

# City of Greenfield

## SEWER SYSTEM MANAGEMENT PLAN

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Prepared By

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**CITY OF GREENFIELD PUBLIC WORKS DEPARTMENT  
WASTEWATER DIVISION**

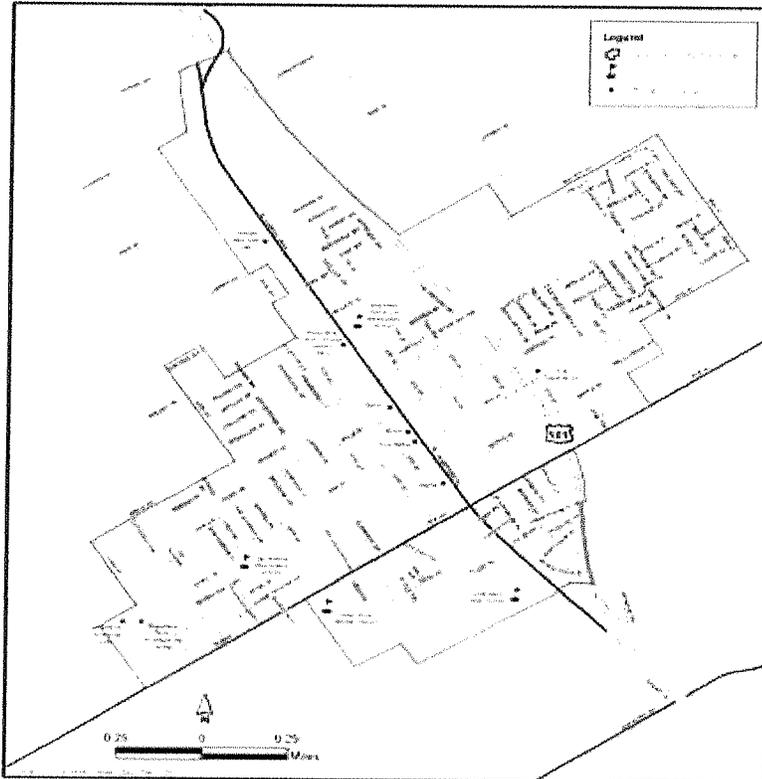
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## INTRODUCTION

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The City of Greenfield incorporated in 1947. Greenfield is located between the Gabilan Mountain range to the east and the Santa Lucia Mountain range to the west; and is located in the heart of the Salinas Valley, approximately 135 miles south of San Francisco, 95 miles south of San Jose and 60 miles north of Paso Robles. The city has a total area of 1.7 square miles, with a population to be 17,547 (2011).



The City of Greenfield's Wastewater Division maintains and operates 20.8 miles of gravity sewer collection pipeline and force mains including six(6) lift stations. The City also accepts wastewater under agreement with the Santa Lucia Shopping Center. Sewage is conveyed to the Wastewater Treatment Plant (WWTP) east of Greenfield. The WWTP was reconstructed and completed in 1978; additional plant improvements have increased the capacity to 2.0 million gallons per day (MGD).

## ***A. Legal Requirements***

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On May 2, 2006, The State Water Resources Control Board (SWRCB) adopted Water Quality Order No. 2006-0003 which established the Statewide General Waste Discharge Requirements (WDR). The WDR specifies that any public agency that owns or operates a sanitary sewer system greater than one mile in length and conveys treated or partially treated wastewater to a publicly owned treatment facility in the State of California, comply with WDR in order to reduce the number of Sanitary Sewer Overflows (SSO's).

Under this WDR, agencies are required to develop a Sewer System Management Plan (SSMP) which describes how each agency operates, maintains, and evaluates its sewer system.

## ***B. Sewer System Management Plan Requirements***

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Under the WDR the City submitted a Notice of Intent and developed this SSMP. The SSMP identifies how the City has or will implement the following Elements.

- 1. Goals**
- 2. Organization**
- 3. Legal Authority**
- 4. Operation and Maintenance**
- 5. Design and Performance Standards**
- 6. Overflow Emergency Response Plan**
- 7. Fats, Oils & Grease Control Program**
- 8. System Evaluation and Capacity Assurance Plan**
- 9. Monitoring, Measuring and Program Modifications**
- 10. Sewer System Management and Plan Audits**
- 11. Communication Plan**

# **SEWER SYSTEM MANAGEMENT PLAN (SSMP) ELEMENTS**

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## **ELEMENT # 1 GOALS**

***WDR Requirements: The goal of the SSMP is to provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system. This will help reduce and prevent SSO'S as well as mitigate any SSO's that do occur.***

The City's Goals for the operation and maintenance of a wastewater collection system are;

- 1) Properly manage, operate, and maintain all of the City's wastewater collection system.
- 2) Provide adequate capacity within the sewer system, including flows. This includes review of development plans and other associated plans, which may affect the City's sewer system capacity.
- 3) Minimize the frequency of sanitary sewer overflows (SSO's).
- 4) Mitigate impacts associated with SSO's.
- 5) Meet all applicable regulatory notification including monthly and annual reporting requirements.
- 6) Use funds available for sewer operations in the most efficient manner.
- 7) Prevent public health hazards.
- 8) Implement regular, practical maintenance of the sewer system to remove roots, debris, sand, and Fats, oils and Greases (FOG) in areas prone to blockage that may cause SSO's or sewer backups.
- 9) Perform operations in a safe manner to avoid personnel injury and/or property damage.
- 10) Methodically clean all sewer lines on a scheduled basis
- 11) Provide monthly, quarterly, bi-annual and annual preventative maintenance of problematic areas (hot spots) within the collection system.
- 12) Conduct a video (CCTV) inspection/assessment of each sewer mainline every three years and continuously thereafter identify areas required root control, repairs and additional maintenance as evidenced by the video inspection.
- 13) Conduct appropriate analysis/ evaluation of SSO's by utilization of systemic maintenance and activity data collection of "hot spots" that may be identified by visual observation and or CCTV of the collection system.

- 14) Identify collection system blockage due to Fats, Oils, Grease (FOG) and develop strategies to mitigate blockages.
- 15) Maintain records of the sanitary sewer system and respond to customer inquires concerns and complaints.
- 16) Continue with the development of capital improvement projects directed at a high level of maintenance of the current city assets by improving system reliability and providing adequate future capacity.

# **SEWER SYSTEM MANAGEMENT PLAN (SSMP) ELEMENTS**

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## **ELEMENT # 2 ORGANIZATION**

**WDR Requirement: The SSMP must Identify:**

- a. *The name of the responsible or authorized representative as describe in section J of the WDR.*
- b. *The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program . The SSMP must identify lines of authority an organization chart or similar document with a narrative explanation; and*
- c. *The chain of command for reporting SSO's, from the receipt of the complaint or other information, including the person responsible for reporting SSO's 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)*

The Wastewater Division is part of the City Public Works Department, and is responsible for administration and implementation of the SSMP. The Division includes Wastewater Treatment Plant Operations and Collections. The Wastewater Division is responsible for daily maintenance and response to SSO's during regular work hours. On-Call standby Operator's respond to SSO after hours including weekends and holidays. Figure 1 shows the organization of Wastewater Division.

- a. *The name of the responsible or authorized representative as describe in section J of the WDR.*

The authorized representative or Legal Responsible Official (LRO) for the implementation and administration of the City's SSMP and for Completing and Certifying spill reports electronically is Dale E. Lipp, P.E., Public Works Director/City Engineer.

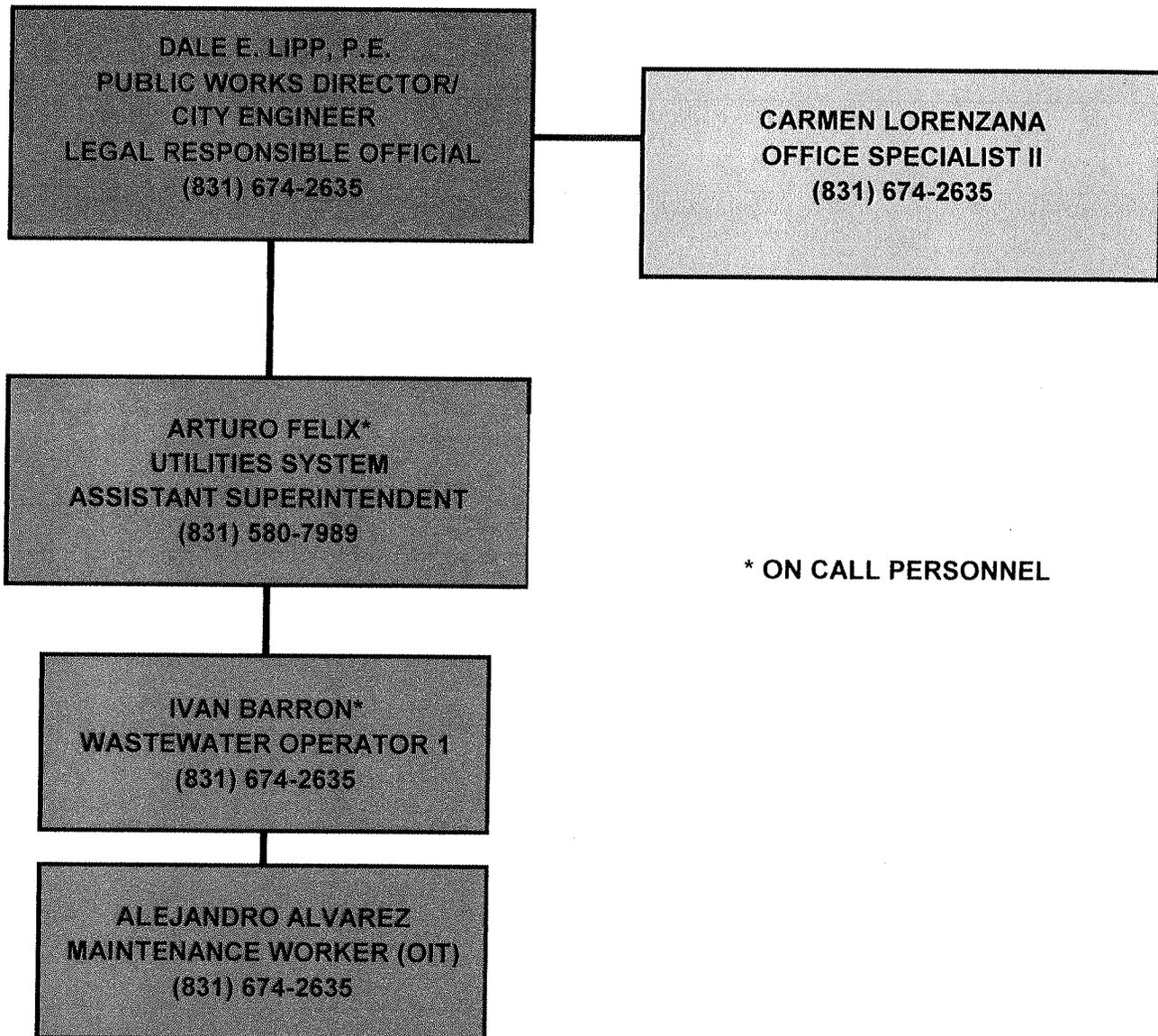
- b. *The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program . The SSMP must identify lines of authority an organization chart or similar document with a narrative explanation.*

Figure 1, "The Organization Chart", page 7, shows the chain of command for the Wastewater Division. Table 1, "Implementation Responsibilities", page 8, lists the person responsible for implementation of specific measures for each Element in the SSMP.

- c. ***The chain of command for reporting SSO's, from the receipt of the complaint or other information, including the person responsible for reporting Sosa's 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 (ODES)).***

Figure 2, "Sequence Chart", page 9, shows the order for reporting and responding to SSO's, including notification of proper authorities for reporting and certifying spills electronically.

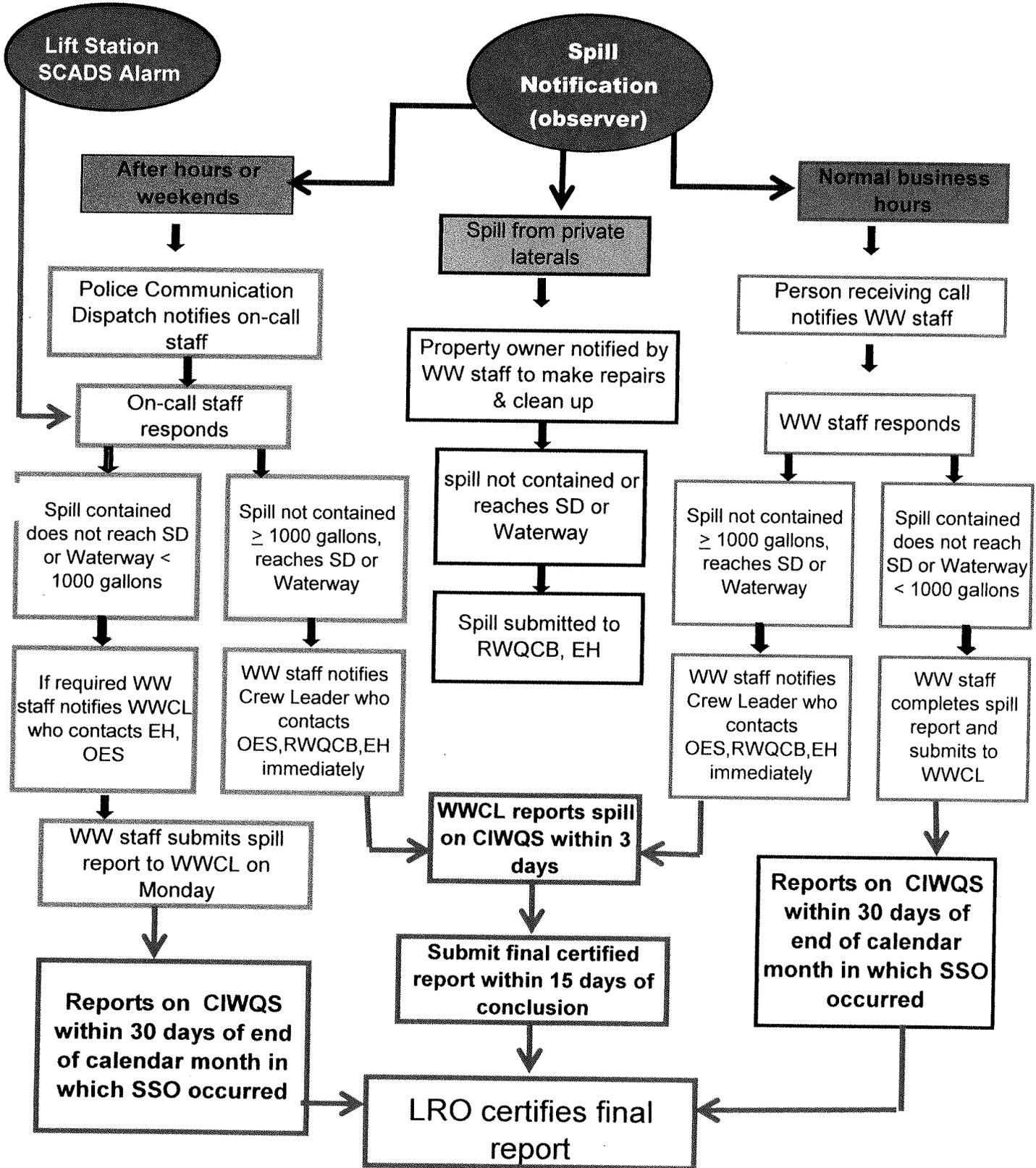
# FIGURE 1 ORGANIZATION CHART PUBLIC WORKS DEPARTMENT WASTEWATER DIVISION



**TABLE 1**  
**IMPLEMENTATION RESPONSIBILITIES**

<b>Element</b>	<b>Responsible Person(s)</b>
<b>1. Goals</b>	The Public Works Director/City Engineer and Utilities System Assistant Superintendent are responsible for developing the goals of the Wastewater Division and this SSMP.
<b>2. Organization</b>	The Utilities System Assistant Superintendent is responsible for updating the organization structure, SSMP implementation assignments, and chain of communication, as needed.
<b>3. Legal Authority</b>	Public Works Director/City Engineer and Utilities System Assistant Superintendent
<b>4. Operation and maintenance program</b>	Public Works Director/City Engineer and Utilities System Assistant Superintendent
<b>5. Design and Performance Provisions</b>	The Public Works Director/City Engineer and City Building Inspector and Utilities System Assistant Superintendent are responsible for reviewing designs and construction documents to ensure that all contraction projects meet City standards. The City Engineer is responsible for updating standards for installation, rehabilitation and repairs, as needed. The City Engineer or his designee is responsible for the inspection of construction projects to ensure compliance with City standards.
<b>6. Overflow Emergency Response plan</b>	The Utilities System Assistant Superintendent is responsible for implementation of the Overflow Emergency Response Plan, including revision to the plan and annual training for maintenance staff.
<b>7. FOG Control Program</b>	The Utilities System Assistant Superintendent is responsible for identifying grease hot spots; maintaining an effective cleaning program for grease problem sewers; inspecting grease traps/interceptors that have been installed and for enforcing discharge regulations, as needed in collaboration with the City's Superintendent/Building Inspector.
<b>8. System Evaluation and Capacity Assurance Plan</b>	Public Works Director/City Engineer, and Utilities System Assistant Superintendent
<b>9. Monitoring, Measurement and Program Modifications</b>	Public Works Director/City Engineer, and Utilities System Assistant Superintendent
<b>10. SSMP Audits</b>	Public Works Director/City Engineer, and Utilities System Assistant Superintendent
<b>11. Communication Program</b>	Public Works Director/City Engineer, and Utilities System Assistant Superintendent

# FIGURE 2 SEQUENCE CHART REPORTING & RESPONDING TO SSO's



# **SEWER SYSTEM MANAGEMENT PLAN (SSMP) ELEMENTS**

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## **ELEMENT # 3    LEGAL AUTHORITY**

***WDR 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 wastewater collection system ( examples may include infiltration and inflows (I/I), storm water, chemical dumping , unauthorized debris and cut roots, ect.);***
- b. Require that sewers and connections be properly designed and connected;***
- 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 Greases (FOG) and other debris that may cause blockage.***
- e. Enforce any violation of its sewer ordinance***

The City's Sewer Service Ordinance, Municipal Code Chapter 13.28, provides authority to enforce all of the above requirements addressed in items a. through e. This includes sewer service, sewer construction, sewer connection, prohibitions and discharge limitation to the sewer system. Chapter 13.28.280 addresses discharges of industrial waste. Chapter 13.28 are to protect the longevity of the City's sewer system as well as prevent pass-through of pollutants at the wastewater treatment plant.

- a. Prevent illicit discharges into its wastewater collection system ( examples may include infiltration and inflows (I/I), storm water, chemical dumping , unauthorized debris and cut roots, ect.);***

The City's Sewer Service Ordinance, Chapter 13.28 sets limitations and prohibitions on wastewater discharges to protect the collection system, workers and wastewater treatment plant.

The City will implement a hydro cleaning maintenance program for lines with blockage problems or SSO's. These lines will be placed on a schedule for annual inspection CCTV (Closed Circuit Television Video). The City contracts out to Green Line Underground Video on an as needed basis, sewer line inspections.

The City will be improving its existing hydro cleaning equipment operations. This will include collaborating with the City of Soledad to purchase a CCTV system to provide accurate inspection of City sewer mains after routine scheduled cleaning.

**b. Require that sewers and connections be properly designed and connected;**

The City's Sewer Service Ordinance, Chapter 13.28.020 "Alterations or use-permit required," states, "*No unauthorized person shall uncover, make any connections with or opening into, use, alter, or disturb any public sewer or appurtenance thereof without first obtaining a written permit from the Building Inspector. (ord. 47 § 401, 1953)*". Also, refer to Element # 5, Design and Performance Standards.

**c. Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the public agency;**

The City's does not maintain private lateral sewer lines. Ordinance 13.28.040 "Cost borne by owner," states, "*All costs and expense incident to the installation and connection of the building sewer shall be borne by the owner. The owner shall indemnify the city from any loss or damage that may directly or indirectly be occasioned by the installation of the building sewer*". City easements are in place where City owned sewer appurtenance are located on private property to ensure access to perform necessary maintenance, inspection, and repairs by City crews.

**d. Limit the Discharge of Fats, Oils, and Greases (FOG) and other debris that may cause blockage.**

The City will start implementing a Fats, Oils, and Grease (FOG) Program by Spring of 2013. The program will consist of annual inspections to ensure that grease removal devices are installed per standard properly maintained, and waste FOG is properly disposed of.

An amended sewer ordinance will be approved in Spring 2013 for implementing the City's FOG program. The ordinance will address the following:

1. Limits discharge to 100 mg/l OIL and Grease.
2. Provides City the authority to supplement with the ordinance with more stringent limitations and prohibitions if necessary.
3. Require grease interceptors be installed at food facilities , Grease interceptors must be sized and installed per the California building code.
4. Provides City staff authority to require properly owner to install upgraded equipment if the existing removal device does not adequately removal FOG.
5. The City will provide an educational program including handout information for proper use and maintenance of grease interceptors

**e. Enforce any violation of its sewer ordinances.**

The City's Sewer Service Ordinance includes:

1. Penalties for not connecting to the City sewage facilities in the manners provided in the City Code.
2. Provides for the Director of Public Works the authority to administer, implement, and enforce policies and standards necessary to protect City facilities. Enforcement procedures in the ordinance included notice of violation, administrative compliance order, cease and desist order, termination of service, civil and criminal penalties.
3. Provides for the Director of Public Works the authority to inspect facilities and sample the wastewater discharged to the City sewer to ensure compliance with the provisions of the sewer code. In addition, the City may enter a user's property at any hour under emergency circumstances involving the City's sewer system. The City shall have the right to set up on the user's property such devices as are necessary to conduct sampling inspection, compliance, monitoring and /or metering operations.

## TABLE 2

### SUMMARY OF EXISTING LEGAL AUTHORITY

LEGAL AUTHORITY	EXISTING AUTHORITY-
A. Prevent illicit discharges into its wastewater collection system.	<p style="text-align: center;"><b><u>GREENFIELD MUNICIPAL CODE</u></b></p> <p>SECTION 13.28.050 thru 13.28.060            SECTION 13.28.130 thru 13.28.240            SECTION 13.28.260 thru 13.28.280            SECTION 13.28.310            SECTION 13.28.360</p>
B. Require that sewers and connections be properly designed and constructed	<p style="text-align: center;"><b><u>GREENFIELD MUNICIPAL CODE</u></b></p> <p>SECTION 13.28.020            SECTION 13.28.070 thru 13.28.080            SECTION 13.28.130 thru 13.28.240</p>
C. Ensure access for maintenance, inspection or repairs for portion of the mains or laterals owned by the City of Greenfield.	<p style="text-align: center;"><b><u>GREENFIELD MUNICIPAL CODE</u></b></p> <p>SECTION 13.28.110</p>
D. Limit the discharge of Fats, Oils, and Grease and other debris that may cause blockages.	<p style="text-align: center;"><b><u>GREENFIELD MUNICIPAL CODE</u></b></p> <p>SECTION 13.28.260 thru 13.28.310</p> <p>Staff will prepare Applicable ordinances to limit the discharge of Fats, Oils and Greases and other materials and or substances</p>
E. Enforce any violation of its sewer ordinance	<p style="text-align: center;"><b><u>GREENFIELD MUNICIPAL CODE</u></b></p> <p>SECTION 13.28.360 thru 13.28.400</p>

# **SEWER SYSTEM MANAGEMENT PLAN (SSMP) ELEMENTS**

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## **ELEMENT # 4 OPERATION AND MAINTENANCE PROGRAM**

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

- a. Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable storm water conveyance facilities;**
- b. Describe routine preventative 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 problems areas. The Preventative Maintenance Program should have a system to document scheduled and conducted activities, such as work orders.**
- c. Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short -term and long term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement plan should focus on sewer pipes defects. Finally, 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 plan;**
- d. Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained;**
- e. Provide equipment and replacement part inventories, including identifications of critical replacement parts;**

The City is moving ahead to prepare a preventative maintenance program to reduce the number of SSO's. High Maintenance Areas, will be determined by CCTV, and weekly manhole and lift station inspections.

- a. Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable storm water conveyance facilities;**

City staff will update the City's Sewer Line Atlas. This includes compiling, scanning and plotting related sewer maps showing existing pipe lines, types, and size, lift stations; numbered manholes and pressure pipelines; all on a Geographic Information System (GIS), by December 2012, depending upon available funds.

**b. Describe routine preventative 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 problems areas. The Preventative Maintenance Program should have a system to document scheduled and conducted activities, such as work orders.**

The Division presently maintains and cleans the City's sewer system on an as needed basis. SSO's are addressed using the Division's SSORP procedures, along with cleaning adjacent sewer lines as part of cleanup procedures to the SSO. Division crews conduct regular maintenance tasks including lift station pump repairs. Sewer lift stations are checked on a daily basis.

#### Preventative Maintenance

Use of the Sewer Line GIS Atlas in conjunction with sewer main cleaning logs (flushing date/time, debris type and severity of line) will assist in creating two sewer line preventative maintenance programs. The first program being the Area Cleaning Program and the second, High Maintenance Areas (HMA) Program. The HMA Program includes sewer lines known to have problems such as sediment build-up, FOG , roots, or possible Sewer System Overflows (SSO's). HMA's will be scheduled for monthly, quarterly, semi-annual or annual cleaning depending on the severity of the problem. The remainder of the sewer line system will be maintained under the Area Clean Program.

The Wastewater Division Goal is to clean the entire sewer line once every three years. Cleaning will be performed using new equipment such as a hydro jetter, and the City's existing vacuum equipment, Ditch Witch and high velocity cleaning equipment.

#### Close Circuit Television (CCTV)

To properly maintain the existing sewer system, the City will purchase sufficient CCTV equipment including a van to inspect the sewer system to comply with the WDR's. A CCTV is used after lines are cleaned to assure proper cleaning; inspect existing pipe conditions and identify deficiencies; determine line exhibiting high flows levels; and operational failures. Sewer lines with problems will be placed on an HMA list.

City staff inspect each lift station on a weekly basis see Appendix "A". A maintenance/inspection log is kept for each lift station. All lift stations have duplex pumping system. Two lift stations have built in emergency generators, the remaining have plug in capacity to a portable emergency generator. All lift stations are equipped with Supervisory Control and Data Acquisition (SCADA) system to alert staff of problems conditions.

The Division is collaborating with the City of Soledad to share the cost to obtain CCTV and jetter/routing equipment including a van. The Division will meet its goal to adequately maintain the City's sewer system, comply with the WDR while reducing overall costs to purchase new equipment.

- c. Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short term and long term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement plan should focus on sewer pipes defects. Finally, 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 plan;**

Short term

By obtaining CCTV sewer equipment, Division crews will collect information about the actual condition of the City's collection system. Where applicable, collection system sections will be placed on the HMA list.

Upon acquisition of said CCTV equipment, the City anticipates scheduling a cleaning and video program in January 2013. With this in mind, depending upon available funds, a short term rehabilitation program list will be created.

The creation of the Short Term Rehabilitation Program List will assist in determining those sewer lines which should be placed on a long Term Rehabilitation List.

In June 2005, the City Council adopted the "2005-2025 Wastewater System Capital Improvements Plan Update and Capacity Change Study". The study recommended additional collection pipeline projects was based upon the 2005 economy for projected future pipelines, pump stations, and the WWTP expansion. Implementation of projects on the CIP list are on hold at this time until the economy improves and more development occurs within City limits. Implementing the CCTV program will provide an inventory/data base of the existing condition of the sewer lines. The collected data will be used to determine immediate short term and future long term repairs of the City's sewer lines.

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

Training is an important aspect in the Wastewater Division. A training budget exists to ensure all Division staff are properly trained. Wastewater staff also attend outside workshops whenever possible. Grade Certification in Collection System Maintenance is encouraged as well as self improvement training through online courses. On the job training is actively pursued to ensure that each person has proficient working knowledge of each and every specific part of a task. New staff and "ON-Call Personnel" are encouraged to obtain a CWEA Collection System Maintenance Certification.

Staff are trained by the contractor or manufacture for all new equipment. Equipment manuals are reviewed by staff for maintenance and operational procedures.

Presently an Operation Manual is being prepared for use of the Division Sniper Sewer cleaning machine/equipment in conjunction with the Sniper (747-4000R) Operator Manual. The manual will be used to train staff to operate the sniper and includes specific safety precautions for the equipment operator.

The City provides much of the required safety training outside workshops. Staff has received Basic First Aid, Traffic Control, and Confined Space training from Du-All-Safety. Training includes formal classroom instruction and informal on-the-job /hands-on training

Staff are trained to respond to major emergencies and disasters. The City has an Emergency Operation Center and Emergency Response teams established. Procedures and the implementation of emergency response are outlined in the City's Sanitary Sewer Overflow Response Plan (SSORP) as well as Emergency Response Plan developed by the Emergency Operation center for the City.

Training records are maintained to monitor completed classes and scheduled employee training.

Construction contractors working on City projects are required to have an approved sewage bypass system and emergency plan in place prior to start of construction. Contractors are instructed to notify staff immediately and take immediate action to stop any overflow and enforced by the City

***e. Provide equipment and replacement part inventories, including identifications of critical replacement parts;***

Staff are working on compiling an inventory list for parts and supplies. The City does not keep parts and supplies inventory which can be readily accessed from local suppliers due to budget and space constraints. Lining and replacement of underground pipelines, manholes and lift station are contracted out to licensed contractors who have the equipment, materials and staff to complete the work.

The City has permanent generators at two lift stations and one portable backup generator for emergency use. The portable generator is on a standby/ready mode. It is also available for use at the City lift stations (those without a generators) and Wastewater Treatment Plan.

# **SEWER SYSTEM MANAGEMENT PLAN (SSMP) ELEMENTS**

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## **ELEMENT #5 DESIGN AND PERFORMANCE PROVISIONS**

***WDR Requirements: The SSMP must include:***

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

- a. Design and construction standards and specifications for all installations of new sanitary sewer systems, pumps stations and other appurtenances; and for the rehabilitation and repairs of existing sanitary sewer systems.***

Design and construction standards and specifications for installations and construction of all new sanitary sewer systems, lift stations, and other appurtenances, as well as rehabilitation and repairs of existing sewer systems, shall conform to the City of Greenfield Public Works Department Standard Details and Specifications, latest edition. This shall also include the City of Salinas "Standard Specifications, Design Standards, and Standard Plans" 2008 edition; Caltrans Standard Specifications and Standard Plans, May 2006 edition; and Greenfield Municipal Code, Title 13 "Sewer Service", Chapter 13.28.

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

Procedures and Standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects shall conform to the said City of Salinas Standards and said Municipal Code.

The City's Standard Public Works procedure requires work to be placed into service only after it is accepted by the Public Works Director/City Engineer and or Superintendent/Building Inspector following satisfactory inspection and testing. The City provides continuous inspection during the construction of sewer facilities.

The City's inspection and testing of new or replaced sewer pumps and appurtenances shall comply with the City of Salinas Specification and Standards plans.

# **SEWER SYSTEM MANAGEMENT PLAN (SSMP) ELEMENTS**

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## **Element # 6 Overflow Emergency Response Plan**

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

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

The Wastewater Division maintains a proactive approach to reduce SSO's. Staff respond to all reported SSO's within City limits. All overflows or stoppages are documented, including those in private laterals for which the City is not legally responsible for.

- a- Proper notification procedure is so that the primary responders and regulatory agencies are informed of all SSO's in a timely matter;***

The Wastewater Division follows all regulatory requirements related to Sewer System Overflow Response.

As such, the Wastewater Division has prepared and implemented a "Sanitary Sewer Overflow Response Plan" (SSORP) to address all SSO's. Refer to Appendix C. A copy of the Plan is located in each crew vehicle for responding to all SSO's. The Plan includes reporting procedures to agencies that must be notified.

All SSO's are responded to immediately during normal working hours and by On-Call staff after hours. Figure 2 "REPORTING & RESPONDING TO SSO's SEQUENCE CHART", page 18, of the SSORP, outlines the process for receiving, responding to and reporting SSO's. When an SSO occurs, the Utilities System Assistant Superintendent is advised and notifies the required agencies.

All SSO's that reach a waterway are reported immediately to the corresponding agency noted on said chart. Notification to Environment Health, Regional Water Quality Control Board (RWQCB) and the Department of Fish and Game are outline in the SORP Manuel along with appropriate phone numbers.

**b. A program to ensure an appropriate response to all overflows.**

Each Division crew is trained using the City's SSORP to ensure an appropriate response to all SSO's. This includes proper assessment, documentation and estimating the volume of an SSO.

When appropriate, contractors working on City projects are required to have an approved sewage bypass system and emergency response plan in place prior to start of construction. Contractors are instructed to notify staff immediately and to take immediate action to stop any overflow. These procedures are outlined and discussed at all pre-constructed meetings and enforced by City.

**c. Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entitles (e.g. health agencies, Regional Water Quality boards , water supplies, ect. ) of all SSO's that potentially affect public health or reach the waters of the state in accordance with the Monitoring and Reporting Program (MRP). All SSO's shall be reported in accordance with this MRP, The California Water Code, other State Law , and other applicable Regional Water Board WDRs or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification.**

The City's SSORP outlines the notification steps including a complete up to date notification list. The severity and potential impact of an overflow determines the path of notification. Upon arrival to a SSO, the Utilities System Assistant Superintendent is advised of the spill and notifies the required agencies. All SSO's that enter the waters of the state are reported immediately. Utilities System Assistant Superintendent's priority is to take all feasible steps to minimize the discharge or limit the release of wastewater and recover as much as possible.

The Utilities System Assistant Superintendent will notify OES, the Monterey County Environmental Health Agency (MCEHA), and the Regional Central Coast Water Quality Control Board, within two (2) hours of the sanitary sewer spill that reach channels of surface water. The Public Works Director is required to certify an SSO, no later than 24 hours after OES, MCEH, and the Regional Board are notified. The Public Works Director is also responsible for reviewing, updating and signing the final SSO reports.

The SSORP addresses the overflow response protocol to mobilize materials, tools, equipment and personnel. The plan is to stop the overflow as soon as possible and to repair any condition which may contribute to an overflow to surface land and buildings.

**d. Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Responds Plan and are appropriately trained;**

The City's SSORP is available for all Public Works staff and is used as a resource for emergency response training. New employees receive a copy and training as part of their 6 month probation period and reinforced during the Department's weekly safety meeting. All Department staff are trained on emergency respond procedures.

The City emphasizes its goal to have no construction-related overflows. The goal is addressed on the project plans and specifications, at pre-bid conferences, and at preconstruction meetings. Contractors are required to submit and obtain approval of all flow bypasses and emergency response plans prior to the start of construction.

It should be noted that at least one Wastewater Stand-By On-Call Operator is available after normal working hours 7 days a week. If a SSO occurs during non-office hours, police communications dispatch will contact the appropriate crew to respond immediately.

**e. Procedure to address emergency operations, such as traffic and crowd control and other necessary response activities;**

After hour emergency response is shown on Figure 2 "REPORTING & RESPONDING TO SSO's SEQUENCE CHART" as addressed in "a." above. The on-call Operator is either notified by the SCADA alarm system, or by the Police Department dispatch, for overflows. It is the responsibility of the On-call Operator to determine whether assistance is required. If required, traffic and crowd control coordination and assistance will be provided by City's Police Department, the Greenfield Fire Distract, and the Public Works Department staff to address a potential large SSO.

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

Public health and safety including protection of the environment are the Division's top priority when responding to any SSO. Presently, staff performs a weekly proactive manhole and lift station inspection program. Said program is logged and recorded for input to the Division's sewer collection system data base. The Division weekly inspections continue to be a success and potential sewer blockage are averted.

# **SEWER SYSTEM MANAGEMENT PLAN (SSMP) ELEMENTS**

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## **Element 7    Fats Oils and Grease Control Program**

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

- a. 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 area.*
- c. The legal authority to prohibit discharges to the system and identify measures to prevent SSO's and blockages caused by FOG.*
- d. Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, BMP requirements, record keeping and record requirements.*
- e. Authority to inspect grease producing facilities, enforcement authorities, and whether the enrollee has sufficient staff to inspect and enforce the FOG ordinance.*
- f. An identification of sanitary sewer system section subject to fog blockages and establishment of a cleaning maintenance schedule for each section.*
- g. Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified above.*

The Division has determined that a number business facilities (restaurants) use oils, grease or fats (lard) for food preparation . As such, a City FOG program is required and a plan to implement said program will begin during the month of November 2012.

**a. Implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG**

A public education outreach program is an important aspect for the success of the City's FOG program. It is anticipated that it takes approximately eight months to implement a "Public Outreach" Education Program Plan. This includes the following step sequence:

1. Research/inventory existing ordinances applicable to the City's Fog Program; determine deficiencies (1 month)
2. Prepare new ordinances for Fog Program. (1 month) This includes legal authority to prohibit discharges that cause fog blockage; Authority to inspect grease producing facilities; and enforcement of the City's Fog ordinances.
3. City Council Public Hearing - approve new ordinances. (3 months - includes City Council meeting and review period.)
4. Prepare Fog Program/Plan & Schedule (2 months - Prepare during review period.)
5. Report Fog Program/Plan & Schedule to the City Council for approval thereof. (1 month)
6. Notify business owners; meet and present Fog Program to business owners and provide DVD, pamphlets and short hands on presentation. Place all information on City website including access to DVD, including possible pumping and waste haulers.

**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 area.**

Currently all FOG disposal facilities are located in Salinas or Monterey area. Although the City does not provide pumping and hauling of fat, oils and grease, there are websites that include available haulers in Monterey County. Facility owners are encouraged to check the "CAL FOG" website, which provides a list of possible contract haulers.

**c. The legal authority to prohibit discharges to the system and identify measures to prevent SSO's and blockages caused by FOG.**

The legal authority to prohibit discharges of Fog into the City's sewer collection system is addressed in Greenfield Municipal Code Chapter 13.28, Sewer Service (specifically chapter 13.28.290-300) as noted in Element #3, Legal Authority of this SSMP.

Measures to identify and prevent SSO's and blockages caused by FOG is addressed in Element #4, Operation and Maintenance Program. Further portions of the sewer system lines that are known to have blockage or buildup of FOG are listed on the City's High Maintenance Area (HMA) list, and are checked on a weekly basis.

**d. Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, BMP requirements, record keeping and record requirements.**

The City's Sewer Service Ordinance (Greenfield Municipal Code, Chapter 13.28, "Sewer Service") requires installation of grease interceptors when deemed necessary by the City Engineer. All interceptors are sized per the 2011 California Plumbing Code (CPC) and with a capacity sufficient to produce effluent that meets City standards (100 mg/l Oil and Grease). All interceptors shall be in an easily accessible location for the purpose of cleaning and inspection and required to be properly maintained.

Further, The City has adopted the 2011 CPC as a standard. A permit from the Building Division is required for installation of the grease interceptor. Plans are reviewed to ensure that grease interceptors are properly sized per CPC. The interceptor is inspected to ensure proper installation.

Under the City's new FOG Program, all existing and new food facilities will be required to obtain a permit and be inspected annually. Food facilities will be required to keep a grease interceptor maintenance log, which includes date and person or contractor conducting said maintenance. Receipts/logs for cleaning interceptor maintenance shall be on file for three years and available for review.

Said Sewer Service Chapter will be modified to include the new FOG Program requirements, i.e., permitting, maintenance record keeping, use of established BMP's, etc., and will include upgrade requirements of existing interceptor systems that do not meet current CPC standards.

**e. Authority to inspect grease producing facilities, enforcement authorities, and whether the enrollee has sufficient staff to inspect and enforce the FOG ordinance.**

Said "Sewer Service" Code authorizes the City Engineer to inspect interceptors and sample wastewater discharge to ensure compliance with provisions of said Sewer Code.

The City Engineer is authorized to administer, implement, and enforce policies and standards necessary to protect the City Sewer facilities. Enforcement procedures in this section include notice of violation, administrative compliance order, cease and desist order, termination of services with possible civil and criminal penalties. The City currently has sufficient staff to inspect and enforce the FOG requirements. This includes inspections in conjunction with the City's Building Inspector. Increase of future building construction would require an additional Building Inspector.

**f. An identification of sanitary sewer system section subject to fog blockages and establishment of a cleaning maintenance schedule for each section.**

As described in Element #4, Operation and Maintenance Program, the Division will identify sewer lines with FOG problems and recorded on a High Maintenance Area (HMA) list; with inspection on a weekly basis which includes monitoring and cleaning on an as needed basis

**g. Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified above.**

See paragraphs (a) and (b) above.

**Supporting information for Element 7 is included in Appendix G including the following documents.**

- List of Food Service Establishments
- Sample FOG inspection form
- Sample FOG Permit Application
- Sample Cleaning Record Sheet
- Sample Public outreach materials for both residential and commercial customers
- Cal FOG Grease Hauling & Rendering Companies
- High Maintenance Area (HMA) List

# **SEWER SYSTEM MANAGEMENT PLAN (SSMP) ELEMENTS**

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## **Element 8 System Evaluation and Capacity Assurance Plan**

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

- a. Evaluation: Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSO's that escape from the system) associated with conditions similar to those causing overflows events. estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limited capacity) and the major sources that contribute to the peak flows associated with overflows events;***
- b. Design Criteria: Where design criteria do not exist or are deficient, undertake the evaluation identified in (A) above to establish appropriate design criteria; and***
- c. Capacity Enhancement Measures: The steps needed to establish a short- and long term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, // reduction programs, increases and redundancy in pumping capacity, storage facilities, The CIP shall include an implementation schedule and shall identify sources of funding.***
- d. Schedule: The Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in (A)-(C) above. This schedule shall be reviewed and updated consistent with the SSMP review and updated requirements as described in section D.14.***

In 2005 Terra Engineering, Inc. and Freitas+Freitas, Inc. prepared a study to evaluate the capacity of the City's collection system titled, "2005-2025 Wastewater System Capital Improvements Plan Update and Capacity Charge Study".

In June 2005, the City Council adopted the study. This included additional collection pipeline projects basis upon the 2005 economy growth for projected future pipelines, pump stations, and the WWTP. Implementation of projects on the CIP list are on hold at this time until the economy improves and more development occurs within City limits. Use of the CCTV program will provide findings of pipelines requiring immediate or future repairs; and will be compared with the 2005 CIP list.

It should be noted that future land development projects shall be conditioned to provide sewer capacity calculations to determine possible impacts and needed improvements downstream from the project. This may include upsizing of lift stations and other appurtenances to meet increase capacity needs.

Refer to Appendix E for the following data from the " 2005-2025 Wastewater System Capital of Improvements Plan Update and Capacity Charge Study ":

- Section 5- Facilities Evaluation
- Section 6- Recommended Capital improvement program
- Table 7- Recommended Wastewater System Capital Improvement Projects
- City of Greenfield- Sewer Operating and Maintenance Budget

# **SEWER SYSTEM MANAGEMENT PLAN (SSMP) ELEMENTS**

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## **Element 9 Monitoring, Measurement, & Program Modification**

### **WDR Requirements:**

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

The City will comply and implement the above WDR items "a." through "e." as part of the Division's maintenance operations in conjunction with Element #4, "Operation and Maintenance Program". This includes quantifying the performance and effectiveness to maintain the City's Sewer Collection System with respect to the following:

- 1) Number of SSO's by cause (roots, grease debris, pipe failure, capacity, lift station failure, ct.)
- 2) Average SSO volume (gallons);
- 3) Percentage of SSO's greater than 100 gallons.

Further, the City has been reporting SSO's through the California Integrated Water Quality System (CIWQS) since 2010 . SSO data will be used to evaluate performance of the Division's maintenance operations on an annual basis e.g., fiscal year 201/2013 SSO data will be evaluated July 2013. Evaluations will be used to make necessary adjustments to the Division's preventative maintenance program; and be an integral part of the City's FOG Program. Refer to Element #9 "MONITORING MEASUREMENT & PROGRAM MODIFICATION" for performance evaluations.

## **SEWER SYSTEM MANAGEMENT PLAN (SSMP) ELEMENTS**

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### **Element 10 Sewer System Management Plan Audits**

**WDR Requirement: The City “shall conduct periodic internal audits, appropriate to the size of the system and the number of SSO's. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the Enrollee’s compliance with the SSMP requirements identified in this subsection (D.13), including identification of any deficiencies in the SSMP and steps to correct them.”**

Beginning in July 2014, and every two years thereafter, The Public Works Director/City Engineer will audit the effectiveness of all elements of this SSMP. The Public Works Director/City Engineer will document audit findings and recommend changes to the SSMP in a written report to the City Manager and City Council. The audit reports will be kept on file and made available to the public upon request. Minor changes to the SSMP, such as changes to the operation and maintenance element, will be made at the staff level. Significant changes, such as changes to legal authority, must be reviewed and approved by the City Council. The latest version of the SSMP is available at the City's web site noted in Element 11, Communications Program.

## **SEWER SYSTEM MANAGEMENT PLAN (SSMP) ELEMENTS**

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### **Element 11    Communication Program**

**WDR Requirement: The City, “shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented. The Enrollee shall also create a plan of communication with systems that are tributary and/or satellite to the Enrollee’s sanitary sewer system.”**

The City will communicate on a regular two year basis with the public on development, implementation, and performance of its SSMP. Communication will be by way of an Agenda Report at a City Council Public Hearing. The Public Hearing will be noticed in the local newspaper and on the City's website and will provide an opportunity for public comments. Further, a City Council Public Hearing is set for October 23, 2012, regarding approval of this SSMP. .

In addition to publishing a Public Hearing Notice in the local newspaper, notification will be provided on the City's website under City Council "Agendas & Minutes". In addition to the City's sewer collection system, the City accepts wastewater from the Santa Lucia Shopping Center under an agreement. The City will communicate with Santa Lucia Shopping Center concerning applicable SSMP elements that may affect them.

The City's website is : <http://ci.greenfield.ca.us>. The SSMP is located under "SEWER" in Public Works under the main menu "City Department".

# APPENDICES

# APPENDIX A

## OPERATION & MAINTENANCE

(UNDER DEVELOPMENT)

# APPENDIX B

## DESIGN & PERFORMANCE

(UNDER DEVELOPMENT)

# APPENDIX C

## SANITARY SEWER OVERFLOW RESPONSE PLAN (SSORP)

(UNDER DEVELOPMENT)

# APPENDIX D

## FATS, OILS & GREASE CONTROL PROGRAM

(UNDER DEVELOPMENT)

# APPENDIX E

## SYSTEM EVALUATION & CAPACITY ASSURANCE PLAN

(UNDER DEVELOPMENT)

# APPENDIX F

## MONITORING MEASURE PROGRAM MODIFICATIONS

(UNDER DEVELOPMENT)

# APPENDIX G

## SEWER SYSTEM MANAGEMENT PLAN AUDITS

(UNDER DEVELOPMENT)