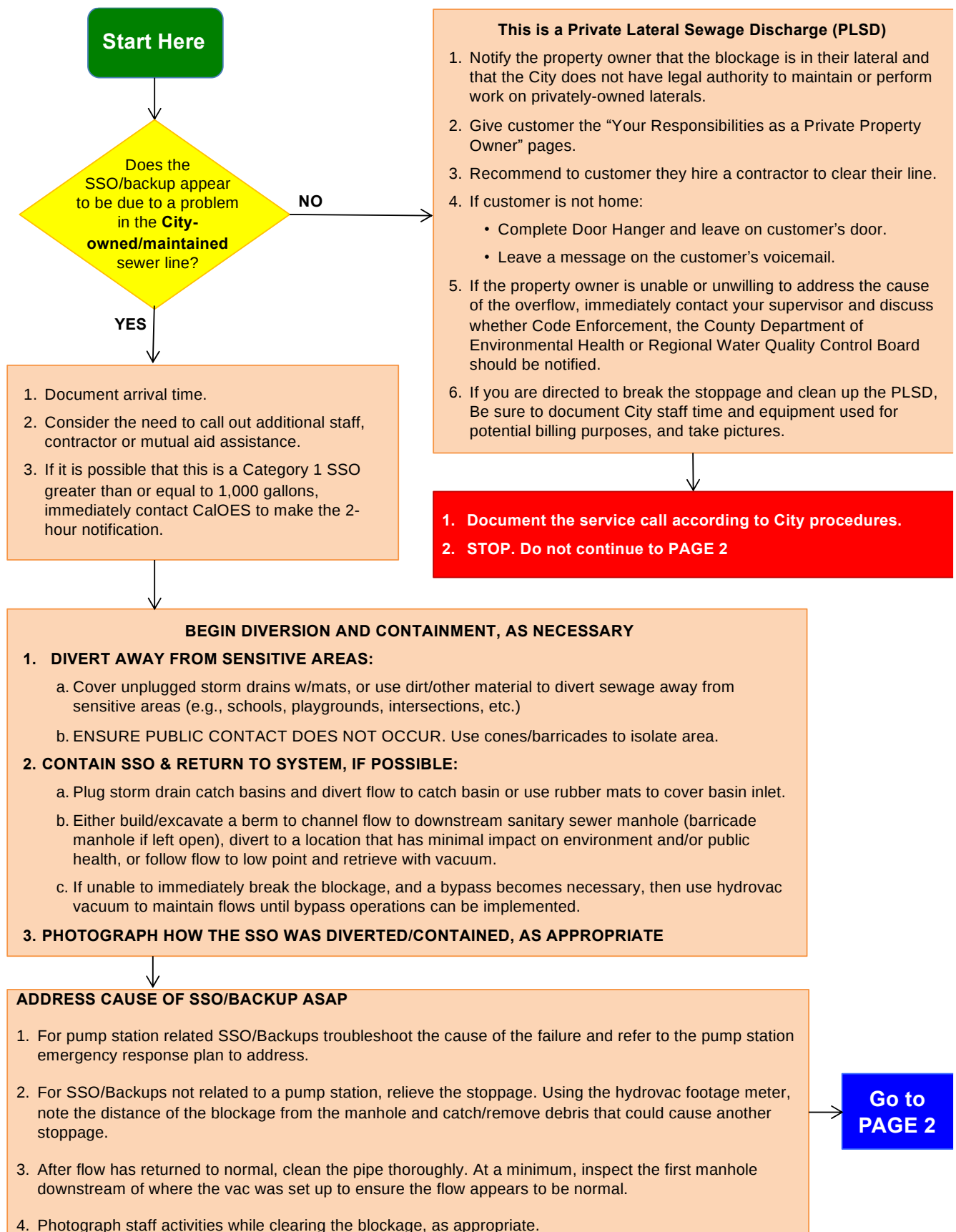
- Senior Maintenance Worker: (650) 802-4145
- Assistant Superintendent: (650) 802-4146
- Superintendent: (650) 802-4144
- Director of Public Works: (650) 802-4203

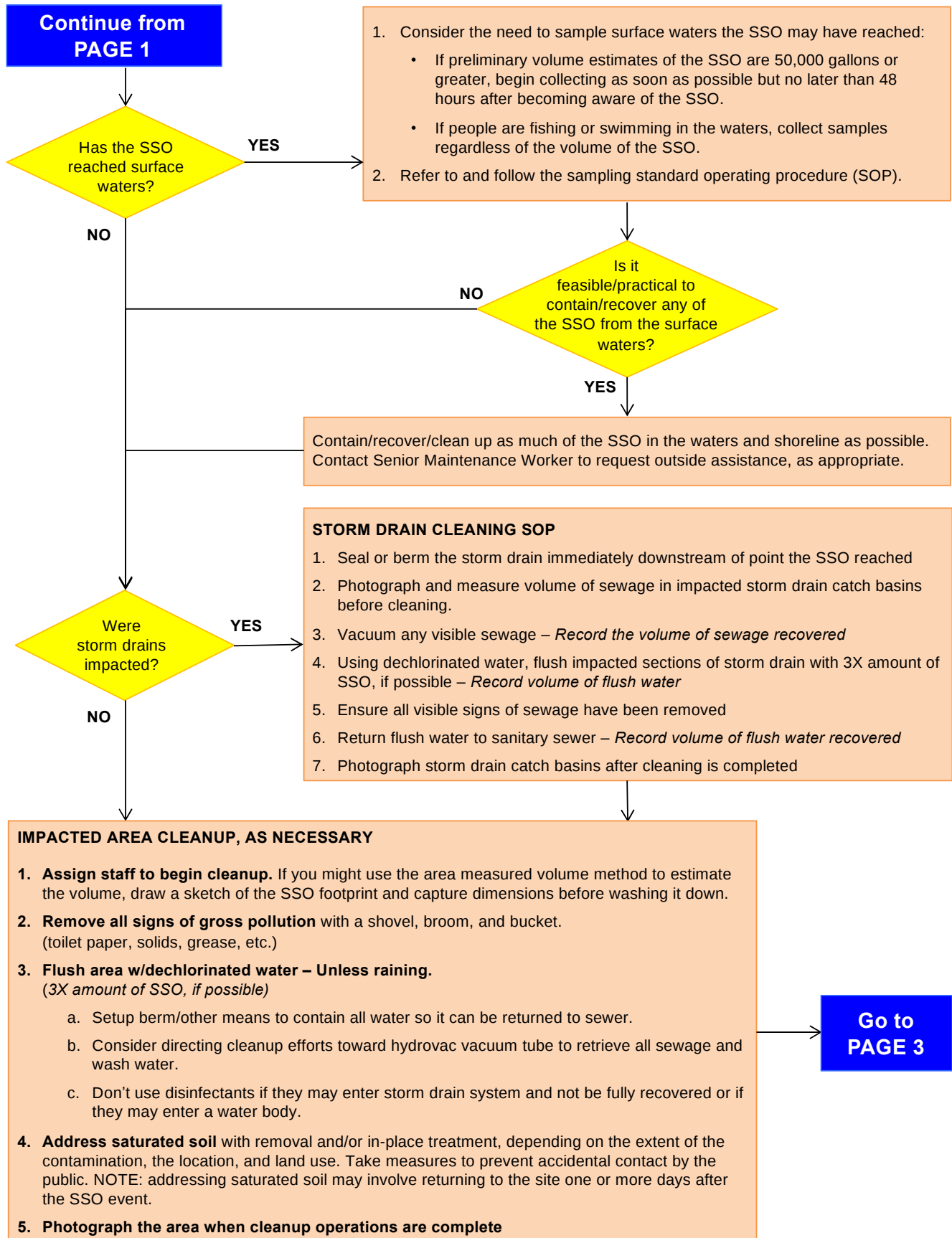
The City's Legally Responsible Official (LRO) is authorized to electronically sign and certify SSO reports in CIWQS. The LRO is the Director of Public Works.

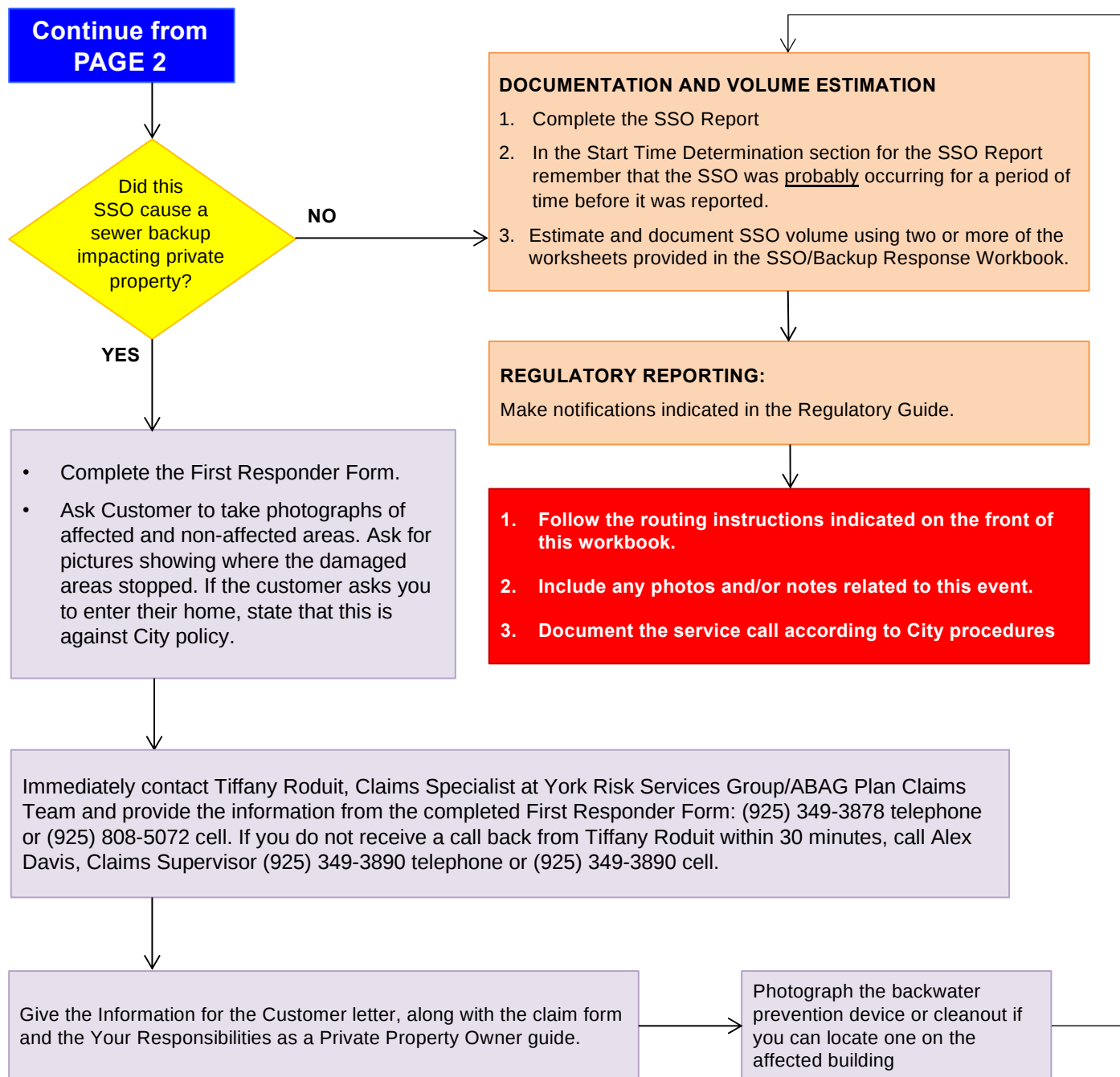
| Contact                                                   | Telephone/Email                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CalOES</b>                                             | (800) 852-7550                                                                                                                                                                                                                                                                                                                                                             |
| <b>Sedgwick/PLAN JPA</b>                                  | Tiffany Roduit, Claims Specialist <ul style="list-style-type: none"> <li>• Telephone: (925) 349-3878</li> <li>• Cell: (925) 808-5072</li> </ul> If you do not receive a call back from Tiffany Roduit within 30 minutes, call: Alex Davis, Claims Supervisor <ul style="list-style-type: none"> <li>• Telephone: (925) 349-3890</li> <li>• Cell: (925) 349-3890</li> </ul> |
| <b>San Francisco Regional Water Quality Control Board</b> | Telephone: (510) 622-2369<br>Fax: (510) 622-2460                                                                                                                                                                                                                                                                                                                           |
| <b>State Water Resources Control Board Walter Mobley</b>  | (916) 323-0878    Walter.Mobley@waterboards.ca.gov                                                                                                                                                                                                                                                                                                                         |

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Flowchart







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SSO Report

| PHYSICAL LOCATION DETAILS                                                                                                                                                                                                                                                                                      |                          |                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|----------------------------|
| Spill location name                                                                                                                                                                                                                                                                                            |                          |                            |
| Latitude of spill location                                                                                                                                                                                                                                                                                     |                          |                            |
| Longitude of spill location                                                                                                                                                                                                                                                                                    |                          |                            |
| County                                                                                                                                                                                                                                                                                                         | San Mateo                |                            |
| Regional Water Quality Control Board                                                                                                                                                                                                                                                                           | San Francisco – Region 2 |                            |
| VOLUMES BY DESTINATION                                                                                                                                                                                                                                                                                         | Volume Spilled (Gallons) | Volume Recovered (Gallons) |
| 2.a/2.b Estimated spill volume that reached a separate storm drain that flows to a surface body of water? (If not all recovered, this is a Category 1)                                                                                                                                                         |                          |                            |
| 2.c/2d Estimated spill volume that directly reached a drainage channel that flows to a surface water body? (Any volume spilled is a Category 1)                                                                                                                                                                |                          |                            |
| 2.e/2.f Estimated spill volume discharged directly to a surface water body? (Any volume spilled is a Category 1)                                                                                                                                                                                               |                          |                            |
| 2.g/2.h Estimated spill volume discharged to land? (Includes discharges directly to land, and discharges to a storm drain system or drainage channel that flows to a storm water infiltration/retention structure, field, or other non-surface water location. Also, includes backups to building structures). |                          |                            |
|                                                                                                                                                                                                                                                                                                                | Volume Spilled           | Volume Recovered           |
| Total Volume Spilled<br>(Verify this matches the table in between 2.h and 3 in CIWQS)                                                                                                                                                                                                                          |                          |                            |

| DATE/TIME DETERMINATIONS                                |      |      |
|---------------------------------------------------------|------|------|
|                                                         | DATE | TIME |
| Start of SSO (Use Start Time Determination/Notes Below) |      |      |
| Agency Notified                                         |      |      |
| Collection System Operator Dispatched                   |      |      |
| Collection System Operator Arrived                      |      |      |
| End of SSO                                              |      |      |
| End of Spill Response                                   |      |      |

**Start Time Determination/Notes**

Don't forget to  
take photos!



Witness 1: \_\_\_\_\_  
Name Contact Information

Where did you see sewage spill from?

☐ Manhole ☐ Inside Building ☐ Vent/Clean Out ☐ Catch Basin ☐ Wet Well/Lift Station ☐ Other: \_\_\_\_\_

When did you notice the sewage spilling? \_\_\_\_\_ AM / PM Date \_\_\_\_ / \_\_\_\_ / \_\_\_\_

When did you last observe **NO Spill** occurring? \_\_\_\_\_ AM / PM Date \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

Witness 2: \_\_\_\_\_  
Name Contact Information

Where did you see sewage spill from?

☐ Manhole ☐ Inside Building ☐ Vent/Clean Out ☐ Catch Basin ☐ Wet Well/Lift Station ☐ Other: \_\_\_\_\_

When did you notice the sewage spilling? \_\_\_\_\_ AM / PM Date \_\_\_\_ / \_\_\_\_ / \_\_\_\_

When did you last observe **NO Spill** occurring? \_\_\_\_\_ AM / PM Date \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

Witness 3: \_\_\_\_\_  
Name Contact Information

Where did you see sewage spill from?

☐ Manhole ☐ Inside Building ☐ Vent/Clean Out ☐ Catch Basin ☐ Wet Well/Lift Station ☐ Other: \_\_\_\_\_

When did you notice the sewage spilling? \_\_\_\_\_ AM / PM Date \_\_\_\_ / \_\_\_\_ / \_\_\_\_

When did you last observe **NO Spill** occurring? \_\_\_\_\_ AM / PM Date \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

*Start Time Determination/Notes continued*

If the volume of the SSO and rate of flow are known, divide volume by rate of flow to get duration of SSO event.

\_\_\_\_\_ Gallons ÷ \_\_\_\_\_ GPM = Minutes (SSO Duration).

Subtract the Duration from the SSO End Date/Time to establish the SSO Start Date/Time.

Other Efforts to Determine Start Time: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Other Comments Regarding Spill Start Time: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Estimated SSO Start Time: \_\_\_\_\_ AM / PM    Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

SSO End Time: \_\_\_\_\_ AM / PM    Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

| SSO FIELD REPORT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Spill location description:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |
| Number of appearance points:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |
| Spill appearance points: (Check all that apply)<br><input type="checkbox"/> Backflow Prevention Device <input type="checkbox"/> Force Main <input type="checkbox"/> Gravity Mainline<br><input type="checkbox"/> Inside Building/Structure <input type="checkbox"/> Lateral Clean Out (Private/Public)<br><input type="checkbox"/> Lower Lateral (Private/Public) <input type="checkbox"/> Manhole <input type="checkbox"/> Pump Station<br><input type="checkbox"/> Upper Lateral (Private/Public)<br><input type="checkbox"/> Other Sewer System Structure |  |  |
| Spill appearance point explanation. (Enter information here if "Other" or multiple appearance points were selected):                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |
| Final spill destination: (Check all that apply)<br><input type="checkbox"/> Building/Structure <input type="checkbox"/> Combined Storm Drain <input type="checkbox"/> Drainage Channel<br><input type="checkbox"/> Other (Specify Below) <input type="checkbox"/> Paved Surface <input type="checkbox"/> Separate Storm Drain<br><input type="checkbox"/> Street/Curb and Gutter <input type="checkbox"/> Surface Water <input type="checkbox"/> Unpaved Surface                                                                                             |  |  |
| Explanation of final spill destination (Enter information if "Other" was selected):                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |  |

**SSO FIELD REPORT**

Spill cause: (Check One)

- ☐ Air Relief Valve (ARV)/Blow Off Valve (BOV)/Backwater Valve Failure
- ☐ Construction Diversion Failure
- ☐ CS Maintenance Caused Spill/Damage
- ☐ Damage by Others Not Related to CS Construction/Maintenance (Specify Below)
- ☐ Debris from Construction
- ☐ Debris from Lateral
- ☐ Debris-General
- ☐ Debris-Rags
- ☐ Debris Wipes/Non-Dispersible
- ☐ Flow Exceeded Capacity (Separate CS Only)
- ☐ Grease Deposition (FOG)
- ☐ Inappropriate Discharge to CS
- ☐ Natural Disaster
- ☐ Operator Error
- ☐ Other (Specify Below)
- ☐ Pipe Structural Problem/Failure
- ☐ Pipe Structural Problem/Failure – Installation
- ☐ Pump Station Failure – Controls
- ☐ Pump Station Failure – Mechanical
- ☐ Pump Station Failure – Power
- ☐ Rainfall Exceeded Design, I and I (Separate CS Only)
- ☐ Root Intrusion
- ☐ Siphon Failure
- ☐ Surcharged Pipe (Combined CS Only)
- ☐ Vandalism

Spill cause explanation: (Required if Spill Cause is "Other")

| SSO FIELD REPORT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----|
| Where did failure occur?<br><input type="checkbox"/> Air Relief Valve (ARV)/Blow Off Valve (BOV) Failure<br><input type="checkbox"/> Force Main <input type="checkbox"/> Gravity Mainline <input type="checkbox"/> Lower Lateral (Public) <input type="checkbox"/> Manhole<br><input type="checkbox"/> Other (Specify Below) <input type="checkbox"/> Pump Station Failure – Controls<br><input type="checkbox"/> Pump Station Failure – Mechanical <input type="checkbox"/> Pump Station Failure – Power<br><input type="checkbox"/> Siphon <input type="checkbox"/> Upper Lateral (Public) |        |    |
| Explanation of where failure occurred: (Required if Where Failure Occurred is “Other”)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |        |    |
| Was spill associated with a storm event?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | YES    | NO |
| Diameter of sewer pipe at the point of blockage or failure:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | inches |    |
| Material of sewer pipe at the point of blockage or failure:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |    |
| Estimated age of sewer asset at the point of blockage or failure (if applicable):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | years  |    |
| Spill Response Activities. (Check all that apply) <input type="checkbox"/> Cleaned-Up <input type="checkbox"/> Mitigated Effects of Spill<br><input type="checkbox"/> Contained All or Portion of Spill <input type="checkbox"/> Other (Specify Below) <input type="checkbox"/> Restored Flow<br><input type="checkbox"/> Returned All Spoil to Sanitary Sewer System <input type="checkbox"/> Property Owner Notified<br><input type="checkbox"/> Other Enforcement Agency Notified                                                                                                         |        |    |
| Explanation of spill response activities: (Required if spill response activities is “Other”):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |    |

| SSO FIELD REPORT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     |    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| Spill corrective action taken: (Check all that apply)<br><input type="checkbox"/> Add location to, or increase frequency check, in Preventive Maintenance Program<br><input type="checkbox"/> Adjusted Schedule/Method of Preventive Maintenance<br><input type="checkbox"/> Enforcement Action Against FOG Source<br><input type="checkbox"/> Inspected Sewer Using CCTV to Determine Cause<br><input type="checkbox"/> Other (Specify Below)<br><input type="checkbox"/> Plan Rehabilitation or Replacement of Sewer<br><input type="checkbox"/> Repaired Facilities or Replaced Defect |     |    |
| Explanation of corrective action taken: (Required if spill corrective action is "Other")<br><br><br><br><br><br><br><br><br><br>                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     |    |
| Is there an ongoing investigation?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | YES | NO |
| Health warnings posted?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | YES | NO |
| Did spill result in beach closure?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | YES | NO |
| Name of Impacted Beach(es): (Enter N/A if none)<br><br><br><br><br><br><br><br><br><br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |    |
| Name of impacted surface waters:<br><br><br><br><br><br><br><br><br><br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |     |    |

## SSO FIELD REPORT

Water quality samples analyzed for: (Check all that apply)

- ☐ Dissolved Oxygen
- ☐ Other Chemical Indicators(s) – Specify Below
- ☐ Biological Indicator(s) – Specify Below
- ☐ No Water Quality Samples Taken
- ☐ Not Applicable to the Spill
- ☐ Other (Specify Below)

Explanation of water quality samples analyzed for: (Required if water quality samples analyzed for is "Other chemical indicator(s)", "Biological indicator(s)", or "Other")

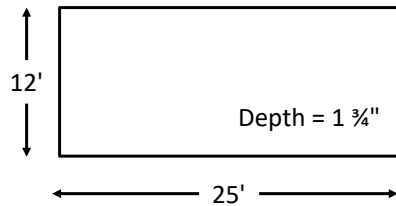
Method and explanation of volume estimation methods used: (Check all that apply)

- ☐ Eyeball Estimate    ☐ Measured Volume    ☐ Duration and Flow Rate  
☐ Counting Upstream Connections  
☐ Other (Explain):

INSERT TAB:  
Volume Estimation

## Miscellaneous Computations &amp; Examples

|                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |               |             |
|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------|
| To convert inches to feet<br>(NOTE: for the purposes of this worksheet, the unit of measurement will be in feet for formula examples) | Divide the inches by 12 or use the chart on the right.<br><br><b>Example 1:</b> 27" ÷ 12 = 2.25'<br><br><b>Example 2:</b> 1¾" = ?<br><br>1" (0.08') + ¾" (0.06') = 0.14'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Inches</b> | <b>Feet</b> |
|                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1/8"          | 0.01'       |
|                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1/4"          | 0.02'       |
|                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3/8"          | 0.03'       |
|                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1/2"          | 0.04'       |
|                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 5/8"          | 0.05'       |
|                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3/4"          | 0.06'       |
|                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 7/8"          | 0.07'       |
|                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1"            | 0.08'       |
|                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2"            | 0.17'       |
|                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3"            | 0.25'       |
|                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 4"            | 0.33'       |
|                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 5"            | 0.42'       |
| Volume of one cubic foot                                                                                                              | 7.48 gallons of liquid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 6"            | 0.50'       |
|                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 7"            | 0.58'       |
|                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 8"            | 0.67'       |
|                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 9"            | 0.75'       |
|                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 10"           | 0.83'       |
|                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 11"           | 0.92'       |
|                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 12"           | 1.00'       |
| <b>Area:</b><br>Two-dimensional measurement represented in square feet (SQ/FT or ft²)                                                 | Square/rectangle: Area = Length x Width<br><br>Circle: Area = π x r²<br>(where π ≈ 3.14 and r = radius = ½ diameter)<br><br>Triangle: Area = ½ (Base x Height)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |               |             |
| <b>Volume:</b><br>Three-dimensional measurement represented in cubic feet (CU/FT or ft³)                                              | Rectangle/square footprint: Volume = Length x Width x Depth<br><br>Circle footprint (cylinder): Volume = π x r² x Depth<br>(where π ≈ 3.14 and r = radius = ½ diameter)<br><br>Triangle footprint: Volume = ½ (Base x Height) x Depth                                                                                                                                                                                                                                                                                                                                                                                                                                                         |               |             |
| <b>Depth:</b><br>Wet Stain on Concrete or asphalt surface                                                                             | If the depth is not measurable because it is only a wet stain, use the following estimated depths: Depth of a wet stain on concrete surface: 0.0026' (1/32")<br>Depth of a wet stain on asphalt surface: 0.0013' (1/64")<br><br>These were determined to be a reasonable depth to use on the respective surfaces through a process of trial and error. One gallon of water was poured onto both asphalt and concrete surfaces. Once the area was determined as accurately as possible, different depths were used to determine the volume of the wetted footprint until the formula produced a result that (closely) matched the one gallon spilled. This process was repeated several times. |               |             |
| <b>Depth:</b><br>Contained or “Ponded” sewage                                                                                         | Measure actual depth of standing sewage whenever possible. When depth varies, measure several representative sample points and determine the average. Use that number in your formula to determine volume.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               |             |

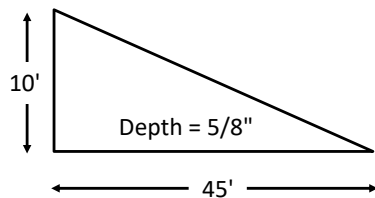
**Miscellaneous Computations & Examples (continued)****Area/Volume of a Rectangle or Square**Formula: Length x Width x Depth = Volume in **cubic feet**

$$\frac{25'}{\text{Length}} \times \frac{12'}{\text{Width}} \times \frac{0.14'}{\text{Depth}} = \frac{42 \text{ Cubic Feet}}{\text{Volume}}$$

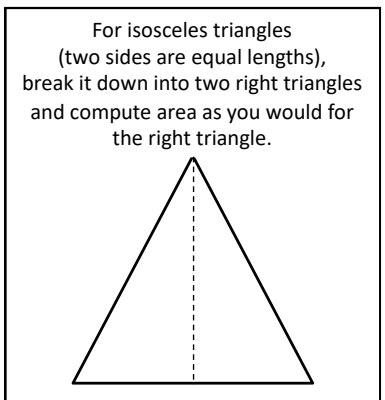
Multiply the volume by 7.48 gallons to determine the volume in **gallons**:

$$\frac{42 \text{ ft}^3}{\text{Volume}} \times \frac{7.48}{\text{gal/ft}^3} = \frac{314.16 \text{ gallons}}{\text{Volume}}$$

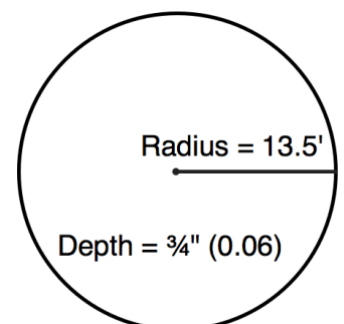
| Convert<br>Inches to Feet |       |
|---------------------------|-------|
| Inches                    | Feet  |
| 1/8"                      | 0.01' |
| 1/4"                      | 0.02' |
| 3/8"                      | 0.03' |
| 1/2"                      | 0.04' |
| 5/8"                      | 0.05'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

**Area/Volume of a Right Triangle**Formula:  $\frac{1}{2} \times \text{Base} \times \text{Height} \times \text{Depth} = \text{Volume in cubic feet}$ 

$$0.5 \times \frac{45'}{\text{Base}} \times \frac{10'}{\text{Height}} \times \frac{0.05'}{\text{Depth}} \times \frac{7.48}{\text{gal/ft}^3} = \frac{84.15 \text{ gallons}}{\text{Volume}}$$

**Area/Volume of a Circle**Formula:  $\pi \times r^2 \times \text{Depth} = \text{Volume in cubic feet}$ The radius is  $\frac{1}{2}$  the diameter, which is a straight line passing from side to side through the center of a circle.

$$\frac{13.5'}{\text{Radius}} \times \frac{13.5'}{\text{Radius}} \times \frac{3.14}{\pi} \times \frac{0.06'}{\text{Depth}} \times \frac{7.48}{\text{gal/ft}^3} = \frac{256.8 \text{ gallons}}{\text{Volume}}$$



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

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

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

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

|                                    | A                      | B               | C                              |
|------------------------------------|------------------------|-----------------|--------------------------------|
| Size of bucket(s) or barrel(s)     | How many of this size? | Multiplier      | Estimated SSO Volume (gallons) |
| 1 gallon water jug                 |                        | x 1 gallons     |                                |
| 5 gallon bucket                    |                        | x 5 gallons     |                                |
| 32 gallon trash can                |                        | x 32 gallons    |                                |
| 55 gallon drum                     |                        | x 55 gallons    |                                |
| Other: _____ gallons               |                        | x _____ gallons |                                |
| <b>Estimated Total SSO Volume:</b> |                        |                 |                                |

STEP 5: Is rainfall a factor in the SSO? ☐ Yes ☐ No

If yes, what volume of the observed spill volume do you estimate is rainfall? \_\_\_\_\_ gallons

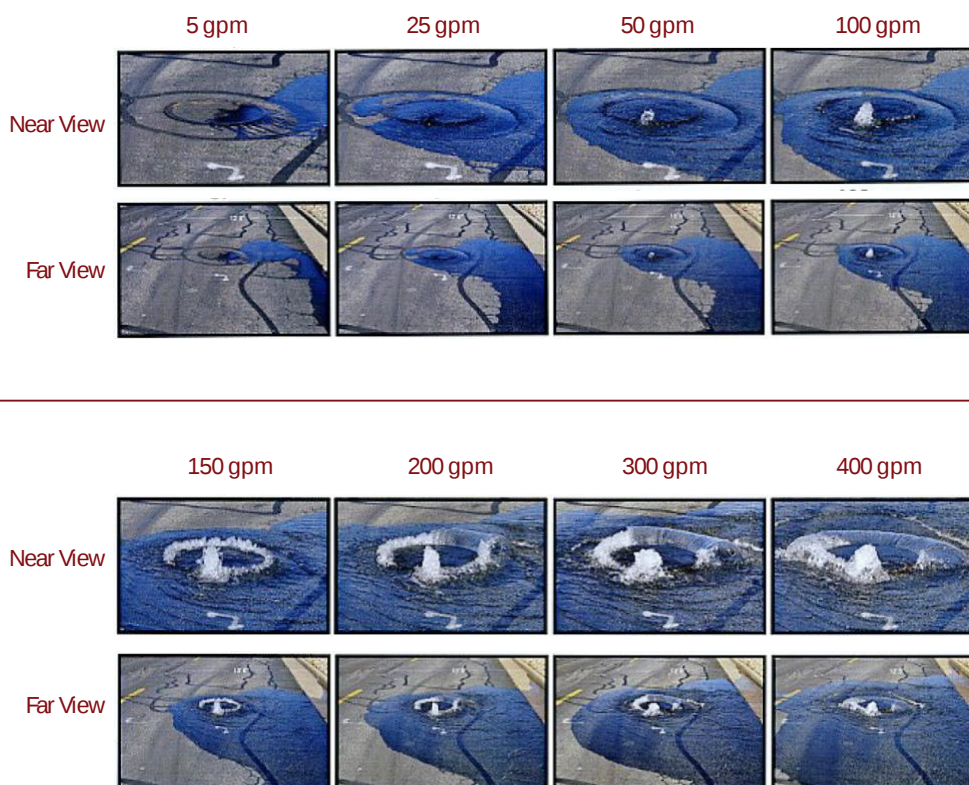
If yes, describe how you determined the amount of rainfall in the observed spill?

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

\_\_\_\_\_ gallons – \_\_\_\_\_ gallons = \_\_\_\_\_ gallons  
 Estimated SSO Volume                  Rainfall                  **Total Estimated SSO Volume**

Compare the SSO to reference images below to estimate flow rate of the current overflow. **NOTE: If the manhole cover in your picture has vent holes or more than one pry hole, do not use these pictures for comparison.**

Describe which reference photo(s) were used and any additional factors that influenced applying the reference photo data to the actual SSO:



*SSCSC Manhole Overflow Gauge: CWEA Southern Section Collections Systems Committee  
Overflow Simulation courtesy of Eastern Municipal Water District*

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

|                                                                                 |    |
|---------------------------------------------------------------------------------|----|
| Start Date and Time                                                             | 1. |
| End Date and Time                                                               | 2. |
| SSO Event Total Time Elapsed<br>(subtract Line 1 from Line 2. Show in minutes.) | 3. |
| Average Flow Rate GPM<br>(Account for diurnal flow pattern)                     | 4. |
| Total Volume Estimated Using Duration<br>and Flow Method (Line 3 x Line 4)      | 5. |

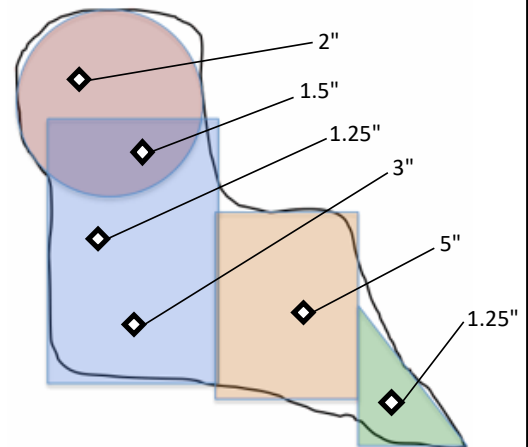
SSO Date: \_\_\_\_\_ Location: \_\_\_\_\_

STEP 1: Describe spill area surface: ☐ Asphalt ☐ Concrete ☐ Dirt ☐ Landscape ☐ Inside Building☐ Other: \_\_\_\_\_

STEP 2: Draw/sketch the outline (footprint) of the spill. Then break the footprint down into recognizable shapes. See example below.

1. Sketch the outline of the spill (black line)
2. Break the sketch down into recognizable shapes (circles, squares, etc.) as well as you can.
3. Determine the volume of each shape. (note: in this example, after the volume of the circle is determined, multiply it by approximately 65% so that the overlap area won't be counted twice.
4. If the spill is of varying depths, take several measurements at different depths and find the average. If the spill affects a dry unimproved area such as a field or dirt parking lot, determine the aread of the wetted ground in the same manner as you would on a hard surface. Using a round-point shovel, dig down into the soil until you find dry soil. Do this in several locations within the wetted area and measure the depth of the wet soil. Average the measurement/thicknes of the wet soil and determine the average depth of the wet soil.

Example (right):  $2" + 1.5" + 1.25" + 3" + 5" + 1.25" = 14.0"$   
 $14.0" \div 6 \text{ measurements} = 2.33"$   
Average Depth = 2.33" (0.194')



STEP 3: Calculate the area of the footprint by completing the table below for each shape in Step 2.

If two shapes overlap, select one of the two shapes and estimate the percentage of that shape that does not overlap. Enter that percentage in the % Not Overlapping column. This will ensure that the overlap area is only counted once. Refer to the example on the previous page.

| Rectangles | Length | X | Width | X | % Not Overlapping* | = | Area            | X | Depth | = | Volume          |
|------------|--------|---|-------|---|--------------------|---|-----------------|---|-------|---|-----------------|
|            | ft     | X | ft    | X | %                  | = | ft <sup>2</sup> | X | ft    | = | ft <sup>3</sup> |
|            | ft     | X | ft    | X | %                  | = | ft <sup>2</sup> | X | ft    | = | ft <sup>3</sup> |
|            | ft     | X | ft    | X | %                  | = | ft <sup>2</sup> | X | ft    | = | ft <sup>3</sup> |

| Triangles | Base | X | Height | ÷ 2 | X | % Not Overlapping* | = | Area            | X | Depth | = | Volume          |
|-----------|------|---|--------|-----|---|--------------------|---|-----------------|---|-------|---|-----------------|
|           | ft   | X | ft     | ÷ 2 | X | %                  | = | ft <sup>2</sup> | X | ft    | = | ft <sup>3</sup> |
|           | ft   | X | ft     | ÷ 2 | X | %                  | = | ft <sup>2</sup> | X | ft    | = | ft <sup>3</sup> |
|           | ft   | X | ft     | ÷ 2 | X | %                  | = | ft <sup>2</sup> | X | ft    | = | ft <sup>3</sup> |

| Circles | $\pi$ | X | Radius | X | Radius | X | % Not Overlapping* | = | Area            | X | Depth | = | Volume          |
|---------|-------|---|--------|---|--------|---|--------------------|---|-----------------|---|-------|---|-----------------|
|         | 3.14  | X | ft     | X | ft     | X | %                  | = | ft <sup>2</sup> | X | ft    | = | ft <sup>3</sup> |
|         | 3.14  | X | ft     | X | ft     | X | %                  | = | ft <sup>2</sup> | X | ft    | = | ft <sup>3</sup> |
|         | 3.14  | X | ft     | X | ft     | X | %                  | = | ft <sup>2</sup> | X | ft    | = | ft <sup>3</sup> |

**Total Spill Volume (sum of all three tables above):** \_\_\_\_\_ **ft<sup>3</sup>**

STEP 4: Convert from cubic feet to gallons by multiplying by 7.48.

\_\_\_\_\_ ft<sup>3</sup> x 7.48 gallons = \_\_\_\_\_ gallons  
 spill volume in cubic feet **Total estimated volume**

**Volume Estimation: Upstream Connections Method****E-5**

SSO Date: \_\_\_\_\_ Location: \_\_\_\_\_

STEP 1: Determine the number of Equivalent Dwelling Units (EDUs) for this SSO: \_\_\_\_\_ EDUs

*NOTE: A single-family residential home = 1 EDU. For commercial buildings, refer to agency documentation.*

STEP 2: This volume estimation method utilizes daily usage data based on flow rate studies of several jurisdictions in California. Column A shows how an average daily usage of 180 gallons per day is distributed during each 6-hour period. Adjust the table as necessary to accurately represent the actual data.

Complete Column E by entering the number of minutes the SSO was active during each 6-hour time period. Multiply column D times Column E to calculate the gallons spilled during each time period. Add the numbers in Column F together for the Total Estimated SSO Volume per EDU.

| Time Period                                | Flow Rate Per EDU  |                  |                                  |                                     | SSO                                  |                                              |
|--------------------------------------------|--------------------|------------------|----------------------------------|-------------------------------------|--------------------------------------|----------------------------------------------|
|                                            | A                  | B                | C                                | D                                   | E                                    | F                                            |
|                                            | Gallons per Period | Hours per period | $A \div B =$<br>Gallons per Hour | $C \div 60 =$<br>Gallons per Minute | Minutes SSO was active during period | $D \times E =$<br>Gallons spilled per period |
| 6am-noon                                   | 72                 | 6                | 12                               | 0.20                                |                                      |                                              |
| noon-6pm                                   | 36                 | 6                | 6                                | 0.10                                |                                      |                                              |
| 6pm-midnight                               | 54                 | 6                | 9                                | 0.15                                |                                      |                                              |
| midnight-6am                               | 18                 | 6                | 3                                | 0.05                                |                                      |                                              |
| <b>Total Estimated SSO Volume per EDU:</b> |                    |                  |                                  |                                     |                                      |                                              |

STEP 3: Multiply the Estimated SSO Volume per EDU from Step 2 by the number of EDUs from Step 1.

$$\frac{\text{gallons}}{\text{Volume per EDU}} \times \frac{\text{# of EDUs}}{\text{}} = \frac{\text{gallons}}{\text{Estimated SSO Volume}}$$

STEP 4: Adjust SSO volume as necessary considering other factors, such as activity that would cause a fluctuating flow rate (doing laundry, taking showers, etc.). Explain rationale below and indicate adjusted SSO estimate (attach a separate page if necessary).

Total Estimated SSO Volume: \_\_\_\_\_ gallons



INSERT TAB:  
Backup Forms

**Complete this form only if there is a backup into a residence or business.**

**Instructions to Wastewater Crew:**

1. Take photo of documents before giving them to the customer for documentation.
2. Tear pages listed below out of this workbook and hand to customer. *Leave the First Responder Form in this workbook, do not give to Customer.*
3. Check each item that was provided to the customer.
4. Have customer sign below.

**Forms/Documents:**

- ☐ F-3: Customer Information Letter
- ☐ F-4: Your Responsibilities as a Private Property Owner
- ☐ F-5: Claim Form

Forms Provided to:

\_\_\_\_\_  
Customer Name

\_\_\_\_\_  
Customer Signature

\_\_\_\_\_  
Date

Check here if customer declines to sign: ☐

Forms Provided by: \_\_\_\_\_  
Employee Name

\_\_\_\_\_  
Initial

**Formularios / Documentos:**

- ☐ F-3: Información del Cliente
- ☐ F-4: Sus Responsabilidades Como Propietario de Una Propiedad Privada
- ☐ F-5: Formulario de Reclamación

Formularios proporcionados a:

\_\_\_\_\_  
Nombre del cliente

\_\_\_\_\_  
Firma del cliente

\_\_\_\_\_  
Fecha

Marque aquí si el cliente se niega a firmar: ☐

**Instruction to Senior Maintenance Worker:**

Send photos, including photos of the documents given to the customer,  
and a copy of the First Responder form to the Senior Management Analyst.

**Complete this form only if there is a backup into a residence or business.**

Fill out this form as completely as possible.

Ask customer if you may enter the home. If so, take photos of all damaged and undamaged areas.

|                                                                                                                                                                                                                                                                                                            |  |                                                                                           |                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| PERSON COMPLETING THIS FORM:                                                                                                                                                                                                                                                                               |  | PHONE:                                                                                    |                                                                  |
| Name: _____                                                                                                                                                                                                                                                                                                |  | DATE:                                                                                     |                                                                  |
| Title: _____                                                                                                                                                                                                                                                                                               |  | TIME:                                                                                     |                                                                  |
| TIME STAFF ARRIVED ON-SITE:                                                                                                                                                                                                                                                                                |  |                                                                                           |                                                                  |
| <b>DOES THE CUSTOMER WANT THE CITY TO CALL FOR CLEANING SERVICE?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No<br>If no, give the customer the Cleaning Declination Form and have them sign here: _____<br>If customer called a cleaning contractor, provide name and contact number: _____ |  |                                                                                           |                                                                  |
| RESIDENT NAME:                                                                                                                                                                                                                                                                                             |  | IF RENT,<br>PROPERTY MANAGER(S):                                                          |                                                                  |
| <input type="checkbox"/> Owner                                                                                                                                                                                                                                                                             |  | OWNER:                                                                                    |                                                                  |
| <input type="checkbox"/> Renter                                                                                                                                                                                                                                                                            |  | ADDRESS:                                                                                  |                                                                  |
| ADDRESS:                                                                                                                                                                                                                                                                                                   |  | PHONE:                                                                                    |                                                                  |
| PHONE:                                                                                                                                                                                                                                                                                                     |  |                                                                                           |                                                                  |
| # OF PEOPLE LIVING AT RESIDENCE:                                                                                                                                                                                                                                                                           |  |                                                                                           |                                                                  |
| Approximate Age of Home:                                                                                                                                                                                                                                                                                   |  | # of Bathrooms:                                                                           | # of Rooms Affected:                                             |
| Numbers of Photographs or Videos Taken:                                                                                                                                                                                                                                                                    |  | Where are photos/video stored?                                                            |                                                                  |
| <input type="checkbox"/> Photographs <input type="checkbox"/> Video<br><input type="checkbox"/> Customer did not provide or allow photographs                                                                                                                                                              |  |                                                                                           |                                                                  |
| Is nearest upstream manhole visibly higher than the drain/fixture that overflowed? <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                                                                                |  |                                                                                           |                                                                  |
| Does property have a Property Line Cleanout or BPD?                                                                                                                                                                                                                                                        |  | <input type="checkbox"/> Cleanout<br><input type="checkbox"/> Neither                     | <input type="checkbox"/> BPD<br><input type="checkbox"/> Unknown |
| If yes, was the Property Line Cleanout/BPD operational at the time of the overflow?                                                                                                                                                                                                                        |  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown |                                                                  |
| Have there ever been any previous spills at this location?                                                                                                                                                                                                                                                 |  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown |                                                                  |
| Has the resident had any plumbing work done recently?                                                                                                                                                                                                                                                      |  | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown |                                                                  |
| If YES, please describe:                                                                                                                                                                                                                                                                                   |  |                                                                                           |                                                                  |

**GO TO Page 2**

**SANITARY SEWER LINE BLOCKAGE LOCATION****PLEASE CHECK THE BOXES THAT  
DESCRIBE YOUR OBSERVATIONS:**

Customer Cleanout Was:

- ☐ Non-Existent  
☐ Full  
☐ Empty

Agency

Owned/Maintained  
Cleanout was:

- ☐ Non-Existent  
☐ Full  
☐ Empty

**On the diagram below, indicate the location of the sewer  
line and where the problem occurred.**Affected  
HouseUpstream  
House**Recommended Follow-Up Action(s):**Did sewage go under buildings? ☐ Yes ☐ No ☐ Unsure

Dear Property Owner:

We recognize that sewer back flow incidents can be stressful. The City has prepared this brief set of instructions to help you minimize the impact of the loss by responding promptly to the situation.

The City is not responsible for cleanup charges or damages caused by blockages in the property owner's sewer line or caused by code violations. At this time, the City is investigating the cause of the loss and does not assume liability for damages. However, if our investigation determines the City is responsible for this incident, the costs you incur for reasonable and necessary cleanup will be included in the settlement of your claim. Regardless of whether you or the City is responsible for the loss, it is up to you to arrange for the repair of your property and to present a claim for consideration.

You or the property owner should immediately contact a firm for clean-up of the affected areas. If you do not know of a company to call for service, the following 24-hour emergency restoration companies are available to respond: \*

| Restoration Company               | Location                                                | Contact                         |
|-----------------------------------|---------------------------------------------------------|---------------------------------|
| American Technologies, Inc. (ATI) | 25000 Industrial Blvd, Hayward, CA                      | (510) 429-5000                  |
| Complete Drying                   | 751 Laurel St #538, San Carlos, CA                      | (650) 591-1599 / (925) 525-7262 |
| Ideal Drying                      | 1499 Evans Avenue, San Francisco, CA                    | (800) 379-6881                  |
| Restoration Management            | 535 Getty Ct., Ste A, Benicia, CA                       | (800) 400-5058 / (707) 750-6320 |
| Restoration Management            | 32550 Central Ave., Union City, CA                      | (800) 400-5058 / (510) 315-5400 |
| Montgomery Sansom Ltd.            | 305 Adrian Road, Millbrae, CA                           | (650) 777-9010                  |
| Britannia Cal Pacific             | 255 S Maple Ave, SSF, CA                                | (650) 742-6490                  |
| Four Star Cleaning & Restoration  | 4302 Solar Way, Fremont, CA                             | (800) 255-3333 / (510) 796-5900 |
| Servpro                           | 809 Laurel Street, #422, San Carlos, CA                 | (800) 737-8776 / (650) 591-4137 |
| Vital Restoration 9-1-1           | 6 South Linden Ave. Unit #9,<br>South San Francisco, CA | (650) 262-4545 / (650) 873-7867 |
| Service Master                    | 2731 Fair Oaks Ave., Redwood City, CA                   | (650) 299-9080                  |
| Service Master                    | 439 Eccles Ave. South San Francisco, CA                 | (415) 584-6100                  |
| Service Master                    | 2220 W Winton Ave., Hayward, CA 94545                   | (800) 480-8439 / (510) 300-2990 |

\* This list is provided as a resource only. The City does not require or endorse the use of any of these firms. This list is not to be construed as exclusive, comprehensive or limiting in any way. Qualified contractors can be found in the Yellow Pages under "Water Damage Restoration" or "Fire & Water Damage Restoration". However, be sure you hire a firm with experience in sewer backups and enough resources to get the job done quickly.

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#### **What you need to do now:**

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- Contact a restoration company for clean-up and removal of affected surfaces.
- Do not attempt to clean the area yourself, let the company you hire handle this.
- Keep people and pets away from the affected area(s).
- Turn off heating/air conditioning systems.
- Turn off any appliances that use water.
- Prevent any material from reaching floor vents to prevent contamination.
- Do not remove items from the area –the company you hire will handle these contents.
- If you had recent plumbing work, contact your plumber or contractor.
- Contact your homeowner's insurance carrier to report a claim.

(continued)

- File your claim with the Senior Management Analyst at 600 Elm Street, San Carlos, CA 94070, PH: (650) 802-4205, as soon as practical. The California Government Code, Sections 900 -960, requires filing a written claim and outlines specific timelines and notice procedures that must be used.
- Call the City's Claims Administrator and provide a number where you can be reached: York Risk Services Group/Association of Bay Area Governments (ABAG) Tiffany Roduit (925) 349-3878.
- The form and contents of a claim are specified by Section 910, et seq. A claim relating to a cause of action for death or for injury to person or to personal property or growing crops shall be presented not later than six months after accrual of the cause of action; other claims shall be presented within one year (*Section 911.2*).
- Claims are to be presented by delivery or mailing to the Senior Management Analyst, City of San Carlos, CA (*Section 915*).
- It is suggested that the claimant refer to claims law and be fully advised with respect to the exceptions and further provisions contained therein.

**Important Legal Notice:** For your protection, read carefully, obtain a reliable translation, and/or consult your attorney.

**Estimado Propietario:**

Somos conscientes de que los incidentes de alcantarillado de flujo puede ser estresante. La ciudad ha preparado este breve conjunto de instrucciones que le ayudarán a minimizar el impacto de la pérdida por responder rápidamente a la situación.

La Ciudad no es responsable de los gastos de limpieza y daños causados por los bloqueos en línea de la alcantarilla del propietario del inmueble o causados por violaciones de código. En este momento, la Ciudad está investigando la causa de la pérdida y no asume responsabilidad por los daños y perjuicios. Sin embargo, si nuestra investigación determina la Ciudad es responsable de este incidente, los gastos incurridos para la limpieza razonable y necesario se incluirán en la liquidación de su reclamo. Independientemente de si o de la Ciudad es responsable de la pérdida, es a usted para organizar la reparación de su propiedad y que presente una reclamación para su consideración.

Usted o el dueño de la propiedad debe inmediatamente ponerse en contacto con una empresa para la limpieza de las zonas afectadas. Si usted no sabe de una empresa de solicitar un servicio, las siguientes 24 horas, empresas de restauración de emergencia están disponibles para responder:\*

| <b>Restoration Company</b>        | <b>Location</b>                                      | <b>Contact</b>                  |
|-----------------------------------|------------------------------------------------------|---------------------------------|
| American Technologies, Inc. (ATI) | 25000 Industrial Blvd, Hayward, CA                   | (510) 429-5000                  |
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| Montgomery Sansom Ltd.            | 305 Adrian Road, Millbrae, CA                        | (650) 777-9010                  |
| Britannia Cal Pacific             | 255 S Maple Ave, SSF, CA                             | (650) 742-6490                  |
| Four Star Cleaning & Restoration  | 4302 Solar Way, Fremont, CA                          | (800) 255-3333 / (510) 796-5900 |
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| Service Master                    | 439 Eccles Ave. South San Francisco, CA              | (415) 584-6100                  |
| Service Master                    | 2220 W Winton Ave., Hayward, CA                      | (800) 480-8439 / (510) 300-2990 |

\* Esta lista se proporciona como un único recurso. La ciudad no necesita ni aprueba el uso de cualquiera de estas empresas. Esta lista no debe ser interpretado como exclusiva, completa o limitar de ninguna manera. Contratistas calificados se pueden encontrar en las páginas amarillas bajo "Restauración de daños causados agua" o "Fuego y Agua Restauración de daños causados". Sin embargo, asegúrese de contratar a una empresa con experiencia en las copias de seguridad de drenaje y los recursos suficientes para hacer el trabajo rápidamente.

(Continúa en la siguiente página)

---

**Lo que necesita saber en este momento:**

---

- Póngase en contacto con una empresa de restauración para la limpieza y eliminación de las superficies afectadas.
- No intente limpiar el área, deje que la empresa de contratar a manejar esto.
- Mantenga a las personas ya las mascotas alejados de la zona afectada (s).
- Apague la calefacción / aire acondicionado.
- Apague todos los electrodomésticos que utilicen agua.
- Evite que el material alcance respiraderos del piso para evitar la contaminación.
- No quitar elementos de la zona-la empresa que se encargará de contratar a estos contenidos.
- Si ha tenido el trabajo de plomería reciente, póngase en contacto con un plomero o contratista.
- Póngase en contacto con soporte de su seguro de propietario para presentar una reclamación.
- Presente su solicitud con a Gestión Analista Senior: 600 Elm Street, San Carlos, CA 94070, PH: (650) 802-4205, tan pronto como sea posible. El Código de Gobierno de California, Secciones 900 -960, requiere la presentación de una reclamación por escrito y se esbozan líneas de tiempo específicos y los procedimientos de notificación que deben ser utilizados.
- Llame al Administrador de la Ciudad de Reclamaciones y proporcionar un número de teléfono donde se puede llegar: York Risk Services Group/Association of Bay Area Governments (ABAG) Tiffany Roduit (925) 349-3878.
- La forma y el contenido de una reclamación se especifican en la Sección 910, et seq. Una reclamación relativa a una causa de acción por la muerte o de lesión a la persona oa la propiedad personal o de los cultivos se presentarán a más tardar seis meses después de la acumulación de la causa de la acción, otras reclamaciones se presentarán dentro de un año (artículo 911.2) .
- Las reclamaciones deben ser presentadas mediante la entrega o envío a la Gestión Analista Senior, San Carlos, CA (Sección 915).
- Se sugiere que el demandante se refieren a la ley las reclamaciones y estar plenamente informado con respecto a las excepciones y las demás disposiciones contenidas en el mismo.

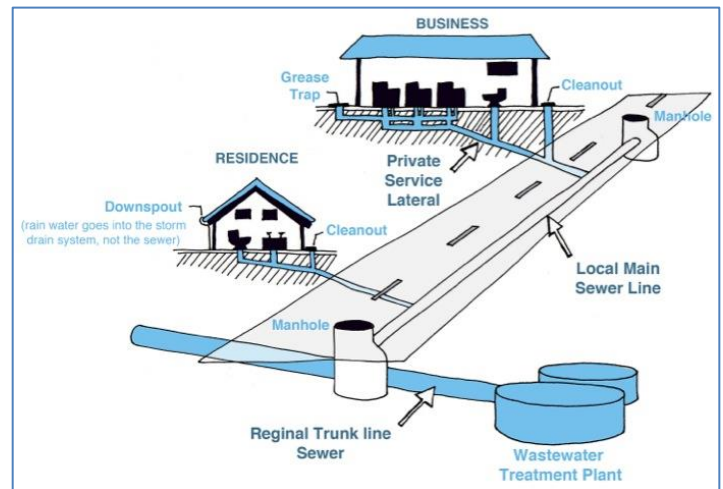
**Aviso legal importante:** Para su protección, lea atentamente el material, obtenga una traducción confiable y/o hable con su abogado.

### How a Sewer System Works

A property owner's sewer pipes are called **service laterals** and are connected to larger local main and regional trunk lines. Service laterals run from the connection at the home to the connection with the public sewer. These laterals are the responsibility of the property owner and must be maintained by the property owner.

### How do sewage spills happen?

Sewage spills occur when the wastewater in underground pipes overflows through a manhole, cleanout, or broken pipe. Most spills are relatively small and can be stopped and cleaned up quickly, but left unattended they can cause health hazards, damage to homes and businesses, and threaten the environment, local waterways, and beaches. Common causes of sewage spills include grease build-up, tree roots, broken/cracked pipes, missing or broken cleanout caps, undersized sewers, and groundwater/rainwater entering the sewer system through pipe defects and illegal connections.



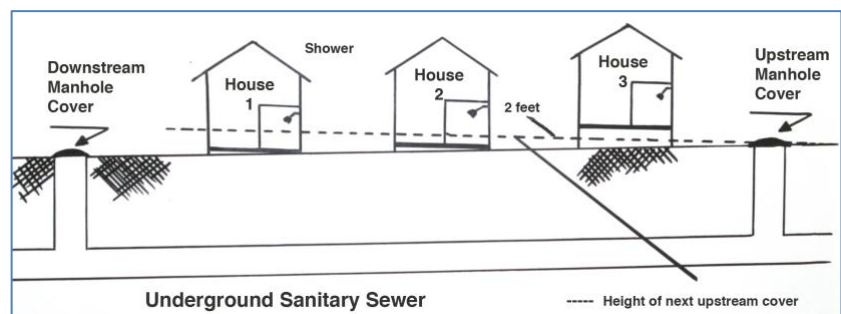
### Prevent most sewage backups with a Backflow Prevention Device

This type of device can help prevent sewage backups into homes and businesses. If you don't already have a Backflow Prevention Device, contact a professional plumber or contractor to install one as soon as possible.

### Is my home required to have a backflow prevention device?

Section 710.1 of the Uniform Plumbing Code (U.P.C.) states: *"Drainage piping serving fixtures which have flood level rims located below the elevation of the next upstream manhole cover or private sewer serving such drainage piping **shall** be protected from backflow of sewage by installing an approved type of backwater valve."* The intent of Section 710.1 is to protect the building interior from mainline sewer overflows or surcharges.

Additionally, U.P.C. 710.6 states: *"Backwater valves **shall** be located where they will be accessible for inspection and repair at all times and, unless continuously exposed, shall be enclosed in a masonry pit fitted with an adequately sized removable cover."*



Spill cleanup inside the home:

For large clean ups, a professional cleaning firm should be contacted to clean up impacted areas. If you hire a contractor, it is recommended to get estimates from more than one company. Sometimes, homeowner's insurance will pay for the necessary cleaning due to sewer backups. Not all policies have this coverage, so check with your agent.

If you decide to clean up a small spill inside your home, protect yourself from contamination by observing the following safety measures. Those persons whose resistance to infection is compromised should not attempt this type of clean up.

**Seek immediate attention if you become injured or ill during or after the cleanup process.**

Other Tips:

- Keep children and pets out of the affected area.
- Turn off heating/air conditioning systems
- Wear rubber boots, rubber gloves, and goggles during cleanup.
- Discard items that cannot be washed and disinfected (such as: mattresses, rugs, cosmetics, toys, etc.)
- Remove and discard drywall and insulation that has been contaminated with sewage or flood waters.
- Thoroughly clean all hard surfaces (such as flooring, concrete, molding, wood and metal furniture, countertops, appliances, sinks and other plumbing fixtures) with hot water and laundry or dish detergent.
- Help the drying process with fans, air conditioning units, and dehumidifiers.
- After completing cleanup, wash your hands with soap and water. Use water that has been boiled for 1 minute (allow the water to cool before washing your hands) OR use water that has been disinfected (solution of 1/8 teaspoon of household bleach per 1 gallon of water). Let it stand for 30 min. If water is cloudy, use ¼ teaspoon of household bleach per 1 gallon of water.
- Wash clothes worn during cleanup in hot water & detergent (wash apart from uncontaminated clothes).
- Wash clothes contaminated with sewage in hot water and detergent. Consider using a Laundromat until your onsite wastewater system has been professionally inspected and serviced.

Spill cleanup outside the home:

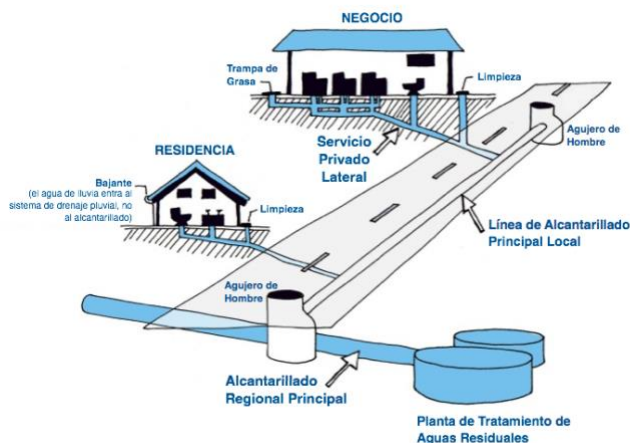
- Keep children and pets out of the affected area until cleanup has been completed.
- Wear rubber boots, rubber gloves, and goggles during cleanup of affected area.
- Clean up sewage solids (fecal material) and place in properly functioning toilet or double bag and place in garbage container.
- On hard surfaces areas such as asphalt or concrete, it is safe to use a 2% bleach solution, or ½ cup of bleach to 5 gallons of water, but don't allow it to reach a storm drain as the bleach can harm the environment.
- After cleanup, wash hands with soap and water. Use water that has been boiled for 1 minute (allow to cool before washing your hands) OR use water that has been disinfected (solution of 1/8 teaspoon of household bleach per 1 gallon of water). Let it stand for 30 min. If water is cloudy, use ¼ teaspoon of household bleach per 1 gallon of water.
- Wash clothes worn during cleanup in hot water and detergent (wash apart from uncontaminated clothes).
- Wash clothes contaminated with sewage in hot water and detergent. Consider using a laundromat until your onsite wastewater system has been professionally inspected and serviced.

### Cómo funciona un sistema de alcantarillado

Las tuberías de alcantarillado de un propietario se denominan servicios laterales y están conectadas a líneas troncales principales y regionales locales más grandes. Los servicios laterales se ejecutan desde la conexión en el hogar hasta la conexión con el sistema de alcantarillado del Distrito. Estos laterales son responsabilidad del propietario y deben ser mantenidos por el propietario.

### ¿Cómo ocurren los derrames de aguas residuales?

Los derrames de aguas residuales ocurren cuando las aguas residuales en las tuberías subterráneas se desbordan a través de un pozo de acceso, limpieza o tubería rota. La mayoría de los derrames son relativamente pequeños y se pueden detener y limpiar rápidamente, pero si se los deja desatendidos, pueden causar riesgos para la salud, dañar viviendas y negocios y amenazar el medio ambiente, las vías fluviales locales y las playas. Las causas comunes de derrames de aguas residuales incluyen acumulación de grasa, raíces de árboles, tuberías rotas / agrietadas, tapas de limpieza faltantes o rotas, alcantarillas de tamaño insuficiente y aguas subterráneas / pluviales que ingresan al sistema de alcantarillado a través de defectos en las tuberías y conexiones ilegales.



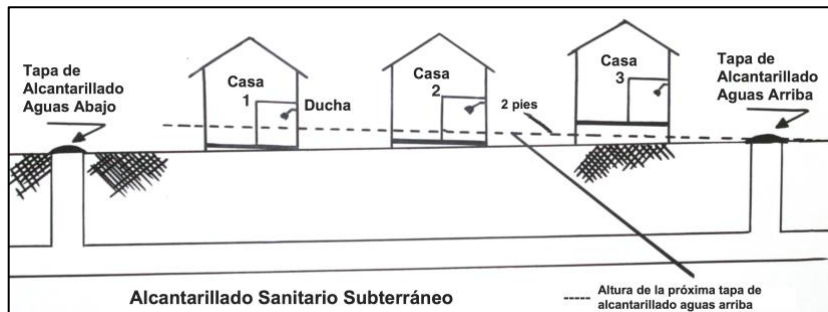
### Prevenga la mayoría de las copias de seguridad de aguas residuales con un dispositivo de prevención de reflujo

Este tipo de dispositivo puede ayudar a prevenir las copias de seguridad de aguas residuales en hogares y empresas. Si aún no tiene un dispositivo de prevención de reflujo, comuníquese con un plomero o contratista profesional para instalar uno lo antes posible.

### ¿Se requiere que mi hogar tenga un dispositivo de prevención de reflujo?

La Sección 710.1 del Código Uniforme de Plomería (UPC) establece: “Los accesorios de tuberías de drenaje que tienen llantas de nivel de inundación ubicadas debajo de la elevación de la siguiente boca de alcantarilla corriente arriba o la alcantarilla privada que atiende dicha tubería de drenaje deben protegerse contra el reflujo de aguas residuales al instalar un tipo de válvula de evacuación”. La intención de la Sección 710.1 es proteger el interior del edificio de los desagües o sobrecargas de alcantarillado de la línea principal.

Adicionalmente, U.P.C. 710.6 dice: Las válvulas de aguas residuales deben ubicarse donde puedan ser inspeccionadas y reparadas en todo momento y, a menos que estén continuamente expuestas, deben estar encerradas en un pozo de mampostería equipado con una cubierta removible del tamaño adecuado.



**Limpieza de derrames dentro de la casa:**

Para grandes limpiezas, se debe contactar a una empresa de limpieza profesional para limpiar las áreas afectadas. Si contrata a un contratista, se recomienda obtener estimaciones de más de una compañía. A veces, el seguro del propietario de vivienda pagará la limpieza necesaria debido a las reservas de alcantarillado. No todas las pólizas tienen esta cobertura, así que consulte con su agente.

Si decide limpiar un pequeño derrame dentro de su casa, protéjase de la contaminación observando las siguientes medidas de seguridad. Aquellas personas cuya resistencia a la infección esté comprometida no deben intentar este tipo de limpieza.

**Otros consejos:**

- Mantenga a los niños y mascotas fuera del área afectada.
- Apague los sistemas de calefacción / aire acondicionado
- Use botas de goma, guantes de goma y gafas durante la limpieza.
- Deseche los artículos que no se puedan lavar y desinfectar (como: colchones, alfombras, cosméticos, juguetes, etc.)
- Retire y deseche los paneles de yeso y el aislamiento contaminado con aguas residuales o aguas de inundación.
- Limpie a fondo todas las superficies duras (como pisos, concreto, molduras, muebles de madera y metal, mostradores, electrodomésticos, fregaderos y otros accesorios de plomería) con agua caliente y ropa o detergente para platos.
- Ayude al proceso de secado con ventiladores, unidades de aire acondicionado y deshumidificadores.
- Después de completar la limpieza, lávese las manos con agua y jabón. Use agua que haya sido hervida por 1 minuto (deje que el agua se enfríe antes de lavarse las manos) O use agua que haya sido desinfectada (solución de 1/8 cucharadita de lejía doméstica por 1 galón de agua). Dejar reposar durante 30 min. Si el agua está turbia, use ¼ cucharadita de lejía de uso doméstico por 1 galón de agua.
- Lave la ropa usada durante la limpieza con agua caliente y detergente (lave aparte de la ropa no contaminada).
- Lavar la ropa contaminada con aguas residuales en agua caliente y detergente. Considere usar una lavandería hasta que su sistema de aguas residuales en el sitio haya sido inspeccionado y reparado profesionalmente.

**Busque atención inmediata si se lesiona o se enferma durante o después del proceso de limpieza.**

**Limpieza de derrames fuera de la casa:**

- Mantenga a los niños y las mascotas fuera del área afectada hasta que se haya completado la limpieza.
- Use botas de goma, guantes de goma y gafas protectoras durante la limpieza del área afectada.
- Limpie los sólidos de alcantarillado (material fecal) y colóquelos en un inodoro o bolsa doble que funcione correctamente y colóquelos en un contenedor de basura.
- En áreas de superficies duras como el asfalto o el concreto, es seguro usar una solución de lejía al 2%, o ½ taza de lejía a 5 galones de agua, pero no permita que llegue a un drenaje de tormenta ya que la lejía puede dañar la ambiente.
- Después de la limpieza, lávese las manos con agua y jabón. Use agua que haya sido hervida por 1 minuto (deje enfriar antes de lavarse las manos) O use agua que haya sido desinfectada (solución de 1/8 cucharadita de cloro por 1 galón de agua). Dejar reposar durante 30 min. Si el agua está turbia, use ¼ cucharadita de lejía de uso doméstico por 1 galón de agua.
- Lave la ropa usada durante la limpieza con agua caliente y detergente (lave aparte de la ropa no contaminada).
- Lavar la ropa contaminada con aguas residuales en agua caliente y detergente. Considere usar una lavandería hasta que su sistema de aguas residuales en el sitio haya sido inspeccionado y reparado profesionalmente.

LIABILITY

**F-5**

**CITY CLAIM REPORTING FORM FOR ALL  
PERSONS OR PROPERTY**

**MAIL TO:      CITY OF SAN CARLOS**  
**ATTN: Crystal Mui, City Clerk**  
**600 Elm Street**  
**San Carlos, CA 94070-1309**

- 
1. CLAIMS FOR DEATH, INJURY TO PERSON, OR TO PERSONAL PROPERTY MUST BE FILED NOT LATER THAN SIX (6) MONTHS AFTER THE OCCURRENCE (GOV'T. CODE, SEC. 911.2).
  2. CLAIMS FOR DAMAGES TO REAL PROPERTY MUST BE FILED NOT LATER THAN ONE YEAR AFTER THE OCCURRENCE (GOV'T. CODE SEC. 911.2).
  3. ATTACH SEPARATE SHEETS, IF NECESSARY TO GIVE FULL DETAILS.
- 

NAME OF CLAIMANT: \_\_\_\_\_

HOME ADDRESS OF CLAIMANT (STREET, CITY & STATE) \_\_\_\_\_

\_\_\_\_\_

HOME PHONE NO. \_\_\_\_\_ WORK PHONE NO. \_\_\_\_\_

AMOUNT OF CLAIM \$ \_\_\_\_\_ (ATTACH COPIES OF BILLS/ESTIMATES)

IF AMOUNT CLAIMED IS MORE THAN \$10,000, INDICATE WHERE JURISDICTION RESTS:

LIMITED CIVIL CASE \_\_\_\_\_ UNLIMITED CIVIL CASE \_\_\_\_\_

ADDRESS TO WHICH NOTICES ARE TO BE SENT IF DIFFERENT FROM ABOVE ADDRESS:

\_\_\_\_\_

DATE OF INCIDENT: \_\_\_\_\_ TIME: AM. \_\_\_\_\_ P.M. \_\_\_\_\_

LOCATION OF INCIDENT \_\_\_\_\_

DESCRIBE THE INCIDENT OR ACCIDENT INCLUDING YOUR REASON FOR BELIEVING THAT THE CITY IS  
LIABLE FOR YOUR DAMAGES \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

DESCRIBE ALL DAMAGES WHICH YOU BELIEVE YOU HAVE INCURRED AS A RESULT OF THE INCIDENT

\_\_\_\_\_

\_\_\_\_\_

NAME(S) OF PUBLIC EMPLOYEE(S) CAUSING THE DAMAGES YOU ARE CLAIMING:

\_\_\_\_\_

\_\_\_\_\_

WERE POLICE AT SCENE? YES \_\_\_\_\_ NO \_\_\_\_\_

DATED: \_\_\_\_\_ SIGNED: \_\_\_\_\_

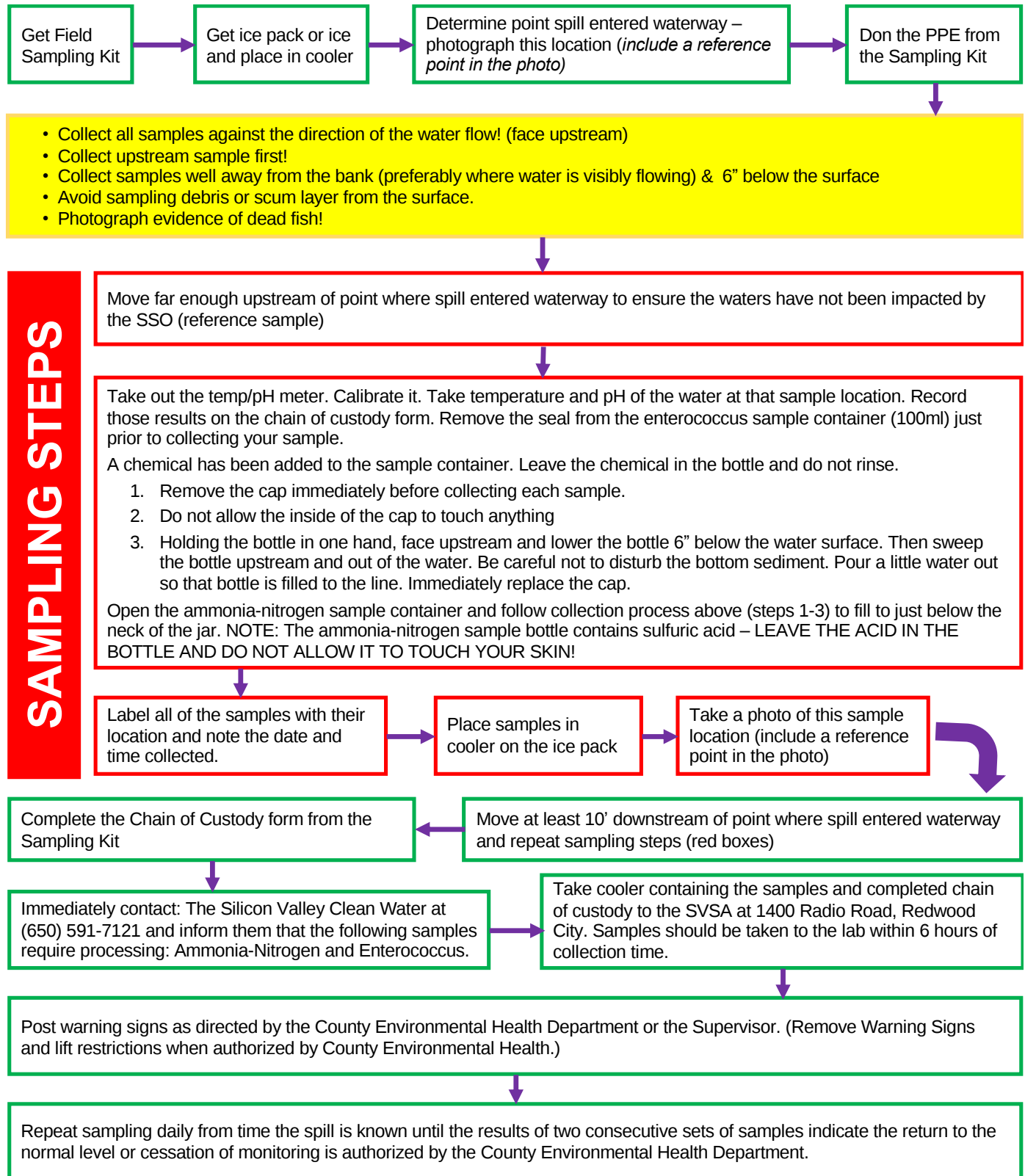
ANY PERSON WHO, WITH INTENT TO DEFRAUD, PRESENTS ANY FALSE OR FRAUDULENT CLAIM MAY BE  
PUNISHED BY IMPRISONMENT OR FINE OR BOTH.

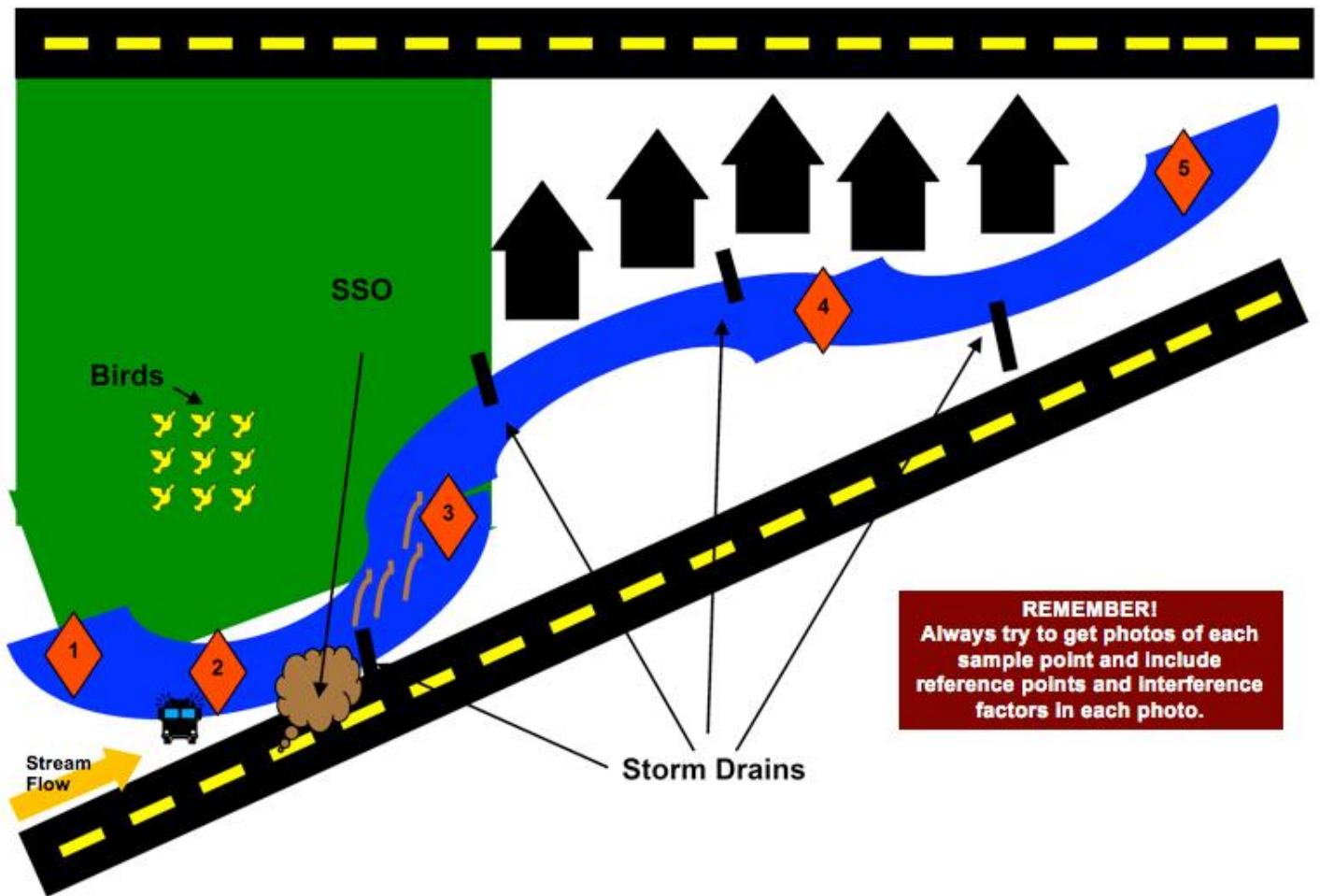
INSERT TAB:  
Field Sampling

| <b><u>Form</u></b>                                                                          | <b><u>Form Number</u></b> |
|---------------------------------------------------------------------------------------------|---------------------------|
| Procedures for Sampling Receiving Waters and Posting<br>Warnings after a Sewage Spill ..... | G-2                       |
| Sample Collection Chain of Custody Record .....                                             | -3                        |

**The Field Sample Kit contains:**

- Cooler w/ice pack
- Latex gloves
- Safety glasses
- 2 ammonia-nitrogen sample bottles (1pt bottle w/H<sub>2</sub>SO<sub>4</sub>)
- 20 Sample bottle labels
- Waterproof Pen (i.e. Sharpie®)
- 10 Enterococcus sample bottles (100ml sterilized bottle)
- Combination temperature/pH meter
- Extra batteries for temperature/pH meter
- Chain of Custody form





- 1 Sample Location 1: Baseline Sample, no observable interference from birds, animals, runoff, etc
- 2 Sample Location 2: Baseline Sample, observable interference from birds, animals, runoff, etc  
*NOTE:* Only collect this sample if you observe any possible interfering factors upstream from the spill location
- 3 Sample Location 3: Immediately downstream of SSO entry point
- 4 Sample Location 4: Further downstream of SSO entry point – note any possible interfering factors
- 5 Sample Location 5: Further downstream of SSO entry point – note any possible interfering factors

**NOTE:** This example is provided for illustrative purposes only! Base each sampling event on the geography, drainage and interference factors (i.e. *birds, animals, runoff, etc.*) of the area impacted.

|                         |  |           |  |                          |                  |     |                                           |
|-------------------------|--|-----------|--|--------------------------|------------------|-----|-------------------------------------------|
| Customer Name           |  |           |  | <input type="checkbox"/> | Hazardous Waste  | PO# |                                           |
| Customer Address        |  |           |  | <input type="checkbox"/> | Unknown Material | WO# |                                           |
| Customer Telephone      |  | Mail Code |  | CONTRACT LAB INFORMATION |                  |     | Turnaround Requirement                    |
| Program Name            |  |           |  | Ship to:                 |                  |     | <input type="checkbox"/> Normal (21 days) |
| Lab Program Coordinator |  | Phone #   |  | Ship Date:               |                  |     | <input type="checkbox"/> Rush: _____      |
| Sampled By              |  |           |  | Courier:                 |                  |     | <input type="checkbox"/> Other:           |

| LIMS#<br>(Issued by Lab) | SAMPLE COLLECTION INFORMATION |      |                          |                                     |                 |          |            | # Containers | Matrix* | Analysis Requested                  |                                     |                          |                          |                          | QA/QC Requirements                  |                        |
|--------------------------|-------------------------------|------|--------------------------|-------------------------------------|-----------------|----------|------------|--------------|---------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|------------------------|
|                          | Date                          | Time | Type                     |                                     | Sample Location | Field pH | Field Temp |              |         | Ammonia                             | Enterococcus                        |                          |                          |                          | <input checked="" type="checkbox"/> | Lab Standard           |
|                          |                               |      | Composite                | Grab                                |                 |          |            |              |         |                                     |                                     |                          |                          |                          | <input type="checkbox"/>            | Special (see attached) |
|                          |                               |      |                          |                                     |                 |          |            |              |         |                                     |                                     |                          |                          |                          | Remarks/Notes                       |                        |
|                          |                               |      | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Upstream        |          |            | 2            | A       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                                     |                        |
|                          |                               |      | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Entry Point     |          |            | 2            | A       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                                     |                        |
|                          |                               |      | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Downstream      |          |            | 2            | A       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                                     |                        |
|                          |                               |      | <input type="checkbox"/> | <input type="checkbox"/>            |                 |          |            | 2            |         | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                                     |                        |
|                          |                               |      | <input type="checkbox"/> | <input type="checkbox"/>            |                 |          |            | 2            |         | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                                     |                        |
|                          |                               |      | <input type="checkbox"/> | <input type="checkbox"/>            |                 |          |            | 2            |         | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                                     |                        |
|                          |                               |      | <input type="checkbox"/> | <input type="checkbox"/>            |                 |          |            | 2            |         | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                                     |                        |

\*Matrix: P = Potable Water, W = Wastewater, A = Ambient Water, G = Groundwater, S = Soil, B = Biosolids, I = Industrial, O = Other (specify in remarks)

| Relinquished | Date | Time |
|--------------|------|------|
|              |      |      |
|              |      |      |
|              |      |      |

| Relinquished to | Date | Time |
|-----------------|------|------|
|                 |      |      |
|                 |      |      |
|                 |      |      |

| Transport/Shipping Information  |                              |                                |
|---------------------------------|------------------------------|--------------------------------|
| <input type="checkbox"/> USPS   | <input type="checkbox"/> UPS | <input type="checkbox"/> FedEx |
| Tracing #:                      |                              |                                |
| <input type="checkbox"/> Other: |                              |                                |

## Sample Receiving Documentation

|                                                                                                                                            |                                                                             |                                                                                                                           |                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Container intact? <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                 | Correct container? <input type="checkbox"/> Yes <input type="checkbox"/> No | Field preserved? <input type="checkbox"/> Yes <input type="checkbox"/> No                                                 | Custody tape intact? <input type="checkbox"/> Yes <input type="checkbox"/> No      |
| Cooled? <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                           | Temp. Blank? <input type="checkbox"/> Yes <input type="checkbox"/> No ( °C) | Comments:                                                                                                                 |                                                                                    |
| Sample distribution: <input type="checkbox"/> Lab bench <input type="checkbox"/> Ice chest <input type="checkbox"/> Walk-in cooler shelf # |                                                                             | Disposal Date:                                                                                                            | Disposed by: (inits.)                                                              |
| C-O-C Distribution                                                                                                                         | Date: By:                                                                   | <input type="checkbox"/> Lab Admin File <input type="checkbox"/> Prog/proj Mgr. <input type="checkbox"/> Lab Prog. Coord. | <input type="checkbox"/> Delivery courier <input type="checkbox"/> Pick-up courier |

INSERT TAB:  
Failure Analysis

**OFFICE USE ONLY**

|                                                                        |       |                     |      |
|------------------------------------------------------------------------|-------|---------------------|------|
| Incident Report #                                                      |       | Prepared By         |      |
| <b>SSO/Backup Information</b>                                          |       |                     |      |
| Cause                                                                  |       |                     |      |
| <b>Summary of Historical SSOs/Backups/Service Calls/Other Problems</b> |       |                     |      |
| Date                                                                   | Cause | Date Last Cleaned   | Crew |
|                                                                        |       |                     |      |
|                                                                        |       |                     |      |
|                                                                        |       |                     |      |
| Records Reviewed By:                                                   |       | Record Review Date: |      |
| <b>Summary of CCTV Information</b>                                     |       |                     |      |
| CCTV Inspection Date                                                   |       | Tape Name/Number    |      |
| CCTV Tape Reviewed By                                                  |       | CCTV Review Date    |      |
| Observations                                                           |       |                     |      |

Go to Page 2

| Recommendations |                                           |                  |                     |                     |                             |
|-----------------|-------------------------------------------|------------------|---------------------|---------------------|-----------------------------|
| □               | Type                                      | Specific Actions | Who is Responsible? | Completion Deadline | Who Will Verify Completion? |
|                 | No Changes or Repairs Required            | n/a              | n/a                 | n/a                 | n/a                         |
|                 | Repair(s)                                 |                  |                     |                     |                             |
|                 | Construction                              |                  |                     |                     |                             |
|                 | Capital Improvement(s)                    |                  |                     |                     |                             |
|                 | Change(s) to Maintenance Procedures       |                  |                     |                     |                             |
|                 | Change(s) to Overflow Response Procedures |                  |                     |                     |                             |
|                 | Training                                  |                  |                     |                     |                             |
|                 | Misc.                                     |                  |                     |                     |                             |
| Comments/Notes: |                                           |                  |                     |                     |                             |
| Reviewed By:    |                                           |                  | Review Date:        |                     |                             |

# *City of San Carlos* **Sanitary Sewer Management Plan**

## **APPENDIX B**

**Element 7: FATS, OILS AND GREASE (FOG) CONTROL PROGRAM**

**Prepared by:**

***Department of Public Works***



| Food Serving Establishment                        | Priority at end of quarter | Inspections and Visits this quarter |
|---------------------------------------------------|----------------------------|-------------------------------------|
| Mediterranean Delite 1620-A El Camino Real        | 3                          | 1                                   |
| New Flower Drum 1109 Laurel Street                | 3                          | 2                                   |
| New York Pizza 1340 El Camino Real                | 3                          | 1                                   |
| Shiki Japanese Restaurant 825 Laurel St           | 3                          | 1                                   |
| Taqueria Mi Ranchita 660 Laurel Street            | 3                          | 3                                   |
|                                                   |                            |                                     |
| Bianchini's 810 Laurel St                         | 2                          | 2                                   |
| Jack in the Box 1100 El Camino Real               | 2                          | 2                                   |
| Kaigan Sushi Restaurant 773 Laurel St             | 2                          | 1                                   |
| King Chuan Restaurant 1188 San Carlos Ave         | 2                          | 2                                   |
| La Tosca 777 Laurel St                            | 2                          | 1                                   |
| Le Boulanger 622 Laurel St                        | 2                          | 1                                   |
| New Canton Restaurant 1160 Laurel St              | 2                          | 3                                   |
| Nob Hill Catering Co & Lunchmaster 601 Taylor Way | 2                          | 3                                   |
| Ozuma Japanese Restaurant 894 Laurel St           | 2                          | 1                                   |
| Pudleys 774 El Camino Real                        | 2                          | 1                                   |
| Ristorante Italiano 888 Laurel Street             | 2                          | 3                                   |
| Spasso's 769 Laurel St                            | 2                          | 1                                   |
| Thai Time Restaurant 1240 El Camino Real          | 2                          | 1                                   |
| Yan's Garden Chinese Restaurant 885 Laurel St     | 2                          | 2                                   |
|                                                   |                            |                                     |
| Baja Fresh 240 El Camino Real                     | 1                          | 1                                   |
| Burger King 505 Skyway Rd                         | 1                          | 3                                   |
| Carl's Jr. Restaurant 1800 El Camino Real         | 1                          | 1                                   |
| Creola New Orleans Bistro 344 El Camino Real      | 1                          | 1                                   |
| Ganko Sushi 1131 Cherry St                        | 1                          | 1                                   |
| In-N-Out Burger 445 Industrial Rd                 | 1                          | 1                                   |
| Izzy's Steaks & Chops 525 Skyway Rd               | 1                          | 2                                   |
| Locanda Positano Pizzeria 617 Laurel St           | 1                          | 1                                   |
| Luckys Supermarket (#749) 1133 Old County Rd      | 1                          | 1                                   |
| LuLu's Mexican Cuisine 876 Laurel St              | 1                          | 1                                   |
| Nino's Pizzeria 621 Laurel St                     | 1                          | 1                                   |
| Nothing Bundt Cakes 864 Laurel St                 | 1                          | 1                                   |

|                                               |        |           |
|-----------------------------------------------|--------|-----------|
| Panda Dumpling 1195 Laurel St                 | 1      | 1         |
| Piacere 727 Laurel St                         | 1      | 1         |
| Round Table Pizza 1324 El Camino Real         | 1      | 2         |
| Rumi Restaurant 1179 Laurel St                | 1      | 2         |
| Ryu Sushi Bistro 1201 Laurel St               | 1      | 2         |
| Santorini 753 Laurel St                       | 1      | 2         |
| Seiya Japanese Restaurant 741 Laurel St       | 1      | 3         |
| Siamese Kitchen Thai Cuisine 637 Laurel St    | 1      | 2         |
| Subway 744 El Camino Real                     | 1      | 1         |
| Taco Bell 259 El Camino Real                  | 1      | 1         |
| Zest Bakery 1224 Arroyo Ave                   | 1      | 1         |
|                                               |        |           |
| Trader Joe's 1482 El Camino Real              | EXEMPT | 1         |
|                                               |        |           |
| Cakewalk Creations 1336 El Camino Real        | NEW    | 1         |
| Sancho's Taqueria 1494 El Camino Real         | NEW    | 3         |
|                                               |        |           |
| Mythos 1201 San Carlos Ave                    | Closed | 1         |
| Vita La Vita Italian Restaurant 788 Laurel St | Closed | 1         |
| <b>Total</b>                                  |        | <b>72</b> |



When grease is poured down sinks it can solidify and cause sewer backups into houses or onto streets. The result is a greasy, smelly mess of pollutants entering storm drains, creeks, and the Bay. It harms wildlife both on land and in water and is expensive to clean up!

#### Be a good neighbor

- Never pour fats, oil, or grease down drains, even if you have a garbage disposal.
- Pour cooking oil and grease into a sealable container with an absorbent such as paper garbage and discard with your other garbage.
- Recycle large amounts of grease or cooking oil (including from deep fryers) at the **South Bayside System Authority (SBSA)**.
- Use food strainers in kitchen sinks to catch food particles and scrape leftover food waste into the garbage or compost container instead of the garbage disposal.
- Wastewater backups require fast attention. To report sewer problems in your neighborhood, please call **650.802.4140**.



*City of San Carlos*

Department of Public Works

# Pouring grease or used cooking oil into your sink is prohibited!

## **DON'T**

Don't pour cooking oil, grease or greasy food down the drain.

Don't use hot water and soap to wash grease down the drain! It will cool and harden in the sewer line.



## **DO**

Pour cooled grease into disposable containers or directly into the garbage if it is solidified.



Wipe away any residual grease or oil on dishes, pots or pans with a paper towel before washing them.



City of San Carlos  
Department of Public Works  
(650) 802-4140  
[www.cityofsancarlos.org](http://www.cityofsancarlos.org)

# **WARNING!**

## **GREASE**

was removed from sewer lines in your area!

**Cooking oil and grease stick to the insides of your sewer pipes. Over time, grease buildup can clog the entire sewer line.**



## **PREVENT SEWER OVERFLOWS**

**Keep fat, oil and grease out of your drains**

Turn this over to learn how



# Sewer Pipe Summary Report

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| Rec #: | Alt. Pipe ID: | US Structure: | DS Structure: | Flow Basin: | Shape:   | Dia/Ht (in): | Width (in): | Length (ft): | Sec Length (ft): | Material: | Liner: |
|--------|---------------|---------------|---------------|-------------|----------|--------------|-------------|--------------|------------------|-----------|--------|
| 5,551  | AA/01_AA/01A  | AA/01         | AA/01A        | AA          |          | 18           |             | 62.83        |                  | PVC       |        |
| 5,555  | AA/03_AA/02   | AA/03         | AA/02         | AA          | Circular | 15           |             | 232.10       | 232.10           | PVC       |        |
| 5,662  | AC/27_AC/26   | AC/27         | AC/26         | AC          | Circular | 8            |             | 260.30       | 265.40           | VCP       |        |
| 5,663  | AC/28_AC/27   | AC/28         | AC/27         | AC          | Circular | 8            |             | 226.28       | 228.60           | VCP       |        |
| 5,672  | AC/35A_AC/24  | AC/35A        | AC/24         | AC          | Circular | 18           |             | 179.52       | 176.80           | PVC       |        |
| 5,743  | AD/17_AD/18   | AD/17         | AD/18         | AD          | Circular | 6            |             | 163.67       | 159.00           | PE        |        |
| 5,744  | AD/18_AD/02   | AD/18         | AD/02         | AD          |          | 6            |             | 328.56       |                  | PVC       |        |
| 5,745  | AD/19_AD/18   | AD/19         | AD/18         | AD          |          | 6            |             | 412.34       |                  | VCP       |        |
| 5,746  | AD/20_AD/19   | AD/20         | AD/19         | AD          |          | 6            |             | 287.58       |                  | VCP       |        |
| 5,747  | AD/21_AD/20   | AD/21         | AD/20         | AD          |          | 6            |             | 228.46       |                  | VCP       |        |
| 5,778  | AE/24_AE/12   | AE/24         | AE/12         | AE          | Circular | 6            |             | 238.07       | 243.40           | VCP       |        |
| 5,779  | AE/25_AE/24   | AE/25         | AE/24         | AE          | Circular | 6            |             | 261.33       | 23.00            | VCP       |        |
| 5,792  | AE/37_AE/36   | AE/37         | AE/36         | AE          | Circular | 6            |             | 227.70       | 230.30           | VCP       |        |
| 5,803  | AF/01_AG/12   | AF/01         | AG/12         | AF          | Circular | 6            |             | 369.80       | 78.80            | PE        |        |
| 5,804  | AF/01_AF/48   | AF/01         | AF/48         | AF          |          | 8            |             | 206.27       |                  | VCP       |        |
| 5,805  | AF/02_AF/01   | AF/02         | AF/01         | AF          |          | 8            |             | 370.75       |                  | PE        |        |
| 5,806  | AF/03_AF/02   | AF/03         | AF/02         | AF          |          | 6            |             | 369.69       |                  | PE        |        |
| 5,810  | AF/06_AF/16   | AF/06         | AF/16         | AF          | Circular | 6            |             | 372.48       | 373.80           | PE        |        |
| 5,811  | AF/07_AF/06   | AF/07         | AF/06         | AF          | Circular | 6            |             | 260.00       | 263.10           | PE        |        |
| 5,819  | AF/14_AG/13   | AF/14         | AG/13         | AF          | Circular | 6            |             | 369.26       | 183.60           | PE        |        |
| 5,820  | AF/14_AF/01   | AF/14         | AF/01         | AF          | Circular | 8            |             | 98.69        | 100.70           | VCP       |        |
| 5,821  | AF/15_AF/14   | AF/15         | AF/14         | AF          | Circular | 6            |             | 351.16       | 354.50           | PE        |        |
| 5,822  | AF/16_AF/15   | AF/16         | AF/15         | AF          | Circular | 6            |             | 19.23        | 19.80            | VCP       |        |
| 5,823  | AF/17_AF/15   | AF/17         | AF/15         | AF          | Circular | 6            |             | 271.45       | 277.20           | PE        |        |
| 5,829  | AF/22_AF/34   | AF/22         | AF/34         | AF          | Circular | 10           |             | 194.68       | 197.30           | VCP       |        |
| 5,839  | AF/33_AF/05   | AF/33         | AF/05         | AF          | Circular | 10           |             | 303.11       | 303.60           | VCP       |        |
| 5,840  | AF/34_AF/33   | AF/34         | AF/33         | AF          | Circular | 10           |             | 54.56        | 55.00            | VCP       |        |
| 5,841  | AF/35_AF/34   | AF/35         | AF/34         | AF          |          | 6            |             | 271.51       |                  | PE        |        |
| 5,842  | AF/36_AF/35   | AF/36         | AF/35         | AF          | Circular | 6            |             | 148.49       | 103.20           | VCP       |        |
| 5,847  | AF/41_AF/43   | AF/41         | AF/43         | AF          |          | 10           |             | 367.21       |                  | VCP       |        |
| 5,850  | AF/43_AF/45   | AF/43         | AF/45         | AF          |          | 10           |             | 385.72       |                  | VCP       |        |
| 5,852  | AF/45_AF/50   | AF/45         | AF/50         | AF          |          | 10           |             | 369.49       |                  | VCP       |        |
| 5,853  | AF/46_AF/45   | AF/46         | AF/45         | AF          |          | 6            |             | 207.09       |                  | VCP       |        |
| 5,854  | AF/47_AF/46   | AF/47         | AF/46         | AF          |          | 6            |             | 208.84       |                  | VCP       |        |
| 5,855  | AF/48_AF/44   | AF/48         | AF/44         | AF          |          | 8            |             | 391.38       |                  | VCP       |        |
| 5,856  | AF/49_AF/50   | AF/49         | AF/50         | AF          | Circular | 6            |             | 425.40       | 426.50           | VCP       |        |
| 5,857  | AF/50_AG/04   | AF/50         | AG/04         | AF          |          | 10           |             | 373.94       |                  | VCP       |        |

# Sewer Pipe Summary Report

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|--------|---------------|---------------|---------------|-------------|----------|--------------|-------------|--------------|------------------|-----------|--------|
| 5,859  | AF/52_AF/43   | AF/52         | AF/43         | AF          | Circular | 6            |             | 429.52       | 429.50           | PVC       |        |
| 5,881  | AG/05_AG/18   | AG/05         | AG/18         | AG          |          | 12           |             | 375.02       |                  | VCP       |        |
| 5,882  | AG/06_AG/05   | AG/06         | AG/05         | AG          |          | 10           |             | 350.32       |                  | PVC       |        |
| 5,883  | AG/07_AG/44   | AG/07         | AG/44         | AG          |          | 10           |             | 136.01       |                  | VCP       |        |
| 5,884  | AG/09_AG/08   | AG/09         | AG/08         | AG          |          | 6            |             | 207.33       |                  | PVC       |        |
| 5,885  | AG/11_AG/07   | AG/11         | AG/07         | AG          | Circular | 6            |             | 345.31       | 125.30           | VCP       |        |
| 5,886  | AG/12_AG/11   | AG/12         | AG/11         | AG          | Circular | 6            |             | 371.80       | 374.70           | VCP       |        |
| 5,887  | AG/13_AG/12   | AG/13         | AG/12         | AG          | Circular | 6            |             | 97.75        | 99.10            | VCP       |        |
| 5,889  | AG/15_AG/44   | AG/15         | AG/44         | AG          | Circular | 6            |             | 168.11       | 167.90           | PE        |        |
| 5,891  | AG/16_AG/15   | AG/16         | AG/15         | AG          | Circular | 6            |             | 190.36       | 190.50           | PE        |        |
| 5,892  | AG/17_AG/16   | AG/17         | AG/16         | AG          | Circular | 8            |             | 300.52       | 302.40           | VCP       |        |
| 5,893  | AG/18_AG/19   | AG/18         | AG/19         | AG          |          | 12           |             | 377.38       |                  | VCP       |        |
| 5,894  | AG/19_AG/38   | AG/19         | AG/38         | AG          |          | 12           |             | 318.25       |                  | VCP       |        |
| 5,895  | AG/20_AG/19   | AG/20         | AG/19         | AG          | Circular | 10           |             | 158.12       | 157.20           | VCP       |        |
| 5,896  | AG/21_AG/34   | AG/21         | AG/34         | AG          |          | 6            |             | 296.39       |                  | VCP       |        |
| 5,897  | AG/21_AG/20   | AG/21         | AG/20         | AG          | Circular | 10           |             | 173.32       | 171.60           | VCP       |        |
| 5,898  | AG/22_AG/21   | AG/22         | AG/21         | AG          | Circular | 10           |             | 377.32       | 381.90           | VCP       |        |
| 5,909  | AG/32_AG/33   | AG/32         | AG/33         | AG          |          | 6            |             | 303.32       |                  | VCP       |        |
| 5,910  | AG/33_AG/21   | AG/33         | AG/21         | AG          |          | 6            |             | 373.75       |                  | VCP       |        |
| 5,911  | AG/34_AG/41   | AG/34         | AG/41         | AG          |          | 6            |             | 284.07       |                  | VCP       |        |
| 5,912  | AG/35_AG/20   | AG/35         | AG/20         | AG          | Circular | 6            |             | 375.70       | 160.40           | VCP       |        |
| 5,913  | AG/36_AG/37   | AG/36         | AG/37         | AG          | Circular | 6            |             | 247.01       | 248.30           | VCP       |        |
| 5,914  | AG/37_AG/40   | AG/37         | AG/40         | AG          | Circular | 6            |             | 227.95       | 107.60           | VCP       |        |
| 5,915  | AG/38_AG/39   | AG/38         | AG/39         | AG          |          | 12           |             | 307.22       |                  | VCP       |        |
| 5,917  | AG/39_AG/39b  | AG/39         | AG/39b        | AG          |          | 8            |             | 78.54        |                  | VCP       |        |
| 5,918  | AG/39A_AG/39  | AG/39A        | AG/39         | AG          |          | 8            |             | 79.98        |                  | VCP       |        |
| 5,920  | AG/40_AG/39A  | AG/40         | AG/39A        | AG          |          | 10           |             | 80.20        |                  | VCP       |        |
| 5,922  | AG/42_AG/41   | AG/42         | AG/41         | AG          |          | 8            |             | 231.51       |                  | VCP       |        |
| 5,923  | AG/44_AG/06   | AG/44         | AG/06         | AG          |          | 10           |             | 120.19       |                  | PVC       |        |
| 5,924  | AH/01_AC/15   | AH/01         | AC/15         | AH          |          | 15           |             | 27.79        |                  | VCP       |        |
| 5,927  | AH/04_AH/03   | AH/04         | AH/03         | AH          | Circular | 15           |             | 307.28       | 310.50           | VCP       |        |
| 5,928  | AH/05_AH/04   | AH/05         | AH/04         | AH          | Circular | 12           |             | 299.95       | 303.30           | VCP       |        |
| 5,929  | AH/06_AH/07   | AH/06         | AH/07         | AH          | Circular | 6            |             | 387.20       | 11.90            | VCP       |        |
| 5,930  | AH/07_AH/08   | AH/07         | AH/08         | AH          | Circular | 6            |             | 229.61       | 32.10            | VCP       |        |
| 5,931  | AH/08_AH/03   | AH/08         | AH/03         | AH          |          | 6            |             | 156.94       |                  | VCP       |        |
| 5,932  | AH/09_AH/10   | AH/09         | AH/10         | AH          | Circular | 6            |             | 102.41       | 100.40           | VCP       |        |
| 5,933  | AH/10_AH/11   | AH/10         | AH/11         | AH          | Circular | 6            |             | 252.19       | 250.10           | VCP       |        |

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|--------|---------------|---------------|---------------|-------------|----------|--------------|-------------|--------------|------------------|-----------|--------|
| 5,934  | AH/13_AH/12   | AH/13         | AH/12         | AH          | Circular | 8            |             | 304.10       | 306.30           | PE        |        |
| 5,935  | AH/14_AH/13   | AH/14         | AH/13         | AH          | Circular | 8            |             | 299.43       | 303.00           | PE        |        |
| 5,936  | AH/14_AH/08   | AH/14         | AH/08         | AH          |          | 6            |             | 191.11       |                  | VCP       |        |
| 5,937  | AH/15_AH/14   | AH/15         | AH/14         | AH          | Circular | 8            |             | 299.33       | 303.60           | PE        |        |
| 5,938  | AH/16_AH/15   | AH/16         | AH/15         | AH          | Circular | 8            |             | 334.37       | 339.20           | PE        |        |
| 5,939  | AH/17_AH/14   | AH/17         | AH/14         | AH          |          | 6            |             | 266.16       |                  | VCP       |        |
| 5,940  | AH/18_AH/17   | AH/18         | AH/17         | AH          | Circular | 6            |             | 284.30       | 286.90           | PE        |        |
| 5,941  | AH/19_AH/18   | AH/19         | AH/18         | AH          | Circular | 6            |             | 357.78       | 361.70           | PE        |        |
| 5,965  | AH/40_AH/39   | AH/40         | AH/39         | AH          | Circular | 6            |             | 144.91       | 145.60           | VCP       |        |
| 5,966  | AH/41_AH/39   | AH/41         | AH/39         | AH          | Circular | 6            |             | 358.35       | 361.70           | PE        |        |
| 5,968  | AH/44_AH/17   | AH/44         | AH/17         | AH          |          | 6            |             | 293.96       |                  | VCP       |        |
| 5,971  | AH/47_AH/17   | AH/47         | AH/17         | AH          | Circular | 6            |             | 233.70       | 236.50           | VCP       |        |
| 5,972  | AH/48_AH/47   | AH/48         | AH/47         | AH          | Circular | 6            |             | 306.03       | 309.70           | VCP       |        |
| 5,973  | AI/01_AC/15   | AI/01         | AC/15         | AI          |          | 21           |             | 35.13        |                  | VCP       |        |
| 5,974  | AI/02_AI/01   | AI/02         | AI/01         | AI          |          | 15           |             | 136.09       |                  | VCP       |        |
| 6,006  | AI/34_AI/34A  | AI/34         | AI/34A        | AI          |          | 15           |             | 246.67       |                  | VCP       |        |
| 6,007  | AI/35_AI/02   | AI/35         | AI/02         | AI          |          | 15           |             | 151.02       |                  | VCP       |        |
| 6,009  | AI/36_AI/35   | AI/36         | AI/35         | AI          | Circular | 8            |             | 177.93       | 179.50           | RCP       |        |
| 6,010  | AI/37_AI/36   | AI/37         | AI/36         | AI          |          | 6            |             | 287.56       |                  |           |        |
| 6,011  | AI/38_AI/36   | AI/38         | AI/36         | AI          | Circular | 8            |             | 285.01       | 290.20           | PE        |        |
| 6,030  | AI/57_AI/56   | AI/57         | AI/56         | AI          | Circular | 6            |             | 162.09       | 162.40           | PE        |        |
| 6,031  | AI/58_AI/57   | AI/58         | AI/57         | AI          | Circular | 6            |             | 175.42       | 178.10           | PE        |        |
| 6,050  | AI/75_AI/75A  | AI/75         | AI/75A        | AI          | Circular | 6            |             | 23.30        | 23.30            | PVC       |        |
| 6,052  | AI/76_AI/77   | AI/76         | AI/77         | AI          | Circular | 6            |             | 295.39       | 299.00           | PVC       |        |
| 6,054  | AI/80_AI/81   | AI/80         | AI/81         | AI          | Circular | 6            |             | 296.22       | 238.70           | PVC       |        |
| 6,055  | AI/81_AI/82   | AI/81         | AI/82         | AI          | Circular | 6            |             | 248.47       | 252.10           | PVC       |        |
| 6,083  | AJ/26_AJ/01   | AJ/26         | AJ/01         | AJ          | Circular | 6            |             | 220.25       | 222.00           | CP        |        |
| 6,084  | AJ/27_AJ/26   | AJ/27         | AJ/26         | AJ          | Circular | 6            |             | 205.29       | 210.00           | CP        |        |
| 6,094  | AK/01_BC/30   | AK/01         | BC/30         | AK          | Circular | 12           |             | 163.28       | 162.40           | VCP       |        |
| 6,109  | AK/24_AK/26   | AK/24         | AK/26         | AK          | Circular | 6            |             | 149.33       | 151.30           | VCP       |        |
| 6,110  | AK/25_AK/26   | AK/25         | AK/26         | AK          | Circular | 6            |             | 235.26       | 240.50           | VCP       |        |
| 6,111  | AK/26_AK/27   | AK/26         | AK/27         | AK          | Circular | 6            |             | 222.92       | 226.90           | VCP       |        |
| 6,120  | AK2/02_AK2/01 | AK2/02        | AK2/01        | AK2         | Circular | 6            |             | 137.03       | 137.50           | PE        |        |
| 6,122  | AK2/04_AK2/03 | AK2/04        | AK2/03        | AK2         |          | 6            |             | 61.81        |                  | VCP       |        |
| 6,123  | AK2/05_AK2/03 | AK2/05        | AK2/03        | AK2         |          | 6            |             | 296.75       |                  | VCP       |        |
| 6,135  | AK3/02_AK3/01 | AK3/02        | AK3/01        | AK3         |          | 10           |             | 37.15        |                  | VCP       |        |
| 6,136  | AK3/03_AK3/02 | AK3/03        | AK3/02        | AK3         |          | 10           |             | 306.98       |                  | VCP       |        |

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|--------|----------------|---------------|---------------|-------------|----------|--------------|-------------|--------------|------------------|-----------|--------|
| 6,137  | AK3/04_AK3/03  | AK3/04        | AK3/03        | AK3         |          | 10           |             | 154.17       |                  | VCP       |        |
| 6,139  | AK3/06_AK3/04  | AK3/06        | AK3/04        | AK3         |          | 10           |             | 321.56       |                  | VCP       |        |
| 6,140  | AK3/07_AK3/06  | AK3/07        | AK3/06        | AK3         | Circular | 10           |             | 334.76       | 338.30           | VCP       |        |
| 6,141  | AK3/08_AK3/07  | AK3/08        | AK3/07        | AK3         | Circular | 10           |             | 331.34       | 332.80           | VCP       |        |
| 6,142  | AK3/09_AK3/31  | AK3/09        | AK3/31        | AK3         | Circular | 8            |             | 9.60         | 11.10            | VCP       |        |
| 6,143  | AK3/10_AK3/09  | AK3/10        | AK3/09        | AK3         |          | 6            |             | 52.35        |                  | VCP       |        |
| 6,144  | AK3/11_AK3/09  | AK3/11        | AK3/09        | AK3         | Circular | 8            |             | 300.48       | 301.20           | PVC       |        |
| 6,145  | AK3/12_AK3/11  | AK3/12        | AK3/11        | AK3         | Circular | 8            |             | 224.03       | 221.50           | PVC       |        |
| 6,146  | AK3/13_AK3/12  | AK3/13        | AK3/12        | AK3         | Circular | 8            |             | 211.01       | 212.80           | PVC       |        |
| 6,160  | AK3/24A_AK3/24 | AK3/24A       | AK3/24        | AK3         | Circular | 8            |             | 53.04        | 50.10            | VCP       |        |
| 6,161  | AK3/25_AK3/24A | AK3/25        | AK3/24A       | AK3         | Circular | 8            |             | 179.08       | 186.50           | VCP       |        |
| 6,162  | AK3/26_AK3/25  | AK3/26        | AK3/25        | AK3         | Circular | 8            |             | 234.77       | 233.30           | VCP       |        |
| 6,164  | AK3/28_AK3/27  | AK3/28        | AK3/27        | AK3         | Circular | 8            |             | 231.64       | 236.80           | VCP       |        |
| 6,165  | AK3/29_AK3/28  | AK3/29        | AK3/28        | AK3         | Circular | 8            |             | 335.06       | 338.40           | VCP       |        |
| 6,167  | AK3/31_AK3/08  | AK3/31        | AK3/08        | AK3         | Circular | 10           |             | 338.97       | 340.60           | VCP       |        |
| 6,193  | AM/05_AM/02    | AM/05         | AM/02         | AM          | Circular | 6            |             | 397.92       | 400.80           | PE        |        |
| 6,295  | AO/05_AO/02    | AO/05         | AO/02         | AO          |          | 6            |             | 169.58       |                  | VCP       |        |
| 6,296  | AO/07_AO/07A   | AO/07         | AO/07A        | AO          |          | 6            |             | 46.70        |                  | VCP       |        |
| 6,297  | AO/07A_AO/07B  | AO/07A        | AO/07B        | AO          |          | 6            |             | 46.24        |                  | VCP       |        |
| 6,298  | AO/07B_AO/07C  | AO/07B        | AO/07C        | AO          |          | 6            |             | 95.08        |                  | VCP       |        |
| 6,299  | AO/07C_AO/07D  | AO/07C        | AO/07D        | AO          |          | 6            |             | 20.11        |                  | VCP       |        |
| 6,300  | AO/07D_AO/05   | AO/07D        | AO/05         | AO          |          | 6            |             | 141.50       |                  | VCP       |        |
| 6,301  | AO/07E_AO/07D  | AO/07E        | AO/07D        | AO          |          | 6            |             | 16.65        |                  | VCP       |        |
| 6,302  | AO/07F_AO/07E  | AO/07F        | AO/07E        | AO          |          | 6            |             | 65.28        |                  | VCP       |        |
| 6,303  | AO/07G_AO/07F  | AO/07G        | AO/07F        | AO          |          | 6            |             | 112.97       |                  | VCP       |        |
| 6,304  | AO/08_AO/07    | AO/08         | AO/07         | AO          | Circular | 6            |             | 222.53       | 224.90           | VCP       |        |
| 6,320  | AO/22A_AO/07G  | AO/22A        | AO/07G        | AO          |          | 6            |             | 324.36       |                  |           |        |
| 6,374  | AP2/07_AP2/06  | AP2/07        | AP2/06        | AP2         | Circular | 15           |             | 240.38       | 206.00           | VCP       |        |
| 6,422  | AP2/52_AP2/51  | AP2/52        | AP2/51        | AP2         | Circular | 6            |             | 131.84       | 132.70           | VCP       |        |
| 6,447  | AQ/07_AQ/06    | AQ/07         | AQ/06         | AQ          | Circular | 8            |             | 234.01       | 233.80           | PVC       |        |
| 6,448  | AQ/08_AQ/07    | AQ/08         | AQ/07         | AQ          | Circular | 8            |             | 188.40       | 191.20           | PVC       |        |
| 6,477  | AQ/38_AQ/08    | AQ/38         | AQ/08         | AQ          | Circular | 8            |             | 280.66       | 282.60           | PVC       |        |
| 6,478  | AQ/39_AQ/38    | AQ/39         | AQ/38         | AQ          | Circular | 8            |             | 213.00       | 215.40           | PVC       |        |
| 6,480  | AQ/41_AQ/39    | AQ/41         | AQ/39         | AQ          | Circular | 8            |             | 221.06       | 221.90           | VCP       |        |
| 6,481  | AQ/42_AQ/41    | AQ/42         | AQ/41         | AQ          | Circular | 8            |             | 324.27       | 328.10           | VCP       |        |
| 6,482  | AQ/43_AQ/42    | AQ/43         | AQ/42         | AQ          | Circular | 8            |             | 265.97       | 267.90           | VCP       |        |
| 6,487  | AQ/48_AQ/47    | AQ/48         | AQ/47         | AQ          |          |              |             | 123.23       |                  |           |        |

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|--------|----------------|---------------|---------------|-------------|----------|--------------|-------------|--------------|------------------|-----------|--------|
| 6,488  | AQ/49_AQ/48    | AQ/49         | AQ/48         | AQ          |          | 6            |             | 142.69       |                  | VCP       |        |
| 6,489  | AQ/50_AQ/49    | AQ/50         | AQ/49         | AQ          |          | 6            |             | 159.24       |                  | VCP       |        |
| 6,495  | AQ/56_AQ/55    | AQ/56         | AQ/55         | AQ          | Circular | 15           |             | 271.63       | 275.10           | VCP       |        |
| 6,496  | AQ/57_AQ/56    | AQ/57         | AQ/56         | AQ          | Circular | 15           |             | 280.14       | 283.10           | VCP       |        |
| 6,577  | AU/01_AF/41    | AU/01         | AF/41         | AU          |          | 6            |             | 152.13       |                  | VCP       |        |
| 6,578  | AU/02_AU/01    | AU/02         | AU/01         | AU          | Circular | 6            |             | 98.75        | 96.10            | VCP       |        |
| 6,579  | AU/04_AU/03    | AU/04         | AU/03         | AU          | Circular | 6            |             | 238.15       | 243.50           | PE        |        |
| 6,580  | AU/05_AU/04    | AU/05         | AU/04         | AU          | Circular | 6            |             | 111.22       | 105.40           | VCP       |        |
| 6,581  | AU/06_AU/05    | AU/06         | AU/05         | AU          | Circular | 6            |             | 193.29       | 199.90           | PE        |        |
| 6,584  | AU/10_AU/09    | AU/10         | AU/09         | AU          | Circular | 6            |             | 82.69        | 85.40            | PE        |        |
| 6,615  | AV/06_AV/05    | AV/06         | AV/05         | AV          | Circular | 6            |             | 228.54       | 230.50           | PE        |        |
| 6,758  | AY/01A_AY/01   | AY/01A        | AY/01         | AY          |          | 8            |             | 152.72       |                  | VCP       |        |
| 6,759  | AY/02_AY/01A   | AY/02         | AY/01A        | AY          |          | 10           |             | 127.20       |                  | VCP       |        |
| 6,760  | AY/03_AY/02    | AY/03         | AY/02         | AY          | Circular | 6            |             | 244.45       | 248.00           | VCP       |        |
| 6,761  | AY/04_AY/03    | AY/04         | AY/03         | AY          | Circular | 6            |             | 153.70       | 151.80           | VCP       |        |
| 6,765  | AY/08_AY/02    | AY/08         | AY/02         | AY          | Circular | 8            |             | 210.91       | 214.40           | PE        |        |
| 6,766  | AY/09_AY/08    | AY/09         | AY/08         | AY          | Circular | 8            |             | 41.78        | 41.00            | PE        |        |
| 6,767  | AY/10_AY/09    | AY/10         | AY/09         | AY          | Circular | 8            |             | 310.84       | 313.40           | PE        |        |
| 6,768  | AY/11_AY/10    | AY/11         | AY/10         | AY          | Circular | 8            |             | 355.14       | 359.50           | PE        |        |
| 6,771  | AY/14_AY/09    | AY/14         | AY/09         | AY          | Circular | 6            |             | 329.89       | 334.60           | PE        |        |
| 6,772  | AY/15_AY/13    | AY/15         | AY/13         | AY          | Circular | 6            |             | 302.18       | 299.50           | VCP       |        |
| 6,818  | AY/57_AY/60    | AY/57         | AY/60         | AY          | Circular | 6            |             | 281.25       | 283.00           | PE        |        |
| 6,821  | AY/61_AY/11    | AY/61         | AY/11         | AY          | Circular | 6            |             | 248.82       | 251.80           | PE        |        |
| 6,822  | AZ/01_AI/26    | AZ/01         | AI/26         | AZ          | Circular | 6            |             | 249.95       | 252.40           | VCP       |        |
| 6,823  | AZ/02_AZ/01    | AZ/02         | AZ/01         | AZ          | Circular | 6            |             | 130.95       | 130.80           | VCP       |        |
| 6,882  | AZ/60_AZ/61    | AZ/60         | AZ/61         | AZ          | Circular | 6            |             | 268.71       | 272.40           | PE        |        |
| 6,884  | AZ/62_AZ/40    | AZ/62         | AZ/40         | AZ          | Circular | 6            |             | 144.69       | 69.80            | VCP       |        |
| 6,890  | B-1/01_B-1/01A | B-1/01        | B-1/01A       | B-1         |          | 6            |             | 270.76       |                  | VCP       |        |
| 6,891  | B-1/02_B-1/01  | B-1/02        | B-1/01        | B-1         |          | 6            |             | 265.04       |                  | VCP       |        |
| 6,892  | B-1/04_B-1/03  | B-1/04        | B-1/03        | B-1         | Circular | 6            |             | 196.57       | 192.70           | VCP       |        |
| 6,893  | B-1/05_B-1/04  | B-1/05        | B-1/04        | B-1         | Circular | 6            |             | 176.31       | 178.10           | VCP       |        |
| 6,894  | B-1/05A_B-1/05 | B-1/05A       | B-1/05        | B-1         | Circular | 6            |             | 79.45        | 78.90            | VCP       |        |
| 6,917  | B-1/12_B-1/01  | B-1/12        | B-1/01        | B-1         |          | 6            |             | 163.13       |                  | VCP       |        |
| 7,060  | BA/11_BA/10    | BA/11         | BA/10         | BA          | Circular | 8            |             | 340.08       | 342.00           | VCP       |        |
| 7,066  | BA/17_BA/16    | BA/17         | BA/16         | BA          | Circular | 6            |             | 321.01       | 324.30           | PE        |        |
| 7,110  | BB/07_BB/06    | BB/07         | BB/06         | BB          | Circular | 6            |             | 130.36       | 138.00           | PE        |        |
| 7,111  | BB/08_BB/07    | BB/08         | BB/07         | BB          | Circular | 6            |             | 150.84       | 145.20           | PE        |        |

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|--------|---------------|---------------|---------------|-------------|----------|--------------|-------------|--------------|------------------|-----------|--------|
| 7,131  | BB/26_BB/11   | BB/26         | BB/11         | BB          | Circular | 6            |             | 262.79       | 264.30           | VCP       |        |
| 7,149  | BB/45_BB/07   | BB/45         | BB/07         | BB          |          | 6            |             | 281.81       |                  | VCP       |        |
| 7,155  | BC/02_BC/01   | BC/02         | BC/01         | BC          | Circular | 6            |             | 146.38       | 153.40           | PE        |        |
| 7,156  | BC/03_BC/45   | BC/03         | BC/45         | BC          |          | 6            |             | 143.80       |                  | PE        |        |
| 7,157  | BC/05_BC/03   | BC/05         | BC/03         | BC          |          | 6            |             | 389.34       |                  | PE        |        |
| 7,158  | BC/06_BC/05   | BC/06         | BC/05         | BC          |          | 6            |             | 381.22       |                  | PE        |        |
| 7,159  | BC/07_BC/06   | BC/07         | BC/06         | BC          |          | 6            |             | 53.38        |                  | VCP       |        |
| 7,198  | BC/45_BC/02   | BC/45         | BC/02         | BC          | Circular | 6            |             | 142.43       | 140.50           | PE        |        |
| 7,212  | BD/09_BD/02   | BD/09         | BD/02         | BD          |          | 6            |             | 164.45       |                  | VCP       |        |
| 7,301  | BF/01_AY/11   | BF/01         | AY/11         | BF          | Circular | 6            |             | 246.90       | 44.70            | VCP       |        |
| 7,302  | BF/02_BF/01   | BF/02         | BF/01         | BF          | Circular | 6            |             | 243.29       | 244.30           | VCP       |        |
| 7,303  | BF/03_BF/02   | BF/03         | BF/02         | BF          | Circular | 6            |             | 226.90       | 229.80           | VCP       |        |
| 7,304  | BF/04_BF/03   | BF/04         | BF/03         | BF          | Circular | 6            |             | 147.43       | 148.30           | VCP       |        |
| 7,305  | BF/05_BF/04   | BF/05         | BF/04         | BF          | Circular | 6            |             | 231.24       | 234.90           | VCP       |        |
| 7,306  | BF/06_BF/05   | BF/06         | BF/05         | BF          | Circular | 6            |             | 136.26       | 136.60           | VCP       |        |
| 7,307  | BF/07_BF/06   | BF/07         | BF/06         | BF          | Circular | 6            |             | 150.14       | 152.30           | PE        |        |
| 7,308  | BF/08_BF/07   | BF/08         | BF/07         | BF          | Circular | 6            |             | 301.00       | 305.00           | PE        |        |
| 7,309  | BF/09_BF/08   | BF/09         | BF/08         | BF          | Circular | 6            |             | 168.79       | 170.90           | VCP       |        |
| 7,311  | BF/11_BF/10   | BF/11         | BF/10         | BF          |          | 6            |             | 98.07        |                  | VCP       |        |
| 7,312  | BF/12_BF/11   | BF/12         | BF/11         | BF          |          | 6            |             | 121.82       |                  | PVC       |        |
| 7,313  | BF/13_BF/14   | BF/13         | BF/14         | BF          |          | 6            |             | 257.78       |                  | PVC       |        |
| 7,327  | BF/24_BF/25   | BF/24         | BF/25         | BF          | Circular | 6            |             | 141.32       | 144.00           | PE        |        |
| 7,328  | BF/25_BF/26   | BF/25         | BF/26         | BF          |          | 6            |             | 219.60       |                  | PE        |        |
| 7,329  | BF/26_BF/27   | BF/26         | BF/27         | BF          |          | 6            |             | 103.36       |                  | PE        |        |
| 7,330  | BF/27_BF/03   | BF/27         | BF/03         | BF          | Circular | 6            |             | 133.49       | 132.30           | PE        |        |
| 7,332  | BF/29_BF/28   | BF/29         | BF/28         | BF          | Circular | 6            |             | 90.23        | 88.80            | VCP       |        |
| 7,334  | BF/30_BF/29   | BF/30         | BF/29         | BF          | Circular | 6            |             | 243.52       | 248.60           | VCP       |        |
| 7,335  | BF/31_BF/30   | BF/31         | BF/30         | BF          | Circular | 6            |             | 159.80       | 162.20           | PE        |        |
| 7,343  | BF/40_BF/39   | BF/40         | BF/39         | BF          | Circular | 6            |             | 196.97       | 44.70            | VCP       |        |
| 7,394  | BF2/07_BF2/08 | BF2/07        | BF2/08        | BF2         | Circular | 8            |             | 293.16       | 296.10           | PVC       |        |
| 7,437  | BG/31_BG/32   | BG/31         | BG/32         | BG          | Circular | 6            |             | 277.89       | 279.30           | VCP       |        |
| 7,461  | BH/01_AI/59   | BH/01         | AI/59         | BH          |          | 6            |             | 278.12       |                  | PE        |        |
| 7,462  | BH/02_BH/01   | BH/02         | BH/01         | BH          |          | 6            |             | 281.90       |                  | PVC       |        |
| 7,465  | BH/04_BH/02   | BH/04         | BH/02         | BH          |          | 6            |             | 183.00       |                  | VCP       |        |
| 7,502  | BI/01_BS/37   | BI/01         | BS/37         | BI          | Circular | 6            |             | 99.27        | 100.40           | VCP       |        |
| 7,503  | BI/02_BI/01   | BI/02         | BI/01         | BI          | Circular | 6            |             | 113.73       | 115.70           | PE        |        |
| 7,504  | BI/03_BI/02   | BI/03         | BI/02         | BI          | Circular | 6            |             | 186.43       | 188.90           | PE        |        |

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|--------|---------------|---------------|---------------|-------------|----------|--------------|-------------|--------------|------------------|-----------|-----------|
| 7,505  | BI/04_BI/03   | BI/04         | BI/03         | BI          | Circular | 6            |             | 72.72        | 73.80            | VCP       |           |
| 7,507  | BI/05_BI/04   | BI/05         | BI/04         | BI          | Circular | 6            |             | 228.28       | 230.90           | VCP       |           |
| 7,508  | BI/06_BI/05   | BI/06         | BI/05         | BI          | Circular | 6            |             | 233.04       | 235.80           | VCP       |           |
| 7,555  | BJ/16_BJ/15   | BJ/16         | BJ/15         | BJ          | Round    | 6            |             | 119.44       |                  | PE        | Sliplined |
| 7,560  | BJ/21_BJ/20   | BJ/21         | BJ/20         | BJ          | Circular | 6            |             | 230.82       | 231.10           | VCP       |           |
| 7,602  | BL/01_BK/05   | BL/01         | BK/05         | BL          |          | 8            |             | 260.32       |                  | VCP       |           |
| 7,603  | BL/02_BL/01   | BL/02         | BL/01         | BL          |          | 8            |             | 159.93       |                  | VCP       |           |
| 7,610  | BL/70A_BL/70  | BL/70A        | BL/70         | BL          | Circular | 6            |             | 145.98       | 3.00             | VCP       |           |
| 7,655  | BM/35_BM/34   | BM/35         | BM/34         | BM          | Circular | 6            |             | 213.36       | 217.40           | VCP       |           |
| 7,656  | BM/36_BM/35   | BM/36         | BM/35         | BM          | Circular | 6            |             | 228.49       | 232.20           | VCP       |           |
| 7,657  | BM/37_BM/36   | BM/37         | BM/36         | BM          | Circular | 6            |             | 287.87       | 282.80           | VCP       |           |
| 7,658  | BM/38_BM/37   | BM/38         | BM/37         | BM          | Circular | 6            |             | 292.74       | 296.00           | VCP       |           |
| 7,659  | BM/39_BM/38   | BM/39         | BM/38         | BM          | Circular | 6            |             | 262.05       | 264.20           | VCP       |           |
| 7,695  | BN/18_BN/19   | BN/18         | BN/19         | BN          | Circular | 6            |             | 263.33       | 260.00           | VCP       |           |
| 7,698  | BN/20_BN/21   | BN/20         | BN/21         | BN          | Circular | 6            |             | 321.17       | 327.80           | VCP       |           |
| 7,780  | BO/44_BO/43   | BO/44         | BO/43         | BO          |          | 6            |             | 95.43        |                  | VCP       |           |
| 7,791  | BO/54_BO/53   | BO/54         | BO/53         | BO          | Circular | 6            |             | 235.31       | 238.30           | VCP       |           |
| 7,792  | BO/55_BO/54   | BO/55         | BO/54         | BO          | Circular | 6            |             | 299.22       | 302.60           | VCP       |           |
| 7,795  | BO/58_BO/57   | BO/58         | BO/57         | BO          | Circular | 6            |             | 197.60       | 200.10           | VCP       |           |
| 7,796  | BO/59_BO/58   | BO/59         | BO/58         | BO          | Circular | 6            |             | 110.73       | 110.70           | VCP       |           |
| 7,830  | BP/33_BP/32   | BP/33         | BP/32         | BP          | Circular | 6            |             | 173.27       | 130.10           | VCP       |           |
| 7,831  | BP/34_BP/33   | BP/34         | BP/33         | BP          | Circular | 6            |             | 128.17       | 130.00           | VCP       |           |
| 7,832  | BP/35_BP/34   | BP/35         | BP/34         | BP          |          | 6            |             | 32.91        |                  | VCP       |           |
| 7,833  | BP/36_BP/35   | BP/36         | BP/35         | BP          |          | 6            |             | 50.74        |                  | VCP       |           |
| 7,834  | BP/37_BP/36   | BP/37         | BP/36         | BP          | Circular | 6            |             | 252.24       | 253.40           | VCP       |           |
| 7,835  | BP/38_BP/37   | BP/38         | BP/37         | BP          | Circular | 6            |             | 248.97       | 251.10           | VCP       |           |
| 7,880  | BQ/27_BQ/26   | BQ/27         | BQ/26         | BQ          |          | 6            |             | 112.31       |                  | VCP       |           |
| 7,900  | BQ/39_BQ/43   | BQ/39         | BQ/43         | BQ          |          | 6            |             | 119.45       | 116.00           | HDPE      |           |
| 7,943  | BR/35_BR/31   | BR/35         | BR/31         | BR          |          | 8            |             | 98.10        |                  | PVC       |           |
| 7,944  | BR/36_BR/35   | BR/36         | BR/35         | BR          |          | 8            |             | 297.85       |                  | PE        |           |
| 7,945  | BR/37_BR/36   | BR/37         | BR/36         | BR          |          | 8            |             | 113.84       |                  | PE        |           |
| 7,950  | BR/42_BR/41   | BR/42         | BR/41         | BR          | Circular | 8            |             | 196.17       | 193.70           | PE        |           |
| 7,951  | BR/43_BR/42   | BR/43         | BR/42         | BR          | Circular | 6            |             | 167.65       | 168.00           | VCP       |           |
| 7,953  | BR/45_BR/42   | BR/45         | BR/42         | BR          | Circular | 8            |             | 312.85       | 314.40           | PP        |           |
| 8,003  | BS/33_BS/32   | BS/33         | BS/32         | BS          | Circular | 8            |             | 231.56       | 235.90           | PE        |           |
| 8,008  | BS/37_BS/33   | BS/37         | BS/33         | BS          | Circular | 6            |             | 182.25       | 182.40           | VCP       |           |
| 8,181  | BW/42_BW/06   | BW/42         | BW/06         | BW          |          | 8            |             | 96.89        |                  | VCP       |           |

# Sewer Pipe Summary Report

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| Rec #: | Alt. Pipe ID: | US Structure: | DS Structure: | Flow Basin: | Shape:   | Dia/Ht (in): | Width (in): | Length (ft): | Sec Length (ft): | Material: | Liner: |
|--------|---------------|---------------|---------------|-------------|----------|--------------|-------------|--------------|------------------|-----------|--------|
| 8,182  | BW/42A_BW/42  | BW/42A        | BW/42         | BW          |          | 8            |             | 200.09       |                  | VCP       |        |
| 8,183  | BW/43_BW/42   | BW/43         | BW/42         | BW          |          | 8            |             | 148.62       |                  | VCP       |        |
| 8,184  | BW/44_BW/43   | BW/44         | BW/43         | BW          |          | 8            |             | 242.78       |                  | VCP       |        |
| 8,195  | BW/56_BW/44   | BW/56         | BW/44         | BW          |          | 8            |             | 161.37       |                  | VCP       |        |
| 8,196  | BW/57_BW/56   | BW/57         | BW/56         | BW          |          | 8            |             | 155.41       |                  | VCP       |        |
| 8,197  | BW/58_BW/57   | BW/58         | BW/57         | BW          |          | 8            |             | 156.72       |                  | VCP       |        |
| 8,198  | BW/59_BW/58   | BW/59         | BW/58         | BW          |          | 8            |             | 317.27       |                  | VCP       |        |
| 8,199  | BW/60_BW/59   | BW/60         | BW/59         | BW          |          | 8            |             | 320.97       |                  | VCP       |        |
| 8,200  | BW/61_BW/60   | BW/61         | BW/60         | BW          |          | 8            |             | 133.39       |                  | VCP       |        |
| 8,201  | BW/62_BW/61   | BW/62         | BW/61         | BW          | Circular | 6            |             | 136.39       | 137.50           | VCP       |        |
| 8,204  | BW/65_BW/62   | BW/65         | BW/62         | BW          | Circular | 6            |             | 139.08       | 138.20           | VCP       |        |
| 8,205  | BW/66_BW/65   | BW/66         | BW/65         | BW          |          | 6            |             | 315.41       |                  | VCP       |        |
| 8,213  | BX/01_AK3/13  | BX/01         | AK3/13        | BX          | Circular | 6            |             | 116.23       | 117.60           | VCP       |        |
| 8,214  | BX/01_AQ/43   | BX/01         | AQ/43         | BX          | Circular | 8            |             | 159.43       | 162.80           | VCP       |        |
| 8,217  | BX/03_BX/02   | BX/03         | BX/02         | BX          | Circular | 8            |             | 267.03       | 266.10           | PVC       |        |
| 8,218  | BX/04_BX/03   | BX/04         | BX/03         | BX          | Circular | 8            |             | 250.00       | 252.00           | VCP       |        |
| 8,258  | BY/07_BY/06   | BY/07         | BY/06         | BY          | Circular | 8            |             | 352.33       | 355.70           | PVC       |        |
| 8,265  | BZ/08_BZ/12   | BZ/08         | BZ/12         | BZ          | Circular | 10           |             | 314.91       | 19.20            | PVC       |        |
| 8,285  | DB/01_DB/03   | DB/01         | DB/03         | DB          | Circular | 6            |             | 235.46       | 237.10           | VCP       |        |
| 8,287  | DB/03_DB/04   | DB/03         | DB/04         | DB          | Circular | 6            |             | 318.95       | 323.00           | VCP       |        |
| 8,288  | DB/04_DB/05   | DB/04         | DB/05         | DB          | Circular | 6            |             | 255.31       | 256.60           | VCP       |        |
| 8,289  | DB/05_DB/06   | DB/05         | DB/06         | DB          | Circular | 6            |             | 251.19       | 253.00           | VCP       |        |
| 8,290  | DB/06_DA/06   | DB/06         | DA/06         | DB          | Circular | 6            |             | 298.40       | 301.50           | VCP       |        |
| 8,291  | DB/07_DB/04   | DB/07         | DB/04         | DB          | Circular | 6            |             | 238.33       | 240.80           | VCP       |        |
| 8,292  | DB/08_DB/07   | DB/08         | DB/07         | DB          | Circular | 6            |             | 238.22       | 240.60           | VCP       |        |
| 8,293  | DB/09_DB/08   | DB/09         | DB/08         | DB          | Circular | 6            |             | 249.04       | 228.10           | VCP       |        |
| 8,302  | DC/06_DC/07   | DC/06         | DC/07         | DC          | Circular | 8            |             | 245.67       | 249.10           | PE        |        |
| 8,303  | DC/07_DC/08   | DC/07         | DC/08         | DC          | Circular | 8            |             | 44.88        | 44.10            | PE        |        |
| 8,304  | DC/08_DC/09   | DC/08         | DC/09         | DC          | Circular | 8            |             | 233.60       | 225.10           | PE        |        |
| 8,305  | DC/09_DA/09   | DC/09         | DA/09         | DC          | Circular | 8            |             | 276.97       | 292.50           | PE        |        |
| 8,311  | DD/04_DD/05   | DD/04         | DD/05         | DD          | Circular | 6            |             | 316.13       | 317.70           | VCP       |        |
| 8,312  | DD/05_DD/05A  | DD/05         | DD/05A        | DD          | Circular | 6            |             | 92.02        | 93.10            | VCP       |        |
| 8,313  | DD/05A_DD/06  | DD/05A        | DD/06         | DD          | Circular | 6            |             | 222.35       | 228.50           | VCP       |        |
| 8,315  | DD/06A_DD/06  | DD/06A        | DD/06         | DD          | Circular | 6            |             | 32.40        | 33.10            | VCP       |        |
| 8,316  | DD/07_DA/13   | DD/07         | DA/13         | DD          | Circular | 6            |             | 342.53       | 347.70           | VCP       |        |
| 8,360  | BP/30_BP/31   | BP/30         | BP/31         | BP          | Circular | 6            |             | 192.42       | 86.70            | VCP       |        |
| 8,361  | BP/32_BP/30   | BP/32         | BP/30         | BP          | Circular | 6            |             | 82.66        | 46.90            | VCP       |        |

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|--------|---------------|---------------|---------------|-------------|----------|--------------|-------------|--------------|------------------|-----------|--------|
| 8,402  | AK3/34_AK3/15 | AK3/34        | AK3/15        | AK3         |          |              |             | 158.77       |                  |           |        |
| 8,409  | BS/35_BS/59   | BS/35         | BS/59         | BS          |          | 6            |             | 65.01        |                  |           |        |
| 8,472  | AD/27_AD/21   | AD/27         | AD/21         | AD          |          |              |             | 148.42       |                  |           |        |
| 8,492  | AE/49_AE/01   | AE/49         | AE/01         | AE          |          |              |             | 283.15       |                  |           |        |
| 8,515  | AX/25_AX/24A  | AX/25         | AX/24A        | AX          |          |              |             | 123.90       |                  |           |        |
| 8,525  | BS/59_BS/33   | BS/59         | BS/33         | BS          |          | 6            |             | 135.05       |                  |           |        |
| 8,552  | AE/17A_AE/18  | AE/17A        | AE/18         | AE          | Circular | 8            |             | 126.69       | 126.40           | PE        |        |
| 8,556  | AG/10_AG/08   | AG/10         | AG/08         | AG          |          |              |             | 345.92       |                  |           |        |
| 8,565  | AY/62_AY/14   | AY/62         | AY/14         | AY          | Circular | 6            |             | 123.93       | 124.20           | PE        |        |
| 8,568  | AG/46_AG/15   | AG/46         | AG/15         | AG          | Circular | 8            |             | 369.55       | 370.20           | PE        |        |
| 8,572  | AK/02_AK/01   | AK/02         | AK/01         | AK          |          | 10           |             | 85.18        |                  |           |        |
| 8,593  | BP/31_BP/29   | BP/31         | BP/29         | BP          | Circular | 6            |             | 84.40        | 202.60           | VCP       |        |
| 8,616  | AF/06_AF/05   | AF/06         | AF/05         | AF          |          |              |             | 67.05        |                  |           |        |
| 8,627  | BX/02_BX/01   | BX/02         | BX/01         | BX          |          |              |             | 301.18       |                  |           |        |
| 8,630  | AG/08_AG/07   | AG/08         | AG/07         | AG          |          |              |             | 94.69        |                  |           |        |
| 8,647  | AG/45_AG/05   | AG/45         | AG/05         | AG          |          |              |             | 311.15       |                  |           |        |
| 8,649  | AG/20_AG/36   | AG/20         | AG/36         | AG          | Circular | 6            |             | 133.56       | 132.40           | VCP       |        |
| 8,652  | AG/41_AG/40   | AG/41         | AG/40         | AG          |          |              |             | 173.91       |                  |           |        |
| 8,654  | AG/35A_AG/35  | AG/35A        | AG/35         | AG          | Circular | 6            |             | 297.93       | 299.10           | PVC       |        |
| 8,667  | AH/03_AH/01   | AH/03         | AH/01         | AH          |          |              |             | 603.02       |                  |           |        |
| 8,668  | AH/11_AH/01   | AH/11         | AH/01         | AH          |          |              |             | 156.06       |                  |           |        |
| 8,670  | AH/12_AH/11   | AH/12         | AH/11         | AH          |          |              |             | 190.48       |                  |           |        |
| 8,675  | AQ/26_AQ/25   | AQ/26         | AQ/25         | AQ          |          |              |             | 86.90        |                  |           |        |
| 8,708  | BT/02_BT/01   | BT/02         | BT/01         | BT          | Circular | 10           |             | 373.44       | 376.50           | VCP       |        |
| 8,709  | BT/01_AK/01   | BT/01         | AK/01         | BT          |          | 12           |             | 219.03       |                  |           |        |
| 8,738  | AC/33A_AC/35A | AC/33A        | AC/35A        | AC          | Circular | 18           |             | 188.22       | 188.80           | PVC       |        |
| 8,746  | AF/24_AF/22   | AF/24         | AF/22         | AF          | Circular | 10           |             | 185.60       | 186.80           | VCP       |        |
| 8,759  | AY/12_AY/13   | AY/12         | AY/13         | AY          | Circular | 6            |             | 188.57       | 192.40           | PE        |        |
| 8,769  | BD/32_BD/30   | BD/32         | BD/30         | BD          |          | 6            |             | 193.56       |                  |           |        |
| 8,780  | AE/01_AD/02   | AE/01         | AD/02         | AE          |          |              |             | 297.66       |                  |           |        |
| 8,783  | AE/11_AE/02   | AE/11         | AE/02         | AE          |          |              |             | 310.41       |                  |           |        |
| 8,786  | AU/27_AU/02   | AU/27         | AU/02         | AU          | Circular | 6            |             | 206.67       | 209.60           | VCP       |        |
| 8,806  | AY/13_AY/14   | AY/13         | AY/14         | AY          | Circular | 6            |             | 130.92       | 130.70           | PE        |        |
| 8,850  | AX/22_AX/11   | AX/22         | AX/11         | AX          |          |              |             | 150.39       |                  |           |        |
| 8,855  | AX/24A_AX/24  | AX/24A        | AX/24         | AX          |          |              |             | 97.27        |                  |           |        |
| 8,929  | AE/36_AE/17A  | AE/36         | AE/17A        | AE          | Circular | 6            |             | 79.97        | 81.40            | VCP       |        |
| 8,965  | AE/70_AF/17   | AE/70         | AF/17         | AF          |          |              |             | 150.00       |                  |           |        |

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|--------|---------------|---------------|---------------|-------------|----------|--------------|-------------|--------------|------------------|-----------|--------|
| 8,998  | AI/75A_AI/76  | AI/75A        | AI/76         | AI          | Circular | 6            |             | 209.66       | 237.30           | PVC       |        |
| 8,999  | BZ/12_BZ/13   | BZ/12         | BZ/13         | BZ          |          | 10           |             | 17.30        |                  | ACP       |        |
| 9,000  | BZ/13_BZ/14   | BZ/13         | BZ/14         | BZ          |          | 10           |             | 344.00       |                  | ACP       |        |
| 9,001  | BZ/14_BZ/06   | BZ/14         | BZ/06         | BZ          | Circular | 10           |             | 23.50        | 23.40            | PVC       |        |

# *City of San Carlos* **Sanitary Sewer Management Plan**

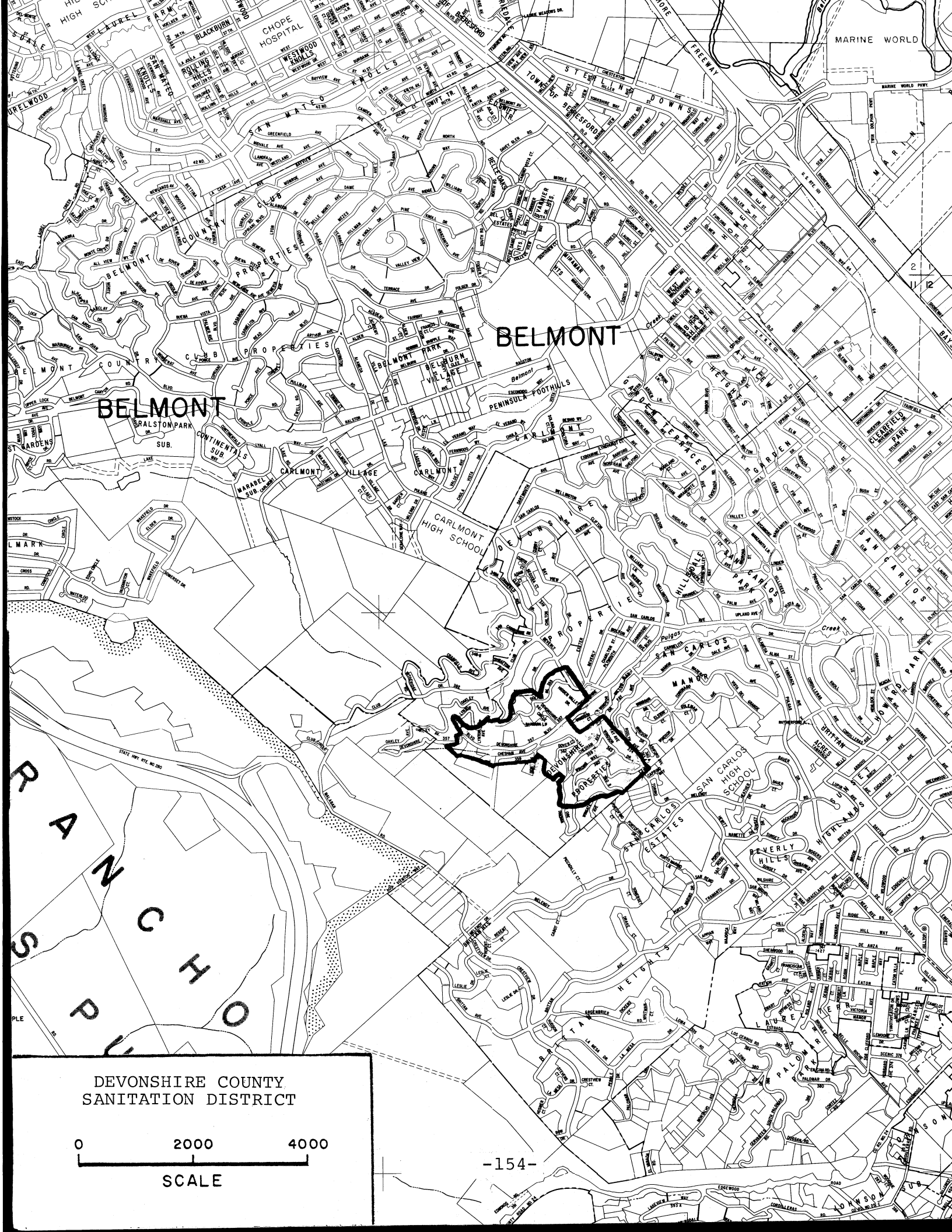
## **APPENDIX C**

### **Element 11: COMMUNICATIONS PROGRAM**

**Prepared by:**

***Department of Public Works***





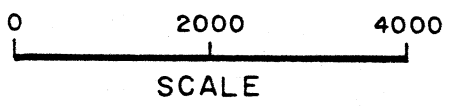
DEVONSHIRE COUNTY  
SANITATION DISTRICT

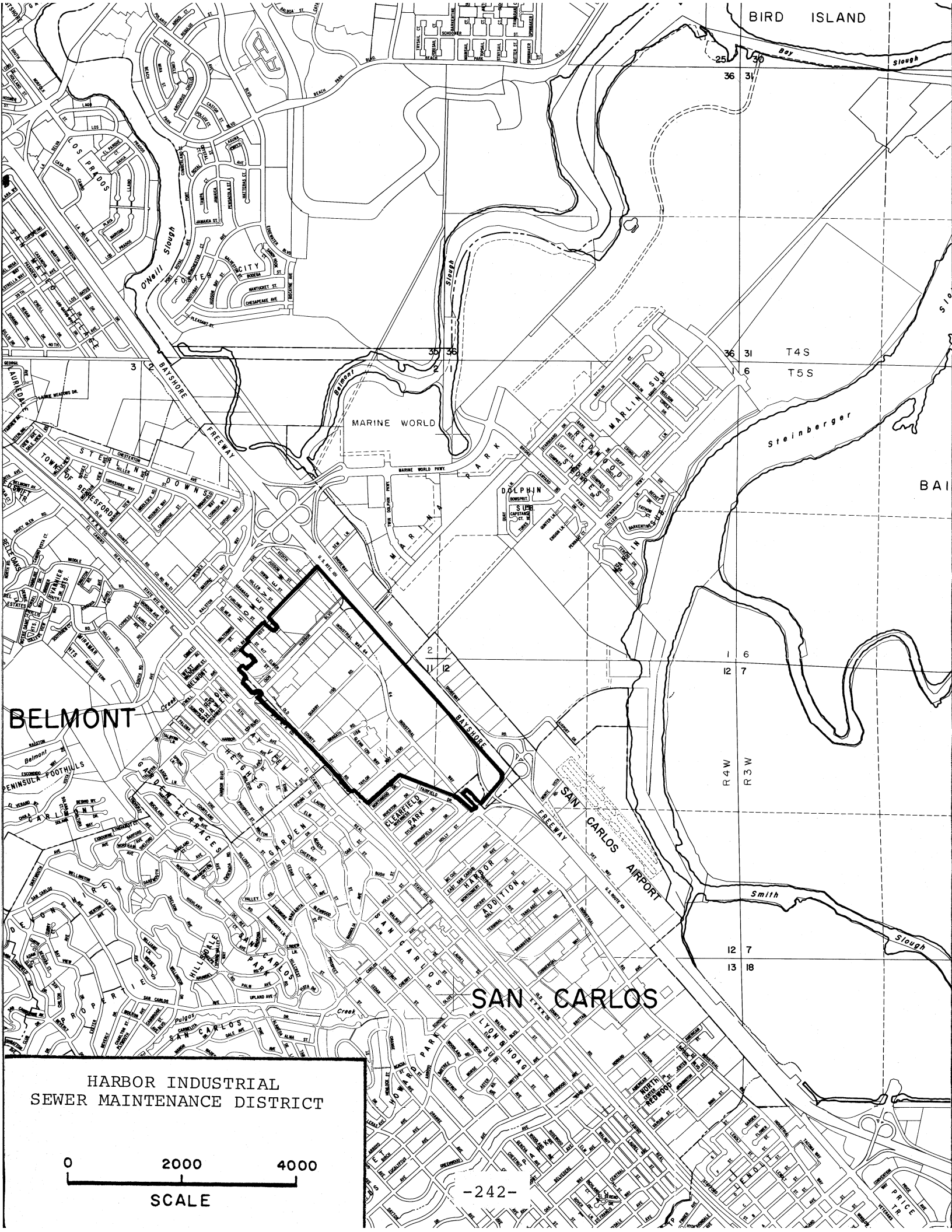
0 2000 4000  
SCALE



# REDWOOD CITY

EMERALD LAKE HEIGHTS  
SEWER MAINTENANCE DISTRICT





BIRD ISLAND

MARINE WORLD

DOLPHIN

Steinberger

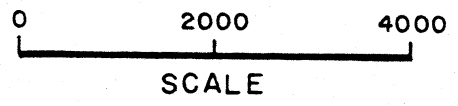
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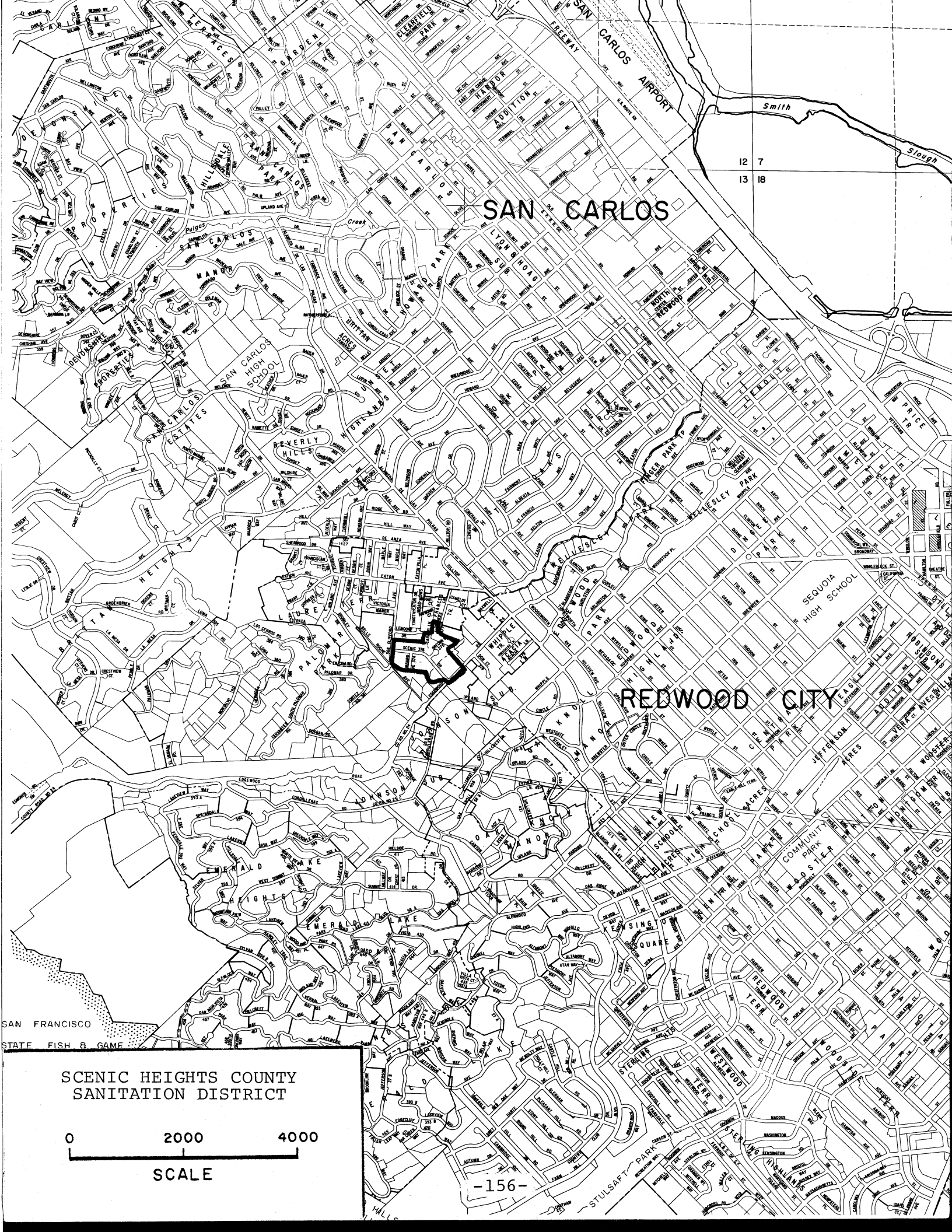
BELMONT

SAN CARLOS AIRPORT

SAN CARLOS

HARBOR INDUSTRIAL  
SEWER MAINTENANCE DISTRICT





SAN CARLOS

REDWOOD CITY

SCENIC HEIGHTS COUNTY  
SANITATION DISTRICT

